



PROCEEDINGS:

The 10th International Conference On Emerging Challenges:

STRATEGIC ADAPTATION IN THE WORLD OF UNCERTAINTIES

04 - 05 NOVEMBER, 2022 HO CHI MINH CITY, VIETNAM



THANH NIEN PUBLISHING HOUSE



UNIVERSITY OF ECONOMICS HO CHI MINH CITY



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THE 10th
INTERNATIONAL CONFERENCE
ON EMERGING CHALLENGES:
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**UNIVERSITY OF ECONOMICS HO CHI MINH CITY
COLLEGE OF BUSINESS**

Proceedings

**The 10th International Conference on Emerging Challenges:
STRATEGIC ADAPTATION IN THE WORLD OF UNCERTAINTIES**

The Organizing Committee of The 10th International Conference on Emerging Challenges: Strategic Adaptation in the World of Uncertainties would like to acknowledge all supporters and organizers of this conference, especially University of Economics Ho Chi Minh City, Smart Train, ICAEW, CPA Australia and ACCA.

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The 10th International Conference on Emerging Challenges: STRATEGIC ADAPTATION IN THE WORLD OF UNCERTAINTIES

4th and 5th November 2022
Ho Chi Minh City, Vietnam

ORGANIZERS

University of Economics Ho Chi Minh City, Ho Chi Minh City, Vietnam
Hanoi University of Science and Technology – School of Economics and Management, Hanoi, Vietnam
University of Economics and Business - Vietnam National University, Hanoi, Vietnam
National Economics University – Faculty of Business and Management, Hanoi, Vietnam
The University of Danang – University of Economics, Da Nang City, Vietnam
International School - Vietnam National University, Hanoi, Vietnam
Foreign Trade University, Hanoi, Vietnam
University of Hertfordshire, UK
AVSE Global, France
PPM School of Management, Indonesia

KEYNOTE SPEAKERS

Prof. Andrew Crane - Professor of Business and Society and Director of the Centre for Business, Organisations and Society in the School of Management at the University of Bath, UK

Prof. Reeb, David M. – Holding the Mr. and Mrs. Lin Jo Yan Professorship, with appointments in both accounting and finance, Singapore, Head of Department, Accounting, Business School, National University of Singapore, Singapore

Prof. Ian Phau - John Curtin Distinguished Professor, Marketing Discipline Lead and the Director of the Luxury Branding Research Cluster, School of Management and Marketing, Curtin University

ROUND TABLE DISCUSSION:

Strategic Role of Digitalization in the Uncertain Globe

Moderator

Mr. Thanh Tran (Raymond)

Account Manager in BStar Solutions, a member of Sovico Group

Mr. Thanh Tran (Raymond) is an expert in digital transformation with more than 10 years of experience working in different positions in Banking & Fintech industry as well as other domains such as hospitality, retail, medical, and real estate. Mr. Thanh has experienced many positions in digital product development at banks such as Sacombank, OCB, Timo Digital Bank as well as participating in digital transformation consulting for small and medium enterprises in Vietnam. Currently, he is working as an Account Manager in BStar Solutions, a member of Sovico Group.

Panelists

Professor Hong T. M. Bui

Professor in Business Education, Birmingham City Business School

Professor Hong T. M. Bui has a broad social science background, including economics, education, communication, management, and various methodologies in both qualitative and quantitative. Her research focuses on the learning organization, organizational studies and interdisciplinary approach to innovation and sustainability. Hong served as an associate editor for The Learning Organization and now for the Applied Psychology: An International Review. The Public Administration Review journal in 2014 reviewed Hong as a "talented researcher" and "leading scholar". She has an extensive network with researchers, practitioners and policymakers in various disciplines working on grand challenges such as sustainable cities, new energy, innovation, climate change, healthcare in the UK and many developing countries worldwide. Hong is passionate about developing business education to transform society toward innovation and sustainability. Forbes Vietnam named her in its list of 20 Inspiring Women 2021.

Ms. Thanh Huynh

Business Development Manager, ICAEW

Ms. Thanh Huynh has nearly 10 years of experience in International Trade and Business Development, with B2B focus in different range of business sectors. She used to work as a Trade Advisor at Business Centre of the British Chamber of Commerce (Britcham) helping UK companies to get entrance to Vietnamese market. She has also been an independent consultant facilitating trade missions as well as B2B matchings. She is now working for the Institute of Chartered Accountants in England and Wales (ICAEW), with main responsibility to expand the network of the Institute's Authorised Training Employers (ATE). Thanh Huynh holds a Master of Science in Finance and Management at Keele University, United Kingdom.

Mr. Alexander Wung, ACA

Assurance Director, PwC

Alexander has been with PwC network for more than 10 years providing auditing and assurance services specialising in consumer, industrial, products and services. He was previously attached with PwC Malaysia for 8 years before serving the Vietnam office in May 2018. Alexander has served on the financial audits of large conglomerates and public listed entities in Malaysia with operational presence globally. He specialises in the agriculture, garment manufacturing, industrial manufacturing and trading, and food processing services industry audits. He carries with him in depth experiences on IFRS accounting and Capital Markets and Accounting Advisory Services having been involved with IPO exercises in Malaysia and Hong Kong, and other cross border corporate exercises in Malaysia, Singapore, Papua New Guinea and Vietnam. Alexander holds a Bachelor of Commerce (Economics & Finance) from the University of Manchester, United Kingdom. He is also a fellow member of the Institute of Chartered Accountants in England and Wales ("ICAEW") and an ICAEW Business and Finance Professional.

FinTech Academy

FinTech Academy (FTA) spearheads talent development programmes ranging from financial literacy awareness to deep dive FinTech engineering courses. We collaborate with educational institutions in Singapore as well as professional associations and bodies. We work closely with polytechnics and universities. FinTech Academy is committed to providing learners with reliable and efficient professional development services. We will continue to curate innovative education programmes by integrating learning, industry and our growing community. FinTech Academy offers applied courses and co-branded events for growth sectors of the economy with a blend of various learning concepts that integrates work and study. We also offer specialised accredited programmes in partnership with world-class universities abroad too.

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PREFACE

The development of current science and technology, the Fourth Industrial Revolution, the Covid-19 pandemic, climate change, the trend of globalization and integration, individualism and the Russia-Ukraine conflict indicate that the current world is an uncertain world, which poses a significant impact not only on the sustainable development goals but also on the entire global economy including the field of governance, accounting, auditing, finance and others in Vietnam as well as other countries around the world. In particular, the Covid-19 pandemic and strategic competition among major countries are creating landmark changes in the world situation with many unpredictable factors, multi-dimensional impacts on the security, economic and development aspects of countries, from which, arise many advantages, opportunities but also difficulties and challenges intertwined.

As the speech delivered by Prime Minister Pham Minh Chinh said: *“In a world full of volatility, strategic competition and many choices, Vietnam does not choose sides but chooses fairness, justice and righteousness on the basis of the principles of international law, Charter of the United Nations; equality, all win-win”*.

The instability of the world and the business environment requires corporations to adjust their business strategies to be able to adapt and survive in the long term such as sustainable development tasks, attracting the participation of businesses with the community and stakeholders, ensure sustainable consumption and production models, build risk-resilient infrastructure, promote green growth, technological innovation, digital transformation and supply chain diversification. These significant changes have led to the emergence of several academic as well as practical problems in strategic management, risk management, finance, accounting, auditing, and technology. The ICECH 2022 conference is a significantly useful place for participants to have the opportunity to exchange and share knowledge on new theoretical problems and practical solutions, providing an opportunity for researchers to publish research results, universities, and research institutions to transmit new and up-to-date knowledge, is a forum for students and research candidates to discover gaps and future research directions in an ever-changing and uncertain environment.

The 2022 Conference consists of papers in across five sections themes: Management - Supply Chain and Operation Management - Innovation Management, Finance – Banking, Accounting and Auditing, Information System and Economics - Law and Policy. All the papers published in the Proceedings will make a significant contribution to emerging debates in the field of international business transformation to develop sustainable firms and economies.

To create the success of the conference, the organizing committee has received great contributions of domestic and foreign authors with approximately over 200 papers. After a rigorous peer review and evaluation process, about 130 articles have been selected for public in the proceeding and, 70 articles will be presented in five parallel sections. The 2022 Conference has support from prestige international and domestic journals, including Asia Pacific Journal of Marketing and Logistics (SSCI, IF = 3.979), VNU Journal of Science: Economics and Business, Journal of Economic Studies (The University of Danang – University of Economics), Journal of Asian Business and Economic Studies (JABES) (Scopus; ESCI-WoS), Journal of Vietnam's Socio-Economic Development, Journal of Risk Finance (ESCI, Scopus Q3), Pacific Asia Journal of the Association for Information System (ESCI), Journal of Management and Business Review (JMBR), and Journal of International Economics and Management (JIEM).

On behalf of the organizing committee, we would like to take this opportunity to thank all the authors around the world for their contributions and interest in our event and, to all the paper referees for their time and expertise regarding paper review. Especially, many thanks to keynote speaker Prof. Andrew Crane from University of Bath, UK; Prof. Reeb, David M from National University of Singapore; Prof. Ian Phau from Curtin University, Australia for delivering plenary talks at the conference. Besides, I would like to express my sincere appreciation to our great partners: Smart Train, ICAEW, ACCA and CPA Australia for their great support. I really would like to express great appreciation to all the program committee members and conference secretariat staff for their efforts and outstanding work.

I strongly believe that every participant would have a wonderful and fruitful time at the conference. And I expect all of you to continue to support and contribute papers to future ICECH conferences.

4th November 2022

Prof. Dr. Su Dinh Thanh

President

University of Economics Ho Chi Minh City (UEH)

Foreword

INTRODUCTION ON UNIVERSITY OF ECONOMICS HO CHI MINH CITY

Website: <http://ueh.edu.vn>

As one of the leading key national universities in Vietnam, the University of Economics Ho Chi Minh City is home to more than 30,000 students across all levels and disciplines, the largest culmination of the student body across the country. Together with Vietnam's transformation and development, UEH's 45 storied years are further expanded with its groups of highly qualified lecturers from various prestigious local and international institutions. With their impressive background and expertise in academic research, UEH has made a tremendous contribution to the scientific research community through countless international publications on key research topics at the state and local levels, applied studies in practice, and a wide research network of more than 125 partners worldwide. In particular, the university has successfully produced many graduate classes in Economics and Management, all of which have held important roles in various government offices and agencies, higher education institutions, along local and international corporations.

UEH is proud to be a Key National University, a leader in smart campuses using green models. With multidisciplinary nationwide campuses, cutting-edge research facilities, and an extensive academic & professional network, the opportunities here are limitless. Over the years, the University of Economics Ho Chi Minh City (UEH) has accumulated countless accolades from various reputed organizations across the world for its outstanding performance in teaching, research, and social contribution. Most notable, UEH is proud to be an awardee for the following achievement:

- Top 5 National Universities with the most prestigious international publications (Ministry of Education and Training)
- #298 Best Universities in Asia in Research Performance, Innovation & Societal Impact (Scimago Institutions Rankings)
- Top 551+ Best University in Asia (QS World University Ranking, Asia 2022)
- Top 1 Best Universities in Viet Nam and Top 1 University in Economics & Business (Webometrics)
- Top 1000 Best Business Schools and Top 100 Best MBA Programs in the world (Eduniversal)
- Top 25 Performing Universities in income from continuous professional development (Multirank)

In keeping with UEH long-standing history and achievements in training and research, University of Economics Ho Chi Minh City will conduct a university-wide restructuring to become a multi-disciplinary university in Economics, Business, Management, Law, Design and Technology, as an effective and immediate response to current and future market needs, along with internationalization trends and context. The multidisciplinary development of UEH will promote its advantages in training, research and social service in the current context when most major research projects are multidisciplinary. It will facilitate the university to participate in the rankings, and international cooperation activities with worldwide universities.

Prof. Dr. Su Dinh Thanh

President

University of Economics Ho Chi Minh City (UEH)

Foreword

INTRODUCTION ON SCHOOL OF ECONOMICS AND MANAGEMENT, HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Website: <http://hust.edu.vn>; <http://sem.hust.edu.vn>

Since its establishment in 1965, the School of Economics and Management (SEM) has produced managers and leaders for enterprises and industries. Today, SEM provides a broad spectrum of academic programs from bachelor's degree to master's degree, and to doctoral degree. SEM offers a creative diversified outlet for students who want to build a successful career, including full-time and part-time programs. Since 1992, SEM has launched several new programs, including dual enrolment for bachelor's degree.

Through 50 years of development, SEM now boasts 74 faculties and staff. Its people commit to international education, ethical and sustainable business practices; along with our technology, and innovation SEM draws top-notch undergraduate and graduate students, as well as business leaders, seeking a competitive edge through our executive education programs.

Not just only having precious resource – high-qualified and committed faculties, SEM is enthusiastic in partnering with many domestic and international training – research institutions from France, Germany, Australia, Finland, Holland, Japan, Taiwan, Indonesia, and so on. These meaningful partnerships provide opportunities to improve our training facilities, to build exchange programs for students and faculties in improving knowledge, professional expertise, and touching differentiated training styles. SEM's strategy focus:

- To diversify training and education programs, with the focus in postgraduate programs. Incorporate theoretical knowledge and practical experiences via training programs for enterprises and short courses.
- To do effective and efficient consultancy for enterprises.
- To develop international cooperation to improve education programs and teaching styles.

From 2012, the School of Economics and Management, Hanoi University of Science and Technology has organized each year the International Conference on Emerging Challenges (ICECH). This event has attracted increasing interest among the economics and management research community. The conference has created a great occasion for academics and professionals to share their research findings, experiences and knowledge which are expected to contribute to the sustainable development of the Asia Pacific region.

We're looking forward to an excellent meeting with great scientists from different countries around the world and sharing new and exciting results in economics and management, which will be held in Ho Chi Minh city, from November 4-5, 2022.

Assoc. Prof. Dr. Pham Thi Thanh Hong

Vice Dean

School of Economics and Management

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Foreword

INTRODUCTION ON UNIVERSITY OF ECONOMICS AND BUSINESS, VIETNAM NATIONAL UNIVERSITY, HANOI

Website: <http://ueb.vnu.edu.vn>

VNU University of Economics and Business (VNU-UEB), a member of Vietnam National University, Hanoi, was established under Decision No. 290/QĐ-TTg dated 6th March 2007 by the Prime Minister of the Socialist Republic of Vietnam. During its development process from the Faculty of Political Economy in 1974, VNU-UEB has made constant efforts to improve the quality of training, scientific research and other services in order to become a research-oriented university and excel at training high-quality human resource in the fields of economics, management and business administration. VNU-UEB has been known as a dynamic university with a strategic vision and strong determination towards international standards.

The university is in a period of significant development, from the academic year 2022-2023, the school's scale reaches about 11000 learners, of which 10,000 undergraduates and 1000 master and PhD students. The existing courses has been standardized, new programs opened and the quality of honors training programs as well as other postgraduate and international joint training programs are strengthened. Currently, VNU-UEB is offering 8 majors for bachelor programs, 11 majors for master programs and 5 majors for PhD programs; in which 2 bachelor and 2 master programs are joint training programs with foreign universities. VNU-UEB has constantly improved training quality and conducted assessment on 2 programs in accordance with ASEAN University Network's criteria. The undergraduate programs have also been assessed based on the standards of the Ministry of Education & Training and toward the AACSB accreditation in the near future.

The University has continuously reaffirmed its leading position in scientific research. Research products of the VNU-UEB have positively contributed to the development of economics science with its high-quality, world-class scientific research products published in leading international journals. Additionally, with the orientation of scientific research in line with practice, many projects with high applicability implemented by VNU-UEB have been transferred to governmental agencies, localities, and businesses. Scientific research activities at the VNU-UEB are developed in two main directions: (i) research for improving training quality; (ii) research for policy and business consultancy which concentrates on 3 areas: macroeconomic; sustainable development; industries, sectors, and businesses development.

With the strategy of internationalizing education, VNU-UEB has been promoting international exchange in the field of training and research in order to become regional and global hub of knowledge. Recently, students of UEB have had the opportunity to interact with international peers and scholars in short-term training courses, joint programs or international conferences and seminars. Through these activities, UEB expects to innovate teaching methods and enhance international cooperation to keep pace with new trends and challenges in the context of the Industrial Revolution 4.0 to create the best learning environment for students.

With all the achievements during its development, VNU-UEB consecutively holds the leading position in VNU and is the key contributor to the rank 50-550th of VNU in the QS world rankings in the field of Business and Management Studies. In 2021, the University received the Certificate of Merit from the Prime Minister for special achievements in the field of training and education.

Assoc. Prof. Dr. Nguyen Anh Thu

Vice Rector

VNU UNIVERSITY OF ECONOMICS AND BUSINESS

Foreword

INTRODUCTION ON THE UNIVERSITY OF DANANG UNIVERSITY OF ECONOMICS

Website: <http://due.udn.vn>

University of Economics (DUE), located in Danang city, is a member of the University of Danang – one of the three regional universities in Vietnam. With over 47 years of experience in educating and training, the DUE has played an important role in providing a labour force specializing in business, management and economics, partly contributing to Vietnam's economic development. We offer a wide range of under-graduate and post-graduate programs, including 04 doctoral programs, 06 master programs, and 31 under-graduate programs. By 2021, 8 undergraduate programs are successfully accredited by the AUN. High qualified teaching and research staff, including professors, senior and experienced lecturers together with learner-centered curriculums are the reflection of our aim to ceaselessly raise teaching standard. The University currently has about 14,000 students for both full-time and part-time courses.

The DUE is envisioned as a leading research university in Vietnam, significantly contributing to the prosperity of ASEAN community and human knowledge. As a research-oriented university, we create an innovative academic environment to accelerate knowledge discovery, application, transfer of scientific knowledge of business, economics, and management; ensure a successful foundation and lifelong learning capacity for learners; nurture and develop talents; tackle the socio-economic challengers; and serve the prosperous development of the community. Our values are usefulness, respecting individual, creativity, collaboration, integrity, and sympathy.

The DUE has cooperated with a number of companies to not only provide our students with opportunities for internship courses, but also equip them with necessary skills and capabilities to work within the context of global integration. Through our work placement programs, the promotion of student entrepreneurship and a focus on employability, we expect that more than 90% of graduates secure employment or enter further study within 12 months of graduation. Until 2019, after graduation surveys shows that 95.2% of our students obtain jobs 6 months after graduating.

We work with many partners around the world on a wide range of international activities including joint teaching and research, consultancy, joint degree programs (2+2, 3+1), exchange programs, internships, summer school courses. Through our strong international links with over 60 partners in 23 countries and territories, we provide knowledge to community members for their specific business purposes, and simultaneously fostering the team of lecturers, academic researchers in order to contribute to national education, academic research and economic development. Our students can take advantage of opportunities to study abroad through the transfer programs, student exchange programs and international projects. Our aim is to provide students with internationalized experience, enhancing their employability through the training courses and opportunities for placement and exchange programs.

Annually, the DUE has about 8 to 10 key research projects carried out at state, ministerial, provincial levels, and university-level projects. Additionally, the DUE collaborates with its international partner network to organize academic conferences, seminars, workshops on business, management and economic matters. These assist the University in improving teaching materials and training quality. Research activities also bring more accessibility to business environment, practices and legal aspects. The DUE has the Journal of Economic Studies (JES) which is the forum to discuss challenges of economic integration, mainly focuses on theoretical, empirical, and experimental economic aspects, providing deeply economic analysis and policy recommendations for Vietnam and beyond.

47 years of vigorous growth witnesses our university achieving a variety of historical milestones. The DUE has become not only a nationally prestigious multidisciplinary higher educational institution, but also a leading research center for business management consultancy and business & economic knowledge transfer in Vietnam.

Assoc. Prof. Dr. Vo Thi Thuy Anh

Vice Rector

University of Economics - THE UNIVERSITY OF DANANG

Foreword

INTRODUCTION ON THE ASSOCIATION OF VIETNAMESE SCIENTISTS AND EXPERTS

Website: <http://www.avseglobal.org>

Founded in May 2011, the Association of Vietnamese Scientists and Experts (AVSE Global) is a Paris-headquartered organization of Vietnamese scientists and experts with a global reach, pioneering in strategic advisory, top executive education programs, and science and policy forums, bringing innovative solutions for the sustainable development of Vietnam, through connecting collective intellectual strengths of Vietnamese talented experts and intellectuals worldwide with strong aspirations to contribute to the country's progress.

Our mission is to connect Vietnamese talented experts and intellectuals worldwide to pioneer positively impactful programs for a sustainable and prosperous future of Vietnam, through:

- Developing a network and database of Vietnamese scientists and experts, clarifying their expertise so that AVSE's partners can connect and cooperate in case necessary.
- Connecting individuals, groups or organizations of Vietnamese scientist and experts all over the world to share and exchange knowledge and experiences.
- Organizing scientific activities, conferences, workshops, trainings, exchanging activities, vocational activities and job seeking activities.
- Playing the role as a bridge linking Vietnamese scientists and experts with the world, cooperating, and exchanging with international friends.
- Gathering and strengthening individuals' strength to make contribution to the development of Vietnamese science, technique, economy, and society.
- AVSE Global has developed a wide network of more than 3000 members and collaborators in more than 20 countries. It also maintains a database of 10000 connected experts.

Prof. Dr. Nguyen Duc Khuong

Chairman of AVSE Global

Foreword

INTRODUCTION ON INTERNATIONAL SCHOOL, VIETNAM NATIONAL UNIVERSITY, HANOI

Website: <http://www.is.vnu.edu.vn>

International School, Vietnam National University, Hanoi (VNU-IS) is a member of Vietnam National University, Hanoi (VNU). International School formerly known as Vietnam – Russia International School, was established in July 2002. Vietnam – Russia International School was founded following the first official visit to Vietnam in 2001 of the President of Russia, Vladimir Putin. In 2002, Vietnam – Russia International School implemented and recruited the first cohort for the Bachelor of Accounting, Analysing and Auditing program - the first joint training program with a degree awarded by VNU.

Since its inception, VNU-IS has rapidly developed in many aspects. Starting with a single training program in Russian, VNU-IS successfully developed sixteen undergraduate programs, eight graduate programs with various training models (i.e., joint training, double degree, dual degree), and witnessed the number of foreign lecturers taking up from 25% - 70% per training program. VNU-IS is also the pioneer in conducting training programs totally in English at both undergraduate and graduate levels.

Presently, VNU-IS has over 140 lecturers, with more than 50% of them holding doctorate degrees (100% of lecturers graduated abroad). Annually, VNU-IS publishes over 100 papers and scientific reports, with about 1/3 published in international scientific journals such as ISI/Scopus.

With the strategic goal of becoming a prestigious international education hub in Vietnam, VNU-IS has established relationships with nearly 40 universities and research institutes across the globe. VNU-IS also cooperates with partner universities: Keuka College and Troy University [USA]; University of East London [UK]; Nantes University, Aix-Marseille University [French Republic]; Deakin University [Australia], Moscow Power Engineering Institute [Russian Federation]; HELP University [Malaysia]; Lunghwa University of Science and Technology [Taiwan], et al. in delivering joint training programs. These training programs cover a wide range of fields, such as economics, business administration, finance, management, engineering, information technology, data science, tourism, hospitality, and others.

VNU-IS allows students to obtain degrees from prestigious regional and international universities. More importantly, the extensive studies and extracurricular activities at VNU-IS help students to get familiar with the global environment, encourages them to think creatively, ignites their passion for discovery, and facilitates the development of vital soft skills. VNU-IS also provides students with a vast array of tangible services such as integration training programs, seminars, career talks, academic playgrounds; field trips, enterprise visits, internships; and soft skills training, psychology workshops, and one-to-one mental health counselling, just to name a few. VNU-IS is proud to be the crucible for students to mature and break the boundaries to **STUDY AND CREATE WITH THE WORLD**.

With its 2035 Vision, VNU-IS is in a position to be both a pioneering educational and research institution with interdisciplinary and multidisciplinary training to meet the ever-changing social needs and international standards, and an international hub for innovation. The 2035 Vision is bringing together scientists from different fields to solve complex scientific, technical, and social issues in the region and worldwide. Combining these two foci—a pioneering educational and research institution and being an international hub for innovation—enables VNU-IS to create an ideal environment for academic freedom, multiculturalism, and the intersection of diverse fields and disciplines.

Assoc. Prof. Dr. Le Trung Thanh

Rector

International School, Vietnam National University, Hanoi

Foreword

INTRODUCTION ON SEKOLAH TINGGI MANAJEMEN PPM (PPM SCHOOL OF MANAGEMENT)

Website: <https://ppmschool.ac.id/>

Founded upon the ideas of religious leaders and scientists, financially supported by international donor organizations and religious organizations, noble values stream down, protecting the firmly stuck roots, flowing up, reinforcing the branches, strengthening the twigs, and spreading the leaves, PPM School of Management is the first Management and Business Higher Education in Indonesia, established on July 3, 1967. In 1969, based on the Department of Education and Culture's recommendation, the institute's name was changed to PPM School of Management from Management College. It got accredited by the Department of Education and Culture. Since its foundation, this educational institution has been oriented to get acknowledgment from the business world that it will benefit from its graduates.

Our vision is becoming an excellent Management Institute in Indonesia and well-known in Southeast Asia with missions to promote higher education with high quality based on the proven latest concept (conceptual-based action) by producing graduates that possess the complex competencies, and soft competencies needed for its graduates. Hence, they are able to implement their knowledge and the latest management practices that bring added values for organizational and social life, to promoting research activities that will benefit the development of science by producing the latest researches that give benefits to the development of science, especially in terms of management and business, as well as responsible management practices and ethical business practices, and to promote professional and sustainable community service through cooperation between the institution and external organizations.

There are two-degree education programs offered, namely Bachelor Study Program (national accredited "A" by BAN-PT) and Master Study Program (national accredited "A" by BAN-PT). The Bachelor's degree program has two programs: the Bachelor of Business Management (SMB) program and the Bachelor of Business Accounting (SAB). The Master's degree program is a Master of Management (MM) that is designed to three different levels of classes, there are (1) MM Wijawiyata Management, (2) MM Young Executive, and (3) MM Executive. The explanation of each program can be seen on our official website page. In addition, PPM SoM has offered international experiences in the form of international classes since 2021 and international program in partnership with partner universities abroad since 2009. PPM SoM carefully designs its curriculum and teaching method based on the experiences of management research, management consultancy, executive assessment, and executive coaching. Through those activities, the school has funded its entire operational activities and hardly got any financial support from individuals or companies. PPM SoM could even spare the fund to support student candidates for a better and higher quality of education.

Since 2007, PPM School of Management (organized by the Research Center and Case Clearing House) has held national-level conferences and has begun to hold international conferences, namely the Asia Pacific Management Research Conference (APMRC) since 2017. Until today, PPM School of Management has held four Asia Pacific Management Research Conference (APMRC). Besides that, PPM School of Management has also obtained several accreditations both from within and outside the country which has made PPM School of Management one of the best management school in Indonesia to this day.

Dr. Pepey Riawati Kurnia, M.M., CPM, CAC, CODP

Acting Dean

PPM School of Management

Foreword

INTRODUCTION ON FACULTY OF BUSINESS MANAGEMENT NATIONAL ECONOMICS UNIVERSITY

Website: <http://fbm.neu.edu.vn>

Founded in 1956, National Economics University is one of the leading universities in Economics, Public Management and Business Administration in Vietnam.

NEU places a high priority on the quality of teaching and the employment preparation for students in an increasingly competitive, international environment.

NEU is now chairing a network of more than 40 universities in Vietnam in economics and business administration. The university has become an important hub for academic exchange domestically and internationally. NEU is a prestigious research and consultation center with its extended academic publications and consulting works to the government of Vietnam on policy making and to the business community on business development.

NEU is not only a recognized institution providing high-quality human resource to Vietnam's society but also a faithful partner of the government, non-governmental organizations and reputed research institutes and universities all around the world.

Founded in 1956, Faculty of Business Management (FBM) is one of the oldest faculty of National Economics University, Vietnam. Throughout the establishment and development, FMB is the home of many successful entrepreneurs, excellent leaders and managers in different fields from corporate and business management to state management.

With 52 faculty members and staff, most of them have obtained Master degree and PhD from the top universities in the world, FBM annually offers training to 2,000 full-time students at Bachelor, Master, and PhD levels of business management.

Besides providing training programs, FBM also actively organizes/co-organizes and participates in a number of national and international scientific conferences, research projects and consulting projects. Our academic staff have published thousands of high-quality scientific papers in which hundreds of them have been published in high-ranking international journals. With our achievement, we have been awarded Third Class Labor Medal (two times), Certificate of Merit from the Prime Minister (two times).

Another focus of FBM is building partnership; we have been establishing a vast network of industrial and academic partners, both domestic and international ones. Our partners include JICA, JETRO, Saint Mary University, Tokyo University, Dongseo University, Middlesex University, Pro-Sports, to name a few.

Assoc. Prof. Dr. Ha Son Tung

Dean

Faculty of Business Management

NATIONAL ECONOMICS UNIVERSITY

Foreword

INTRODUCTION ON UNIVERSITY OF HERTFORDSHIRE

Website: <http://www.herts.ac.uk>

The University of Hertfordshire is a campus-based institution, located just outside of Greater London, UK, in the Historic industrial town of Hatfield. The University typically has a UK based cohort of 24000 students with a further 4000 students studying a degree awarded by the University at one of our international partners. Strategically the University positions itself as “Internationally Business Facing”, fostering partnerships with businesses, the public sector, policymakers, and charities. The latest strategic plan is based around the mission statement, “Transforming lives”; ensuring whatever your background, wherever you are from, we will drive your potential, powering you to succeed.

The University incorporates an Applied learning pedagogical approach, that builds on the University’s heritage in vocational teaching, as former Technical college; that was noted for excellence in Aerospace Engineering. The research agenda seeks to provide solutions to; major societal challenges, supports industrial innovation, enriches lives and informs our teaching.

The University has excellent progression rates to employment with 96.5% of students in employment or further study six months after graduating. The teaching expertise has recently been awarded the top Gold ranking in the Government’s Teaching Excellence Framework (TEF) 2018. It is one of the top 200 universities in the world under 50 years old, according to the new Times Higher Education under 50 rankings 2021.

Working in collaboration with other businesses and organisations, we utilise our creative and enterprising approach to research in order to address the four Grand Challenges identified by the Government; artificial intelligence and data, clean growth, an ageing society and the future of mobility. Our response to the UK Government’s Industrial Strategy demonstrates how we have turned the ideas and innovations of our research community into the products and services for industry. For example, we have developed research excellence in the following multidisciplinary areas: AI and robotics, Astronomy and machine learning, Pharmaceutical and healthcare technologies, Food security and agritech.

As an enterprising and agile institution, passionate about supporting the growth of our local economy, we align our research, innovation and teaching activities to meet the demands of business and society. Our extensive engagement with businesses reflects our institutional history and the entrepreneurial approach we apply to our commercial endeavours and interactions with industry. Nationally and internationally, our research and development, knowledge transfer work and targeted consultancy are empowering companies across sectors to achieve their goals and drive productivity. Fundamental to this is the originality and quality of our ideas, which through a collaborative, multidisciplinary approach tackle the key global challenges of our time. As a result, we were delighted to be recognised by Research England as a University Enterprise Zone, following the opening of our campus to new entrepreneurs, start-up businesses and spin-outs – stimulating active “communities of practice” to make knowledge, facilities and equipment accessible to boost enterprise and support business growth.

In line with our primary mission statement our target “communities” are strongly focussed on businesses within our local, regional and international eco-system. Through the Enterprise Zone we are strengthening the Hertfordshire ecosystem, supporting business start-ups, business resilience and growth within our locality. For example, our response to major socio-economic and political shocks to the local economy – leveraging our resources and expertise to support key economic actors to respond to rapid change and business critical issues. E.g. Volunteer Business Support Scheme and Covid-19 response programmes in research and business support.

The University has an experienced regional office team based in Hanoi, led by Mr. Hoang Ngoc Tu, and enjoys a good reputation for supporting Vietnamese students with Scholarships and expert guidance.

James Perrin

Head of International Partnerships
UNIVERSITY OF HERTFORDSHIRE

Foreword

INTRODUCTION ON FOREIGN TRADE UNIVERSITY

Website: <http://english.ftu.edu.vn>

Foreign Trade University (FTU) has its main campus located in Hanoi and two other campuses located in Ho Chi Minh City and Quang Ninh Province. The University has conducted education and research in a wide range of areas including Economics, Business, Management, Finance and Banking, Accounting and Auditing, Law and Business languages with 32 different undergraduate programs, nine master programs, two doctoral programs, in-service programs, distance learning programs and international joint programs with prestigious partners. After more than 60 years of establishment and development, with the educational philosophy towards promoting liberalization, practicality, nurturing integrity, accountability and innovation competence of learners, FTU is proud of five outstanding strengths including Innovation, Initiatives, Internalization, Inspiration, Inclusion and Diversity.

FTU has been pioneer in many initiatives to become common home of diversities, nurturing and promoting all potentials of students and lecturers in their journey to great ocean. In addition to standard programs, advanced programs, high-quality programs and international profession-oriented programs are offered. The University has a partner network of almost 200 universities and educational institutions from more than 30 countries around the globe: creating more than 20 joint programs with prestigious partner universities. Student exchange programs have created a multicultural, highly internationalized environment at FTU. Higher education internationalization is identified as a key towards sustainable education in which Vietnamese degrees and credits are recognized worldwide and Vietnamese universities become destinations for international students.

With the motto "The best first" and taking "Innovation" as the driving force for development, FTU has determined to provide the best education to new generations of students - the nucleus of innovation with innovation spirit, know-how and willingness to innovate so that the spirit and ability of innovation could be spread to the community and society. Student start-up activities, start-up competitions are important components in the innovation and education ecosystem. Pioneering in educating global citizens with competitive ability, critical thinking, competent skills and adaptability, FTU is proud to have the highest employment rate of graduates in Vietnam.

In pursuit of research excellence and changes for a prosperous nation and a better world, researchers at FTU actively carry out innovative multidisciplinary research with a strong foundation in economics and business. Four main research directions of FTU include reform of socio-economic institutions for sustainable development, green economy and social responsibility, innovation and knowledge transfer to businesses, and restructuring and reform of corporate governance. In collaboration with international and local networks, organizations, universities, and businesses, FTU researchers also strive to turn ideas into impact. FTU's research is translated into policy recommendations, management models and tools transferred to enterprises, and solutions for community development. Research and knowledge transfer activities are carried out through research projects, programs, conferences, contests, and publications.

Assoc. Prof. Dr. Dao Ngoc Tien

Vice Rector

Foreign Trade University, Vietnam

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**MANAGEMENT
SUPPLY CHAIN AND OPERATION MANAGEMENT
INNOVATION MANAGEMENT**

IDENTIFYING THE CFO SKILLS TO ACHIEVE BUSINESS RECOVERY IN THE COVID-19 POSTCRISIS PERIOD: A DELPHI STUDY

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Research purpose:

CFOs play a crucial role in crisis recovery activities. There is extensive research on the actions of leaders during a crisis; however, there is limited research on the leadership competencies required postcrisis, and there is still a knowledge gap regarding which leadership skills are required postcrisis. This Delphi study aimed to identify the leadership skills required to promote organizational agility and act with integrity during the postcrisis phase of Covid-19.

Research design, approach, and method:

This study employed a three-round Delphi technique to identify the CFO skills that support the possession of the competencies required for a Covid-19 postcrisis leading CFO. Using a 5-point Likert scale, panellists rated the appropriateness previously identified skills in the literature review.

Main findings:

CFOs' competencies to manage Covid-19 postcrisis include fostering organizational agility, communicating with internal and external stakeholders with integrity, and maintaining connectivity with both internal and external stakeholders. This study indicates that the aim of promoting business agility after Covid-19 crisis requires the skills of the CFOs, those are: postcrisis vision development, supply chain protection, tighter cash management, digital way of working and thinking differently to capture new opportunity.

Practical/managerial implications:

Human resource professionals could apply the identified skills and validated competences to design training programs not only for postcrisis organizational leaders but also for all organization members. If all members are trained in the competencies and skills that support those competencies, an organization should be able to successfully traverse the business recovery phase of a crisis.

Keywords: *Business agility, Chief financial officer (CFO), Covid-19, Delphi method, Postcrisis management*

SOCIAL MEDIA MARKETING IN VIETNAM

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Research purpose:

The first purpose of the paper is to synthesize the concepts as well as the most basic theories of social media marketing. From that literature review, the authors can research and evaluate the current situations of social media marketing activities of businesses in Vietnam. The last purpose is that the thesis can propose solutions to help Vietnamese businesses use social media marketing in their production and business activities more effectively.

Research motivation:

The research focuses on researching current issues and proposing some solutions for social media marketing activities on specific social media platforms in Vietnam such as social networking sites, media sharing sites, social commerce networks, and blogs.

Research design, approach, and method:

The paper is based on the method specific research methods as follows: analysis, comparison, synthesis, and case study method, interpretation method to draw evaluations, solutions and conclusions.

Main findings:

Vietnam has been one of the fastest developing countries in terms of Internet usage, with favorable conditions to apply social media marketing: steady growing Internet development, social media usage as well as demand to use it in Covid-19 pandemic. Vietnamese marketers have focused on certain social media platforms: social networking sites, media sharing sites, social commerce networks, and blogs. Other platforms, such as bookmarking sites and discussion forums, are used by Vietnamese people.

Practical/managerial implications:

Enterprises can implement various ways to solve current social media marketing problems, such as learning from global marketing cases, building a long-term strategy, using creativity, combining virtual and real environment plans. Vietnamese government also needs to join by improving infrastructure technology, strengthening information security on the Internet and raising the quality of human resources.

Keywords: *social media, marketing, social media marketing*

1. INTRODUCTION

Social media usage in Vietnam has continued to grow in Vietnam at a very steady pace, due to modern changes and developments. By the end January 2022, about 78.1% of Vietnamese population used different social media platforms, increasing by 40.7% compared with the number of January 2016 (datareportal, 2022). Social networking sites, media sharing sites, social commerce networks, and blogs are the most popular social media platforms used by Vietnamese people. Many firms have taken advantage of this by engaging in spectacular social media marketing activities and attracting a big number of potential clients. However, each social networking site will have its own unique traits, functions, and metrics, resulting in distinct benefits and drawbacks. To attain the most successful aims, any brand should carefully decide which site to devote time and resources.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The use of social media as a marketing channel has expanded in recent years, driven by the ability to reach millions of customers with brand-related content and engage them in conversations (Lacka and Wong, 2019). Social media marketing refers to the usage of social media networking sites for executive marketing activities effectively (Alawadhi and Al-Daihani, 2019). The most prominent reason why social media has become an important communication tool in marketing landscape is its ability to protect customers within the competitive environment, and connect with the target audience instantly (Peruta and Shields 2018). In developing branding strategies, organizations are increasingly using social media to share, communicate, and collaborate with the customers (Nguyen et al. 2020).

2.1. Definition and features of Social Media Marketing

2.1.1. Definition of Social Media

“Social Media” is one of the terms that are mentioned more and more in the field of communication and marketing. There are more than 110,000 research publications with the term "social media" in the title as of January 2020. In summary, although there are many different interpretations, in general the concept of social media includes some common points, such as social media being a form of communication formed and developed based on the web, the fact that the lifeblood of social media is user-generated content, and integrating a user's profile with those of other individuals or groups.

A basic way to define "social media marketing" is that it is a form of marketing based on social media. However, combining the meaning of "social media" and "marketing", there have been many different descriptions for this term. To sum up, social media marketing is known as the practice of developing content via social media platforms in order to promote products and/or services, build community with target audience, and generate traffic to an organization.

2.1.2. Features of Social Media Marketing

Social media marketing has some typical features. Firstly, social media marketing in particular and social media in general depends greatly on modern technology, specifically Web 2.0 technology. Secondly, Web 2.0 technology brings sharing activities and interaction for Internet users, allowing users to converse with many other people through various channels. Therefore, it can be said that social media marketing can generate multidimensional dialogue. Thirdly, the multi-dimensional dialogue has created this rapid spread feature. Fourthly, social media marketing requires a large investment of effort and time. And finally, difficulty in controlling information and measuring effectiveness is considered the biggest drawback of social media marketing.

2.2. Types of Social Media Marketing platforms

2.2.1. Popular platforms

There are popular social media platforms such as social networking sites, media sharing networks, blogs and microblogs, social commerce sites, social bookmarking sites, and discussion forums.

Social Networking Sites:

A social networking site is an online platform built on the basis of connecting registered member accounts of participating people, thereby forming a community that shares the same interests, information, activities, backgrounds or relationships. In today's digital transforming world, this type of platform is considered as the leading tool to help businesses reach potential customers, stay in touch with current customers, and

build other partnerships. However, when choosing suitable social network sites to use in social media marketing campaigns, it is important to keep in mind the unique characteristics of each.

Media Sharing Networks:

Media sharing networks are platforms that allow participants to create, store and share their media content, such as images, videos, audio, presentations, etc. Currently, there are various sharing networks for each media content type: video, image, audio, presentation,... Media sharing networks are more specialized than social networks. Currently, many businesses have used media sharing networks to post videos, images, audio or presentations related to their products and services. Through this, businesses attract the attention and interest of customers and motivate customers to interact with them.

Blogs and Microblogs:

Blogs are websites created by an individual or an organization to regularly update blog posts/blog entries with diverse content. Nowadays, blogs and microblogs are loosely used for content creation and sharing on social media, especially when the information is posted and shared on a regular basis.

Social Commerce Sites:

Social commerce is a part of electronic commerce (e-commerce) that includes social media and online media that facilitates social interaction as well as user contributions to help online buying and selling products and services. social commerce sites give businesses big opportunities to increase brand awareness and sell to a larger audience.

Social Bookmarking Sites:

The term "social bookmarking" refers to activities of Internet users marking, sharing, organizing, and storing links that interest them. Users can also view a list of links that have been classified by keywords (tags) or through the help of search engines. Internet users can do this through websites specialized for "social bookmarking", such as Pinterest, Digg, Delicious, StumbleUpon,... These are all social bookmarking sites. In general, the use of these types of websites helps businesses "promote" their links widely in online communities and take advantage of the "viral" element in social media marketing.

Discussion Forums:

Discussion forum is a type of community where users discuss or initiate a discussion topic by themselves, exchange with each other through posts and replies. The fact that discussion forums attract a large number of people to participate and interact leads to a great opportunity for individuals or organizations to gather a big group of their followers and to become a reliable reference place. From another perspective of social media marketing, these forums are also used by

businesses to conduct direct conversations with customers, collecting a lot of valuable information about customers' needs and desires.

2.2.2. Other platforms

Besides those well-known ones, social media platforms can also be interested-based networks and virtual worlds. Each social media platform will have their own characteristics, advantages and disadvantages.

Interest-based networks:

Interest-based networks are based on shared interests and are established around a certain topic. Interest-based networks will help businesses target proper audiences as well as catch up with current trends if they have a highly particular niche.

Virtual Worlds:

A virtual world is a computer-based environment, where individuals can simultaneously and independently participate in virtual activities. Virtual worlds are currently being used by many businesses and organizations as a new channel of marketing.

3. CURRENT SITUATION OF SOCIAL MEDIA MARKETING IN VIETNAM

3.1. The development of Social Media Marketing in Vietnam

With a high Internet penetration rate and young users, Vietnam has been one of the fastest developing countries in terms of Internet usage, both regionally and globally. By the end of 1997, the Internet had begun to become commercially viable in Vietnam, but with a small number of users at first, mostly from government institutions. Then, the number of Internet users exploded, when the Internet was deployed strongly and social media developed explosively. That milestone in the development of social media marketing was also the demise of Yahoo 360 in 2008-2009, along with the breakthrough development of the social network sites starting in 2011 and early 2012.

Until now, social media marketing has continued to grow in Vietnam at a very fast pace, due to modern changes and developments.

3.2. The development of Social Media Marketing in Vietnam

3.2.1. Favorable social media marketing applying conditions in Vietnam

The country has been in favorable condition to apply social media marketing, with steady growing Internet development, social media usage as well as demand to use it in Covid-19 pandemic.

Firstly, Internet usage in Vietnam has increased constantly in recent years, as the life quality and standard of the Vietnamese is rising day by day.

The percentage of Internet users and Social Media users in Vietnam from January 2016 to January 2021

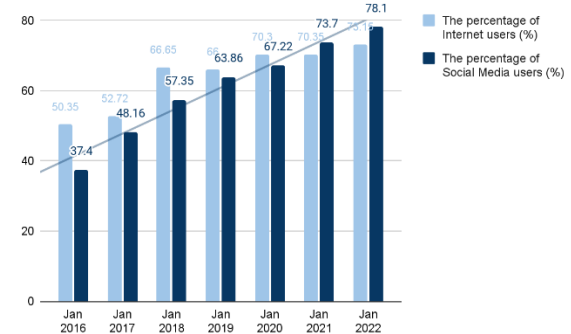


Chart 1. The percentage of Internet users and Social Media users in Vietnam from January 2016 to January 2021

Source: Digital Vietnam report; We Are Social, Hootsuite.

We can see that the portion of Internet users in the Vietnamese population has increased year by year, except for 2018 having a slight decrease due to slower rise in development of Internet users compared to rise in population. There is a straight going-up trend line of social media usage in Vietnam from the above chart. This shows how fast social media platforms have developed in the country, even faster than the spreading speed of the Internet.

Secondly, all the Covid-19 lockdown periods (quarantines), in which Vietnamese people are limited to move around outside and interact directly with each other to prevent spreading the disease, cause many activities to be transferred to the digital environment. According to a Q&Me Vietnam Market Research's report in September 2021, during the Covid-19 quarantine, 82% of surveyed women and 75% of surveyed men spent more of their time on social media.

Thirdly, statistics from Ookla 2020 show that Vietnam's Internet speed has increased significantly over time, especially in fixed bandwidth, which is also called fiber-optic cable. As a result, for these two types of connections, Vietnam's Internet speed was ranked 42nd and 48th respectively on a global scale by November 2021, up from 50th and 53rd position in January of the same year.

3.2.2. Unfavorable Social Media Marketing applying conditions in Vietnam

However, weak Internet infrastructure and risk of fiber-optic cable break has also caused difficulties for social media marketing applications.

Vietnam's Internet network infrastructure is considered to be more complete, but still at a low level compared to the region and the world. Specifically, Vietnam's Internet connection to the world depends on 7 undersea fiber-optic cables, which means about 14 million people use one cable on average.

Fiber-optic cable break has become a constant

worry. An ISP representative confirmed that the undersea fiber-optic cable connecting Vietnam to the world breaks on average 10 times a year. The repair time each lasted a month, causing international Internet access to be affected several times a year. Some cable routes have problems 3-4 times continuously.

3.3. The development of Social Media Marketing in Vietnam

3.3.1. Overview of Social Media Marketing activities and some popular platforms in Vietnam

Social media marketing has continued to grow in Vietnam at a very fast pace, due to modern changes and developments. Many firms have taken advantage of social media marketing by engaging in various marketing activities and campaigns, attracting a big number of potential clients, with such current trends like increase in mobile usage, appearance of influencer and video marketing, development of social commerce, AI and user-generated content.

Vietnamese marketers have focused on certain social media platforms: social networking sites, media sharing sites, social commerce networks, and blogs. Other platforms, such as bookmarking sites and discussion forums, are also used by Vietnamese people, although they are not as important or useful for marketing efforts. Each social media site has their own advantages and disadvantages, and potential aspects to exploit for marketing plans.

3.3.2. Current Social Media Marketing activities on some popular platforms in Vietnam

On Social Networking Sites:

Social networking sites have been probably the most popular social media platforms nowadays. Vietnamese marketers often pay attention to exploit marketing potential on Facebook, Zalo, and Instagram, which are the three most popular social networking sites. Each other social networking site such as Twitter, LinkedIn, Gazo, Lotus,... has the number of users accounting for up to 40% of the total population, however, is not popular and successful as a marketing channel.

Firstly, according to a report from Adsota, Facebook is the most popular advertising channel among social networks in Vietnam today with a rate of over 53% of respondents choosing to click on ads, more than videos on Youtube (42%) and Mobile App (20%). In recent years, there have been common trends in Facebook marketing activities of Vietnamese companies, such as viral content marketing, Facebook livestream marketing, Artificial Intelligence (AI) technology development, video marketing. For example, Baemin's Facebook advertising post, which is a charged content post, has about 2,100 likes and 50 comments. Meanwhile, in the same marketing campaign for the three-year-old birthday, their new Facebook cover image, which is a free content post, went viral with more than 13,900 likes and 455 comments.

Secondly, according to Q&Me Vietnam Market Research, by 2021, about 91% of the Vietnamese population had used Zalo, and 82% were daily users. Besides being a tool for communication, Zalo can also be used effectively for business. The proof is that more and more businesses and individuals are more interested in how to exploit Zalo to sell and take care of customers. There are many ways to implement Zalo Marketing with social networking functions, such as Zalo Personal Account marketing, Zalo Group marketing, Zalo OA marketing, Zalo Advertising (Zalo ads), Zalo ZNS and Zalo ZNC marketing.

Thirdly, in Vietnam, there are now more than 5 million businesses using Instagram. Instagram has quickly become the leading social networking site in terms of users and high engagement. That is why many marketers have made the most of this platform for the purpose of promoting their brand messages. There are some highlights of Instagram marketing activities in Vietnam nowadays, such as brand image marketing, Instagram Stories, Influencer marketing, Cross-promotion and sync with Facebook. For example, Cocoon, which is a skincare brand, can gain more trust and attention from customers with posts tagged by influencers on Instagram. Furthermore, those tagged posts are collected into a category on their Instagram account profile, which makes customers easily know how popular and reliable the brand is.

On Media Sharing Networks:

Among media sharing networks, music and video sharing sites have been the most popular ones for marketing campaigns, as videos have the ability to express emotions and to convey messages more clearly than texts or images in viewers, prompting them to comment, like, and share. With 83% of Vietnamese businesses using online video, it is one of the most popular digital marketing activities in Vietnam, in which 65% boosted their video marketing budgets in 2020, with the cost of video advertising rising to 16% of the average of the brand's typical advertising costs. The most used video sharing sites nowadays are YouTube and TikTok.

Firstly, YouTube is a high-quality video sharing network where users can upload, download, share and interact through reactions, comments on video clips. According to the survey results of Q&Me conducted in early 2022, after Facebook, 86% of Vietnamese Internet users use YouTube, of which 81% are daily users. About 63% of the Vietnamese enterprises own and manage their own YouTube accounts. They have enjoy certain benefits from marketing activities on this platform, such as building Youtube channels that provide information and values, high ability to create viral ads, right customer target, collaboration with Youtube Influencers. For example, in the Tet 2020 marketing campaign, ViettelPay launched the Music Video (MV) 'Lam gi phai hot' with the theme of Tao Quan - a familiar

topic that is easily accepted by the community. With the participation of famous celebrities such as Hoang Thuy Linh, actor Cong Ly, Justatee and Den Vau, the MV 'Lam gi phai hot' with funny and witty lyrics easily conquered young people. Thus, ViettelPay's Tet campaign not only brought in a record high number of new customers, but also received over 70% of responses as positive feedback.

Secondly, TikTok is an application launched in 2016, also known as Douyin in China, owned by the company ByteDance, headquartered in Beijing. At the moment, the signs of marketing potential on TikTok are very positive. For video marketing, YouTube and TikTok are considered the most popular, with the former for long-form video and the latter for short, repetitive clips. YouTube has gained more attention since it provides more monetization opportunities for users, while TikTok prizes creativity and entertainment. TikTok now has 732 million active users. This makes it the seventh most popular social platform and well ahead of other well-known social media, such as Pinterest (478 million active users), Snapchat (514 million users), and Twitter (397 million users) (marketing hub, 2022). There are three main strengths for businesses having TikTok marketing campaigns: creating viral videos, influencer marketing, TikTok hashtag challenges. For example, Viettel's TikTok marketing campaign for customer care service Viettel ++ with hashtag "#viettelcongcong" launched successfully with the accompany of singer Bich Phuong and soccer player Quang Hai. The dance "Viettel Cong Cong" with simple movements, catching melodies quickly hit the psychology of TikTok users who like to show trending dances. After only 10 days of release, the original video promoting the campaign reached 45.8 million views on TikTok, more than 14,900 videos using the official song of "Viettel Cong Cong" as the background music.

Besides video sharing networks, there are other media sharing networks that many Vietnamese people use, such as image sharing sites like Pinterest, Flickr, or audio and music sharing sites like Spotify, SoundCloud, ... These sites also have suitable features for businesses to promote their products and services. However, these sites haven't had significant marketing activities in Vietnam. Because Vietnamese people tend to make use of certain popular social media platforms listed above, especially when social networking sites like Facebook and Instagram have multi-functions that allow them to share images, videos, and other media means.

On Social Commerce Networks:

It can be said that social commerce is developing very strongly in Vietnam through the establishment of many trading activities on famous social networks such as Facebook, Instagram, Zalo and TikTok or through the appearance of social media functions on e-commerce channels like Shopee, Lazada, Tiki. Thanks to the

general boom of the market plus the reasonable steering of the exchanges. Buy and sell on apps, read reputable reviews, pay in advance using cards - e-wallets, sell quality goods, have legal papers, add more tools for advertising, increase floor fees...

Firstly, calls to action like "swipe up to purchase" and "shop link in bio" have grown immensely popular, encouraging social media users to buy the products or services they see advertised on their newsfeeds. Advertisers and marketers alike have benefited from this viewer-friendly material mixed with relevant call to action steps. In addition to these natural opportunities, businesses have focused more on influencer marketing when developing their social commerce strategy. There are typical social commerce functions on social networking sites such as Facebook Marketplace, Zalo Shop, TikTok Shop bringing various benefits for marketing process. A big difference of the TikTok Shop platform that sellers need to note. It's a matter of advertising. Currently, TikTok Vietnam still mainly sells display ads. The future of TikTok Vietnam is likely to go in that direction as well. Especially after implementing TikTok Shop (because then the platform has an alternative source of revenue). The philosophy behind TikTok's limited display ad sales is simple: ads are often unappealing and don't provide the best experience for the masses. In other words, viewers don't like ads. TikTok wants to retain users through increasingly quality content. So they will encourage brands to put in the effort to create good content instead of paying for bad content to be played.

Secondly, some popular e-commerce platforms in Vietnam have been able to provide a personal, memorable, and compelling online social commerce experience by integrating their modern commerce technology with strong social-centric features. Marketing the business through other third sites cannot be compared to marketing right on the platform placing the business. That is why many businesses and sellers have made the most use of social commerce features on these e-commerce platforms to effectively market their products. For example, Shopee, the most popular shopping application in Vietnam nowadays, has recently introduced many social-centric functions and marketing tools that help connect sellers and buyers, such as the Marketing channel for Seller, Shopee Feed, Shopee Live and Shopee Stories. For example, shops can give special vouchers for their Shopee Live viewers, therefore encouraging them to buy products and increasing sales immediately. The second case is Lazada with Lazada Feed. Lazada Feed is a simple and straightforward widget that replicates the timeline feature found on many social media platforms. Instead of discussing personal events and news items, vendors can inform potential and returning customers about the products and services they offer.

On Blogs:

Blog marketing is a form of marketing, advertising, publishing online information through blogs on websites that brands or agencies build to connect with customers directly and quickly. Blog marketing is known in three forms: advertising (banner, textlink); PR (Public Relations) posts; review posts.

Blog marketing has brought Vietnamese marketers several benefits. Interacting with customers is always a top priority for businesses. Blogs and microblogs create an interactive environment in communication between customers and businesses. Furthermore, when businesses own a blog site, they can significantly increase the amount of traffic to the website.

However, since 2014, the blogging movement has become much quieter in Vietnam because of the appearance of Facebook and other social networking sites. Blog is an inexpensive marketing channel, suitable for small and medium businesses. Compared to blogs and microblogs, social networking sites have the ability to interact faster, reach wider audiences and require low costs. When making a blog, in addition to specialized knowledge, bloggers also need to know about SEO (Search Engine Optimization) and other writing techniques, to turn visitors into customers, so it may be more difficult.

3.3.3. Evaluation of current Social Media Marketing activities in Vietnam

Advantages:

After analyzing current social Media Marketing activities in Vietnam, there are many advantages for businesses in transmitting, receiving and sharing information and knowledge from the online community when using social media marketing.

The first advantage is raising brand awareness. Brand building is always the first and last goal that businesses aim for. Social Media Marketing is the key to partially solving this problem. By creating the right methods and content, choosing the right social channels based on target customer insights, social media campaigns can make your brand closer and more vivid than ever. Take a look at Biti's, a familiar brand to Vietnamese people, but in recent years Biti's has lost most of its market share, and the name Biti's is no longer mentioned often. However, thanks to the campaign "Di de tro ve" for Tet 2017 which has impressed with nearly 2 million interactions, it entered the top of the most talked about Tet promotional clips on social networks, which has contributed to revive the brand's reputation. With many efforts, Biti's is still the most interesting and noticed brand in the domestic market.

The second advantage is increasing traffic. Businesses today can fully take advantage of social channels to learn customer insights and improve their

products, which means that businesses have put customers at the center. In addition, Google also considers social sharing factors when ranking websites in search results.

The third one is creating stronger relationships with customers. Building content for Social Media takes a lot of effort because the speed of sharing and disposing of information is much faster than other media channels. But it's also an easy and quick place to reach customers, so if you take advantage of it, it's a great place to connect and create a really strong relationship with customers.

The fourth advantage is that social media marketing is the digital form of word-of-mouth marketing. Because currently, social networks are closely linked with human life, we connect, share and chat every day through social networks.

The final one is better customer care and support service. Also because of ease of access and increased proximity, customer care is also improved. Especially for retail businesses, chatting and exchanging anytime, anywhere will make the process of selling, consulting, exchanging information and addresses with customers more convenient than ever.

Disadvantages:

Besides those benefits, social media marketing also contains many negative influences, which makes many businesses have to watch out.

The first disadvantage is authenticity of information. There are many businesses being played badly on social networks when their competitors spread false rumors, which not only affects the reputation of the business but also reduces sales.

The second one is large time and effort investment. Businesses must regularly update social networks to keep their pages fresh, in addition to updating trends, replying to comments to keep followers engaged and staying. Besides, being on duty all the time to answer questions and support customers also consumes a lot of effort from businesses.

The third one is inconsistent brand image. Having many communication channels, especially social networks, makes building content and images difficult. With a large volume of content and images that need to be produced at the same frequency continuously, it can also be difficult to keep a consistent brand image.

And final disadvantage is delayed results. With social media marketing, seeing immediate results is rather impossible. The success of social media marketing is predicted based on the overall success of the campaign. This is a drawback of social media because businesses have to wait at least a couple of weeks to see the results and adjust the campaign (if necessary).

4. CURRENT SITUATION OF SOCIAL MEDIA MARKETING IN VIETNAM

4.1. Factors affecting future Social Media Marketing activities in Vietnam

The first factor that affects future of Social Media Marketing activities in Vietnam is the increasing trend of trusting word-of-mouth marketing. Recommendations from family, friends, acquaintances and trusted influencers are often highly appreciated by consumers in recent times and this phenomenon is still likely to develop in the future. In addition, it is also necessary to mention an important characteristic of Vietnamese people's personality, which is crowd psychology. Specifically, according to Vero Asean report, gen Y (millennials, those who were born between 1981 and 1996) and gen Z (following the millennials, the group born between 1997 and 2012), which are the two generations currently accounting for 47% of the population and 61% of social media users in the country, have relied on most of communication channels like close friends and family members, work or school colleagues, online bloggers, Facebook or Instagram adverts or professional adverts,...

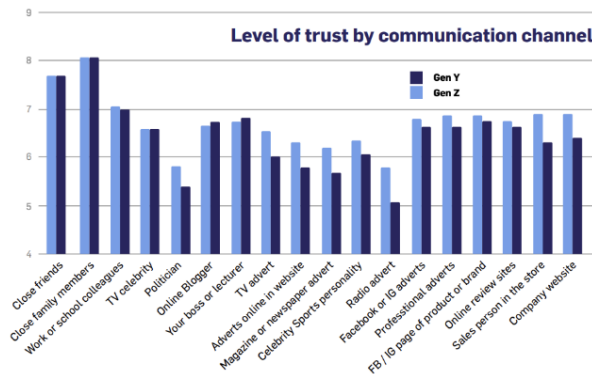


Chart 2. Level of trust by communication channel of Gen Y and Gen Z in Vietnam

Source: Vietnam New Influencers, Vero Asean, 2019

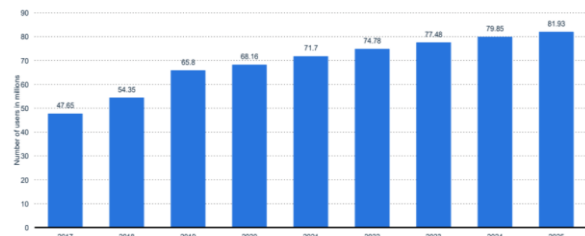
The second factor is the trend of using the Internet in general and online communities. It is not too difficult to explain this trend when the Internet today has crept into almost every corner of daily life. Along with the increasing trend of Internet usage, people's tendency to join online communities such as social networks and sharing networks also develops. In recent times, the massive appearance of social networks has proved that the need to share and connect among Vietnamese people through online communities is increasing. Vietnamese people are also starting to tend to refer to shopping information through these online communities.

4.2. Development opportunity of social marketing activities in Vietnam

In 2020, Vietnam had 73.56 million social network users, accounting for 75,6% of the total population. The social network users in 2025 are predicted to increase to 93.68 million users. The number of social media users

in Vietnam is forecast to increase steadily in 2025, with the number of users around 81.93 million in 2025, increasing to more than 20 million active users. Citizens tend to use social networks rather than search engines to look up online advertising and information, with most advertisers being enterprises, household businesses, and individual entrepreneurs/sellers Social media users in Vietnam 2017-2025

Social media users in Vietnam 2017-2025



Source: Marketreport, 2022

Vietnam recently approved the National Digital Transformation Programme by 2025, with an orientation towards 2030. The initiative will help accelerate digital transformation through changes in awareness, enterprise strategies, and incentives towards the digitalization of businesses, administration, and production activities.

4.3. Some recommendations and solutions for Social Media Marketing development in Vietnam

4.3.1. Solutions from enterprises

The use of social media marketing in business practice requires a deep understanding as well as the ability to learn quickly of businesses to be able to both take advantage of the advantages and overcome the disadvantages of this type of marketing. Coming to Vietnam, the challenge is even greater when most businesses are still very confused with the concept of social media marketing. To overcome this challenge, Vietnamese businesses must both conduct research, learn the most general and basic knowledge of social media marketing and gain in-depth understanding of the Vietnamese market.

Learning from world experience in using social media for marketing activities:

Currently, there are many businesses around the world that have successfully applied social media marketing in their business activities. Compared to Vietnamese businesses, these businesses clearly have more experience in marketing in general and social media marketing in particular. Therefore, Vietnamese businesses need to know how to study and carefully study the experiences of world friends through specific examples. Researching and learning here includes the process of researching as well as updating information in a timely manner. In addition, in the learning process, it is also necessary to be selective to suit the business itself in the context of Vietnam's economy.

Building a long-term social media marketing strategy:

At present, many Vietnamese businesses, especially small businesses, still have a one-sided and in-depth view of social media marketing. These businesses often tend to equate this type of marketing with the tools it uses, leading to a lack of substance. This fact has made social media marketing activities of many Vietnamese businesses still ineffective.

The common solution to this problem is a long-term social media marketing strategy for businesses. Specifically, in this strategy, businesses need to clearly define the purpose as well as the results they expect to achieve from using social media marketing. Firstly, customer research here is studying their habits of using social media tools. Secondly, to build an effective social media marketing strategy, Vietnamese businesses must also conduct thorough research on their competitors. Thirdly, Vietnamese enterprises also need to conduct research on individuals and organizations that influence their target customers in the network environment, called “influencers”.

Being creative in using the tools of social media marketing:

In social media marketing, marketers can choose from a wide variety of tools to use. Choosing the right tools for each specific campaign depends on the results of the customer, competitor or influencer research described above. In addition, to achieve greater efficiency, marketing professionals also need to be creative in using these tools. In fact, creativity is needed in all types of marketing, not just social media marketing. To do that, Vietnamese businesses must clearly understand the social media tools they are using, and understand the functions, advantages, and disadvantages of those tools.

Combining social media marketing in both virtual and real environment:

Although social media marketing relies heavily on web 2.0 technology, it is impossible to separate this activity from the real environment. All business relationships built with customers through online communities start from real relationships and target specific goals in the practice of marketing in particular and business in general. shared. It is for these reasons that it is necessary for businesses to combine social media marketing activities in the network environment and the physical environment. Enterprises should conduct customer events, consulting programs... in practice and promote through social media tools. In addition, through the process of listening and dialogue with customers on online communities, businesses can collect a lot of feedback from customers who want to be provided better products or services.

Preparing plans to prevent and handle crisis in social media marketing:

Information in social media is difficult to control and has the ability to spread very quickly in the network environment, both positive and negative information. Before this problem, Vietnamese businesses need to be alert and fully apply measures to prevent and avoid crises in social media marketing: clearly defining plans to prevent and overcome the crisis right from the beginning of social media marketing strategy, building a dedicated department to capture bad news or negative customer feedback for businesses on social media websites, using online information management services, calmly deal and never avoiding the problem.

Building human resources for social media marketing activities:

Social media marketing is labor-intensive and requires a certain amount of time to get tangible results. Businesses cannot go year after year to hire an agency for themselves.

Therefore, a requirement for businesses is to build and train human resources for their social media marketing activities. When it comes to human resources for social media marketing, two aspects must also be mentioned here. The first is a team of professional human resources. The second is the entire human resource team of the enterprise in general.

Besides, in Vietnam, the level of experience as well as the general understanding of social media marketing of both marketing experts or ordinary employees is not as high as in many other countries. Therefore, businesses need to be proactive in training and fostering their officers and employees with the necessary knowledge as well as building a full awareness of the importance and strong development trend of the business. future social media marketing.

In addition, if a Vietnamese enterprise intends to utilize all its human resources, not only personnel from the marketing department participating in supporting social media marketing activities, it is required that businesses have specific measures to ensure motivation and encouragement of employees.

4.3.2. Solutions from government

Besides some solutions from businesses, to develop social media marketing activities in the future, solutions from the government also play a very important role. These are mainly strategic macro solutions that are planned for a long period.

Improving infrastructure and information technology:

Like most other developing countries, Vietnam's current infrastructure and information technology system is still incomplete and of low quality. This type of marketing will not be effective without the support of information technology. In other words, in the current

context when social media marketing is becoming more and more popular in the world, the Vietnamese government's investment in upgrading the infrastructure system has great significance for businesses, helping businesses keep pace with new trends in the world and get fundamental advantages in initially applying this type of marketing. More specifically, the improvement of infrastructure and information technology can positively impact the development of social media marketing in Vietnam in two directions. The first is the direct impact on businesses. The second is the indirect impact on the business through customers.

On the one hand, it is necessary to constantly learn from experience and be sensitive in applying new technologies from other countries, especially developed countries to quickly shorten the technological gap and avoid rapid development. Development over the years still increases steadily while in reality compared to the world, Vietnam is still lagging behind.

The improvement of infrastructure and information technology in Vietnam also needs to be done evenly across regions and regions.

Furthermore, it is necessary to avoid widespread investment in infrastructure and information technology, causing waste of public money.

Strengthening information security on the Internet:

In addition to the strong development of social networking sites, media sharing networks, blogs, as well as other social media websites, in Vietnam in recent times, concerns about the problem of violated personal liberties through these websites. Therefore, it is necessary for the government to take measures to enhance information security on the Internet. Currently, the State agencies directly taking on this responsibility are the Vietnam Computer Emergency Response Center VNCERT, the Vietnam Internet Center VNNIC and other units and departments under the Ministry of Posts and Telecommunications.

Building and improving the quality of human resources:

To successfully use this type of marketing, it requires the participating workforce to have a solid knowledge, first about marketing in general, then social media marketing. In addition, a degree in information technology is also one of the required requirements of people working in the field of social media marketing.

Faced with that situation, the government, with its macro management role, must have the responsibility to build and improve the quality of human resources in general and in social media marketing activities in particular. Of course, it should be recognized that social media marketing is only a small content in marketing, so it is not feasible and necessary to build a training program to teach at universities. In general, the government can apply the following main measures to

improve the quality of human resources in Vietnam at a macro level.

Thus, building and improving the level of human resources in Vietnam today to have quality and meet the needs of the market is an urgent requirement. The government, with the role of formulating policies and setting out the direction of activities, has a strong impact on the creation and development of this human resource.

5. CONCLUSION

In Industrial 4.0, social media has become one of the most critical communication channels for brands. It can be said that the presence of a brand on social networks greatly determines the accessibility and recognition of that brand to customers. Social media marketing is the process of creating content for social media platforms in order to advertise products and/or services, cultivate a community with a target audience, and drive traffic to a business. Marketers usually use this type of marketing through different social media channels, like social networking sites, media sharing networks, blogs and microblogs, social commerce sites, social bookmarking sites, forums, and some other platforms.

Vietnam has been one of the fastest developing countries in terms of Internet usage, with a high Internet penetration rate and young consumers. The country has been in favorable condition to apply social media marketing, with steady growing Internet development, social media usage as well as demand to use it in Covid-19 pandemic. Many firms have taken advantage of social media marketing by engaging in various marketing activities and campaigns, attracting a big number of potential clients, with such current trends like increase in mobile usage, appearance of influencer and video marketing, development of social commerce, AI and user-generated content. Vietnamese marketers have focused on certain social media platforms: social networking sites, media sharing sites, social commerce networks, and blogs. Other platforms, such as bookmarking sites and discussion forums, are also used by Vietnamese people, although they are not as important or useful for marketing efforts. Each social media site has their own advantages and disadvantages, and potential aspects to exploit for marketing plans.

Therefore, to expand benefits and overcome difficulties, the thesis proposes some solutions for social media marketing development in Vietnam, both from enterprises and the government. It shows that there are two trends that affect the future of this type of marketing, word-of-mouth marketing trust and Internet and online communities joining. From that, enterprises can implement various ways to solve current social media marketing problems, such as learning from global marketing cases, building a long-term strategy, using creativity, combining virtual and real environment plans, preparing to handle crisis, and building their own human resources team. On the other hand, the

Vietnamese government also needs to join by improving infrastructure technology, strengthening information security on the Internet and raising the quality of human resources

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STRATEGIC PLANNING METHOD FOR VIETNAMESE BUSINESS ASSOCIATIONS

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Research purpose:

The purpose of this research is to develop the method of organizational development strategy planning which most fits with the specific conditions of Vietnamese business associations.

Research motivation:

The results of this research may help to solve the problem of the shortage of effective organization development strategy for the associations causing the associations' functioning and developing not as expected as their important role.

Research design, approach, and method:

By using qualitative and quantitative methods including case studies, AHP and TOPSIS this research investigated the existing strategic planning methods to define the most suitable strategic planning method for the associations.

Main findings:

(1) The matrix method should be the most suitable method for the strategic planning of Vietnamese business associations; (2) A first-ever complete method for development strategy planning have been developed and introduced for Vietnamese business associations including the procedure for implementation which matches with their own set of strategic activities; (3) The authors also contributed to the approach of multi-criteria ranking by using a combination of the ten-seed-exercise, AHP and TOPSIS with similar accuracy instead of the complicated calculation using fuzzy AHP and TOPSIS.

Practical/managerial implications:

The recommended method of strategic planning recommended by this research could be useful in applying for not only Vietnamese business associations but also to the business associations, non-profit organizations and businesses in Vietnam and the world for a sustainable development of the organizations and the economy.

Keywords: *strategy, planning, method, business association, development*

FACTORS AFFECTING THE DIGITAL TRANSFORMATION OF EXPORT COFFEE SUPPLY CHAINS IN THE CENTRAL HIGHLANDS PROVINCES

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Research purpose:

Analyze the results of the actual situation of digital transformation of the coffee export supply chain; verify the model of digital transformation of the coffee export supply chain.

Research motivation:

Finding the results of research on the factors of digital transformation and digital maturity of businesses in the supply chain, gradually apply digital transformation in the coming period.

Research design, approach, and method:

The research process of the topic is carried out in 4 steps. To achieve the required number of samples, questionnaire sent to the objects and answers are evaluated with other collected data.

Main findings:

Four core factors of digital transformation and technology 4.0 that have affected the management of the digital transformation and digital transformation factor process management under the guidance of the MPI and USAID (2021) has a clear influence on the coffee supply chain.

Practical/managerial implications:

Digital transformation of the coffee supply chain is both the goal and the driving force of the agricultural economy. The study of the theoretical basis of the steps of the process of coffee export unionization of the Central Highlands provinces and the analysis and assessment of the current situation of coffee export trade unions should take the instruction manual of the MPI in coordination with the MPI and USAID, thereby helping businesses to understand and step by step apply digital transformation in the coming period.

Keywords: *Digital transformation, Supply chain, Digital transformation factor, Digital transformation factor process management, MPI and USAID.*

1. INTRODUCTION

Digital transformation is defined as “a change in all employment and income creation strategies, through the adoption of a competitive, flexible management model that responds quickly to changing needs,” the process of reinventing the business to digitize operations and form extended supply chain relationships; use the functionality of the internet in design, production, marketing, sales, introduction and management based on a data-driven model” (Schallmo, 2018). According to Min and Zhou (2002), the supply chain integration system is the connection of many related activities and business processes to create the final product, such as

the procurement of raw materials; activities that add value by converting raw materials into final products; activities adding added value in terms of time and space through storage and transportation activities; activities of organizing information exchange between members in the supply chain.

A short supply chain of agricultural products can be understood simply as the maximum reduction of participants in the supply chain. The short supply chain brings many benefits to the parties involved, such as farmers; this method is the channel to diversify products towards better, cleaner production, value acquisition higher growth rate and thus ensure more stable revenue.

Consumers can use clean and safe agricultural products made in their locality at a more affordable cost. For the state, the short supply chain plays a valuable role in the strategy of agricultural and rural development, creating sustainable livelihoods for farmers, developing cooperatives, linking farmers, creating a safe food supply system, integrated food strategy, business, and entrepreneurship development, start-up ecosystem, changing production habits, and socially and environmentally friendly consumption (Hung, 2020).

Coffee is a crucial crop and a spearhead economic sector of the Central Highlands provinces. According to the Department of Crop Production, by 2025, the whole country is expected to reduce the area and maintain stable about 600 thousand hectares of coffee; striving for an average yield of 2.7 to 2.9 tons/ha, output from 1.8 to 2 million tons/year, which four critical provinces in the Central Highlands are Dak Lak, Lam Dong, Gia Lai, and Dak Nong with an area of 530 thousand hectares (Diep, 2019). In 2019, coffee exports totaled 1,653,265 tons with a total export value of US\$2.85 billion, down 11.92% in volume and 19.28% down in terms of price compared to exports in 2018. Vietnam is the largest source of coffee for Thailand in the first 11 months of 2019, reaching 38,752 tons, worth 2.069 billion baht (equivalent to 69.36 million USD), down 35% in volume and 41.5% in value compared to the first 11 months of 2018. Thailand is having a shift in coffee imports from markets such as Indonesia, Malaysia, the US, and Brazil, making Vietnam's coffee market share in the total import volume of Vietnam (Ministry of Industry and Trade, 2020). The selling price of Vietnamese coffee is lower than that of other countries exporting to Thailand (Indonesia is 1,991 USD/ton, Malaysia is 2,252 USD/ton, Vietnam is 1,790 USD/ton). Nevertheless, Thailand still promotes imports from other markets, reducing imports from Vietnam, which shows that price is not the main factor for Thailand to boost coffee imports from Indonesia Malaysia (Khanh, 2020).

Currently, the supply chain of coffee exports in the Central Highlands provinces is still loose. In particular, the logistics service is in charge of packaging, cold storage, and transportation of agricultural products from farmers' fields to the cooperative warehouse, from the combined warehouse to the enterprise's warehouse, and from the enterprise's warehouse. In addition to transportation costs, specialized inspection fees are also high. In addition, the time for specialized inspection is also quite long, from 1-2 days, causing monitoring prices, storing containers and yards, thereby increasing logistics costs (Van, 2019). The coffee market in Vietnam and the Central Highlands provinces still has complicated developments, many risks are caused by the local imbalance of supply and demand. These psychological effects are due to the lack of an organized supply chain, the connection between the actors is not tight and vulnerable when there are abnormal

developments. The root cause of the problem stems from the coffee supply chain, from the producer to the consumer (Hang and Thuy, 2020).

From the above situation, it can be seen that the solution to the problem of the short supply chain of agricultural products is considered an effective solution thanks to the support of digital technology. To do well in the short supply chain, it is necessary to apply digital transformation in the supply chain. With the breakthrough advantages of connectivity, and the ability to automate processing, the applied digital technology will be the bridge between the parties, solving all immediate needs in the supply chain.

FAO (2020), there are some conditions to shape the digital transformation of agriculture and the agricultural supply chain in different contexts. There are two primary conditions: the first is the minimum requirement for technology use, including the availability of internet connection, affordability, information technology and policies and programs support (e-government) for digital strategies; the second is the triggering conditions which are the factors that further facilitate the adoption of technology: using of the Internet, mobile phones and social networks, digital skills, support for business activities agribusiness, innovation, and culture, digital transformation programs, and other innovative technology promotion programs. Both of these minimum conditions exist in Vietnam. The government, localities, corporations, and businesses are promoting the application of digital technology, digital transformation and moving towards 4.0 technology.

Based on domestic and international studies on the core factors of digital transformation by some authors such as Zhao (2015) on IoT, Awasthi (2020) and Tredinnick (2017) on AI, Ahearn and others (2016) on big data, Krishnan (2020) on applications. Studies show that the factors that help exporters capture market information, retrieve and process data from many different document formats through application design are manageable and fully controllable set of chain systems from production to sales and consumption of coffee. According to the digital transformation guidance document of the Ministry of Planning and Investment (MPI) and USAID (2021), Vietnam's digital transformation process needs an appropriate roadmap for businesses to manage the digital transformation process horizontal and vertical alliances as well as managing the relationships between the corporations responsible for efficient production, supply of products from the farm to the consumer level to meet consumer requirements cost-effectively reliable in terms of quantity, quality, price of agricultural commodities. In practice, this often includes managing both horizontal and vertical alliances; relationships and processes between companies and chain partners (FAO, 2007; Imran & Thai, 2021; Hung, 2020) including suppliers,

intermediaries; customers and the public. Coffee suppliers on the online platform have both customers and consumers if they have products/services that meet certain needs. The connection between manufacturers, suppliers, the consumer market through technology allows manufacturers to automate the production and supply of products, as well as capture timely market information. the market for coffee products. Thanks to technology, intermediaries can easily find customers, create the most profitable deals possible. In the digital coffee supply chain, a customer is anyone who purchases or performs transactions on products related to coffee. The power of customers and the public is increasing; finding information about products/services today has become easy, fast, convenient, done automatically based on software applications and prominent companies: data and artificial intelligence. Consumers and the public today, thanks to connected and automated technology, can interact directly with manufacturers, distributors, intermediaries, wholesalers, and retailers instantly, anywhere, and anytime (FAO, 2007; Imran & Thai, 2021; Hung, 2020). Therefore, the conditions for the digital transformation of the coffee supply chain are feasible, so finding the results of research on the factors of digital transformation and digital maturity of businesses in the supply chain will contribute to helping businesses—awareness and gradually applying digital transformation in the coming period.

2. LITERATURE AND HYPOTHESIS

2.1. Digital transformation

Digital transformation in enterprises is "the integration and application of digital technology to improve business efficiency, management efficiency, capacity and competitiveness of enterprises and create new values." Digital transformation activities can range from digitizing business and management data of enterprises to applying digital technology to automate, optimize business processes, management processes, products, and services. Business processes, reporting processes and work coordination in the enterprise to the transformation of the entire business model create new value for the business (Ernst & Young, 2011; MPI and USAID, 2021). According to the guidance document of the MPI and USAID (2021), there are four stages of the corporate merger process:

Preparation phase: Define digital transformation goals and strategies.

Stage 1: Digital transformation of business models such as applying digital technology to expand distribution, marketing, and sales channels, and improve customer care and customer service efficiency for clients; step by step using digital technology to the supply chain...

Stage 2: Digital transformation of management models such as: Completing the governance model and

determining the requirements for integrated data for the next step; Building and perfecting the governance model from organizational structure, people, policies, and processes to all functional areas of the enterprise; building management indicators (KPI/OKR), management reporting system...

Stage 3: Connecting business and administration, innovating to create new products and services such as: Applying to apply digital technology to gradually connect existing systems into an information system from company to business. Business to management operations in the enterprise; building a common database in the whole enterprise...

2.2. Supply Chain (SC)

There are many definitions of the SC so far, each of which looks at the supply chain from a different angle. Here are some typical descriptions:

First, the SC is understood as a process such as "Representing all stages at which value-added is added in production and products, including the supply of raw materials and materials; intermediate components, through to the finished product, packaging, transportation, warehousing and logistics" (Agnetsa, Hall & Pacciarelli, 2006).

Second, an SC is understood as a structure: "A group of participating manufacturers, suppliers, distributors, retailers, and transporters, information and other logistics management service providers engaged in providing goods to consumers. The SC includes internal and external cooperation with the company" (Chow et al., 1995).

2.3. Internet of Things (IoT)

According to Awan (2019), IoT is a scenario of a world where each object and person is provided with its identifier, all are capable of transmitting and exchanging information and data over a single network without the need for direct human-to-human or human-to-computer interaction. According to Xue (2005) and Cao (2008), the supply chain coordination mechanism includes all data exchange efforts. An Internet-based coordination system that connects things in the agri-food supply chain evolves by integrating production, logistics and service to consumers. IoT technology mainly includes three leading technologies: cloud computing for extensive data management, data transmission layer, and data network layer (Chandrakanth et al., 2014; Yadav, Luthra & Garg, 2020).

Zhao (2015), IoT can create a new collaboration in the supply chain, providing the platforms for agriculture and supply chain coordination mechanism operations (Lezoche, 2020). In the coffee SC, the internet connects to innovative production systems such as watering, fertilizing, sensor systems for moisture, nutrition for plants and fruits, and fruit harvest ripeness. The Internet helps exporters to capture market information and partners, introduce products to sell, negotiate and find

customers online.

2.4. Artificial intelligence (ARI)

Yadav et al (2020), ARI is applied in agriculture as an automatic machine, transferring values in the supply chain. In addition, ARI can recognize and perceive images, speech recognition (Tredinnick, 2017), and language programming (Tredinnick, 2017; Solemane, 2019), machine learning (Awasthi, 2020), intelligent data processing (Tredinnick, 2017; Solemane, 2019) and Virtual Assistant (Chatbot) (Awasthi, 2020; Talaviya, 2020).

2.5. Big Data (BIG)

Big data is a transformational revolution in supply chain design and management (Ghosh, 2015). In a big data environment, an agricultural supply chain is a system consisting of organizations, people, activities, information, and resources involved in the movement of farm products. Industry from the site of cultivation and production to the end customer and consumer (Tao, 2017).

According to Marr (2015), big data has five essential characteristics according to 5Vs as follows: volume, velocity, variety, integrity, and value. Big data drives supply chain planning. Disparate data is shared among all crops and production facilities, logistics distribution centers, and points of sale, then shapes data flows and drives supply chain scheduling in an extensive data environment (Ahearn, 2016; Tao, 2017; Barbosa, 2018).

2.6. Applications (APP)

These are software programs that manage and control various applications designed and installed, and integrated with devices, such as smartphones, computers, and electronic boards, to perform online functions to the end-user or a particular set of parts. In SC, the supporting software is concentrated in the following areas: Advanced Mobile Information System, Agricultural Database Server, Traceability Server, Decision Support System, Website and mobile services, and social networks (Aglaiia, 2013; Krishnan, 2020; Verónica & Más, 2020). For the coffee supply chain, just designing one application can manage, control the entire chain system from production to sales and consumption of coffee. If that application allows sharing, invites many people to participate, a digital coffee business ecosystem will develop, and resources will exploit effectively.

2.7. Digital Transformation Management (DPM)

According to Peter et al (2019), there are three stages of digital transformation. Phase 1 is digitization. Phase 2 is to increase the degree of automation in digitalization: phase 3 is digital transformation.

According to MPI and USAID (2021), the popularization process for SMEs in Vietnam includes a preparation phase and 03 phases to make a gradual transition from "Doing digital," "Becoming Digital," to

"Being digital." The steps can be carried out in parallel or succession, depending on the current goals and potential of the business. This is a standard route for SMEs and needs to be customized to fit the current situation of each company.

2.8. The coffee supply chain (short) includes

Supply chain management refers to managing the relationships between businesses responsible for the efficient production and supply of products from the farm to the consumer level to meet consumer requirements for reliable use in terms of quantity, quality, and price of agricultural commodities. In practice, this often includes managing both horizontal; vertical alliances and relationships and processes between companies and chain partners (FAO, 2007; Imran & Thai, 2021; Hung, 2020).

2.8.1. Supplier (SUP)

As with the traditional model, the supplier includes all parties capable of delivering coffee-related products/services to the market. Coffee suppliers on the online platform have customers and consumers if they have products/services that meet specific needs. The connection between manufacturers, suppliers, and the consumer market through technology allows manufacturers to automate the production and supply of products, as well as capture timely market information. The need for coffee products. Suppliers include companies, ranchers, and households that grow and trade the product. They have specific influences on the supply chain and information and communication systems with characteristics (FAO, 2007; Imran & Thai, 2021; Hung, 2020).

2.8.2. Intermediaries (MID)

The concept of intermediaries in the digital coffee supply chain is also expanded, not only to processors, transporters, distribution agents, brokers and coffee traders but also those who can participate in consulting and marketing, introduce, transfer coffee products to third parties. Technology allows intermediaries to find customers and create the most profitable deals possible easily. This group participates in the supply chain and has characteristics (FAO, 2007; Imran & Thai, 2021; Hung, 2020).

2.8.3. Customers and the public (CUP)

Customers and the public are the critical issues of all production, business activities in general and the coffee business in particular. In the digital coffee supply chain, a customer is anyone who purchases or performs transactions on products related to coffee. The power of customers and the public is growing; finding out information about products/services today has become so easy, fast, convenient, and done automatically based on application software. Consumers and the public today, thanks to connected and automated technology, can interact directly with manufacturers, distributors,

intermediaries, wholesalers, and retailers instantly, anywhere, and anytime. They can compare different suppliers in terms of quality, price, and delivery time and react immediately if they are satisfied or dissatisfied. The voice of customers and the public is

most potent on social networking platforms. Therefore, the power of customers and the public is increasing and requires businesses to have policies to attract them to the supply chain of coffee (FAO, 2007; Imran & Thai, 2021; Hung, 2020).

Table 1. Factor measurement of coffee supply chains

Factor	Code	Variables	Reference
IoT	IoT1	Integrated into production, logistics, and service to consumers	Xue (2005) and Cao (2008)
	IoT2	Cloud computing for big data management, data transmission layer, and data network layer are used at the enterprise	Yadav, Luthra & Garg, 2020; Lezoche, 2020
	IoT3	All have sensors that receive and transmit digital signals to the processing management system in the enterprise	Zhao (2015)
	IoT4	Intelligent production systems have been applied in the enterprises	
	IoT5	The Internet system provides the foundation for business activities in coffee production and trading	
ARI	ARI1	Enterprises are using Artificial Intelligence in services and decision-making processes	Awasthi, 2020; Talaviya, 2020
	ARI2	Recognize and perceiving images has been applied at the enterprise	Tredinnick, 2017; Awasthi, 2020; Talaviya, 2020
	ARI3	A speech recognition system has been applied to the enterprise	
	ARI4	Language programming has been used in the management system of the enterprise	Tredinnick, 2017; Solemane, 2019
	ARI5	Machine learning (self-learning robot) has been implemented in enterprises	
	ARI6	Intelligent data processing has been applied to enterprises	
BID	BID1	Large volumes of data are being exploited and used in enterprises	Ahearn, 2016; Tao, 2017; Barbosa, 2018
	BID2	Speed, automatic data processing and storage have been implemented in enterprises	
	BID3	Enterprises have many types of data now	
	BID4	Your data has gained accuracy	
	BID5	Business data is precious	
	BID6	Big data has boosted supply chain planning in the enterprise	
APP	APP1	Advanced Mobile Information System has been applied to the enterprise	Aglaiia, 2013
	APP2	Agricultural Database Server is already in use at the enterprise	Aglaiia, 2013; Krishnan, 2019; Verónica & Más, 2020
	APP3	Traceability Server has been applied to the enterprise	
	APP4	Enterprises have implemented applications with Decision Support System	
	APP5	Website and mobile services and social networks used in the business	
DPM	DPM1	Leadership has become aware of the benefits of digital transformation	FAO, 2007; MPI and

Factor	Code	Variables	Reference
	DPM2	Leaders are aware of the digital transformation trend of the business	USAID, 2021.
	DPM3	Leaders have been aware of the degree of digital integration into business operations	
	DPM4	Leaders have grasped the digital transformation process and applied it step by step at the enterprise	
	DPM5	Leaders are aware of the level of digital technology application in measuring and forecasting business performance	
SUP	SUP1	Ability to meet demand	FAO, 2007; Imran & Thai, 2021; Hung, 2020.
	SUP2	Flexibility in product delivery and planning	
	SUP3	The ability to master technology and use digital devices	
	SUP4	Competence in coordination and information sharing	
	SUP5	Resources in production and supply	
	SUP6	Marketing and commercial capacity	
	SUP7	Willingness to cooperate	
MID	MID1	Executive management capacity	
	MID2	Collaborative attitude and information sharing	
	MID3	Financial capacity	
	MID4	Knowledge of technology and market	
	MID5	Connectivity	
CUP	CUP1	Consumer confidence in product quality	
	CUP2	The ability of the supply chain to meet their needs	
	CUP3	Capability to receive technology, information and share information	
	CUP4	Convenience level of service	
	CUP5	Customer loyalty to the business is very high	

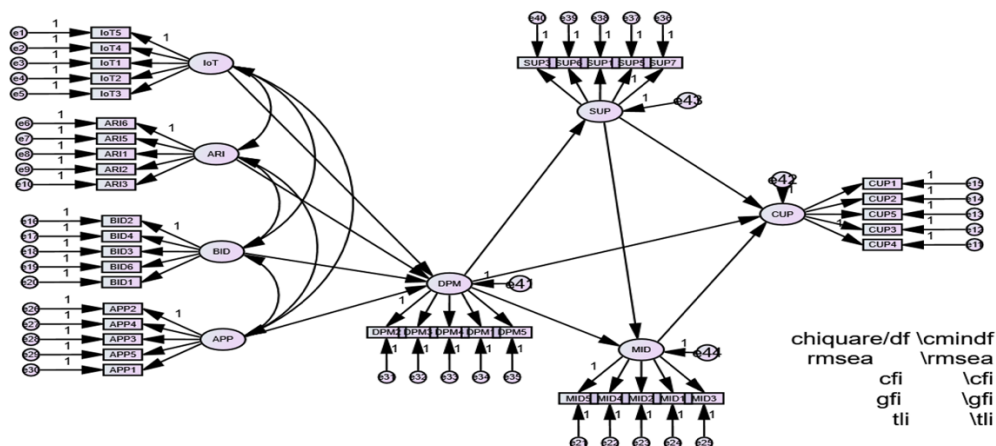


Figure 1. Research models and hypotheses

Research hypothesis

(1) Group of core elements of the College:

H1: A positive (+) impact of IoT on DPM

Hypothesis for H01: A negative (-) impact of IoT on DPM.

H2: A positive (+) impact of ARI on DPM

Hypothesis for H02: A negative (-) impact of ARI on DPM

H3: A positive (+) impact of big data (BID) on DPM

Hypothesis for H03: A negative (-) impact of BID on DPM.

H4: A positive (+) impact of APP on DPM

Hypothesis for H04: A negative (-) impact of APP on DPM.

(2) Supply chain group:

H5: A positive (+) impact of DPM on SUP.

Hypothesis for H05: A negative (-) impact of DPM on SUP.

H6: A positive (+) impact of DPM on MID.

Hypothesis H06: A negative (-) impact of DPM on MID.

H7: A positive (+) impact of DPM on CUP.

Hypothesis for H07: A negative impact (-) of DPM on CUP.

H8: A positive (+) impact of SUP on MID.

Hypothesis for H08: A negative effect (-) of SUP on MID.

H9: A positive (+) impact of SUP on CUP.

Hypothesis for H9: A negative effect (-) of SUP on CUP.

H10: A positive (+) impact of MID on CUP.

Hypothesis for H10: A negative (-) impact of MID on CUP.

3. RESEARCH METHODS

Exploratory research was conducted using qualitative research methods by interviewing ten experts through a preliminary quantitative questionnaire survey. To identify the constitutive elements of the SCM and the short SCM of coffee exports, expert interviews were conducted using the same prepared semi-structured questionnaire. The questionnaire includes many factors synthesized and listed by the author according to each scale. Scale 1 is related to digital technologies such as IoT, ARI, BID, and APP. Scale 2, related to Management and Supply Chain: DPM, SUP, MID, CUP.

The research results are the basis for the author to develop a draft scale, which can be used for the preliminary research stage at a later stage, on which the author conducts correction and completion of the official ranking in the following quantitative study. This is done by collecting information directly through interviews. To achieve the required number of samples, the total number of ballots distributed was 597 to the following subjects: Coffee producers, coffee purchasing and processing enterprises; Enterprises doing logistics work; Coffee exporting companies; Brokers. The number of votes collected was 476 votes (79.7%). After

data cleaning and removing invalid answer sheets, the number of used questionnaire samples in the study was 459 and met the required number of pieces.

The official study of the topic aims to confirm the components, validity, and reliability of the scale of research concepts and test the theoretical model. Reliability analysis methods Cronbach's Alpha, EFA, CFA, and linear structural model analysis SEM were used by software SPSS 20.0 and AMOS 20.0. To survey opinions, use the Likert scale with seven levels.

4. RESEARCH RESULTS

4.1. Survey sample characteristics

Of the 459 valid questionnaires, 56.4% of the participants were male, and 43.6% were female. Most of the study participants, the group of people in middle age, educated from colleges and universities, with seniority in the coffee industry accounted for a high proportion. Therefore, they have a thorough understanding of the research area. The number of people who are aware and are gradually applying digital transformation accounts for a high percentage. The number of people who have completed the digital transformation in the coffee supply chain is still deficient.

Table 2. Survey sample characteristics

	Criteria	Quantity	Ratio (%)
1	Sex	459	
	Male	259	56.4
	Female	200	43.6
2	Ages	459	
	18-25	15	3.3
	26-35	33	7.2
	36-45	84	18.3
	46-55	92	20.0
	56-60	190	41.4
	Over 60	45	9.8
3	Education Level	459	
	Highschool	54	11.8
	Intermediate	79	17.2
	College	86	18.7
	Bachelor	179	39.0
	Master	45	9.8
	Doctor of Philosophy	16	3.5
4	Experience	459	
	Under 1 year	19	4.1
	1 -3 years	41	8.9
	3 - 5 years	35	7.6
	5 - 7 years	86	18.7
	7 - 10 years	121	26.4
	10- 15 years	112	24.4
	Over 15 years	45	9.8
5	Working position of the interviewee	459	
	Staff	321	69.9
	Head/ Deputy Head of department	78	17.0
	Board of Directors	60	13.1
6	Number of years in operation of the business	459	
	Under 3 years	41	8.9
	Over 3-5 years	121	26.4
	Over 5 -8 years	129	28.1
	Over 8 -10 years	89	19.4
	Over 10-15 years	45	9.8
	Over 15 years	34	7.4
7	Awareness of digital transformation	459	
	Not sure about digital transformation	24	5.2
	Not applicable yet	123	26.8
	In progress	138	30.1
	Applying step by step	145	31.6
	Successfully applied the digital transformation model	29	6.3

4.2. Reliability test

The test results show that all supply chain digital conversion factor scales have Cronbach's alpha > 0.6

reliability. Thus, the scale test results indicate that all the scales are reliable and suitable to continue to be included in the EFA.

Table 3. The results of the quality analysis of the scale using Cronbach's alpha coefficient

No	Scale	Intial Variable	Retain Variable	Quantity	Cronbach's alpha
1	IoT	IoT1, IoT2, IoT3, IoT4, IoT5	IoT1, IoT2, IoT3, IoT4, IoT5	5	0,914
2	ARI	ARI1, ARI2, ARI3, ARI4, ARI5, ARI6	ARI1, ARI2, ARI3, ARI5, ARI6	5	0,928
3	BID	BID1, BID2, BID3, BID4, BID5, BID6	BID1, BID2, BID3, BID4, BID6	5	0,891
4	APP	APP1, APP2, APP3, APP4, APP5	APP1, APP2, APP3, APP4, APP5	5	0,871
5	DPM	DPM1, DPM2, DPM3, DPM4, DPM5	DPM1, DPM2, DPM3, DPM4, DPM5	5	0,853
6	SUP	SUP1, SUP2, SUP3, SUP4, SUP5, SUP6, SUP7	SUP1, SUP3, SUP5, SUP6, SUP7	5	0,836
7	MID	MID1, MID2, MID3, MID4, MID5	MID1, MID2, MID3, MID4, MID5	5	0,919
8	CUP	CUP1, CUP2, CUP3, CUP4, CUP5	CUP1, CUP2, CUP3, CUP4, CUP5	5	0,910

4.3. Factor analysis

Using the Principal Axix Factoring method with the Varimax rotation method

4.3.1. EFA exploratory factor analysis

The analysis results show that the KMO coefficient of the sample set is 0.914 > 0.5, which is very good (Kaiser, 1974), with the significance level of Bartlett's Test (<0.05) at 0.000. This proves that the data used for

factor analysis is entirely appropriate. In Table 4, we see that Bartlett's test has a significance level of Sig.=0.000 < 0.05, so the observed variables are linearly correlated with the representative factor. The total value of variance extracted = 64.101% > 50%: satisfactory; it can say that these eight factors explain 64.101% of the variation in the data. The eigenvalues of all elements are high (>1) (Tho & Trang, 2009).

Table 4. Test indicators in EFA analysis

	Required value	Real value
KMO	$0,5 \leq KMO < 1$	0,914
Bartlett's Test of Sphericity (Sig.)	<0,05	0,000
Eigenvalue	>1,0	1,43
Cumulative %	>30%	64.101%

Table 5. Total Variance Explained

Component	Intial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of variance	Cummulative %	Total	% of variance	Cummulative %	Total
1	10.894	27.234	27.234	10.560	26.399	26.399	6.853
2	3.699	9.248	36.482	3.353	8.382	34.781	6.018
3	3.094	7.735	44.217	2.735	6.837	41.618	5.548
4	3.022	7.554	51.772	2.648	6.620	48.237	6.932
5	2.398	5.995	57.766	2.104	5.261	53.498	5.917
6	2.148	5.371	63.137	1.759	4.398	57.897	3.273
7	1.746	4.364	67.501	1.393	3.482	61.379	5.898
8	1.431	3.577	71.078	1.089	2.722	64.101	4.597
9	0.665	1.663	72.741				
....				
40	0.142	0.355	100.000				

4.3.2. Confirmatory factor analysis CFA

Carrying out CFA analysis of the factors of digital transformation of the export coffee supply chain (Table 6), the results obtained the Chi-Square value adjusted for degrees of freedom $CMIN/df= 1.591 < 5$. CFI, TLI, and RMSEA are all perfect, except for the GFI index

with a value of 0.89, which approximates the acceptance level of >0.90 , which is still accepted because other indicators are excellent and significant, so it can be concluded that the model of factors associated with coffee exports in (CFA) is appropriate.

Table 6. Measure Goodness of Fit

	CMIN/Df	CFI	TLI	GFI	RMSEA
Required value	<5	>0.90	>0.90	>0.90	<0.08
Real value	1.591	0.96	0.96	0.89	0.036

The results of CFA analysis on the scale of factors of coffee supply chain colleges show that: Chi-square/df= $1.591 < 5$, GFI of 0.89, TLI=0.960,

CFI=0.964, these indexes are all greater than 0.9. The index to determine the model's goodness of fit to the population (RMSEA) is $0.036 < 0.08$.

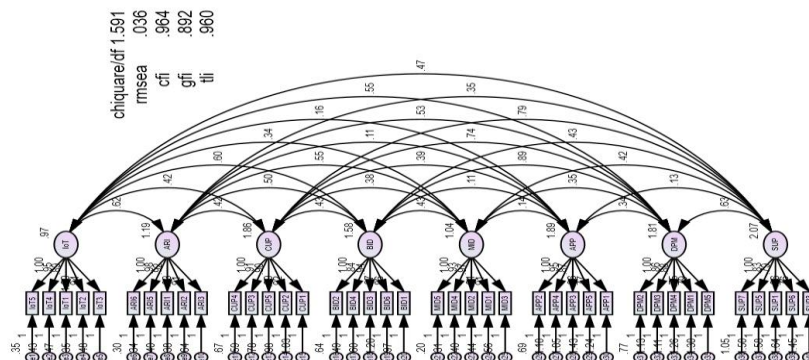


Figure 2. CFA results

Besides, the standardized regression weights of the component variables of the eight factors in the research model all reached the required value (>0.50). The scale comes convergence value when the normalized regression weights go > 0.50 and are statistically significant (Anderson, 1988; Hair et al, 2006,2009).

Table 7 shows the basic indexes of the SEM model as follows: CMIN/df is 1,727<5; CFI is 0.954>0.90; TLI is 0.951>0.90; GFI is 0.88 < 0.90, and RMSEA is 0.040 < 0.08. With these indicators, according to authors such as Hu & Bentler (1999); Hair et al. (2009), then the SEM model is suitable for research data

4.4. Linear Structural Model Analysis (SEM)

Table 7. Measure Relative Fit

	CMIN/df	CFI	TLI	GFI	RMSEA
Required value	<5	>0.90	>0.90	>0.90	<0.08
Real value	1.727	0.954	0.951	0.88	0.040

The results of the analysis, unnormalized standard regression weights (a) and normalized weights (b) of the SEM model show that the regression weights are all positive (>0) and statistically significant. P-value < 0.05). CR>= 0.7 (Hair et al., 2010) of the scale is 0.867>0.70, and AVE is 0.656 >= 0.5. The discriminant is also achieved when MSV < AVE, SQRTAVE > ICC

(Anderson, 1988); Hair et al, 2006,2009; Fornell & Lacker, 1981), all components achieve unidirectionality because there is no autocorrelation relationship between errors of observed variables, so the scale Measurements in the model achieve convergent value, so it can be concluded that the proposed model is reliable (See Table 8).

Table 8. Convergent and Discriminant value of the scale

	CR	AVE	MSV	ASV	SQRTAVE	DPM	IoT	ARI	CUP	BID	MID	APP	SUP
DPM	0.802	0.669	0.279	0.136	0.607	0.607							
IoT	0.915	0.682	0.236	0.106	0.826	0.415	0.826						
ARI	0.929	0.724	0.247	0.093	0.851	0.364	0.576	1,000					
CUP	0.912	0.674	0.163	0.098	0.821	0.404	0.313	0.285	1,000				
BID	0.877	0.553	0.279	0.126	0.744	0.528	0.486	0.364	0.250	1.000			
MID	0.881	0.587	0.247	0.101	0.766	0.256	0.341	0.497	0.275	0.332	1.000		
APP	0.833	0.685	0.043	0.016	0.697	0.183	0.115	0.073	0.208	0.066	0.097	1,000	
SUP	0.790	0.680	0.162	0.082	0.617	0.327	0.331	0.226	0.403	0.239	0.288	0.067	1,000

Table 9. The results of testing the relationship between the factors in the model

Relationship		Unstandardized Coefficients	P-value	Standardized Coefficients	Tests of Hypotheses
H1: IoT positive impact	--> DPM	0.183	0.026	0.136	Approval
H2: ARI positive impact	-->DPM	0.185	0.007	0.151	
H3: BID positive impact	-->DPM	0.433	****	0.409	
H4: APP positive impact	-->DPM	0.136	0.002	0.140	
H5: DPM positive impact	-->SUP	0.372	****	0.343	
H6: DPM positive impact	-->MID	0.171	****	0.223	
H7: DPM positive impact	-->CUP	0.148	****	0.210	
H8: SUP positive impact	-->MID	0.303	****	0.296	
H9: SUP positive impact	-->CUP	0.147	0.024	0.110	
H10: MID positive impact	-->CUP	0.254	****	0.269	

4.5. Bootstrap test

They are using an estimated sample of 1000 samples to test bootstrap using the Maximum Likelihood method. The results are shown that C.R indexes are all < 1.96, infer p-value >5%, reject hypothesis H1, accept

H0, it can be said that the bias is minimal and conclude that the deviation is the deviation. Non-zero (H1) is not statistically significant at the 95% confidence level, and thus the initial estimation model can be concluded with confidence (See Table 9).

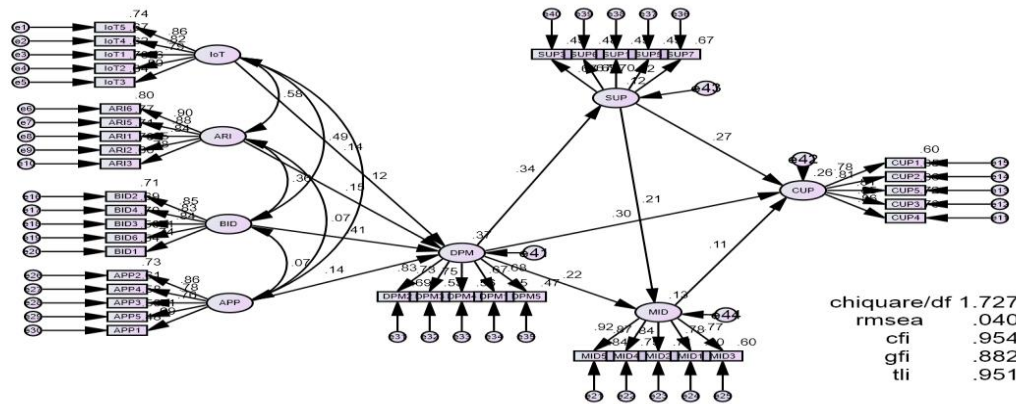


Figure 3. SEM model of SC digital transformation

This result is in line with the study of Zhao (2015) and Pranto et al (2021), IoT along with Blockchain technology, big data, cloud computing are the main pillars. They are unified integration in smart agriculture and the SC of agricultural products 4.0. Besides, combined with IoT, AI, big data, APP will meet all needs for users. It allows the parties in the SC to interact directly with each other, to order production, exchange, negotiate, buy, sell and pay for agricultural products and services as well as solve problems immediately. According to Tao (2017), in the big data environment, the agricultural SC is a system consisting of organizations, people, information and related resources to the movement of agricultural products from the planting site and production facility to the end customer and consumer. Therefore, in this study, we also recognize that the correlation coefficient between components is <1 with standard deviation <0.05. We also find that on the premise of breaking down data barriers, building a digital economic ecosystem is carried out. By the popularity of the Internet on mobile devices and the changing consumption habits, consumers increasingly expect organizations and businesses to be able to meet diverse needs in a one-stop, seamless way through a simple interface or click can complete a wide range of their shopping and consumption behavior. The extant literature shows that, digital transformation is a complex process that requires changing everything, breaking the habit of holding back. The first and core factor to ensure the success of the digital transformation is the management of the digital

transformation process with the leadership's vision. The vision of digital transformation, grasping the necessary knowledge and skills of digital transformation, allocating resources accordingly in each digital transformation stage are requirements for leaders of business organizations to ensure the success of digital transformation (Peter, 2021). At the same time, the study results show that the management of both horizontal and vertical alliances as well as relationships and processes between companies and chain partners such as SUP, MID, and SUP (FAO, 2007; Imran & Thai, 2021; Hung, 2020).

5. CONCLUSION

From the above research results, the following conclusions are drawn:

Firstly, the number of people who are aware and are gradually applying digital transformation accounts for a high percentage. The number of people who have completed the digital transformation in the coffee supply chain is still deficient.

Secondly, there is a high rate of agreement about the role of the Internet in the production and business activities of enterprises. ARI has not been widely applied in business activities. BID and various data sources have been involved in business activities but still to a low extent. Regarding the use of apps in business activities, businesses have not used applications except for websites, mobile services, and social networks.

Third, the reality of management of the conversion process shows that many business leaders are unaware of the promotion process according to the guidance of the MPI and USAID (2021). Suppliers also have many limitations in applying digital technology and the college process in production and business activities. Intermediary distributors are also limited in digital technology application, connectivity, and financial capacity. The reality, customers and the public said that the quality of customer service is not high, leading to low business efficiency of businesses.

Fourth, on the digital maturity of enterprises in the SC for export coffee, it shows that in the preparation stage, many enterprises have collected, analyzed, and assessed the current environmental status and conditions of enterprises to number conversion. On the other hand, enterprises are still limited in setting specific goals and roadmaps and preparing collegial resources in the first phase of the transformation of business models. In this period, the strength is that businesses have become aware of the confidentiality of business information and apply information technology in the financial accounting system. The drawback is that digitization has not been widely used to improve customer experience. The second stage of digital maturity is the transformation of the corporate governance model. Enterprises have been aware of digital applications in managing business activities, laying the foundation for digitization. The weak point is that the targets for integrated colleges have not been established to improve the operational efficiency of enterprises. Phase 3 is the business and governance connection. In general, many businesses have not yet reached stage 3 of digital maturity. Almost no enterprises have applied real and virtual technology in product design and product lifecycle management.

Fifth, in the preliminary study, testing the scale's reliability by Cronbach's alpha coefficient from 8 factors with 44 observed variables, after trying eight elements were kept unchanged, and four observed variables were excluded. ARI4, BID5, and SUP2, SUP4. The test results show that the scale is reliable and that eight factors and 40 observed variables are retained in the following study. EFA is the next step of the preliminary research. The results show that coefficients (KMO, Eigenvalues...) are all accepted, and the data used for factor analysis are entirely appropriate. Preliminary research results confirm that the factor scale is reliable and consistent with the data used for analysis, and the research moves to the official research stage.

Sixth, the results of CFA show that: the statistical indicators of the scale, such as Chi-squared/degrees of freedom, CFI, TLI, GFI, RMSEA, and significance level (P-value) all meet the set requirements, so it can be concluded that the model of factors associated with coffee exports in CFA is appropriate.

Seventh, the results of testing SEM show that: the

statistical indicators of the scale, such as Chi-squared/degrees of freedom, CFI, TLI, GFI, RMSEA, CR, AVE, MSV, SQRTAVE, and significance level (P-value) all meet the set requirements, so it can be concluded that SEM of the factors associated with coffee exports is suitable with the collected data to get from the market.

From the comparison viewpoint of the reviewed articles, it is clear that authors have directed on the sustainability and supply chain issues through achieving coordination, competitiveness, and transparency in conjunction with applying effective information technology in supply chains. All the reviewed articles point towards developing efficient, sustainable, and effective supply chain practices, and there are interconnections in the studies.

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THE RELATIONSHIP BETWEEN ARTIFICIAL INTELLIGENCE AND CUSTOMER EXPERIENCE WITH AI – POWERED SERVICES

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Research purpose:

This research examines how incorporating AI in commercial services can impact and improve customer experience. The study will broaden AI insights into marketing and assist marketers and service providers in considering and orient customer acquisition and retention strategies when implementing this new technology.

Research motivation:

The current field of AI research is still in its early stages, particularly in developing and integrated countries such as Vietnam. AI-powered services that directly serve customers are becoming more common in various fields, including healthcare, education, finance, banking, retail, tourism, e-commerce, and so on. More research is needed on the multifaceted effects of AI on the business operations of enterprises that use this modern technology. The research team's ideas, intentions, and choice of implementation are based on the lack of review studies on the impact of AI on customer experience as a commercial service. Implementing this topic is expected to result in a better understanding of the use of AI technology in modern marketing.

Research design, approach, and method:

Personal interviews and online surveys were conducted with customers who had used AI-powered services ranging from search engines, social networks, and e-commerce platforms to personal virtualization assistants, chatbots, and digital banking apps. Next, we conducted an online survey with 335 respondents, and used a structural equation model analyse the research model.

Main findings:

The findings indicate a significant relationship between AI service quality perception, AI customer satisfaction, and customer experience. Furthermore, the findings indicate that personalization of AI-powered services plays an important role in influencing customers' trust and commitment to maintaining a relationship with a brand, thereby improving the customer experience.

Practical/managerial implications:

The study's findings will be helpful to consultants, IT technicians, marketers, and managers of service and retail businesses that use artificial intelligence technology to improve commercial customer experience. The paper highlights performance aspects of AI-powered services that need to be improved for IT practitioners. Research provides a perspective beyond traditional marketing methods, allowing marketers to create the best user experience possible by improving personalization, trust, and customer satisfaction. The study identifies essential factors contributing to user trust in products and services that use AI technology, allowing retailers and service managers to maximize their practical approach to customers.

Keywords: *Artificial Intelligence, Customer Experience, Customer Commitment, AI Service Quality, Customer Satisfaction, AI Security System.*

THE IMPACT OF CREDIT RISK MANAGEMENT ON BANK PERFORMANCE: A CASE STUDY OF COMMERCIAL BANKS IN VIETNAM

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Research purpose:

The research purposes are to evaluate how credit risk management techniques affect commercial banks' performance in Vietnam and to recognize the critical factors of Vietnam commercial banks' credit risk management strategies by using Capital Adequacy Ratio, Non-Performing Loans Ratio, and Cost-Income Ratio.

Research motivation:

The research findings of the effect of credit risk management on the financial performance of commercial banks can be inconsistent in different nations. Furthermore, Non-performing loans are still challenging for the banking system in Vietnam.

Research design, approach, and method:

The data were collected from audited financial statements and annual reports published annually by banks for the period from 2018-2021, consisting 40 observations. The secondary data was examined by applying standard descriptive statistics and the fixed effect model for hypothesis testing.

Main findings:

It is concluded from the regression outcomes that non-performing loans ratio and cost-to-income ratio have a significant negative impact on commercial banks' profitability in Vietnam, while capital adequacy has an insignificant statistical impact. It is, therefore, suggested that to improve the financial performance of commercial banks and minimize the risk of non-performing loans in the future, banks must monitor very carefully the loans' performance, extensively examine the clients' credit history and ability to pay back their debts prior to any approval of loan applications. Furthermore, banks should optimize the cost to operate efficiently.

Practical/managerial implications:

To achieve greater accuracy and generalizability, the researchers recommend that future studies on the impact of credit risk management on bank financial performance should include additional independent variables and longer time periods of investigation, such as twenty or thirty years.

Keywords: *credit risk, credit risk management, bank performance, commercial banks, Vietnam*

INVESTIGATING THE DEVELOPMENT OF ENTREPRENEURIAL BEHAVIOR AMONG NASCENT DIGITAL ENTREPRENEURS

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Research purpose:

The aim of this study was to determine the antecedents of digital entrepreneurial behavior based on the mediating role of self-efficacy in mediating risk propensity, digital knowledge, digital competence, and nascent digital entrepreneurs.

Research motivation:

The fourth industrial revolution offers a significant contribution to business development in the digital sector. Therefore, proper understanding and planning are needed about the choice of digital entrepreneurship development in building digital entrepreneurial behavior, which is manifested by the emergence of new entrepreneurs in the digital business sector.

Research design, approach, and method:

The population is nascent digital entrepreneurs who previously participated in the entrepreneurial skills program in the field of digital technology to have digital competence and received people digital start-up funds in Central Java (2020). Totally of the sample was 70 elected with purposive random sampling technique. PLS and structural models were used to test the statistical of the path of coefficient of 6 hypothesis.

Main findings:

The results of the study showed that risk propensity, digital entrepreneurial knowledge and digital competence can encourage the participants to strengthen their skills during the digital courses to arise their belief in realizing digital business. The study highlighted the success of digital entrepreneurial self-efficacy as mediating to perform digital entrepreneurial behavior. However, despite the positive effect, the effect of risk propensity on digital entrepreneurial behavior was insignificant.

Practical/managerial implications:

The findings concluded that digital entrepreneurial courses will perform digital entrepreneurial behavior, and the government requested to give more attention on the competence of digital course to the born nascent digital entrepreneurs in encouraging the fourth industrial revolution.

Keywords: *Risk propensity, digital entrepreneurial knowledge, digital competence, digital entrepreneurial self-efficacy; digital entrepreneurial behavior.*

THE ROLE OF RESOURCES AND CAPABILITIES IN AIRLINE COMPETITIVENESS AND COMPETITIVE POSITION: THE CASE OF VIETJET AIR

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Research purpose:

The purpose of this study is to create a model of the impact of resources and capabilities on airline competitiveness and competitive position.

Research motivation:

Finding ways to improve airline competitiveness and competitive position is a critical task for airlines. Concurrent research on competitiveness and competitive position in air transport, on the other hand, is still quite limited. As a result, the author decided to conduct research on the impact of resources and capabilities on competitiveness and competitive position in the passenger air transport industry, using Vietjet Air as a case study.

Research design, approach, and method:

Based on discussions with 5 experts who are VietJet Air managers and scientists at Vietnam Aviation Academy, the variables and scales are inherited, and words are adjusted to fit the context. Thus, 570 questionnaires were processed using SPSS/IBM 23 software and AMOS 25.

Main findings:

The study's findings confirmed the significance of resources and capabilities in competitiveness and airline competitive position. Resources are far more important than capabilities when it comes to creating competitive advantages at the product level. Capabilities, on the other hand, play a larger, but not significant, role in competitive positions. Furthermore, the findings of the study confirm that competitiveness serves as a partial moderator in the impact of resources and capabilities on airline competitive position.

Practical/managerial implications:

The findings of the study serve as the foundation for proposing implications for focusing on effectively utilizing resources and maximizing capabilities in order to improve airline competitiveness and competitive position in the Vietnam aviation market.

Keywords: *Air transport, Capabilities, Competitiveness, Competitive position, Resources*

FACTORS AFFECTING CONSUMERS' INTENTION TO USE LOGISTICS TECHNOLOGIES IN LAST-MILE DELIVERY IN HO CHI MINH CITY

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Research purpose:

Last-mile delivery plays a vital role in the online retail industry. Some logistics technologies will allow consumers to actively participate in last-mile delivery activities, not only bringing convenience to consumers but also enhancing the effectiveness of logistics services. Based on the unified theory of acceptance and the use of technology, this study uses structural equation modeling to examine determinants of the consumers' intention to use two logistics technologies, smart lockers and buy online – pickup in-store (BOPS) for last-mile delivery in Ho Chi Minh City. The data analysis of 356 respondents shows that hedonic motivation has a positive influence on consumers' attitude toward smart locker service and buy-online-pickup-in-store service. Meanwhile, price sensitivity negatively affects consumers' behavioral intentions to use these two technologies in Ho Chi Minh City. The study provides some recommendations for administrators and businesses to implement and improve these two logistics technologies in last-mile delivery in Vietnam.

The current study examines the factors influencing the consumers' intention to use last-mile logistics technologies (BOPS and smart locker) and considers the feasibility of implementing these two new technologies in Ho Chi Minh City.

Research motivation:

The rapid development of e-commerce in Vietnam is forcing companies to innovate logistics technologies, while studies in this field are still rare and some may be challenging to apply directly to a specific region. We therefore examined some variables that are missing in previous studies to investigate the consumers' intention to use logistics technologies in Ho Chi Minh City.

Research design, approach, and method:

Structural equation modeling is used to analyze data of 356 respondents regarding the use of BOPS and smart lockers in a survey. The results provide a comprehensive view of consumers' intention to use the two logistics technologies in Ho Chi Minh City.

Main findings:

Hedonic motivation has a strong positive influence on consumers' attitude towards the two technologies while price sensitivity negatively affects the behavioural intention. The habit of using logistics technology shows no influence on consumers' intentions to use BOPS and smart locker, but a positive attitude towards these two new technologies will lead to their usage decisions.

Practical/managerial implications:

The results have proved the applicability of BOPS and smart locker for last-mile delivery in Vietnam, specifically in Ho Chi Minh City. The research findings and recommendations for administrators and businesses are of great significance for the implementation of those logistics technologies in Vietnam and improving last-mile delivery efficiency.

Keywords: BOPS, last-mile delivery, logistics, smart locker, e-commerce, online retailing.

1. INTRODUCTION

E-commerce and cutting-edge technology have recently advanced together as a result of last-mile logistics services (Mangiaracina et al., 2019). According to Gevaers et al. (2011), "Last-mile can be described as the last mile of a business-to-consumer delivery service whereby the product is delivered to the consignee, either at the recipient's house or at a pick-up station." Therefore, it is crucial for a majority of corporations to adopt modern technologies to compete in the commercial market at the present. This prompted the development of several last-mile logistics innovations, such as drone delivery (Lee et al., 2016), smart lockers (Van Duin et al., 2020), and online ordering with in-store pickup (BOPS) (Kusuda, 2022). Smart lockers are cabinets with electronic locks located in residential areas or public places, storing parcels for customers in a certain area, within a certain period of time (Van Duin et al., 2020). BOPS allows customers to order products online and pick up at the nearest store, thereby eliminating shipping costs and waiting times for shipping (Kusuda, 2022).

The proposed model related to the habits and attitudes of customers affecting their intention to use logistics technologies, in the scientific research of Cai et al. (2021) would provide different values when collecting data from various areas. However, there are supposed to be no relevant studies generally in Vietnam as well as, particularly in Ho Chi Minh City that investigate the influence of habits and attitudes on users' perceptions to use logistics technologies for some last-mile deliveries. Besides, habits play an important role to boost powerful motivation in customers' usage behavior of logistics technologies (Cai et al., 2021). With other variables including efficiency expectations, effort expectations, social influence, and facilitating conditions, the authors then conducted the research on whether or not some habit-based behaviors and logical attitudes of users would impact their behavior intention in Wuhan, China. Nevertheless, there are still some factors not included in the process of developing model research.

Firstly, hedonic motivation has a positive impact on determining how Korean citizens feel about drone-delivered food services (Hwang et al., 2019). In addition, Hwang et al. (2021) established a favorable association between hedonic motivation and customers' perceptions regarding drone-delivered food services, both before and after the COVID-19 epidemic. Hence, it is clear that hedonic motivation is crucial for new transportation technology in many fields, including automated delivery and public transit. Furthermore, Kapser and Mahmoud (2020) indicated that consumers' behavioral intentions to accept the usage of autonomous delivery vehicles are significantly impacted detrimentally by price sensitivity which is described as "how consumers respond to pricing and price changes"

(Goldsmith et al., 2005). It can be seen that both types of research discovered a connection between price sensitivity and customers' willingness to pay for the technology or service.

To summarize, this study investigates consumer intention to utilize logistics technologies in Ho Chi Minh City, a market with the highest retail sales of products and services at current pricing in Vietnam (General Statistics Office of Vietnam, 2020), by incorporating habits and attitudes as well as adding two factors including hedonic motivation, and price sensitivity into the unified theory of acceptance and use of technology (UTAUT). Findings of the current study hence offer some recommendations for Vietnamese business managers who want to move to incorporate the usage of logistics technology into last-mile delivery activities.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Previous studies and research gap

Some studies on the factors affecting the acceptance of new logistics technologies, which will be discussed later, have been carried out to enhance the efficiency of last-mile delivery. Three factors of UTAUT (performance expectancy, social influence, and effort expectancy) have been found out to influence behavioral intention to use automated road traffic systems in France and Switzerland (Madigan et al., 2016). With regards to using last-mile delivery using self-collection, based on the Theory of Innovation, some of the innovation characteristics include compatibility, relative advantage, complexity, trialability and observability are the determinants of consumers' intention to use the service (Cheng and Tseng, 2016). In addition, the research based on the technology acceptance model (TAM) model shows that functional, behavioral, and social aspects of motivated consumer innovativeness play an important role in the formation of attitude towards drone food delivery, while functionally motivated consumer innovativeness positively affects behavioral intention (Hwang et al., 2019). Moreover, price sensitivity is also a strong determinant of German consumer behavioral intentions towards automated delivery vehicles in last-mile delivery (Kapsler and Abdelrahman, 2020). However, those automatic last-mile logistics technologies cannot be applied currently in Vietnam. Our study examines the factors affecting the intention to use the two logistics technologies, including BOPS and smart locker. The intention to use smart lockers of 230 consumers already using this service in China was determined by perceived value, reliability and convenience, while security and cost showed negligible influence (Yuen et al., 2019). Nevertheless, with 302 consumers who have never used this logistics technology in Thailand, the TAM model revealed that in addition to convenience, reliability, privacy security, compatibility, relative advantage, complexity,

perceived behavioral control and attitude also affect their intention to use (Tsai and Tiwasing, 2021). Regarding BOPS services, a study using expanded the unified theory of acceptance and the use of technology and task-technology fit (UTAUT-TTF) model shows that beside that effort expectancy, performance expectancy and facilitating conditions have an influence on the intention to use BOPS by omnichannel consumers in the auto retail sector in Korea, hedonic motivation is still the strongest predictor of intention to use (Kim et al., 2022). However, when integrating habit and attitude into the UTAUT model along with considering both technologies at the same time, customers' behavioural intention to utilize logistics technologies is determined by both rational attitudes and irrational habit (Cai et al., 2021).

The mentioned studies mainly investigate the acceptance of logistics technologies which have been widely applied at the research site. In addition, the majority of the research subjects are people who have used or are familiar with those technologies. Therefore, it leads to the limited generalizability of the results, because some of the above technologies such as drone delivery have not been deployed in many other regions of the world. Cultural differences, especially consumption culture must be considered because those studies are conducted based on the perspective of consumers in different geographical areas. These studies proposed separate research models, which have led to the omission of some explanatory variables when applying those findings into the research case in Vietnam. Given the limitations and research gaps, we investigated determinants of consumers' intention to use logistics technologies for last-mile delivery in Ho Chi Minh City. Specifically, we examine theoretical relationships between some variables that are missing in the above-mentioned studies.

2.2. Theoretical framework

Unified Theory of Acceptance and Use of Technology (UTAUT)

According to the UTAUT by Venkatesh et al. (2007), four factors that determine behavioral intention to use technology are performance expectancy, effort expectancy, social influence, and facilitating conditions. Compared with the theory of planned behavior (TPB) and TAM, UTAUT provides a more comprehensive framework for interpreting behavioral intention to use technology services (Harris et al., 2018). Many studies have used UTAUT to examine the factors affecting consumer acceptance of last-mile logistics technology, such as Madigan et al. (2016), Zhou et al. (2020). Especially, Cai et al. (2021) integrated habit and attitude into UTAUT, thereby finding that these two factors both show significant impacts on consumers' behavioural intention of using logistics technologies in Wuhan (China). Therefore, in the context that logistics technologies are not widely applied in Vietnam, we have

used UTAUT based on the model of Cai et al. (2021) along with adding hedonic motivation and price sensitivity to study the consumers intention to use BOPS and smart locker in Ho Chi Minh City.

Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

Venkatesh et al. (2012) proposed UTAUT2 model with three added important variables in the context of consumers, namely habits, hedonic motivation and value. In addition, the affects of performance expectancy, effort expectancy, social influence, and facilitating conditions in using technology on behavioral intentions were all considered together with individual characteristics (age, gender, and experience). UTAUT2 is also used in many studies on consumer acceptance of new logistics technologies such as Hwang et al. (2019), Kapser and Abdelrahman (2020), Cai et al. (2021), and Zhong et al. (2021). Therefore, we used UTAUT2 and the theory of consumer attitudes as well as the theory of habits on the adoption of new technology, as the basis for proposing the research model.

The theory of planned behavior (TPB)

The theory of planned behavior postulates three conceptually independent determinants of intention, including attitude, subjective norm, and perceived behavioral control (Ajzen, 1991). Research has shown that attitude (the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question), has a significant impact on intention. According to Ajzen (1991), facilitating conditions will act more like perceived behavioral control in the TPB and influence both intention and behavior. In a logistics study, Ramadan et al. (2017) applied TPB to demonstrate that consumers' perception of using drones brings more benefits than risks, which will positively affect consumers' attitudes toward this technology.

Technology Acceptance Model (TAM)

In studying consumer intention to adopt and use new technology, the Technology Acceptance Model of Davis (1989) assumes that users' attitudes towards technology significantly influence behavioral intention. This has been demonstrated in the studies of Yoo et al. (2018) and Hwang et al. (2019), when the authors discovered consumers' attitudes towards drone delivery positively affect their behavioral intentions.

Motivated consumer innovativeness and Hedonic motivation

To better predict and explain consumer behavior's intention in adopting new technologies, consumer driven innovation is a very important premise (Reinhardt and Gurtner, 2015) ; Vandecasteele and Geuens, 2010). The term 'motivated consumer innovativeness' (MCI) is a combination of the concepts of motivation and consumer innovativeness (Vandecasteele and Geuens, 2010). Among the four

theoretical sub-dimensions of MCI (functional, hedonic, cognitive, and social), hedonic motivation refers to consumer innovativeness motivated by affective or sensory stimulation and gratification (Vandecasteele and Geuens, 2010). Venkatesh et al. (2012) confirmed that hedonic motivation is a critical determinant of behavioral intention and was found to be a more important driver than performance expectancy is in non-organizational contexts. In the field of logistics, Madigan et al. (2016) also proposed to add a beneficiary dynamic structure to the UTAUT model to strengthen the explanatory effect of the model.

Theory of Attitude

Attitude is "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly and Chaiken 1993). In the context of new technology adoption, attitude is an important factor in studying consumer intention to use (Davis, 1989). The role of attitude in explaining technology acceptance has been acknowledged in several studies such as (Yang and Yoo, 2004; Mak et al., 2015; Ivanov et al., 2018; Dwivedi et al., 2019). Attitude has been used as an intermediate variable of performance and effort expectancy in several studies using the UTAUT model (Alshare and Lane, 2011; Rana et al., 2017; Cai et al., 2021). Attitude was also determined to affect behavioral intention (Ajzen, 1991; Davis, 1989; Fishbein and Ajzen, 1975; Rana et al., 2017). Individuals may use new technology based on their attitudes towards the technology, even if they may not have a sense or intention to use or innovate yet (Dwivedi et al., 2017).

Theory of Habit

Previous studies have found that habits can affect

how people receive and process information, as people tend to process information selectively to achieve consistency with existing habits (Leung, 2020). Therefore, for new technologies that consumers have never used, habits can affect the way they receive information about those new technologies. In the study of UTAUT2, Venkatesh (2012) confirmed that habits have a strong effect on intention and use for experienced consumers. Habits have also been shown to be an important factor in explaining and predicting consumer technology acceptance in some studies (Kim and Malhotra, 2005; Kim et al., 2005; Limayem). et al., 2007). In the context of using logistics technology, habits influence consumers' perceptions of technology, both mediating performance expectancy, effort expectancy, social influences and facilitating conditions, both strongly affect the behavioral intention of consumers (Cai et al., 2021).

Price sensitivity

The value variable from UTAUT2 was removed from this research model in Ho Chi Minh and replaced by price sensitivity, since BOPS and smart locker are new technologies and are in the introduction and experimental stage. Therefore, the value (its price and benefits) cannot be fully determined yet. Compared to value, price sensitivity is more related to "consumers' willingness to pay for a specific product or service" (Kasper and Abdelrahman, 2020). Price sensitivity hence will be more suitable for the research model of new logistics technology adoption at this stage. In the context of using the UTAUT2 model in studying logistics technology, Kasper and Abdelrahman (2020) found a significant negative impact of price sensitivity on consumers' behavioral intentions in accepting automated delivery vehicles in Germany.

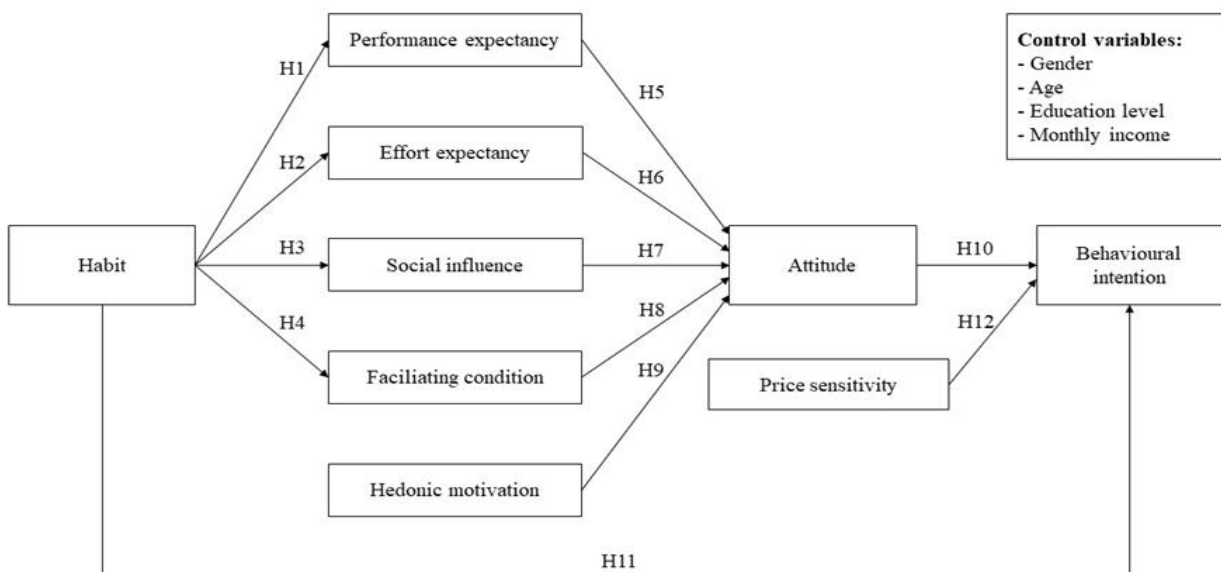


Fig. 1. The proposed research model

2.3. Conceptual research model and hypotheses development

Based on the study of Cai et al. (2021), the UTAUT model has been used to study the acceptance and use of logistics technology (BOPS, TM and drone delivery) in China. However, this study has not discussed factors such as hedonic motivation and price sensitivity. Venkatesh et al. (2012) added hedonic motivation to the model to extend the scope and comprehension of UTAUT. As mentioned earlier, the logistics technologies in the study by Cai et al. (2021) are still relatively new to consumers, so price sensitivity will be more suitable for the theory of acceptance and use of new logistics technology at this stage. Therefore, we will utilize the model of Cai et al. (2021) and further expand with the hedonic motivation and price sensitivity to study the acceptance and use of technology by consumers in Ho Chi Minh City (Fig. 1).

Cai et al. (2021) pointed out that four demographic variables (gender, age, education level and monthly income) were not significant on the consumers' behavioral intention to use logistics technologies. However, Venkatesh et al. (2003) showed that the relationship between performance expectancy, effort expectancy, social influence and behavioral intentions is influenced by gender and age. As we wanted to estimate the impact of four control variables when conducting a study in Ho Chi Minh City, the adjusted variables were integrated into our research model.

Perceived usefulness (PU) in the TAM model by David et al. (1989) is defined as the extent to which an individual believes that using an information system will improve their productivity. Meanwhile, the definition of performance expectancy in the UTAUT model also suggests that using a particular system will help to improve performance (Venkatesh et al., 2003). Escobar-Rodríguez et al. (2014) found that the habit of using e-commerce websites positively affects the perception and trust of online purchases. Since perceived usefulness and performance expectancy share the same structure, there is a positive relationship between consumers' habit of using logistics technology and perceived performance expectancy of technology. Many empirical studies have directly demonstrated the existence of this relationship (Gallego et al., 2008; Yang et al., 2011). The following hypothesis is proposed to understand the relationship:

H1: Consumers' habit of using logistics technology positively affects the perceived performance expectancy of the technology.

Effort expectancy is defined as individuals' beliefs about the ease or effort involved in using technology (Venkatesh et al., 2003). When a system is uncomplicated, easy to use and manipulate, users will find the service provider to bring them convenience, thereby increasing their certainty in the system (Gefen

et al., 2003). The more likely an individual is to be familiar with the technology before, the more acceptable that technology. Cai et al. (2021) have demonstrated that habit has a positive influence on the effort expectancy to use new technology in the context of logistics. Therefore, the hypothesis is proposed:

H2: Consumers' habit of using logistics technologies positively affects the perceived effort expectancy of the technologies.

Social influence reflects the influence of other people's beliefs (colleagues, relatives and friends) on an individual's intention or behavior to use (Venkatesh et al., 2003). In the context of using delivery technology, users are often influenced by the decisions of other users. Habits are defined as repeated behaviors in the past (Bagozzi et al., 1990). When others discuss or suggest this technology, positive information is easily obtained. Therefore, delivery technology that is recommended by people around you to use this is habitually filtered will create a good impression on consumers (Quan-Haase et al., 2010). As such, we propose the following hypothesis:

H3: Consumers' habit of using logistics technologies positively affects the perceived social influence of the technologies.

Facility condition is defined as "a consumer's perception of the resources and available support to perform a behavior" (Venkatesh et al., 2012). A consumer who has a habit of using technology advantageously and timely processing information has a positive belief in new technology (Cai et al., 2021). In the context of using last-mile delivery, people with a habit of using it will quickly get used to the new system and they can easily find support on their own. The following hypothesis is proposed:

H4: Consumers' habit of using logistics technologies positively affects the perceived facility conditions of the technologies.

Overall, if customers find technology dominant and useful in their daily lives, it is likely to have a positive impact on their attitudes towards using and accepting new technologies (Alalwan et al., 2016; Venkatesh et al., 2003). In the context of this study, logistics technologies are expected to bring various benefits to consumers. Therefore, we argue that those dominance should lead to positive consumer attitudes towards these technologies. Therefore, this study proposes the following hypothesis:

H5: Performance expectancy positively affects consumers' attitudes towards the usage of logistics technologies.

Giovanis et al. (2019) examined the relationship between effort expectancy and consumers' attitudes towards technology. When consumers perceive that using technology at ease, the interaction with that

technology is transparent and easy to understand, they tend to enjoy using it. For white-collar, BOPS may be a better way to fit their lifestyle. Besides, smart locker is more environmentally friendly than BOPS and consumers with a pro-environment attitude will tend to use it more. In addition, we believe that consumers are able to express a positive attitude toward logistics technology when they find it closer. Therefore, the following hypothesis is put forward:

H6: Effort expectancy positively affects consumers' attitudes towards the usage of logistics technologies.

New technology adoption research have supported demonstrating that social influence has a significant positive effect on consumers' attitude (Chiu et al., 2012; Cai et al., 2021). For example, family, friends, and co-workers have a positive effect on consumer attitudes towards the use of last-mile delivery technology. The positive social support affects the positive attitude of consumers towards the technology, which makes consumers decide to use that technology. Accordingly, the group hypothesized the following:

H7: Social influence positively affects consumers' attitudes towards the usage of logistics technologies.

Theoretically, consumers who are supplied with a resource and level of knowledge compatible with the technology would be more willing to use it (Cai et al., 2021). It would be easier for online users to use the delivery system by smart locker if the infrastructure (delivery facilities, online customer support services), user-friendly technology, and support staff enthusiasm (necessary knowledge, skills). Therefore, the attitude towards using the last-mile delivery system by BOPS service and smart locker service tends to be positive when using the delivery system with appropriate infrastructure and technology. Therefore, the proposed hypothesis is as follows:

H8: Facility conditions positively affect consumers' attitudes towards the usage of logistics technologies.

In the technology sector, many researchers have found that intrinsic factors such as pleasure and enjoyment create a significant impact on customers' attitudes towards new technology (Hwang and Kim, 2007; Zhihuan and Helana, 2012). Katz et al., (1960) proves that motivation plays a critical role in the formation and change of attitudes, it can be seen that hedonic motivation has a great impact on the renewed motivation of consumers through their attitude to new technology. Identifying the determinants of positive attitudes in the field of technology adoption in effort, hedonic motivation have been widely recognized as an essential factor behind consumer attitudes (Lien et al. and Cao, 2014; Ramkumar and Woo, 2017). Especially from a logistics' perspective, Hwang et al. (2019) showed that hedonic motivation has the most positive influence on the formation of consumers' attitudes towards food delivery services by drones in Korea.

Aligning with the results of prior research, we propose the following hypothesis:

H9: Hedonic motivation positively affects consumers' attitude towards the usage of logistics technologies.

Attitude refers to whether consumers like or dislike a certain technology (Ajzen, 1991; Eagly and Chaiken, 1993). Ajzen's et al., (1991) theory of planned behavior suggests that attitude is an important factor explaining an individual's behavioral intentions. Research by Patil et al., (2020) indicated that attitude has a strong influence on consumer behavioral intentions towards accepting mobile payments in the UTAUT model. Hwang et al., (2019) found that consumers' positive attitudes towards using food delivery services by drones increased their intention to use the service. Tsai and Tiwasing (2021) also demonstrate that attitudes strongly influence the intention to use smart lockers in Thailand, even when this technology has not been widely applied here. Therefore, we make the following hypothesis:

H10: Attitude positively affects consumers' behavioral intention towards the usage of logistics technologies.

In the context of technology usage, the author has contended that the use of prior experience is a prerequisite for habit of using technology and habit has been revealed to be a principal factor in predicting the use of that technology in the future (Venkatesh et al., 2012). Escobar-Rodríguez and Carvajal Trujillo (2014) also found that habit is the second strongest predictor of online purchase intention and extent of online purchase system usage in the context of ticket's low-cost airlines. From the above argument, the following hypothesis is put forward:

H11: Habit positively affects consumers' behavioral intention towards the usage of logistics technologies.

Goldsmith et al. (2005) define price sensitivity as "the way which buyers react to prices and price variation". Some studies suggest that price sensitivity has a significant negative impact on behavioral intentions in customer acceptance and use of logistics technology (Kasper and Mahmoud, 2020; Kasper et al., 2021). Therefore, the following hypothesis is put forward:

H12: Price sensitivity negatively affects consumers' behavioral intention towards the usage of logistics technologies.

3. METHODOLOGY

3.1 Data collection method

This study was conducted based on the primary data, gathered using an online questionnaire survey. The survey consists of three parts. Part 1 introduces BOPS and smart locker and describes the study's background

and objective. Next, Part 2 gathers demographic information (age, gender, education level, and monthly income) of respondents. Finally, Part 3 collects data to measure observable variables.

According to Kline (2011), the minimum appropriate sample size for the SEM model to process efficiently is 200. Survey respondents were residents of Ho Chi Minh City, Vietnam. This study employed a 5-

point Likert scale with 31 questions for nine variables, including (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly agree.

3.2. Data analysis method

A pilot survey was conducted to assess the information's relevance and clarity before doing a survey with an official questionnaire. Valid responses were encrypted and cleaned with Microsoft Excel.

Table 1. Confirmatory factor analysis results

		Cronbach's Alpha	Corrected item-total correlation	Factor loading	CR	AVE	MSV
Performance expectancy (PE)	PE1	0.915	0.794	0.863	0.915	0.729	0.664
	PE2		0.795	0.844			
	PE3		0.812	0.855			
	PE4		0.823	0.854			
Effort expectancy (EE)	EE1	0.930	0.845	0.894	0.932	0.773	0.752
	EE2		0.869	0.907			
	EE3		0.818	0.856			
	EE4		0.819	0.859			
Social influence (SI)	SI1	0.919	0.855	0.913	0.943	0.846	0.483
	SI2		0.826	0.881			
	SI3		0.829	0.876			
Facilitating condition (FC)	FC1	0.879	0.739	0.782	0.920	0.792	0.590
	FC2		0.754	0.815			
	FC3		0.732	0.828			
	FC4		0.735	0.789			
Hedonic motivation (HM)	HM1	0.928	0.852	0.901	0.879	0.646	0.763
	HM2		0.856	0.905			
	HM3		0.848	0.895			
Habit (HAB)	HAB1	0.894	0.811	0.885	0.928	0.811	0.827
	HAB2		0.741	0.811			
	HAB3		0.829	0.890			
Attitude (ATT)	ATT1	0.864	0.800	0.893	0.897	0.745	0.713
	ATT2		0.712	0.787			
	ATT3		0.714	0.801			
Price sensitivity (PS)	PS1	0.777	0.789	0.926	0.868	0.687	0.827
	PS2		0.817	0.946			
	PS3		0.076				
	PS4		0.779	0.886			
Behavioural intention (BI)	BI1	0.872	0.817	0.890	0.878	0.705	0.770
	BI2		0.746	0.819			
	BI3		0.710	0.808			

In terms of analytical techniques, we first calculated frequency and percentages of the demographic profile, and the proportion of respondents who used BOPS service and smart locker service from the collecting samples. Subsequently, Cronbach's Alpha coefficient test was used to exclude inconsistent variables. This study then employed confirmatory factor analysis (CFA) to evaluate whether observable variables are sufficient. Lastly, structural equation modeling (SEM) was applied to estimate latent variables and the fitness of the proposed model.

4. RESULTS AND DISCUSSION

4.1 Descriptive statistics

The sample size of the study is 356 respondents. According to survey results, 48.60% of respondents used BOPS service, whereas only 31.74% of participants used smart locker service, due to the fact that these two services, especially smart locker service, are still uncommon in Vietnam.

4.2 Cronbach's Alpha coefficient test

A coefficient with a value of 0.6 or more is acceptable in case the concept being studied is new, or new to the respondent in the research context (Nunnally and Bernstein, 1994). Besides, the observable variables with corrected item-total correlation less than 0.3 will be removed.

Based on the results of reliability test, we found that the scales built in this study have high reliability because all Cronbach's Alpha coefficients are greater than 0.7 (the smallest is 0.777 with the price sensitivity factor). Except for the observed variable PS3, which has a corrected item-total correlation of 0.076, variables mostly have values larger than 0.3 (Table 1). Therefore, 30 observed variables are suitable for confirmatory factor analysis.

4.3 Confirmatory factor analysis (CFA)

This study used factor loading and composite reliability (CR) to evaluate construct reliability. In CFA, it is accepted when observed variables with factor loading reaches a value of 0.5 or more and CR is greater than 0.7 (Hair et al., 2010). The results indicate that all of the observable variables' reliability are appropriate

(Table 1).

The AVE values of all factors exceed the acceptable value of 0.50. However, there are four constructs FC, HM, ATT and BI guarantee reliability and convergence even though they do not attain discriminant values. As a result, there is insufficient basis to exclude more observed variables from the model. The discriminant validity is evaluated by comparing whether the AVE is above the Maximum Shared Variance value (Hair et al., 2010). (Table 1)

According to Hair et al. (2010) standard measures of fit in CFA involve minimum discrepancy per degree of freedom (CMIN/df), goodness of fit index (GFI), comparative fit index (CFI), and root-mean-square error of approximation (RMSEA). The results show that all of the indicators exceeded the acceptable threshold, specifically CMIN/df = 4,484 < 5; GFI = 0.846 > 0.8; CFI = 0.939 > 0.9 and RMSEA = 0.070 < 0.08.

4.4 Structural equation modeling (SEM)

With p-value greater than 0.05, the impact of SI on ATT is not significant. HAB is not also a significant factor influencing BI. As a result, H7 and H11 are rejected, whereas the remaining hypotheses are accepted (Table 2 and Table 3).

Table 2. Hypothesis test results

			Estimate	P
PE	<---	HAB	0,81	***
EE	<---	HAB	0,718	***
SI	<---	HAB	0,846	***
FC	<---	HAB	0,8	***
ATT	<---	PE	0,099	0,01
ATT	<---	EE	0,105	***
ATT	<---	SI	-0,012	0,618
ATT	<---	FC	0,308	***
ATT	<---	HM	0,422	***
BI	<---	PS	-0,116	***
BI	<---	ATT	0,908	***
BI	<---	HAB	-0,038	0,708

Table 3. The accepted hypothesis

H1	Consumers' habit of using logistics technology positively affects the perceived performance expectancy of the technology.
H2	Consumers' habit of using logistics technologies positively affects the perceived effort expectancy of the technologies.
H3	Consumers' habit of using logistics technologies positively affects the perceived social influence of the technologies.
H4	Consumers' habit of using logistics technologies positively affects the perceived facility conditions of the technologies.

H5	Performance expectancy positively affects consumers' attitudes towards the usage of logistics technologies.
H6	Effort expectancy positively affects consumers' attitudes towards the usage of logistics technologies.
H8	Facility conditions positively affect consumers' attitudes towards the usage of logistics technologies.
H9	Hedonic motivation positively affects consumers' attitude towards the usage of logistics technologies.
H10	Attitude positively affects consumers' behavioral intention towards the usage of logistics technologies.
H12	Price sensitivity negatively affects consumers' behavioral intention towards the usage of logistics technologies.

5. CONCLUSION

In general, customers' behaviors using logistics technology, including BOPS and Smart Locker, have a positive influence on their perception relating to performance expectancy, effort expectancy, social influence, and facilitating condition. This result tends to be consistent with the Habit Theory and coincide with the findings of Cai et al. (2021). Besides that, due to an unpopular deployment of BOPS and smart locker technology in Vietnam, the social influence factor impacts insignificantly the attitudes of local users. Especially, the additional variable of the study which is hedonic motivation strongly affects consumers' attitudes towards the two technologies. It can be seen that a majority of customers in Ho Chi Minh City are likely not to make decisions relying on the opinions of the general public and remarks made by passersby as well. Since they have not had a chance to use these technologies before introducing them to their friends and family, the social influence factor has no bearing on consumers' attitudes as was found in the study by Cai et al. (2021). Instead, consumers in Ho Chi Minh City are likely to pay more attention to the feeling of experience (hedonic motivation, facilitating condition) and benefits (performance expectancy, effort expectancy) of two technologies.

Regarding the influence on the customers' intention, except for the habit variable, the attitude and the additional variable, which is price sensitivity, significantly impact the intention of users. Therefore, it can be seen that customers' habit of using logistics technology in last-mile delivery does not completely make them intend to experience BOPS and smart lockers, but a positive attitude towards the two technologies. On the other hand, price sensitivity is reported to have a negative influence on behavioral intention since more than 60% of survey participants had low incomes (under 5 million VND/month). Hence, they would like to consider carefully when utilizing two technologies if the cost of these two services is greater than the others. The finding is helpful for (online) retailers and logistics service providers to consider deploying the two technologies in last mile delivery.

In conclusion, the two recommended variables that

are added to the model have significantly impacted the research results in both theoretical contribution as well as practical implication. While the price sensitivity variable detrimentally impacts customers' behavioral intention to embrace these two new technologies, hedonic motivation has a favorable impact on consumers' sentiments regarding BOPS and smart locker.

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THE EFFECTS OF ENTREPRENEURIAL LEADERSHIP AND INTELLECTUAL CAPITAL TO PROCESS INNOVATION - RESEARCH FROM GENERATING ELECTRICITY ENTERPRISES IN VIETNAM

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Research purpose:

Innovation is regarded as being essential to a company's long-term competitiveness. Based on the theory of upper echelons, concretized into Business Leadership Style and A Knowledge-based Theory of the Firm (A theory based on corporate knowledge), specifically transformed into intellectual capital to assess the impact of prefixes on innovation processes in enterprises in Vietnam, this paper analysed the influences of Entrepreneurship Leadership Style and intellectual capital on Process Innovation. Empirical research results show that the entrepreneurial leadership style and intellectual capital have a positive impact on process innovation in enterprises.

Analysing the influences of Entrepreneurship Leadership Style and intellectual capital on Process Innovation

Research motivation:

Promoting process innovation in enterprises in Vietnam to reduce production or distribution costs, improve quality, or to create and/or supply new or improved products.

Research design, approach, and method:

Survey method using a questionnaire in combination with multivariate data analysis (Cronbach Alpha test, SEM) are utilized

Main findings:

The entrepreneurial leadership style and intellectual capital have a positive impact on process innovation in enterprise.

Practical/managerial implications:

Enterprises need to apply many measures to improve the capacity of managers, organize training courses for business managers on intellectual capital management; thereby positively impacting process innovation in Vietnamese enterprises

Keywords: *Innovation, entrepreneurial leadership, intellectual capital, business results*

COMPLETING THE MOTIVATION MECHANISM FOR EMPLOYEES IN HUMAN RESOURCES MANAGEMENT AT JOINT STOCK COMMERCIAL BANK FOR FOREIGN TRADE OF VIETNAM

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Research purpose:

The purpose of the study is to assess the current situation and propose solutions to improve the motivational mechanism for employees in human resource management at Joint Stock Commercial Bank for Foreign Trade of Vietnam. (Vietcombank)

Research motivation:

Create a long-term relationship and increase the level of dedication of employees, besides increasing the quality of human resource management, build a high-quality staff at the Joint Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank).

Research design, approach, and method:

Research using the method of analyzing secondary documents is domestic and foreign academic research, combining the implementation of statistical, systematic, analytical, synthesis and online survey methods with research samples. The study included staff currently working in the Vietcombank system.

Main findings:

Research shows that currently, the motivation mechanism at Vietcombank still has some limitations that need to be improved, overcome, and changed appropriately to further improve the effectiveness of these mechanisms. The study also suggests the points that businesses need to prepare to do these problems.

Practical/managerial implications:

The study has important practical significance for Vietcombank in the context of deep international economic integration, the increasing competition for human resources in the labor market, the trend of shifting to organizations with salary mechanism, career development opportunities, outstanding motivational mechanism are inevitable; Therefore, completing Vietcombank's employee motivation mechanism should be considered as a key task, in order to increase the enthusiasm of employees and retain high-quality human resources.

Keywords: *motivation mechanism, employees, human resource management*

1. INTRODUCTION

With the current development of science and technology, the competition between organizations in the economy is increasingly fierce. An organization's competitiveness will be determined by its own human resource management factor. Potgieter and Mokomane (2020) argue that the strategic emphasis of a human resource management department can be summarized as the effective management of teams and individuals in an organization aimed at competitive advantage and performance success. The human factor is considered

considered as the most valuable asset and is an important factor in the development and success of an organization. The human resource market of commercial banks is now quite fiercely competitive, and the phenomenon of reducing high-quality human resources is happening in all industries and ages. In today's fiercely competitive environment, in addition to building a system of outstanding and outstanding salary and bonus policies, the remuneration policies to motivate employees are one of the key factors for retain high quality human resources in commercial banks in

general and Vietcombank in particular. According to author Hoang Van Hai, the remuneration policy is a policy that is closely related to satisfying two groups of basic needs of employees, including: care for material life and care for spiritual life in order to help Employees can successfully complete assigned tasks. Author Nguyen Ngoc Thanh believes that the remuneration policy is a system of policies governing the most basic human relations of an enterprise, including: the relationship between the employer and the employee, the relationship between the manager and the employee. management and subordinates. In general, each scholar has made his or her own comments on the remuneration policy, but they all agree on one feature: the remuneration policy is the policy of the enterprise to take care of the material and spiritual life of the employees in order to compensate employees' labor, and at the same time, create motivation for employees to complete assigned tasks, thereby contributing to the achievement of the enterprise's goals. Or remuneration policy is a specific strategy and plan in compensating employees both materially and spiritually through leverage tools to maintain, strengthen and develop the workforce as well as enhance Life for employees. From the above studies, it is found that the development of a mechanism, policy and system of tools to motivate employees is an urgent practice that should be present at every commercial bank.

Over the past time, Vietcombank has focused on innovating human resource management with many positive changes, contribute to the success in business activities as well as in management and administration. The scale, productivity and quality of Vietcombank's labor are constantly increasing. But the human resource management mechanisms and policies of Vietcombank are currently being built for all employees in the system and are applied to all different job positions from recruitment mechanism, Financial, reward and training policies have not really made a difference in order to motivate officers and employees with professional qualifications and high capacity and retain good quality human resources long-term relationship with Vietcombank. The KPIs measurement and evaluation system has been applied by Vietcombank in recent years, but has not yet fully recognized the dedication and contributions of employees as well as the role played by Vietcombank. of each officer for the development of Vietcombank. In fact, in the past 3 years (the period 2019-2021), there have been 2,762 employees, including 88 officers holding positions of Vietcombank, who have joined commercial banks and other economic organizations because of the policies of Vietcombank. The remuneration of these companies is more attractive to employees than Vietcombank's policies.

The structure of this article will be as follows (1) methodology of the study; (2) current situation and evaluates the motivational mechanism for employees in

human resource management of Vietcombank; (3) solutions to improve the motivation mechanism for employees in human resource management; (iv) concluding remarks.

2. METHODOLOGY

The method used in the research is data synthesis and case study analysis through survey. Data collected by questionnaire through online survey. The survey content is based on Herzberg's 2-factor theory with 2 groups of factors affecting employee motivation in the workplace, including retention factors and motivational factors. In the questions, interviewees were asked to rate their agreement on a scale from 1 (strongly disagree) to 5 (strongly agree). The survey process was carried out in November 2021 with the survey subjects being staff (excluding business support staff and simple labor) at 10 departments/headquarters representing by Division. (Department of Policy, Planning and Retail Products, Department of Corporate Banking in the North, Department of Financial Policy and Accounting, Department of Internal Audit, Department of Credit Risk Management, Department of Asset and Debt Management. assets, Technology Project Management Department, Payment Center, Vietcombank Human Resource Development and Training School, Internal Audit Department); and 15 branches sampled according to the size and location of operation (Transaction Office, Ho Chi Minh City, Can Tho, Nghe An, Dak Lak, Hoang Mai, Thang Long, South of Hai Phong, Hai Phong, North of Ha Tinh, Hoi An, Bac Lieu, Binh Duong, east of Dong Nai). The system automatically collects data and records the answers, there is no error in the statistical process.

3. Results and discussion

3.1. The system of motivational mechanisms related to finance

- Salary Mechanism

The salary mechanism of Vietcombank is built on the principle of paying according to the position and work performance of employees. Salary distribution associated with business results, work characteristics, management responsibilities, level of task completion, ensuring internal fairness and competition with the market, in order to create motivation to improve labor productivity. , quality, work efficiency and employee engagement with the bank. For highly qualified, exceptionally excellent, outstanding and scarce laborers in the market, Vietcombank builds an expert salary mechanism with outstanding remuneration. As a result, Vietcombank can provide incentives for necessary workers for a number of specific fields, meet the needs of transformation projects, and improve the bank's operational and governance capacity. The salary mechanism of Vietcombank has been built on the principle of distinguishing job positions, volume, work

quality and classifying employees' job completion in a clear and transparent way, minimizing and gradually eliminate the state of equalization, average distribution.

The salary distribution in the Vietcombank system is assessed according to a set of KPIs closely linked to Vietcombank's strategic goals from time to time; ensure that the staff's work goals are associated with the bank's development goals and strategies; unify standardization in the implementation of the salary increase and salary grade transfer regimes according to the bank's regulations.

The employee's salary is divided into 2 parts:

- The fixed salary is determined according to the professional job position, taking into account the level of complexity, professional capacity and ability to perform the work of the employee to divide the appropriate ranks/grades. .

Vietcombank has issued a set of Job Descriptions for job positions at the head office and branches in the Vietcombank system, according to which there are more than 650 job positions with detailed descriptions of purposes, tasks, and qualification requirements. expertise and experience; requirements for skills and qualities. Completing the competency framework for staff positions related to the wholesale sector. This is the basis for building a salary scale according to job position with 21 ranks and 12 salary levels.

Vietcombank assigns the initiative to heads of companies in reviewing and arranging salaries of employees according to their capacity, quantity and quality of job completion. The salary increase is done based on the evaluation of job completion. of workers. Every year, Vietcombank reviews, evaluates, and adjusts the employee's salary grade/grade in association with the employee's job performance and position

- The effective salary is determined according to the results of the job completion assessment, which is measured by KPIs and evaluated the criteria of behavior, sense of responsibility, staff's own capacity, and level of employee engagement. staff with Vietcombank through measurement indicators such as KNL, KBI, EES...; encourage employees to strive for better work results.

The basis of effective salary distribution to each employee includes: the company's distributed salary fund, the efficiency coefficient according to the individual's PMS score rating, the PMS completion score, the job salary coefficient and the working day. reality. Accordingly, Vietcombank has developed a combination of relevant regulations on KPIs, PMS and salary distribution.

Vietcombank has developed a set of KPIs for companies and job positions at the head office and branches. The set of KPIs is reviewed and adjusted annually according to business orientations and strategies from time to time. The set of KPIs currently applied at VCB includes 5 aspects: finance, customers,

processes, people and risk management with the proportions divided by job position. To evaluate job completion results, use PMS score with separate weight regulation for each position, including 2 components of KPIs and EES/KBI/KNL scores.

- Reward Mechanism

In addition to the forms and titles of high-level commendation in accordance with the State's regulations, Vietcombank also awards annual and irregular awards according to thematics for collectives and individuals with high achievements in the movement. emulation for excellent completion of assigned tasks, achievements in scientific research and innovation movements as well as high achievements in professional examinations... Diversified emulation movements associated with business strategies business from time to time, along with various forms of reward, has attracted the enthusiastic response of employees. There are retail emulation movements with each emulation category such as retail sales of products, card issuance, bancas, etc. with the form of monetary rewards and overseas survey trips and visits. At the same time, it also decentralizes the Head of company and the company-level Emulation Council to be proactive in rewarding work to ensure that the reward is timely and practical, really bringing motivation to the employees. employees in the process of working.

Timely evaluation, recognition and honoring of collectives and individuals with excellent achievements in labor has contributed to creating a dynamic, extensive and strong competitive spirit throughout the Vietcombank system, attracting All officers and employees overcome difficulties, promote innovation and creativity, strive to successfully complete Vietcombank's business targets as well as political tasks.

- Welfare mechanism

In addition to applying a reasonable salary and reward mechanism, Vietcombank's employee welfare regime has been strictly implemented in a variety of forms, contributing to a sustainable brand value. of Vietcombank, improving the material and spiritual life of employees, and at the same time creating motivation for employees to work and stick with the bank such as insurance benefits, guaranteed benefits, and payments for time not working, benefits for flexible work schedule, services for employees, transportation and other benefits.

3.2. System of non-financial motivation mechanisms

Promotion opportunities for employees: Vietcombank builds a comprehensive and transparent system of regulations and processes for staff work (from recruitment, training to assessment, planning, rotation, and transformation). working positions, appointing officials, etc.) with clear regulations on standards and conditions, which are the basis for employees to determine the criteria to be achieved in order to have opportunities for promotion in the future. Besides

developing the content of processes, regulations, publicity and transparency, the implementation of these regulations in a democratic and objective manner is also an important factor in motivating employees. Accordingly, qualified officers with certain contributions to the bank will be considered and included in the planning for training and retraining and will be considered for selection and appointment in a transparent and open manner. suitable locations.

The staff planning is carried out fully and standardly, the appointment of staff is done in the right order (defending the program/work plan in front of the Selection Council of the candidates on the list of qualified candidates). plan), so Vietcombank has built a leadership team who have modern knowledge, experience in expertise and management.

In addition, Vietcombank always offers other incentives for employees such as reasonable assignment and arrangement of labor, improvement of working conditions and environment, training and development, organization of activities. culture, arts, sports, sightseeing, vacation, exchange...

3.3. Results of implementing the motivation mechanism for employees of Joint Stock Commercial Bank for Foreign Trade of Vietnam

2021 is the 6th year in a row that Vietcombank maintains the position of the bank with the best working environment in Vietnam according to the survey results "100 best places to work in Vietnam" by Anphabe Company and market research company. Japan Intage announced every year (Vietcombank was voted 1st in the banking industry, 2nd in the whole Vietnam market).

The average income of employees at Vietcombank has continuously increased over the years. In 2020 - 2021, although business activities are heavily affected by the Covid epidemic, Vietcombank still ensures a stable income for employees. With the current remuneration mechanism, Vietcombank not only attracts high-quality human resources in the market, especially talented staff, or retains employees, but also creates motivation to work effectively. results, striving to the best of the existing labor source.

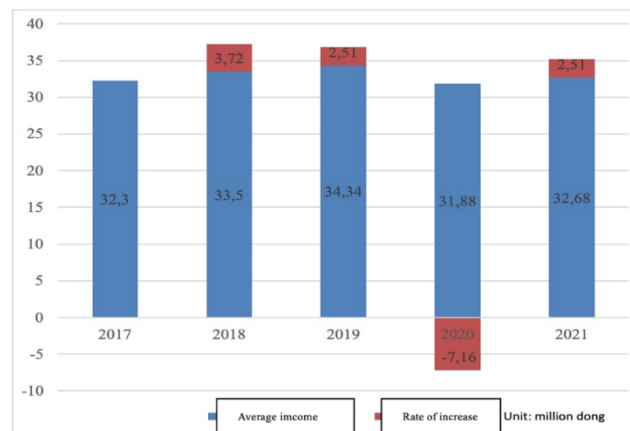


Fig.1. Average income of employees of Vietcombank over the years

Source: Vietcombank's annual report 2017-2021

In recent years, Vietcombank has been known as a bank with the average income of employees continuously growing and reaching a high level compared to the common level of the market.

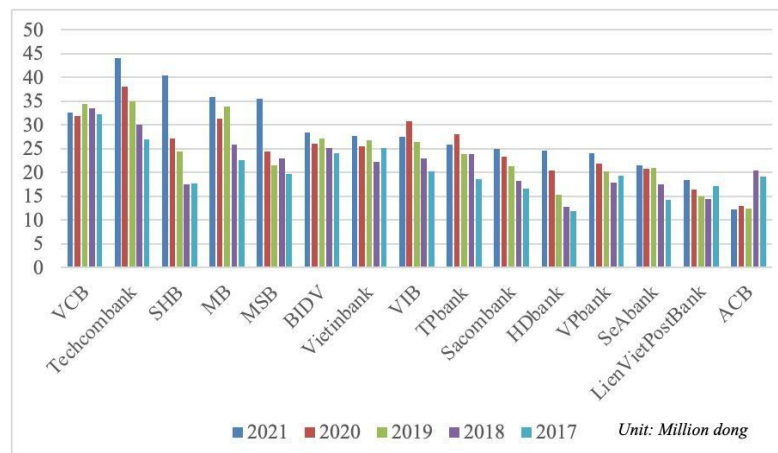


Fig.2. Average income of employees at commercial banks

Source: Sources of data reported at Vietcombank's Employee Conference and Annual Report of commercial banks

Over the past time, Vietcombank has comprehensively renewed the organization and consolidated the entire elite staff, contributing to a breakthrough in business activities, creating internal strength to gain momentum to continue to rise and maintain its position. No. 1 Bank in Vietnam, step by step reaching out and enhancing its position in the region. Remuneration policies in parallel with the position of a strong bank, VCB in recent years has made a mark, is highly appreciated and attracted a number of qualified personnel. Vietcombank's labor size increased from 16,227 employees in 2017 to 17,215 employees in 2018 and reached more than 18,000 in 2019 and now of motivational mechanisms, Vietcombank ranks in

more than 21,000 officers and employees. In contrast, the rate of employees terminating labor contracts/total employees is very low, remaining below 6%, of which the majority are young workers, management workers only account for a small proportion of less than 2%. Employees have a high level of education with over 90% of staff having bachelor's, master's and doctorate degrees. The labor structure is distributed in the direction of prioritizing the increase of sales staff, and limiting the increase of simple/support workers

Thanks to guaranteed quality human resources and effective implementation

the Top 5 for labor productivity in the whole industry..

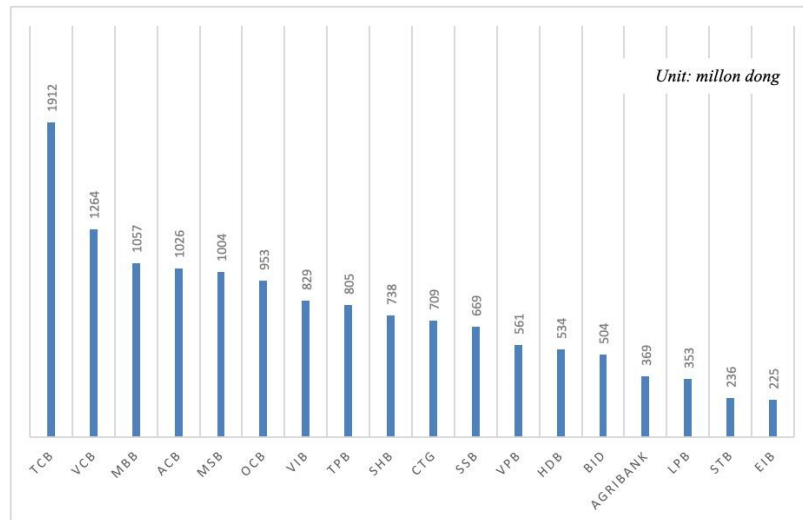


Fig.3. Labor productivity of employees of commercial banks calculated by profit before tax/number of employees in 2021

Source: Annual report of commercial banks in 2021

The profit performance of Vietcombank employees has grown over the years and is at a high level compared to commercial banks.

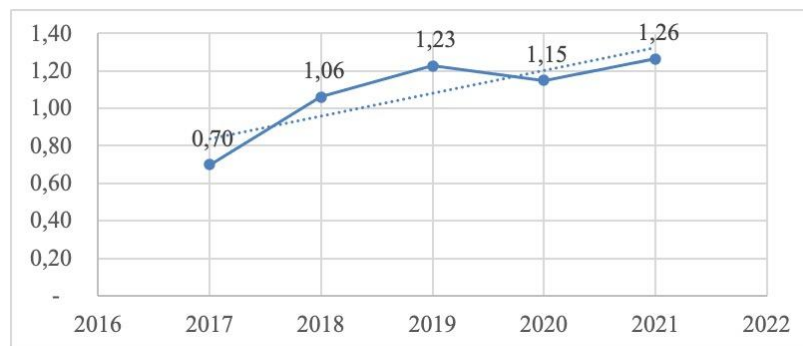


Fig.4. Profit before tax on employees of Vietcombank

Source: Vietcombank's annual report

Besides, in the context of fierce competition for human resources in the banking industry, Vietcombank is one of the banks with the most stable human resources in the system. According to the results of the employee engagement survey (EES) in 2021 conducted by Nielsen, Vietcombank's average EES score for the entire

bank reached 95.97 points - showing a high level of staff engagement with the bank. customers and employees' willingness to make efforts (up from 77 points in 2017, and above the 80 points of good practice of the best organizations globally)

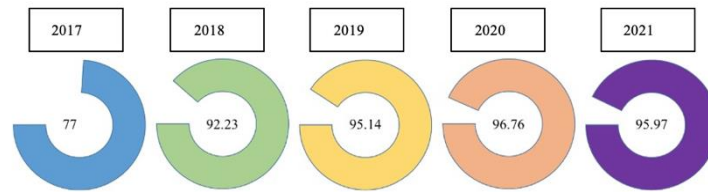


Fig.5. VCB's EES score over the years

Source: Annual report of Vietcombank's EES results

Survey results on the level of satisfaction as well as the positive and negative impacts of the motivational mechanisms on Vietcombank's people today with 2,714 samples are officers working in the whole Vietcombank system with various degrees. Age, working position, working seniority are as follows:

Vietcombank's current remuneration system is assessed by 80% of survey staff as appropriate, rich, and flexible, somewhat superior to other enterprises of the same size. Thus, with the current remuneration regime, employees not only feel secure to continue their dedication and motivation to work, but also enhance their pride in the Vietcombank brand, affirming their desire to stick with Vietcombank for a long time (accounting for 97% of the surveyed staff).

The survey of Vietcombank employees all received positive feedback on the content "The work of officers and employees is evaluated according to clear criteria" with 67% of surveyed officers strongly agreeing and agreeing. The evaluation is carried out objectively, based on clear and transparent measurement results. In addition, individuals are rewarded in accordance with their ability and dedication based on Vietcombank's good performance. At the same time, there was a clear division in income levels corresponding to the complexity and diversity of jobs. This has been more than 60% of officers and employees participating in the survey are satisfied with their current income and this level of income is commensurate with their efforts. About 30% of the survey staff have a neutral opinion on this issue, so the number of staff members have not clearly expressed their views on the criteria for evaluating the assigned work, not reflecting their opinions. clearly identify the positive or negative aspects of the staff's views on the criteria for evaluating the assigned work.

Employees highly appreciate the management's interest in the staff's life, material and spiritual life, with 80% of the surveyed staff agreeing. Regarding the basic benefits for employees: 84% of survey staff rated the health care mechanisms applied by Vietcombank as appropriate, more than 75% of staff rated the intangible remuneration mechanisms. suitable, rich and flexible substance. Surveyed officers also highly appreciated that Vietcombank's training programs were reasonable, of high quality and closely followed the actual needs of

staff with the agreement rate of 74%. Especially for the job arrangement, nearly 84% of surveyed staff commented that their current job is suitable for their capacity.

Promotion opportunities and career path are also goals that employees care about, and are one of the great motivations for employees to devote and strive for. More than 50% of surveyed employees agreed with the point of view: Employees at Vietcombank have many opportunities for promotion and the leaders have a clear promotion roadmap for employees. More than 30% of the survey samples are having neutral opinions on the views on promotion opportunities, which shows that employees are still confused to make choices and their assessment of current policies or they don't really care.

Thus, it can be seen that Vietcombank's motivational mechanisms have partly met the need to be recognized, treated and rewarded appropriately for the contributions and achievements of employees, motivating officials and employees to work hard and stick with the organization

3.4. Limited and causes

- Salary Mechanism

Every month, employees at Vietcombank will receive 2 times of salary payment, including: (i) Fixed monthly salary (V1) which is determined based on salary for job position and regional adjustment coefficient specified for each application. position and other allowances as prescribed and (ii) advance level Salary (V2) is calculated according to the job salary and the advance coefficient is decided by the Head of the company on the basis of the employee's per capita profit (this coefficient ranges from 20-75 %). This leads to the fact that although the total income of employees at Vietcombank is ranked high in the system of commercial banks, the monthly salary is low, especially those who choose the V2. low to avoid failure to reach the year-end profit target. Therefore, a part of employees has difficulty in balancing income and expenditure. In the South, some employees have commented that the monthly salary received is not enough for them to cover their living expenses. cost of living and current inflation.

For positions with a built-in competency framework (in the wholesale and debt management sector),

Vietcombank is currently stipulating that staff with a higher competency framework must have a higher salary for the position. This leads to an inadequacy because the currently prescribed competency framework has 5 levels from P1 to P5, in which normally employees who do not hold positions will have a competency framework from P1 to P3, but the salary scale for officials don't have the position has 7 levels, and the salary ranking of employees is based on the assessment of job completion including the performance of KPIs by the staff, not only on the competency framework

The periodic and annual review also partly limits the motivation for breakthrough development of employees. In addition, the principle of not reducing the salary of the employee's position when reviewing annually is below the 3rd salary level of the job position the officer is in charge of (this is the salary level ranked for employees with a long working time actually working at Vietcombank for full 2 years excluding the probationary period) leads to limitations on the non-senior characteristics of position salaries as well as reduced staff motivation due to the formation of a safe zone in terms of income. At the same time, for the staff of the wholesale division, there is no clear regulation that the salary increase adjustment for employees who do not hold the 3rd grade will be according to Article 15 of the Salary Regulation, similar to those of other Divisions or still have to ensure the regulations related to KNL, so it is necessary to be more specific about the salary increase for the staffs of the wholesale division.

The set of KPIs currently applied to departments at the branch still has some points that do not fully recognize the contributions of employees or do not properly reflect the roles and responsibilities of individuals to the collective. The measurement of results achieved for some positions has not been quantified and the criteria have not been uniform for departments with the same professional and job characteristics. In order to measure staff productivity, in some positions, the measurement method does not fully reflect the employee's productivity due to the specific nature of the work, even measurement is not feasible. unfairness between positions, departments. Among groups of staff, the evaluation criteria for People are not similar in both quality and quantity. Specifically: at the position of RM wholesale officer, wholesale CA, CRC officer, the Human aspect is not weighted due to the proportion of the Competency Framework (with assessment criteria mainly being soft skills) of the group. This officer accounts for 20-30% of the PMS score. Meanwhile, the remaining positions have a weight of 10% and are reflected on the staff's training criteria, including training and scientific research. Another limitation of the PMS scoring mechanism is that the evaluation cycle for each PMS component is not uniform:

- PMS, KPI, KBI scores: evaluated quarterly;

- Competency Framework Score: evaluated every 6 months. To use PMS scoring, you will use the results of that quarter's KNL assessment if it is due for the evaluation period or use the results of the preceding quarter.

- EES, ICS scores: evaluated and surveyed by TSC every year. Every year, Vietcombank conducts a survey for all staff who have worked at Vietcombank for 12 months or more to assess the employee's level of commitment to the department where the employee works. (EES) and internal customer satisfaction assessment (ICS), the combined results are usually published in the middle of the first quarter of the following year.

According to Vietcombank's regulations, at the time of performance evaluation (PMS), if there is no EES score, PMS score will be calculated by KPI score. In addition, there are no specific regulations on the application of ICS survey results to the calculation of KPI scores for support departments/officers. This can lead to a different way in which the support team's KPI scores are assessed, depending on the assessment perspective of each place.

The competency framework has not been developed for all job positions, Vietcombank has just completed the competency framework for positions in the wholesale and debt management sectors, leading to a lack of uniformity in job descriptions and assessment.

The determination of PMS score to pay salary for business performance for staff is not really appropriate. To evaluate work performance, the contribution of each individual to the overall performance of the whole place is most accurately expressed in the KPIs evaluation criteria. Therefore, it will be more appropriate and fair if we use KPIs to pay salaries for staff. With the current assessment of PMS scores, both the performance of annual business targets and the soft skills and personal capacity of each staff member can be fully assessed. Because, the criteria to determine the score of EES, ICS, KBI, KNL are mainly to assess the credibility of the staff towards the direct leadership at the company; prestige, leadership capacity of management to employees, soft skills, compliance and capacity of staff. Therefore, PMS scores used for human resource management purposes such as annual staff ranking, reward, planning, appointment, salary increase, etc., would be more appropriate than those used to calculate effective salary.

The assessment is still done mainly manually, so the employees are still limited in daily monitoring the implementation of their KPIs assigned

- Reward Mechanism

Currently, the reward mechanism of VCB is not rich and diverse, mainly the annual emulation and commendation titles according to the regulations of the Government and the industry. For branches with

excellent business performance, they will typically be rewarded with cash and certificates of merit periodically quarterly and annually. At the level, the reward is also implemented according to the guidelines and orientations of the Board of Directors of each branch, but still mainly focuses on the main business activities of each branch. In recent years, the retail division has developed many emulation and reward policies associated with product promotion programs, however, these programs have not really created great motivation for staff but the owner to help improve staff performance.

- Welfare mechanism and non-financial compensation:

There has not been a specialization in terms of preferential levels of non-financial welfare and remuneration mechanisms for each group of objects of job completion, in order to create motivation from excellent completion, outstanding dedication will have superior remuneration. At the same time, the remuneration forms are still somewhat unsatisfactory to the expectations of employees, the level of remuneration is not commensurate with Vietcombank's position and is not really attractive compared to the labor market. In particular, the survey results show that employees' assessment of promotion opportunities at Vietcombank has the lowest level of satisfaction compared to other aspects of the remuneration mechanism. Expressing the desire of officials and employees to have a clear promotion roadmap; in which managers grasp the desire for career development of officials and employees; thereby creating more opportunities for development and promotion for individuals.

4. SOLUTION

4.1. Adjusting the way to calculating the salary

Continue to improve the set of KPIs for each group of business departments. For the support department group, the financial aspect should be determined based on the financial results of the operations departments or the KPI results of the whole branch, because the support departments always coordinate and support the business division in the process. customer, administrative and operational tasks to maximize the assigned business targets. For sales departments and branches, it is advisable to restructure the set of KPIs to make them more compact with the right essence, instead of subdividing the same group targets in the same financial aspect, leading to too small division of weights. of each indicator. Develop programs and tools to measure fully, in detail, suitable for each specific job position to accurately record and reflect the work of staff. Applying digital technology to build an automatic assessment and recording system, minimizing manual evaluation and recording steps to accurately determine the work efficiency and dedication of staff to operational results branch business.

To carry out the evaluation effectively and synchronously, Vietcombank needs to agree on the same evaluation cycle for the components in the PMS score evaluation formula, so the evaluation results will be close to the real one. more realistically, in order to help managers promptly adjust the evaluation criteria flexibly, in line with the reality of business activities of the unit in each period. It is recommended to use a monthly assessment cycle and authorize to deploy EES and ICS surveys to be proactive in measuring as well as to have timely adjustment plans to improve assessment results.

Using KPIs instead of PMS scores to effectively distribute salaries to staff because KPIs have accurately and fully reflected the contribution of each individual in the overall business performance of the company. PMS score with characteristics is fully assessed both in terms of performance of annual business targets and in soft skills and personal capacity of each officer (due to the criteria for determining EES, ICS, KBI and KNL mainly aim to assess the trust of staff towards direct leadership at the company; prestige, leadership capacity of management level towards employees, soft skills, compliance and capacity of staff); will be used for human resource management purposes such as annual staff ranking, reward, planning, appointment, salary increase...

Completing the salary mechanism for each position and title. The salary division between positions is clearer between the levels of job complexity from low to very high. At the same time, build the salary corresponding to the job position groups according to the trend that the job salary of the Sales department is higher than the job salary of the operation and support departments with a clearer gap. In addition, adding the above blocking criteria so that the business efficiency salary of employees in the Direct Business group generates higher profits than the remaining groups. Employees who have actually worked at Vietcombank for full 2 years (excluding the probationary period) will be classified as the 3rd salary level of the position the officer is currently undertaking. However, during the annual salary review process, there are officers who have worked for many years at VCB but the work results are not guaranteed, not even effective at work, do not complete the assigned tasks. . Due to the limitation on the minimum salary level requirements for staff with more than 2 years of service experience, the company cannot transfer staff to a lower salary level commensurate with work results. For these cases, the salary payment mechanism needs to develop a mechanism that allows the branch to lower the salary grade to the starting salary (minimum level) of the current salary range.

Supplementing the salary range of senior professionals ranked from 8th to 12th in the salary range for particularly outstanding and outstanding officers

such as the 7th ranked cadres who have been ranked A for 3 consecutive years or won prizes in individual competitions. The addition of this new title framework will be of great motivation for employees when the number of leadership positions is limited. At the same time, employees are entitled to additional financial benefits associated with the new title.

In order to create conditions for employees to have a stable and regular monthly income to meet their daily needs, it is proposed to adjust the monthly salary payment mechanism through increasing job salary V1 or regulating salary advance fixed V2.

Adjust the basis for business efficiency salary distribution:

- For department/department level:

Building the principle of separating 2 groups of rooms for the business and operation blocks, supporting when calculating the bell curve ratio to ensure fairness and accuracy in comparing the PMS score of each block as well as having more the difference in business salary between the group that directly makes profit and the other group. There are still enough rating levels from A to E to compare and rank rooms in the same block with each other.

- For individual level:

In order to properly evaluate and recognize the contributions of employees, it is proposed to reduce the efficiency coefficient of staff rated E to 0 (zero) instead of 0.7 as currently. Accordingly, not only E-class employees will not be able to effectively distribute their salaries, but also the effective salary of A and B-ranked officers will also be higher because they have had to shoulder the tasks and business plans of E-rated officials do not perform.

4.2. Related to the reward

Annually, based on the business orientation in each period, from the beginning of the year, organize emulation movements associated with the main goals and tasks to be achieved by each place in all aspects of business activities, support Services. In addition, in order to promptly motivate and encourage cadres with outstanding and outstanding achievements, to perform and reward periodically and irregularly as soon as outstanding achievements arise. Emulation programs need to be linked to reality and ensure that implementation results are recognized. The reward level is commensurate with the achieved results and diversifying forms of reward, specifically:

- Reward in cash according to the ratio of economic value of emulation results.

- Commendation with trips, surveys for themselves and their families.

- Honoring officers who have achieved achievements on Vietcombank website, covers of Vietcombank's magazines and journals, internal news

pages of the company, computer screensavers, and programs shown at transaction locations are interspersed product advertisements...

- Building a reward system to include in the evaluation of staff's career development.

4.3. Increasing the welfare

Develop a separate preferential welfare mechanism for groups of employees with excellent performance and outstanding achievements, supplementing insurance benefits for employees and their families. Besides, enhancing benefits towards ensuring the health of employees, applying flexible working time regime

4.4. Solutions related to the non-financial compensation

Develop a career path to create promotion opportunities for employees while completing regulations on staff planning and selection for appointment. Strengthen dialogue with workers

4.5. Increasing the use of digital technology in human resource management

Completing the current human resource management support program of Vietcombank:

The solution to use the system to calculate the results of the implementation of financial KPIs, especially business targets assigned to staff, is automatically performed, automatically transferred and pushed into the management program. human resource management. Based on identified data from Vietcombank's existing systems (Batch system, Portal report, SellerID, MPA...) through staff code, financial indicators related to each employee can be calculated. . With the assessment of the research team, the topic can now automate the results of over 90% of the financial KPIs for all levels of staff/department/branch.

Solution to complete the program to manage, monitor and evaluate the work of employees. In the process of implementing the KPIs scoring system, the Task Management program has also been developed and applied at the branches. However, the management, monitoring and evaluation of job completion is still manual and the results have not been included in the KPIs scoring. For the work of management and administration, the management and monitoring of assigned work is an important issue in the evaluation of staff as well as the process of job performance. At the same time, employees are also proactive in implementing their own work plans to get the highest work efficiency.

Solutions to synthesize reports and billboards of individual and titles as a basis for rewarding and encouraging officers, departments, and branches. Based on the assigned tasks, projects, and targets, the system will automatically summarize the results of the staff in combination with the criteria for classification by group, by category... Ranking report of staff/department/ T-1

branches from time to time will be provided to each subject, and rankings will be created according to pre-determined criteria so that officials accessing the system can locate the ranking.

Develop a program "Application Bridge Software" to supplement the functions as mentioned in the solution section and at the same time the software also plays the role of interoperability between Vietcombank's current internal applications related to Vietcombank's management. human resource management in order to have a comprehensive information system in managing, evaluating, motivating and motivating employees at Vietcombank.

The processing results of existing and planned applications will be restructured in a synchronous manner so that the applications can exploit each other's data sources, besides to ensure the safety in the process. the use of information but still meet the timeliness, flexibility in administration, the typical aggregated data will be stored and uploaded to Vietcombank's private cloud system to help officials, employees, managers have information and make appropriate decisions in the fastest and most effective way. The processing data of the storage system ensures historicity, high processing efficiency, is structured in a streamlined, consistent, and most convenient way to support the processing of big data (big data). Automated intelligent statistics through artificial intelligence (AI) processing for later systems.

5. CONCLUSION

Over the past time, Vietcombank's policies, salary mechanism, reward and welfare regimes have had many changes in line with the trend of the modern labor market, improving the material and spiritual life of employees. in the system to a higher standard of living. In recent years, Vietcombank's business performance has grown strongly and Vietcombank is always in the top 5 organizations with the highest average income of employees in Vietnam. However, with the increasing impact of competition on human resources in the labour market, the trend of shifting to organizations with salary mechanisms, career development opportunities, and outstanding motivational mechanisms is all feebleness; Therefore, perfecting the motivation mechanism for employees of Vietcombank should be considered as a key task, to increase the enthusiasm of employees and retain high-quality human resources. From the research and survey results, the main solutions are proposed, including:

Financial solutions: including solutions to develop salary and bonus policies suitable for each position, job title, as well as a flexible and timely salary increase/decrease mechanism; satisfactory benefits imbued with Vietcombank's unique culture; solutions to improve the mechanism for recording and evaluating the results achieved by employees.

Non-financial solutions: Improve mechanisms to create opportunities for employees to have a specific career path, achieve personal career development goals, increase connection and cohesion.

Technical and technological solutions: building modern and optimal human resource management programs to help employees and managers manage the plans that have been built and be proactive in all business activities as well as of the individual employee.

With the goal of maximizing the number of employees who are satisfied with Vietcombank's salary and remuneration mechanisms, building a team of staff dedicated to dedication and long-term commitment to Vietcombank.

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FINANCIAL ACCESS OBSTACLES IMPACT ON FIRM INNOVATION IN VIETNAM

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Research purpose:

Innovation is a critical component of a country's or a company's competitiveness. There is a growing interest in the relationship between finance and innovation. Projects with a current positive value can be supported by innovation. It demonstrates the importance of innovation in increasing the value and competitiveness of businesses. This study focuses on the financial constraints and business environment obstacles to R&D in Vietnam. Data was taken from the Enterprise Survey in Vietnamese firms, collected by the World Bank. Financial constraint severity induces the degree of innovation in terms of new products and new structures. This study shows the role of financial obstacles that have a significant impact on innovation, and are divided into many degrees. These findings suggest that procedures and barriers to capital access must be reduced if businesses want to expand their innovation activities. Minor impediments affect only product innovation, not organizational innovation. The remaining three variables have an impact on both types of innovation. The higher the difficulty level, the harder it is to make innovation work as intended. As a result, relevant authorities should consider assisting businesses with procedures, simpler mechanisms, and capital support funds. Both theoretical and practical implications were discussed. Finding the financial constraints and business environment obstacles to R&D in Vietnam.

Research motivation:

Finding the current difficulties in accessing capital and the difficulty level of each type of capital access to make appropriate recommendations, from which there can be a more effective capital access plan for both government and business.

Research design, approach, and method:

Data is taken from the World Bank, focusing on businesses in Vietnam within the past ten years. Use the software to do a logit between financial access obstacles and innovation to see its impact on the effectiveness of innovation.

Main findings:

Severe obstacles to access finance reveal significant impact on product and organizational innovation.

Practical/managerial implications:

The financial constraint severity induces the degree of innovation in terms of new products and new structures. The firms suffer the severe capital shortage that triggers the highest level of structures and product innovation. Corruption, customs and trade regulation are obvious challenges for firms. Internal factor such as workforce management is also a challenge. New structure of the organization would be solutions to address corruption and human resource management issues.

Keywords: *Financial access obstacles, product innovation, organisational innovation.*

1. INTRODUCTION

Innovation is widely recognized as a critical component of a country's or a company's competitiveness. A dynamic and competitive economy necessitates the development of innovative businesses (Guijarro et al., 2009; Garcia et al., 2009; Van Auken et al., 2009). According to Modigliani and Miller (1958), projects with a current positive value can be supported by innovation or R&D. This demonstrates the

importance of innovation in increasing the value and competitiveness of businesses.

However, specific challenges reduce enterprise innovation activities. Businesses cannot predict the outcome of innovation, making it difficult to predict success and growth potential. The outcome is uncertain, making judgments when making the initial investment may not be accurate. Many ideas are impractical due to the difficulty in obtaining capital to implement them.

Furthermore, the enterprise environment, which includes people, machines, facilities, and management systems, is a barrier.

Previous research has focused on the narrow scope of R&D constraints in developed markets such as the United States, the United Kingdom, Japan, France, Germany, and other European countries (Tajaddini & Gholipour, 2020). Previously, empirical techniques were discovered to gauge budgetary limits and issues associated with spending reductions over time. There are no findings on the financial constraints and business environment obstacles to R&D in Vietnam.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Financial constraints and innovation

Financial constraints such as lack of innovative financing sources or high-interest rates are severe obstacles to undertaking innovation projects (Savignac, 2008). Some studies address this issue using direct measures obtained from rich and comprehensive firm-level surveys (Ghissetti, Mazzanti, Mancinelli, & Zoli, 2015). Others use data from the World Bank's business environment and enterprise performance surveys (BEEPS), which provides a qualitative assessment of firms regarding credit constraints (Popov, 2014). Several studies examine the effects of financing constraints on R & D activities. They are mainly in the context of developed markets, like the US, UK, Japan, France, Germany, and other European countries. In a dynamic setting, Mulkay, Hall, and Mairesse (2001) find a higher cash flow effect in the US than in France in a dynamic setting. Furthermore, it is also pointed out that the previous empirical approaches suffer from certain data limitations and measurement of financial constraints.

A financial constraint prevents a path of economic activity from being pursued and must instead be accommodated. For example, short selling, trading options, and utilizing margin may be prohibited by the broker, limiting the investable universe (Pericás et al., 2013). Researchers have tried to understand the relationship between corporate investment and access to finance (Beck & Demirguc-Kunt, 2006). In the case of financial constraints, it will reduce R & D investment because it will be difficult to obtain capital from outside (Li, Chen, Gao, & Xie, 2019). According to Chundakkadan and Sasidharan (2020), financial constraints prevent a firm from carrying out its R & D activities at the scale and scope desired due to a lack of necessary resources or high investment costs.

2.2. Financial access obstacles and innovation

There is a growing interest in the relationship between finance and innovation. However, it was not a conclusive finding. Based on the literature review, there are two main research streams. In the first research stream, constraints of financial accessibility act as an impediment to innovation. Immarino et al. (2009) revealed the limitation of financing triggers innovation performance focusing in SMEs. The other studies such as Kim et al. (2019) proved the same line findings to support the barrier role of access to finance on innovation. Lacking capital in the first phase of innovation disrupts the R&D process and the translation process from idea to new product (Hu et al., 2017). Furthermore, the capital shortages also challenge firms in market demand understanding, which significantly leads to failure in the launching phase (Kerr and Nanda, 2014). On the other hand, the second stream proved that financial constraints can motivate new ideas and new practices in an uncertain period. As such, the capital shortage accelerates firms to test alternative ideas and business models to survive (Pellegrino and Sanova 2017). Moreover, to overcome the financial constraints, firms are likely to invest in risky ideas to achieve higher returns on investment. These activities might encourage creativity and innovation as a consequence (Silva et al., 2019).

According to Vietnam, it has a high power distance level and a high degree of collectivism according to the Culture dimension of Hofstede research. In such culture, employees tend to have higher emotional commitment which encourage teamwork and internal collaboration (Triguero-Sánchez et al., 2022). Those elements enhance the firms' innovation according several prior studies (Silva et al., 2019; Kim et al., 2019 and Triguero-Sánchez et al., 2022). In this study, authors consider two outcomes of firm innovation including new structure and new product. Hence, it is predicted that the access to finance obstacle which Vietnamese firms faced during their business operation can leverage the new structure and new product outcome.

H1a: Financial Access Obstacles positively impact on Product innovation.

H1b: Financial Access Obstacles positively impact on Organizational innovation.

3. METHODOLOGY

3.1. Data collection and Measurement

This study uses data from the Enterprise Survey in Vietnamese firms, collected by the World Bank.

Variables	Description
Independent variables 1 Financial Access Obstacles	Measuring the level of obstacles to access finance in organization. There are five level of obstacles: No obstacle, Minor obstacle, Moderate obstacle, Major obstacle, Very severe obstacle.
Dependent variable 1 Product innovation	Measuring the possibility to introduce new or significantly improve products or services.
Dependent variable 2 Organizational innovation	Measuring the possibility to introduce new or significantly improve the organizational structures or management practices.

4. RESULTS AND DISCUSSION

The analysis results show that obstacles to access finance reveal significant impact on product and organizational innovation. Particularly, obstacles ranging from moderate, major, and severe levels have a great influence on both types of innovation performance. Specifically, Severe obstacles show the most significant impact on new product and new structure performance with coefficients of 0.896 and 0.638 (significant at 5%), respectively. Major challenges represent the effect with coefficients of 0.398 and 0.407 (significant at 5% level), respectively. Moderate difficulties show the impact with coefficients of 0.240 and 0.279 (significant at 10% level), respectively. Minor obstacles reveal significant impact on product innovation with a coefficient of 0.226 (significant at 5% level), but insignificant impact on organizational innovation.

5. CONCLUSION

The research yields two intriguing findings. Firstly, the financial constraint severity induces the degree of innovation in terms of new products and new structures. Prior studies emphasize the relationship of financial constraints and firms' innovation in general (Ding et al., 2022 and Bodlaj et al., 2018). The first finding is in the same vein with those prior findings. However, as a highlight in this study, authors divide constraints into different levels including minor, moderate, major and severe constraints and examine the impacts in these circumstances. Precisely, the minor capital constraints generate the lowest level of new structures and new products. Meanwhile, the firms suffer the severe capital shortage that triggers the highest level of structures and product innovation.

Secondly, uncertainties and obstacles from both internal factor such as workforce management and external ones such as corruption, customs and trade regulation, and political instability are obvious challenges for firms (Lee, 2014; Akkaya et al, 2020), the analysis results in this study offer evidence that such factors would also motivate organizations towards innovation performance. New structure of the organization would be solutions to address corruption

and human resource management issues. New product development would help to deal with political matters and customs procedures, for example, to meet complicated requirements from regulations.

According to the study's findings, all four financial obstacles (minor, moderator, major, and severe) impact innovation activities. Minor impediments affect only product innovation, not organizational innovation. The remaining three variables have an impact on both types of innovation. The factor of severe financial obstacles significantly impacts innovation activities, with the most significant impact on product innovation.

These findings indicate that if businesses want to expand their innovation activities, procedures and barriers to capital access must be reduced. As a result, relevant authorities should consider assisting businesses with procedures and simpler mechanisms or funds to support capital.

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IMPACT OF CORPORATE GOVERNANCE ON FIRM VALUE: EMPIRICAL EVIDENCE FROM VIETNAM

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Research purpose:

This research investigates the impact of corporate governance on firm value by using the panel data collected from non-financial listed firms on both Ho Chi Minh Stock Exchange (HOSE) and Ha Noi Stock Exchange in Vietnam. The research sample is included 200 non-financial listed companies over the period 7 years from 2012 to 2018. The research methodology used Feasible Generalized Least Squares (FGLS) estimator to address econometric issues and to improve the accuracy of the regression coefficients. The results show that corporate governance positively impacts on the firm value of listed firms in term of board independence, the presence of female member in board, large shareholders and foreign investors. Therefore, this paper provides a new insight to managers on how to improve the firm value with corporate governance. The paper aims to examine the relationship between corporate governance and firm value on listed non-financial Vietnam

Research motivation:

The necessary in reassessment the efficiency in change of principle and the relaxation of restriction are reasonable to conduct research

Research design, approach, and method:

The research methodology used Feasible Generalized Least Squares (FGLS) statistical approach with linear regression model to test impact of corporate governance on firm's value. The firm's value is measured by Tobin's Q

Main findings:

The results show that corporate governance positively impacts on the firm value of listed firms in term of board independence, the presence of female member in board, large shareholders and foreign investors.

Practical/managerial implications:

The finding suggested to regulators, managers and shareholders

Keywords: *corporate governance, firm value, Tobin's Q, Vietnam, agency theory, stewardship theory*

THE IMPACTS OF ORGANIZATIONAL CULTURE ON THE ORGANIZATIONAL COMMITMENT – A RESEARCH IN SOUTHWEST VIETNAM

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Research purpose:

Defining the impacting the level of organizational culture on organizational commitment and providing suggestions for managers in the ICT business located in the Southwest of Vietnam to improve and transform organizational culture, which is in line with the current business context.

Research motivation:

Although organizational culture has already been a common topic in corporate management, this remains room for further intensive research in enterprises operating in Southwest Vietnam since there have been a few similar studies conducted. Under the wave of modern digital transformation and in the context of the high competition in the telecommunication industry, researching the relationship between organizational culture and organizational commitment is thus necessary for local service providers to form their business strategies with new approaches.

Research design, approach and method:

Data from secondary sources, which are provided by Vinaphone business centers' official reports, and primary data collected from 405 employees are analyzed to identify factors impacting employee organizational commitment.

Main findings:

This study explored 7 key factors impacting the commitment of Vinaphone's employees in that area of Vietnam, namely organizational communication; training and development; rewarding and recognizing; risk acceptance for creativity and innovation; team working; fairness and integrity in management policies; efficiency in decision making.

Practical/managerial implications:

This paper provides suggestions to improve organizational commitment based on the findings of the research as seen in the case of Vinaphone's business centers. Other enterprises can refer to these for their management strategies once running the business in the southwest regions of Vietnam.

Keywords: *Organizational culture, Commitment, Business transformation, Southwest provinces, Vietnam*

1. INTRODUCTION

The telecommunication service market in Vietnam and particularly, in the southwest provinces of the country, has been witnessing vigorous competition between 3 giant providers, which are Vinaphone, Mobifone, and Viettel. Besides struggling for market share, these companies build their competitive advantages by focusing on human resources and specifically, highly qualified employees. It should be mentioned that in the telecommunication industry, technological advancement has not often been regarded as a competitive advantage due to the fast diffuse nature and the alternative availability. Otherwise, cultural elements serve important roles in any organization since

it is difficult or cannot be copied. Organizational culture is defined as a set of different value systems that enable the effective operation of companies (Schneider & Reichers, 1983). This creates not only the company's uniqueness and originality in terms of values, beliefs, and attractiveness on the market but also employee pride. Often, organizational culture is one of the main hooks to keep qualified employees remaining their commitment to where they are working (Armstrong & Taylor, 2020; Eldridge & Crombie, 2013; Furnham & Gunter, 1993; O'Reilly, Chatman, & Caldwell, 1991; Schein, 2010) and further is to limit human movement between competing companies.

Vinaphone business centers in Vietnam's southeast

provinces have long-time presented and developed in this area with nearly 4,000 employees, who are well-trained and equipped with professional skills. Currently, these centers have been facing the hard situation of tactics conducted by competitors to attract personnel. Therefore, securing stability in human resources and limiting the leave of employees, specifically the qualified ones, are the important missions of Vinaphone as well as any other company operating in the same industry. Therefore, this study aims to define impacting level of organizational culture on organizational commitment. Suggestions are built based on those findings are expected to provide references for managers in local business centers or companies operating in the ICT industry to deploy essential conditions to improve organizational culture, which is in line with the current business context. These suggestions aim to enhance the corporate responsibility of the local business entities in forming a positive workplace, where employees find themselves secured, proud, and loyal to where they are working for.

From the scientific contribution perspective, this study also analyzes relevant literature and theories to provide scientific evidence about the influence of organizational culture to the staff's commitment, which serves as reference for further research to be conducted. The result of this study demonstrates the empirical approach to serve managers of not only Vinaphone, but any companies located in the Southwest part of Vietnam with appropriate strategy in human resource management, which aims to attract talent and sustainable development of organizations in the context of the high competition in today market.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Organizational culture

According to Hofstede (Hofstede, 2001), organizational culture is a set of beliefs, values, working styles, and relationships that help to distinguish an organization from others. This is a widely researched topic since it relates to job satisfaction, corporate commitment, productivity, and employees' intention of resignation (Lund, 2003). Pettigrew (Pettigrew, 1979) stated different levels of organizational culture is decided by belief, values, protocols, and company records. Hence, organizational culture includes ethical standards, systems of values, beliefs, and the atmosphere at the workplace of any company (Luthans, Wahl, & Steinhaus, 1992).

Recardo and Jolly (Recardo & Jolly, 1997) believed that organizational culture is the system of values and beliefs, which are understood and shared by members within an organization. Accordingly, this can be measured with 8 dimensions: (1) Communication - the quantity and forms of communicating communication; (2) Training and development – the employer's

commitment toward the opportunities of development as well as deploying training programs to adapt employee's current or future needs of their self-development; (3) Rewards and fairness – behaviors worth rewarding with forms of rewards specified, such as personally or collectively. Moreover, this extends to the criteria applied for promotion as well as evaluating task completion; (4) Decision making - decisions are made based on the consideration of questions such as how is this decision made? How problems are resolved? What is the speed of the decision-making process? What is the power distance of an organization in the decision-making process? Power to make decisions is the central base or disseminated base? (5) Risk acceptance – creativity and innovation are appreciated and rewarded, and risks and new ideas are accepted and encouraged. Furthermore, this also identifies the status in an organization that if people are punished or motivated to try new ideas; (6) Orientation illustrates issues such as plans are built the for the short or long term? What is the orientation for plans? What vision, strategy, or objectives can be shared with employees? Which level that employee's commitment will meet corporate strategies as well as other organizational targets; (7) Team working - this perspective relates to the importance, formality, and efficiency of team working activities in an organization, which include the importance of inter-department cooperation, the trust between functional units or level of mutual supporting to complete tasks, and (8) Management policies - this measures the fairness and integrity of implemented policies, the influence of managing styles to employees and level in management providing a secured workplace.

2.2. Organizational commitment

Meyer, Allen, and Smith (Meyer, Allen, & Smith, 1993) defined organizational commitment as working for and participating in the business of the company. Apart from daily striving for company success, employees have to protect the company's assets and strongly believe in business targets as well as the philosophy that the company set. Additionally, Cohen, Manion, and Morrison (Cohen, Manion, & Morrison, 2002) regarded organizational commitment as an employee's loyalty to the company. They are ready to make the best effort for the company's targets, and values and wish to remain an integral part of the company. From these opinions, organizational commitment can be briefed as to the employee's attitude of being ready to positively work for the company, feeling proud as being a company member, and engaging themselves solidly with the company.

From the psychological perspective, these authors enhanced organizational commitment is a psychological status showing an employee's relationship to their company, which strongly relates to decisions of keeping this employee remaining in an

organization (Allen & Meyer, 1990). This is also a promise of an individual to an organization including the commitment to work, loyalty, and belief in organizational values. Mowday, Steers, and Porter (Mowday, Steers, & Porter, 1979) specified organizational commitment is a strength that will be born once an employee identifies himself with the values of an organization, and is the proactive participation demonstrated by employees in all activities of a company's business. In line with this, employees with high expression in the attitude of organizational commitment will tend to be more satisfied with their jobs, while less rejecting assigned tasks as well as resigning from the organization. The research conducted by Rajendran Muthuveloo and Raduan Che Rose (Muthuveloo & Rose, 2005) pointed out that the higher the organizational commitment employees show, the higher their loyalty to the company expressed. This effect helps to reduce working tension and minimize the employee's resignation. Employees who are committed will not only have less intention to find another job, but on the other hand, they will work with higher productivity (Stup, 2006).

2.3. Impact of organizational culture on organizational commitment

Organizational culture creates a positive working environment as well as job inspiration. A company with good organizational culture, where colleagues are kind and managers provide the best working conditions, will be a hook to keep employees strongly engaged with the company. Thus, it can be said that organizational culture is an energetic source providing the employee with more enthusiasm for expressing their organizational commitment. Their work spirit, motivation, loyalty, and working modality should be sown and nurtured within the organizational culture. Once a company defines stability and sustainable development as key objectives, its organizational culture should be innovated toward facilitating organizational commitment. The works of Shinichi, Kubo, and Miyajima (Hirota, Kubo, & Miyajima, 2007) proved that the company's culture and values increase the task fulfillment, and companies obtain competitive advantages thanks to their cultural significance. In sum, organizational culture is a distinct factor enabling the competitive advantage of a company.

Khan, Asghar, and Zaheew (Khan, Asghar, & Zheer, 2014) found that the number of committed employees in companies that are embedded with distinct organizational cultures is much greater than in others, whose organizational cultures in their business operations are faded or blurred. Additionally, employees who work in companies where they: receive respect from others; are encouraged to work hard with creativity and teamwork; are allowed to participate in ideas and join team work, and will tend to engage more solidly with the company. Organizational culture also impacts employee commitment via management policies such as salary, bonuses, respecting workers as well as the fairness,

integrity between policies, and the efficiency in the decision-making process (Manetje & Nico, 2009).

Recardo and Jolly (Recardo & Jolly, 1997), Meyer and Allen (Meyer & Allen, 1991) argued and then performed empirical studies to conclude that organizational culture impacts the employee's commitment to the organization, which is measured by 8 specific components: (1) Organizational communication; (2) training and development; (3) Rewards and recognition; (4) Efficiency in decision-making process; (5) Risk acceptance in creativity and innovation; (6) Future orientation and planning; (7) team working; (8) Fairness and integrity in management policies. Similarly, Bozlagan, Dogan, and Daoudov (Bozlagan, Dogan, & Daoudov, 2010) pointed out the important roles of cultural elements in organizational commitment. These increase employee satisfaction, improving the atmosphere in the company positively and increasing the income of employees. Some benefits can be further listed in this study such as remaining employees' commitment and increasing team working spirit in the company; increasing employees' productivity, improving employees' belief in the company. These enable the company to be flexible in dealing with difficulties and thus contribute to the development of the company. Therefore, qualified employees who contribute and commit lastingly to the organization can facilitate the production of new products or services with high quality and competitive prices (Huynh, 2022).

In the opposite direction, organizational commitment is also regarded as an element of organizational culture, which is deemed as an accelerator to foster not only the relationship between employees but also between employees and the company (Ramdhani, Ramdhani, & Ainisyifa, 2017). As specified by Meyer and Allen (Meyer & Allen, 1984), an employee's commitment is significantly determined by the richness of traditions and culture. It's worth mentioning that organizational commitment is one of the most important factors in a company's performance since it illustrates the extent to which employees engage with the company and complete the company's objectives (Owoyemi, Oyelere, Elegbede, & Gbajumo-Sheriff, 2011). This relates to the loyalty that these employees demonstrate to the company as well as an act under the company's assignments to complete objectives and obtain expected values (Messner, 2013). Communicating, cooperating and team working, training and development, freedom to creativity, rewarding and recognizing, fairness in policies, and orientation for future planning are determinants positively forecasting perspectives of company culture (Jain & Moreno, 2015). Cross-national studies such by Porter, Mowday, Steers, and Boulian (Porter, Steers, Mowday, & Boulian, 1974); were conducted in sectors of human resources management, Mowday, Steers, and Porter (Mowday et al., 1979) in organizational industry/

psychology and organizational behaviors, also mentioned and confirmed that similar statement by providing evidence that employee's loyalty can have a positive impact on revenue of the company (Benkhoff, 1997; Meyer et al., 1993).

2.4. Researched model

Based on the theoretical framework presented in the literature review, authors have inherited a selective approach to models suggested by studies by Recardo

and Jolly (1997); Meyer and Allen (1991); and Jain and Moreno (2015). Accordingly, a researched model with factors impacting organizational commitments applies to Vinaphone's employee commitment as shown in Figure 1, including (1) Organizational communication, (2) Training and development, (3) Rewards and recognition, (4) Risk acceptance in creativity and innovation, (5) Team working, (6) Future orientation and planning, (7) Fairness and integrity in management policies, and (8) Efficiency in decision making.

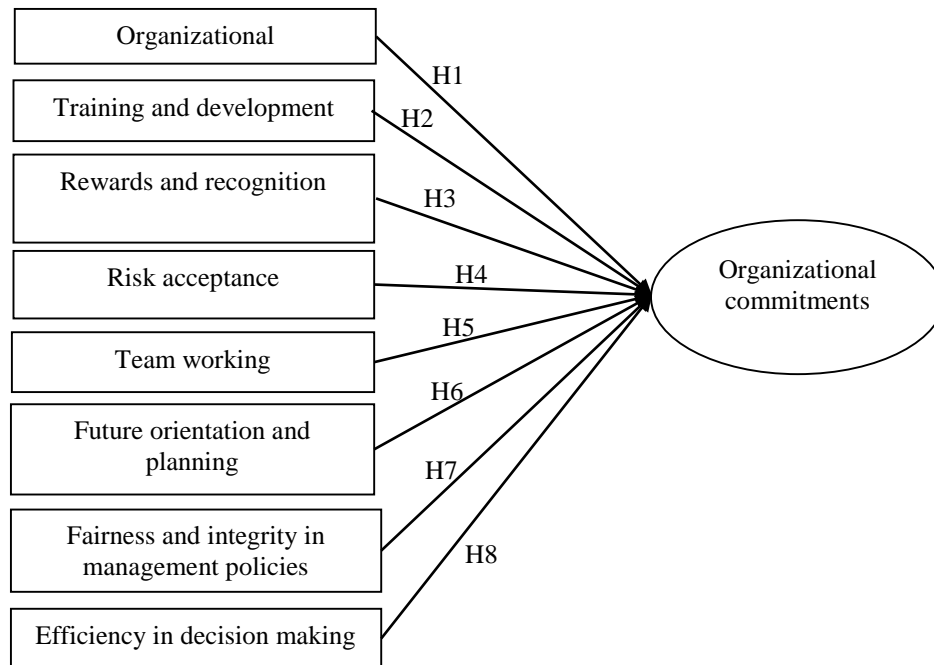


Fig. 1: Researched model

Source: Authors' proposal

3. METHODOLOGY

This research was carried out in two phases including preliminary and then formal research. During these phases, secondary data serving for this research were collected from the business reports of Vinaphone business centers located in the southwest provinces of Vietnam. The primary data were from a survey conducted by convenience sampling method, which had been implemented from September 2021 to January 2022. The sample size was determined at 405 official employees with over 3 years working in Vinaphone business centers. To get this number, 450 survey forms had been sent out for fulfilling and unqualified samples were removed after the cleaning process. The remaining qualified samples were then served to be analyzed with certain details as follows: Gender classification: 205 males (50.6%) and 200 females (49.4%); Age classification: 243 were from 26-35 (60%), 90 were from 36-45 (22%), and 72 were over 45 (18%); Position classification: 48 were managers (12%) and the remaining 357 were staff (88%). The allocation of these samples is matched with the reality of the percentage of

managers in every Vinaphone business center (approximately from 10-12%).

Descriptive analysis and factor analysis methods were employed to determine the cultural factors impacting the commitment of staff in Vinaphone business centers in the southwest provinces of Vietnam. Analyses carried include Cronbach's alpha analysis, exploratory factor analysis - EFA, multiple regression techniques, and testing of research hypotheses.

4. RESULTS AND DISCUSSION

4.1. Result

4.1.1. Measuring of scale reliability by Cronbach alpha test

The result of the Cronbach alpha test shown in table 3.1 means that all measurement scales for variables are satisfied. Since the observing variables of all scales have the coefficient of Corrected item-total Correlation greater than 0.3 and the Cronbach alpha's coefficient greater than 0.6, it is satisfied to perform exploratory factor analysis.

(See Table 1. Item-Total Statistics in the appendices).

4.1.2. Exploratory Factor Analysis

Exploratory factor analysis is applied for all independent variables simultaneously rather than separately as performed in preliminary analysis of building measurement scales. Due to the large sample size ($n = 405$) of formal research, it is thus reliable to perform EFA. With these, EFA is thus secured since this is a statistical method used to uncover the underlying structure of a relatively large set of variables. With this in mind, the authors conducted principal components analysis with varimax rotation. Result showed that factor analysis is appropriate with data ($KMO = 0.871$) and observing variable are correlated in general ($Sig = 0.000 < 0.05$). The total variance explained extracted from 31 observing variables of measurement scales for organizational culture (including 8 factors) and organizational commitment was 62.877%, which is $\geq 50\%$ ($>60\%$ is good). Therefore, extracted factors meet the requirements of values.

(See Table 2. Rotated factor matrix in the appendices).

This number of extracted factors is suitable with predeterminants of measurement scale for organizational culture (8 variables) and organizational commitment. Hence, the independent variables researched in this case achieved distinct values. In addition to this, we can see in these results that factor No. 1 includes 4 observing variables (Q5.2, Q5.1, Q5.3, Q5.4), which belong to Team working; factor No. 2 includes 4 observing variables (Q3.3, Q3.2, Q3.1, Q3.4) belong to Rewards and recognition; factor No. 3 includes 4 observing variables (Q1.2, Q1.3, Q1.1, Q1.4) belong to Organizational communication; factor No. 4 includes 4 observing variables (Q8.3, Q8.2, Q8.4, Q8.1) belonging to Efficiency in decision making; factor No. 5 includes 4 observing variables (Q2.3, Q2.2, Q2.4, Q2.1) belonging to Training and development; factor No. 6 includes 3 observing variables (Q7.2, Q7.1, Q7.3) belonging to Fairness and integrity in management policies; factor No. 7 includes 3 observing variables (Q4.3, Q4.2, Q4.4) belonging to Risk acceptance in creativity and innovation; factor No. 8 includes 2 observing variables (6.4 and 6.3) belonging to Future orientation and planning. Comparing to observing variables of measurement scales in the official researched model, we can see that all observing variables belong to measurement scales in the preliminary researched model. Therefore, these measurement scales fit in terms of factor analysis.

4.1.3. Regression analysis and hypotheses testing

Linear regression analysis defines the strength that independent variables demonstrate on dependent variables. Based on the theoretical framework and analysis result of Pearson's correlation coefficient stated above, we will perform multiple linear regression

analyses with all independent variables in the research model, which are inputted at the same time (Enter). The regression analysis result also showed that there was no multicollinearity between independent variables ($VIF < 2$).

(See Table 3. Result of analysis of cultural factors impacting on organizational commitment of staff in the appendices).

F-test (ANOVA analysis table) showed that $sig. = 0.000$ (table 4). Thus, the regression model is fit. This result is similar to the result in analyzing the correlation matrix showing that there is no high correlation between independent variables. According to the provided results, $Sig. F Change = 0,00$ and adjusted $R^2 = 0.527$ illustrate that the regression model is fit to test the theoretical model. Simultaneously, this explains 53% of the different independent variables – Organizational commitment.

(See Table 4. Model summary in the appendices).

The regression result showed that factors with a statistical significance of $p < 0.05$, which means the reliability is 95% including (1) Organizational communication; (2) Training and development; (3) Rewards and recognition; (4) Risk acceptance from creativity and innovation; (5) Team working; (6) Fairness and integrity in management policies; (7) Efficiency in decision making. The factor of Future orientation and planning is not statistically significant in the analyzed model due to $sig = 0.782 (> 0.05)$.

After deleting the Future orientation and planning variable, the authors repeated conducting regression analysis with 7 independent variables of organizational culture together with a dependent variable of organizational commitment. The result of the second regression analysis showed that there was no multicollinearity between independent variables since F-test (ANOVA analysis table) showed $sig. = 0.000$ and ($VIF < 2$), adjusted $R^2 = 0.528$, which means the model fit reached 53% and components in this model are secured in terms of statistical significance ($sig. F = 0.000$).

(See Table 5. Summary results of second regression analysis in the appendices).

Regression coefficients of 7 organizational culture factor were extracted specifically: (1) Organizational communication ($\beta = 0.213$; $p < 0.05$); (2) Training and development ($\beta = 0.177$; $p < 0.05$); (3) Rewards and recognition ($\beta = 0,116$; $p < 0.05$); (4) Risk acceptance from creativity and innovation ($\beta = 0.078$; $p < 0.05$); (5) Team working ($\beta = 0.286$; $p < 0.05$); (6) Fairness and integrity in management policies ($\beta = 0.163$; $p < 0.05$); (7) Efficiency in decision making ($\beta = 0.084$; $p < 0.05$). These 7 factors impact positively to the employee's organizational commitment.

Results demonstrating relationship between factors and employee's organizational commitment can be

obtained through normalized regression equation: $CKGB = 0.213GT + 0.177DTPT + 0.116PTCN + 0.078CNRR + 0.286LVN + 0.163CB + 0.084HQ$. Regression analysis provides similar results as descriptive analysis and correlation analysis. Generally, employees' commitment level in Vinaphone business center located in southwest provinces is good. The matching between descriptive analysis and regression analysis underlines this result as a strong answer to research questions.

4.2. Discussion

Based on the analysis results and comparing to the hypotheses in the researched model, the authors propose some identifications:

H1: There is a positive correlation between Organizational communication and Organizational commitment. Regression results showed that regression coefficient $\beta = 0.213$ with $\text{sig} = 0.000$, thus Organizational communication and Organizational commitment positively relate to each other.

H2: Training and development and Organizational commitment correlate positively. Regression result $\beta = 0.177$ with $\text{sig} = 0.000$, hence Training and development and Organizational commitment have a positive relationship.

H3: Between Rewarding and recognition and Organizational commitment exists a positive correlation. With regression result $\beta = 0.116$ with $\text{sig} = 0.001$, these variables therefore have positive relationship. This means that if employees believe that they are rewarded for their outstanding performance and what they receive deserving of their contribution, they will maintain high working performance, strive harder for achievements, and lastingly commit to the company.

H4: There is a positive correlation between Risk acceptance in creativity and innovation and Organizational commitment. The regression results are $\beta = 0.178$ and $\text{sig} = 0.039$, hence there is a positive relationship between Risk acceptance in creativity and innovation and Organizational commitment.

H5: There is a positive correlation between Team working and Organizational commitment. Regression analysis results $\beta = 0.286$ and $\text{sig} = 0.000$ show that between Team working and Organizational commitment exists a positive relationship. This reflects the collaboration between employees for the common objectives of the company. When employees are eligible to work in an open and free atmosphere with mutual support from colleagues, their beliefs will increase. Thence, their intention to leave the company to join another will be limited.

H6: There is a positive correlation between Future orientation and planning and Organizational commitment. Regression analysis results showed $\beta = 0.011$ with $\text{sig} = 0.782$ hence this hypothesis is rejected.

H7: There is a positive correlation between Fairness and integrity in management policies and Organizational commitment. The regression results $\beta = 0.163$ and $\text{sig} = 0.000$. Hence, the relationship between Fairness and integrity in management policies and Organizational commitment is positive.

H8: There is a positive correlation between Efficiency in decision making and Organizational commitment. The regression analysis result $\beta = 0.084$ and $\text{sig} = 0.036$. Therefore, Efficiency in decision making and Organizational commitment have a positive relationship.

To test the organizational commitment of employees from the perspectives of gender, marital status, position, and income, the authors perform an ANOVA analysis of H9 - there is a certain difference in the organizational commitment of employees in Vinaphone business centers located in southwest provinces of Vietnam classified by gender, marital status, position, and income. Since the collected samples were specified by 205 males and 200 females, the sample size of these compared groups is large (>30) and thus can be regarded as nearly reaching the level of normal distribution. The result of performing the Levene test is $\text{sig} > 0.05$ ($\text{sig} = 0.698$), so it can be said that the variance of the non-difference in the organizational commitment of the two groups (male and female) is significant. T-test employ results of Equal variances assumed with $\text{sig} > 0.05$ ($\text{sig} = 0.283$), therefore there is no difference in organizational commitment from the gender perspective. When performing an independent-samples T-test about the difference in organizational commitment from the perspective of marital status, the result of the Levene test $\text{sig} > 0.05$ ($\text{sig} = 0.225$). This result showed that the variance of the non-difference in an organizational commitment based on marital status is significant. T-test employed results of Equal variances assumed with $\text{sig} > 0.05$ ($\text{sig} = 0.742$), so we can conclude that there is no difference in the organizational commitment from the perspective of marital status.

Similarly, Since the result of the Levene test is $\text{sig} > 0.05$ ($\text{sig} = 0.800$), it can be concluded that the variance of the difference between staff and managers is significant from the perspective of positions in a company. Therefore, the T-test performed with results of equal variances assumed provided $\text{sig} > 0.05$ ($\text{sig} = 0.934$) thus there is no difference in organizational commitment from the perspective of different positions in the company.

When performing ANOVA analysis for groups with income less than 5 million VND/ month (<218 USD/ month) and groups with income over 10 million VND/ month (>435 USD/ month), the results showed that there is a difference with statistical significance between these group ($\text{sig} = 0.016$) since the level of significance observed in the mean difference test < 0.05 . Therefore, it can be concluded that the organizational commitment of

employees with an income of less than 5 million VND/month is different from ones with an income of more than 10 million VND/month.

5. CONCLUSION

The results of this study deliver 2 main findings, which conclude on the measurement and the theoretical model. In terms of the result of measurement: there are two researched variables are latent ones, in which there is one multi-dimensional variable including factors of organizational culture and measured through 8 components (Organizational Communication, Training, and development, Rewards, and recognition, Risk acceptance by creativity and innovation, team working, Future orientation and planning, Fairness and integrity in management policies, Efficiency in decision making), and 1 single-dimension which is organizational commitment.

In terms of the theoretical model: the regression results showed that the model is fit and 7 main factors are defined with impact on the organizational commitment of employees, which are Organizational communication, Training, and development, Rewards and recognition, Risk acceptance by creativity, and innovation, team working, Fairness and integrity in management policies, Efficiency in decision making. Among these, team working has the strongest impact while the weakest one is Risk acceptance in creativity and innovation. Descriptive analysis results showed that employees less evaluate organizational culture through its elements and the commitment level of employees in Vinaphone business center located in the southwest province of Vietnam is good. Besides, research also showed that there is no difference in the organizational commitment between male and female, single and married, managers and staff. However, there is a certain difference between groups with different incomes (less than 5 million/month and more than 10 million/month).

Based on these results, the authors suggest some ideas in policymaking for Vinaphone business centers located in southwest Vietnam, accordingly:

- First, organizational communication is one of the stimulators with a positive impact on the productivity of each labor. Managers of these centers should enable effective communication in the company with particular communication channels between employee-employee and employee-managers to facilitate the most the employee productivity.

- Secondly, training and development should be regarded as prerequisites impacting the existence of the company as well as its development in the modern market. This will help to increase productivity, facilitate production, and increase stability as well as dynamics of the company.

- Thirdly, the business centers should fairly consider and implement policies in evaluating employee performance. From this, deserving rewards should be

granted to outstanding employees for their efforts and contribution. It is essential to have an income distribution system and promotion policies, which are suitable for each group of employees. When income distribution is fairly considered based on the necessity of the job and required skills, this will result in more satisfaction among employees. Besides, centers should introduce fairness in promotion opportunities for every employee.

- Fourth, the culture of creativity and innovation was born to create a frog leap development for the company. However, creativity or innovation is also a process with risks that maybe happened. To have a successful idea, a great number of other ideas are developed and failed so a new idea or method is often unwelcomed for the first time it has been introduced. Therefore, the managers of the business center should accept more risks to improve this factor.

- Fifth, improving team working to create collective strength since the success of a company cannot rely on one or a specific group of individuals. Rather, the entire efforts of all employees are needed. Each employee or unit should set their point of view from the general company's benefits. Thus, the managers of centers should define the team working model as an essentiality in the business operation and previously plan components of a team in terms of objective, positions, power, structure, and human. The business centers should maintain effective team working models, which means forming a good culture for the organization of sharing and cooperating based on fair relationships.

- Sixth, a successful leader cannot neglect fairness and integrity in action to obtain the highest objective in managing. All standards of jobs should be transparent and communicated to the company. Once publicizing these, on one hand, will create a motivation for individual freedom of creativity, and transform themselves for higher productivity, on the other hand, will ease the process of assessing and managing staff. The integrity in all company's policies such as employment, training, rewards and annual salary increase is basic and needs to be concerned.

- Seventh: the most difficult task of the leader is to make decisions. Efficiency in decision-making is one of the most important skills of businessmen, which can be started by identifying problems that need to be resolved. A reasonable time is needed to identify specific situations and then is to prioritize the tasks to resolve. It should not be a hustle in making a decision but rather, a throughout consideration of the importance of such a problem is needed. Every decision of leaders should lead to a future vision concerning the past, but not let the past disturbs such a decision-making process. Good leaders are one who always learns from past failures and successes. Additionally, they listen to collect information and encourage staff to participate in the decision-making process, then consider options with all possibilities.

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Appendices

Table 1: Item-Total Statistics

Observing variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Organizational communication		Cronbach's Alpha =0.801		
Q1.1	11.16	3.358	0.646	0.732
Q1.2	11.11	3.285	0.646	0.732
Q1.3	11.21	3.321	0.637	0.737
Q1.4	11.32	3.911	0.523	0.790
Training and development		Cronbach's Alpha = 0.735		
Q2.1	10.97	3.342	0.468	0.701
Q2.2	10.90	3.025	0.595	0.624
Q2.3	10.98	3.250	0.572	0.642
Q2.4	11.03	3.483	0.454	0.707
Rewards and recognition		Cronbach's Alpha = 0.801		
Q3.1	11.36	3.685	0.604	0.756
Q3.2	11.28	3.687	0.627	0.746
Q3.3	11.35	3.524	0.644	0.737
Q3.4	11.32	3.642	0.584	0.767
Risk acceptance in creativity and innovation		Cronbach's Alpha = 0.693		
Q4.1	7.44	1.864	0.465	0.650
Q4.2	7.43	1.643	0.569	0.513
Q4.3	7.42	1.857	0.487	0.623
Team working		Cronbach's Alpha = 0.805		
Q5.1	11.55	3.268	0.589	0.767
Q5.2	11.36	3.104	0.646	0.740
Q5.3	11.34	3.166	0.649	0.739
Q5.4	11.39	3.245	0.586	0.769

Future orientation and planning		Cronbach's Alpha = .735		
Q6.1	10.99	3.250	0.438	0.687
Q6.2	10.97	3.065	0.541	0.624
Q6.3	11.00	3.101	0.525	0.634
Q6.4	10.98	3.156	0.494	0.653
Fairness and integrity in management policies		Cronbach's Alpha = 0.781		
Q7.1	10.75	3.465	0.442	0.644
Q7.2	10.75	3.408	0.503	0.606
Q7.3	10.75	3.289	0.502	0.605
Q7.4	10.72	3.416	0.445	0.642
Efficiency in decision making		Cronbach's Alpha = 0.809		
Q8.1	11.42	3.615	0.577	0.767
Q8.2	11.41	3.442	0.627	0.743
Q8.3	11.42	3.414	0.629	0.742
Q8.4	11.39	3.298	0.619	0.747
Organizational commitments		Cronbach's Alpha = 0.866		
Q9.1	18.89	12.725	0.574	0.872
Q9.2	18.80	11.379	0.685	0.855
Q9.3	18.80	11.030	0.716	0.850
Q9.4	18.78	11.141	0.699	0.852
Q9.5	18.80	11.073	0.740	0.845
Q9.6	18.79	11.466	0.678	0.856

Source: Authors' analysis

Table 2: Rotated factor matrix

	Component							
	1	2	3	4	5	6	7	8
Q5.2	.783							
Q5.1	.743							
Q5.3	.743							
Q5.4	.675							
Q3.3		.792						
Q3.2		.770						
Q3.1		.758						
Q3.4		.751						
Q1.2			.771					
Q1.3			.750					
Q1.1			.731					
Q1.4			.724					

	Component							
	1	2	3	4	5	6	7	8
Q8.3				.767				
Q8.2				.755				
Q8.4				.716				
Q8.1				.683				
Q2.3					.749			
Q2.2					.720			
Q2.4					.603			
Q2.1					.554			
Q7.2						.763		
Q7.1						.703		
Q7.3						.597		
Q4.3							.789	
Q4.2							.744	
Q4.4							.606	
Q6.4								.783
Q6.3								.705
Extraction Method: Principal Component Analysis.								
Rotation Method: Varimax with Kaiser Normalization.								
a. Rotation converged in 8 iterations.								

Source: Author's calculation

Table 3: Result of analysis of cultural factors impacting on organizational commitment of staff

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIEW
1	(Constant)	-0.923	0.215		-4.292	0.000		
	Organizational commitment	0.236	0.042	0.212	5.582	0.000	0.719	1.391
	Training and development	0.202	0.046	0.174	4.418	0.000	0.668	1.496
	Rewards and recognition	0.127	0.039	0.116	3.286	0.001	0.829	1.207
	Risk acceptance in creativity and innovation	0.083	0.041	0.077	2.044	0.042	0.729	1.372
	Team working	0.330	0.046	0.284	7.130	0.000	0.653	1.531
	Future orientation and planning	0.011	0.038	0.011	0.276	0.782	0.717	1.396
	Fairness and integrity in management decision	0.175	0.041	0.161	4.315	0.000	0.744	1.345
	Efficiency in decision making	0.095	0.045	0.085	2.113	0.035	0.646	1.549
a. Dependent Variable: CAMKET_GANBO								

Source: Author's calculation

Table 4: Model summary

R	R Square	Adjusted R Square	Std. The error in the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.732 ^a	.535	.527	.46023	.535	64.345	8	447	.000

Source: Authors' calculation

Table 5: Summary results of second regression analysis

R	R Square	Adjusted Square	R Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.732 ^a	.535	.528	.45975	.535	73.679	7	448	.000

Source: Author's calculation

INNOVATIVE HUMAN RESOURCE MANAGEMENT PRACTICES: HOW DO TOURISM AND HOSPITALITY BUSINESS ENTERPRISES RECOVER POST COVID-19

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Research purpose:

The study aims to explore HRM practices and challenges facing them in the recovery phase of a crisis, particularly post Covid-19

Research motivation:

Despite the importance of HRM contributing to the survival of employees and organizations in a crisis, practices of HRM in the recovery phase of a crisis as well as challenges facing such practices have not yet been well explored or examined in the literature. This absent literature is a major reason for this study.

Research design, approach and method:

A qualitative research approach was adopted with 20 in-depth interviews with managerial personnel of various T&H business organizations being conducted in three major tourist cities in Central Vietnam in May and Jun 2020. A combination of purposive, snowball, and quota sampling techniques were employed and thematic analysis was adopted to analyze data.

Main findings:

Practices of recruitment and training, talent management and performance management are important in the recovery phase. Three biggest challenges facing such practices are health and safety of employees, resilience capacity of organizations and finance resource

Practical/managerial implications:

This study a step towards changing the perceptions and behaviors of entrepreneurs in investing in HR policies which help their businesses grow stronger in the recovery phase.

Keywords: *Human resource management, post Covid-19, crisis managent, talent management, performance management*

IMPACT OF EMOTIONAL INTELLIGENCE ON EMPLOYEES' JOB PERFORMANCE: A CASE STUDY OF FPT TELECOM JOINT STOCK COMPANY

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Research purpose:

The study investigated the relationships of the five dimensions of emotional intelligence: self-awareness, self-regulation, motivation, empathy, and social skills of employees to their job performance in the information technology industry through a case study of FPT Telecom Joint Stock company.

Research motivation:

Emotional Intelligence (EI) is one of the most critical concepts that appeared in psychology and management in the last decade. Other studies found that, the levels of emotional intelligence show a relationship between individual and organizational performance. The overall organizational performance could increase if the company are conscious of EI and promote it within staff. Emotional intelligence is a predictor of performance.

Research design, approach and method:

The research aims to determine whether or not EI has impacts on employees' job performance in the information technology industry through a case study of FPT Telecom Joint Stock company. The mixed- model is applied for measuring EI's scales. About 300 questionnaires were contributed to respondents, out of which 210 were collected for the analysis. Statistical Package software for Social Science (SPSS) will be applied to analyze the collected data.

Main findings:

The findings indicated that the positive influence of employees' EI constitutes the most important determinant of their job performance. This is followed by empathy, motivation, self-regulation, social skills, and self-awareness.

Practical/managerial implications:

The results underline the importance of EI and its effects on work situations. Some recommendations were suggested to improve employees' EI in the organization. People should develop and improve their emotional intelligence through a systematic and consistent approach to achieve high performance and competitive advantage. Furthermore, the organizations add an EI training program in boosting employees' emotional competencies. They should first recognize the importance of emotional intelligence in strengthening human capital, leading to higher overall performance.

Keywords: *Emotional Intelligence, employees' job performance, mixed-model of emotional intelligence*

A MULTI-GROUP ANALYSIS OF THE IMPACT OF LEAN MANUFACTURING PRACTICES ON OPERATIONAL PERFORMANCE: DOES THE NATIONAL CULTURE MATTER?

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Research Purpose:

Although there are abundant studies addressing the technical aspects of lean manufacturing, few have been done to examine the influence of national culture on its effectiveness. Moreover, the “true” relationship between national culture and operational performance from practising lean manufacturing is probably non-linear, thus leading to an inconsistent role of national culture in previous research. By employing multi-group invariance analyses that do not face the strict assumption of linearity relationships, this study aims to investigate how the impact of lean manufacturing practices on operational performance differs across groups with different national cultural dimensions.

Design/methodology/approach:

Seven models associated with five cultural dimensions and two control variables (i.e. type of ownership, size of enterprise) are developed and tested based on 271 global manufacturing plants located in Vietnam.

Findings:

The results indicated that lean manufacturing is more effective in plants with a small size that value a low power distance, low uncertainty avoidance, and feminine culture. These results partially support the practice-culture congruence perspective.

Originality/value:

This study provides an alternative analytical approach to study the role of national culture and shows what specific cultural dimensions are congruent with lean manufacturing practices. These empirical results contribute to a deeper understanding of the reasons why certain companies find lean manufacturing practices difficult and/or fail to achieve their target performance.

Keywords: *Lean manufacturing, National culture, Practice-culture congruence, Hofstede’s cultural dimensions, Operational performance, Multi-group invariance analysis.*

IMPORTS OF INTERMEDIATE INPUTS AND PRODUCT INNOVATION IN ASEAN COUNTRIES

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Research purpose:

This study examines the role of imports of intermediate inputs in product innovation in the context of ASEAN countries.

Research motivation:

While there have been many studies examining the role of exporting activities on innovation, the role played by importing activities is less explored. In fact, intermediate input imports can create “learning effects” or “learning-by-importing” effects, which helps spur innovation. Therefore, investigating the role of importing activities is of particular interest. This study contributes to a better understanding of this role of imports of intermediate inputs, which has not been extensively studied in the innovation literature.

Research design, approach, and method:

The study uses data from the “Enterprise Survey” (ES) by the World Bank, which is a large survey covering more than 135,000 firms in 135 countries. This study uses the most recent data of five large ASEAN countries (i.e., Indonesia, Malaysia, the Philippines, Thailand, and Vietnam) in 2015-2016, which forms a cross-sectional sample of 3,928 firms. Several ordinal regression models are utilized in the empirical estimation.

Main findings:

The finding shows that imports of intermediate inputs have a significant and positive influence on the possibility of radical product innovation.

Practical/managerial implications:

The result suggests that firms should consider importing high-quality inputs to learn from new, advanced, and relevant technologies embedded in these inputs for the development of new products.

Keywords: ASEAN, Imports of intermediate inputs, Product innovation

THE IMPACT OF TIKTOK UGC VIDEOS ON ONLINE PURCHASE INTENTION IN HO CHI MINH CITY

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Research purpose:

By applying Stimulus - Organism - Response model, this paper examines the effect of UGC videos on online purchase intention. Moreover, the mediating role of cognitive responses, consisting of perceived credibility, perceived diagnosticity, and mental imagery, is also examined.

Research motivation:

UGC videos have received considerable attention in recent years due to their great potential for buyers and sellers; however, the effect of this content on consumer behaviour remains unclear, especially in the context of developing countries (e.g., Vietnam).

Research design, approach, and method:

A convenience sampling method was employed to collect the data. A total of 318 valid respondents participated in this survey. Data were analysed with the partial least squares-structural equation modelling method (PLS-SEM).

Main findings:

The findings show that UGC videos have a direct impact on online purchase intention. This paper also verified that cognitive states mediate the relationship of stimuli and subsequent behavioural intention.

Practical/managerial implications:

The findings of our study have strong practical implications by informing businesses and marketers of the importance of UGC videos with regard to consumer online purchase intention and the critical role of consumers' cognitive states in online shopping.

Keywords: *S-O-R model, UGC videos, online purchase intention, Ho Chi Minh City.*

A SEQUENTIAL MODEL OF EVENT STRENGTH'S INFLUENCE ON EMPLOYEE WORKPLACE PSYCHOLOGICAL NEEDS, EMOTIONAL EXHAUSTION, AND COUNTERPRODUCTIVE BEHAVIORS: EVIDENCE FROM THE COVID-19 PANDEMIC EVENT

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Research purpose:

The world has been jeopardized by a variety of events, especially the latest Covid-19 pandemic which requires great attention and adaptation from organizations to deal with its consequences. Drawing upon the Event System Theory (EST), this study examines the impact of event strength on two workplace psychological needs (including work-related loneliness and job insecurity) which in turn induce emotional exhaustion and then leads to minor counterproductive behaviors of employees.

Research motivation:

While damaging events have substantial impacts on societies, little is known about the effects that an event might have on work-related psychological needs, emotions, and behaviors of employees. Also, prior researchers have not deeply studied the serial effects of an event, therefore this study is motivated to investigate a comprehensive, sequential model for event strength and its consequences.

Research design, approach, and method:

With the data collected from 301 employees working in different companies in Ho Chi Minh City, the technique of Partial Least Square Structural Equation Model (PLS-SEM) with a two-stage approach is employed to test the research hypotheses.

Main findings:

The findings reveal that event strength with three dimensions (event novelty, event disruption, and event criticality) significantly increases workplace loneliness and job insecurity. The depletion of these two psychological needs then strongly provokes employees' emotional exhaustion, thus leading to the undesired consequence of minor counterproductive workplace behaviors. This study also acknowledges and considers the disproportionate impacts that an event like COVID 19 may have on employees depending on their demographic characteristics.

Practical/managerial implications:

This study makes a critical contribution to the field of human resource management study by developing and investigating a theory-driven model to explain how an external event impact employees' needs, emotions, and behaviors at workplaces. In addition, by empirically validating the proposed model, we not only support the applicability of the theory in the context of the Covid-19 pandemic event, but also offer practical knowledge for managerial practitioners to design policy adjustments when there is an unknown event happening in the future.

Keywords: *Event system theory, Employee workplace behaviors, Workplace loneliness, Job insecurity, Emotional exhaustion, Sequential model*

PSYCHOLOGICAL CONTRACT FULFILLMENT LIKING PERCEIVED CORPORATION SOCIAL RESPONSIBILITY AND JOB SATISFACTION: THE MODERATING ROLE OF ATTACHMENT STYLES

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Research purpose:

This study aims to contribute a more comprehensive understanding of the role of employees' perceived CSR toward job satisfaction by clarifying the direct and indirect effects of CSR on job satisfaction with psychological contract fulfillment as a mediator. Another essential purpose of this study is to see whether attachment styles moderate the relationship between CSR and psychological contract fulfillment.

Research motivation:

Earlier research in this field frequently provided an inadequate justification of the circumstances under which CSR perception favorably affects employees' job satisfaction. This study will investigate the mediating role of psychological contract fulfillment in the relationship between CSR and job satisfaction in luxury hotels. This study also considers attachment styles as a moderator in the model.

Research design, approach, and method:

A self-administered survey will be conducted to gather a sample of 400 employees from luxury hotels in Vietnam. The validity and reliability of the studied constructs and the presented hypotheses will be tested using the partial least squares structural equation modeling (PLS-SEM) with SmartPLS version 3.

Main findings:

The study is expected to confirm that CSR positively influences job satisfaction with the mediating role of psychological contract fulfillment. Moreover, attachment styles are expected to moderate the influence of CSR on psychological contract fulfillment.

Practical/managerial implications:

The research is expected to provide managers with an understanding of the link between perceived CSR and job satisfaction with psychological contract fulfillment as a mediator under the moderating role of attachment styles in order to develop effective policies to increase positive perceptions of CSR.

Keywords: *Perceived CSR, psychological contract fulfillment, job satisfaction, direct and indirect effects, luxury hotels.*

1. INTRODUCTION

The luxury travel market is the fastest-growing segment of the global travel industry (Demir & Saribaş, 2014), and luxury hospitality holds the third-largest market share in the global luxury goods market (Amatulli et al., 2021; Peng & Chen, 2019). According to Amatulli et al. (2020), the emergence of experiential luxury, which covers categories such as high-quality food and beverages, private vacations, and luxury

hotels, is one of the most significant trends defining the luxury sector in the present day. While a high level of comfort, service, and exclusivity remain essential factors for luxury travelers, experiential travel and sustainability are gaining increasing importance (Demir & Saribaş, 2014). Recent evaluations on these themes, however, have centered on luxury services in general (Wirtz et al., 2020), including a wide range of criteria related to luxury travel and customer experiences abroad

(Iloranta, 2022), such as exclusivity, quality, personalization, and expansiveness, among others. Additionally, Chu et al. (2016) contend that only a small amount of academic research has concentrated on luxury hotels' unique and varied characteristics. Therefore, the literature acknowledges that these themes require additional research and explanation (Alonso-Almeida et al., 2018; Chu et al., 2016; Luna-Cortés et al., 2022; Pereira et al., 2021). Participation in CSR activities is an essential feature of the luxury hospitality business, identified in previous research (e.g. Boğan & Saruşık, 2020; Cherapanukorn & Focken, 2014; Hang et al., 2021; Nazir & Islam, 2020), unfortunately, developed countries' organizational environments dominate CSR studies (Chaudhary, 2017; Fatma & Rahman, 2015). Additionally, few studies have considered internal stakeholders like employees, even though employees have been viewed as the essential stakeholder in the literature (Aguinis & Glavas, 2012). The study will examine the significance of CSR for luxury hotels in Vietnam in light of these recent changes to rely on the call for research to explore the concept of CSR in developing markets of Amos (2018).

Employee increased job satisfaction is one of the critical benefits of CSR (Choi & Choi, 2021; Kim et al., 2020), which may have good consequences on both organizations and employees. Job satisfaction (JS) motivates employees to behave positively and serve customers with care; hence, it has become crucial for providing excellent customer service and organizational effectiveness (Arnett et al., 2002). Moreover, employee satisfaction in the hotel industry has also been connected to customer satisfaction (Appiah, 2019), which is of utmost relevance, given that customer pleasure can result in more outstanding business for the luxury hotel industry. As a result, in recent years, hotels' CSR activities have focused on employees (Kim et al., 2020; Kim et al., 2017). Hotel employees are acknowledged as crucial stakeholders supporting CSR activities as they are not only in charge of carrying out CSR activities but may also serve as organization supporters to inform the customer about initiatives (Farmaki, 2018; Wong & Kim, 2020). Unsurprisingly, as a result of CSR, job satisfaction has been extensively studied in the hospitality industry (Kim et al., 2020). According to Aguinis et al. (2020), a key aspect in determining the acceptance and efficacy of CSR is how employees view and respond to CSR initiatives. Therefore, it is crucial to investigate how employees' perceptions of CSR activities at their hotel affect their job satisfaction.

As early scholars developed, psychological contracts were effective for understanding the interaction between employers and employees (Kutaula et al., 2020; Rousseau, 2001). It incorporates workplace emotions, attitudes, expectations, and the need for sensemaking (Persson & Wasieleski, 2015). Thus, corporations could, at their best, meet the majority of

employees' expectations, thereby contributing to the management of some areas Dixon-Fowler et al. (2020). Although CSR programs are driven by various stakeholders who significantly impact employee expectations, the linkages between CSR initiatives and internal stakeholders (i.e., employees) have been infrequently studied (Aguinis et al., 2020; Dixon-Fowler et al., 2020). Consequently, based on social exchange theory (SET) (Blau, 1968), we aim to determine whether employee's CSR initiatives perception can influence employee job satisfaction via psychological contract fulfillment (PCF) by examining the mechanism that mediates the relationship between employee CSR perceptions and employee job satisfaction.

Considering the significance of the relationship between employees' perception of CSR and PCF, it is essential to investigate the processes behind this relationship. However, few mediators have been examined in the relationship between employees' perceptions of CSR and PCF in the literature. The defining characteristic of a psychological contract is its subjectivity and uniqueness (Rousseau & Tijoriwala, 1998). Even when treated similarly by firms, studies indicate that employees' particular attributes influence the extent to which a psychological contract is perceived (De Vos & Meganck, 2009; Ho et al., 2004). Personal characteristics significantly determine how well individuals integrate into their organizations due to their CSR efforts (Borkowski & Ugras, 1992; Luu, 2017; Maignan & Ferrell, 2001). To expand this field of study, it is necessary to identify other elements that explain the association between employees' perceptions of CSR and PCF and to examine this relationship via various lenses (Ali & Jung, 2017).

Attachment types represent internal conceptions of the self, others, and relationships (Bartholomew & Horowitz, 1991). According to Mikulincer and Shaver (2010), while anxious people have a negative opinion of themselves, which leads to an obsessive need for reassurance from others and overdependence, avoidant people withdraw themselves from others; also want to avoid emotional contact and intimacy. Shaver and Mikulincer (2009) showed employees with high attachment anxiety want an attachment to the organization, which may increase their extra-role contributions, such as PCF, in response to CSR activities. In contrast, employees with a high level of attachment avoidance detach themselves from the organization (Albert et al., 2015) and presumably its stakeholder activities around them. Therefore, the purpose of this study is to comprehend the divergent moderating effects of attachment anxiety and avoidance on the association between CSR and PCF. Our research may be viewed as a continuation of (Luu, 2017) study on the influence of individual variations on the

relationship between CSR and individual reactions to CSR.

In short, our study aims to contribute to the CSR research field in the context of a luxury hotel in several ways. First, we expect to contribute to advancing social exchange theory at work by integrating the concept of CSR perception of employees, job satisfaction, and psychological contract fulfillment into a social exchange theory framework. Second, This study fills previous gaps by providing a better understanding of CSR impacts the employees' behavioral outcomes (i.e., job satisfaction) through the mediating effect of PCF. Third, this study also seeks to address recommendations for research to identify potential moderators in the link between employee's perception of CSR and PCF that are uniquely connected to individual differences (Gond et al., 2017), as well as to analyze attachment styles (including attachment anxiety and attachment avoidance) in light of the CSR literature (Aguinis & Glavas, 2019).

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1. Corporate social responsibility and social exchange theory

The idea of CSR has developed since it first appeared in the 1930s (Carroll, 1999), and it has caught the interest of both academics and businesses (Hine & Preuss, 2009). A agreement has not yet been achieved on the precise meaning of CSR as a meta construct, which has been the topic of research in several fields over the past quarter-century (Aguinis & Glavas, 2012; Rupp & Mallory, 2015). According to (Glavas, 2016), this circumstance might be viewed as both a challenge and an opportunity. Therefore, diverse perceptions may influence the attitudes and behaviors of stakeholders at various organisational levels.

There is no scientific agreement on how to define CSR because it is such a vast topic that spans several fields, and there are many different interpretations of the idea in the literature . However, a standard definition of CSR is performing social good that extends beyond producing money and complying with the law (McWilliams & Siegel, 2001). This thesis acknowledges the difficulty in defining CSR and views it as any social action the company takes in relation to its many stakeholders that serves a goal other than self-serving goals (Turker, 2009).

Hotel CSR is impossible to implement without the cooperation and dedication of direct client interaction workers (Aguinis et al., 2020; Filimonau et al., 2020). It is claimed that employees generate stronger sentiments and more complex perceptions in response to organizational activities directed toward them as opposed to actions directed at other social groups (De Roeck et al., 2014; El Akremi et al., 2018; Gond et al., 2017; Jones & Rupp, 2018). The service business

depends more mainly on human resources for CSR projects than other industries; hence, frontline personnel in this industry are more prone to burnout, stress, and tiredness than those in other industries (Agarwal, 2021). Therefore, service businesses should create and implement CSR management strategies that meet the demands of their employees in order to attract and retain high-quality staff.

Too far, the majority of research on CSR 'perceptions' has focused on customer perceptions (e.g.Hameed et al., 2016; Jeon et al., 2020), and some writers argue that employees have been relatively disregarded as an influential stakeholder group (Glavas, 2016; Hameed et al., 2016). According to the literature, employees are the most critical stakeholders since they have enormous control over the organization (Turker, 2009). However, a more recent study has switched its attention to employee CSR views (e.g. De Roeck et al., 2016; Islam et al., 2018; Kim et al., 2018). According to Aguilera et al. (2007), among the many stakeholder groups, employees are the most important in examining the origins and effects of CSR. If hotels do not evaluate their employees' specific CSR results, they may merely support CSR activities on the surface rather than backing these everyday chores, resulting and dissatisfaction in workplace weariness.

CSR has an innate urge to facilitate social exchange between organizations and their employees (Su & Swanson, 2019). Therefore, CSR may influence employee attitudes and actions via social exchange mechanisms (Cropanzano & Mitchell, 2005). A fundamental principle of social exchange theory is the assumption of reciprocity: if a person contributes something of value, the recipient should provide something of equal or greater value in return (Richard & Emerson, 1976). In the case of social exchange, one party delivers benefits voluntarily to the other and elicits a responsibility by delivering benefits in return (Cropanzano & Mitchell, 2005; Whitener et al., 1998). The notion of reciprocity is especially pertinent to internal corporate social responsibility, as it motivates some businesses to go beyond strategic human resource management. This will be utilised to promote employee well-being and sustainability (Farooq et al., 2014; Slack et al., 2015). Consequently, employees may feel pressured to repay these investments.

2.2. Corporate social responsibility and job satisfaction

In organizational literature, job satisfaction (JS) is characterized as a pleasant or favourable emotional state brought on by the evaluation of one's employment or job experiences (Locke, 1976). Rupp et al. (2006) hypothesised that employees' perceptions of their organization's CSR activities would influence their emotions, attitudes, and behaviours, including job satisfaction, organisational attractiveness, organisational commitment, and organisational

citizenship behaviour. Therefore, it can be assumed that such socially responsible actions can influence the attitudes of employees in the workplace, such as job satisfaction, thereby enhancing the relationships between firms and their many stakeholders.

According to Barakat et al. (2016), CSR initiatives carried out by businesses increase employee happiness. In other words, employees are more satisfied with their jobs when they perceive the corporation to be more socially responsible. According to Rupp et al. (2006), if a company has a positive public image and is well-recognized in the community, employees will be more satisfied with their working conditions. According to Greening and Turban (2000), an organization's perceived values, ethics, and social responsiveness play a crucial role in determining the corporation's attractiveness in the eyes of its employees. Thus, an organization's participation in CSR initiatives leads to improved performance in its employees' eyes and, as a result, increases employee happiness (Galbreath, 2010; Slack et al., 2015). As a result, the following theories are proposed:

H1: Employees' perception of CSR will have a positive impact on job satisfaction

2.3. Corporate social responsibility and psychological contract fulfillment

A psychological contract, according to Rousseau (1995), is "individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organizations" (p. 9). A psychological contract is unique and denotes a promise the employee perceives about the business's future intentions, which the organization may not share (DiMatteo et al., 2011). These expectations need not be clearly stated and might arise from company policies, verbal commitments, explicit remarks, and social cues (DiMatteo et al., 2011). According to (Solley et al., 1962), these expectations can exist before the employee-employer connection and may vary as the two parties' relationship changes through time (Anderson & Schalk, 1998; Rousseau, 1995).

As the concept of psychological contract fulfillment suggests that the employee-employer relationship is improved when employees think that their employer is meeting their needs and expectations at work. Due to its potential effect on employee attitudes, actions, and outcomes, psychological contract satisfaction or fulfillment is crucial (Rousseau, 1995). When employees think that their psychological contract is being met, they create an implicit duty to deepen affective and socio-emotional relationships with the company, which are likely to include higher job satisfaction and organizational commitment (Blau, 1968).

Prior research indicates that psychological contracts help determine the conditions of the social exchange

relationship between employees and their employers (Robinson & Morrison, 1995; Shore & Barksdale, 1998). These connections consist of the voluntary actions each party does with the expectation that the other party will reciprocate in some fashion (Homans, 1958). In contrast to partnerships based solely on economic transactions, social exchange connections contain duties that cannot be articulated in advance and necessitate confidence (Blau, 1968). Growing these forms of partnerships is driven by a widespread expectation of reciprocity, notwithstanding the fuzziness of their commitments. Therefore, to encourage employees to develop expectations that businesses pay adequate attention to them, care about their happiness, and provide them with ongoing fair treatment, the psychological contract explicitly outlines the fair treatment that the company should deliver to employees (Moorman et al., 1998).

Moreover, based on social exchange theory (Blau, 1968), if employees perceive their company treats external stakeholders fairly, such as by providing them with a large number of products or monetary donations, consciously adopting green behaviors to conserve resources and protect the environment; or treating internal employees with full consideration of their interests, and provides them a large number of promotion opportunities or generous benefits, employees will perceive a greater level of corporate social responsibility. In turn, this facilitates the development of high-quality social exchange ties between employees and the organization; employees pay more attention to their long-term development goals, attempt to integrate them with the company's strategic goals, and seek to form a psychological contract with the organization (Atrizka et al., 2020; Chen & Wu, 2017). Therefore, this paper proposes the following hypotheses:

H2: Employees' perception of CSR will positively affect psychological contract fulfillment.

2.4. Psychological contract fulfillment and job satisfaction

Job satisfaction results from employee's evaluation of their work in a variety of ways (Koçak & Kerse, 2022), in the other words, when an employee's general emotional appraisal of their job indicates that the employer satisfies their job demands and expectations, the employee experiences job satisfaction (Locke, 1976; Weiss, 2002) will be strengthened when employees consider their employer helpful and fair (Eisenberger et al., 1990; Nazir et al., 2018; Nazir et al., 2019). In addition, it has been demonstrated that psychological contract fulfillment is favorably correlated with employees' perceptions of their commitments and various beneficial organizational outcomes (Atrizka et al., 2020; Coyle-Shapiro & Neuman, 2004; Karagonlar et al., 2016). Therefore, the more the perceived psychological contract fulfillment, the larger should be

the employees' affective responses in terms of job satisfaction (attitudes toward the job) and organizational commitment (attitudes toward the company) (De Cuyper & De Witte, 2006; Pohl et al., 2016; Varma & Chavan, 2020). The following hypothesis is based on these correlations between psychological contract fulfillment and job satisfaction and the cited study findings:

H3: Psychological contract fulfillment is positively associated with job satisfaction.

2.5. The mediating role of psychological contract fulfillment

Unlike clear conditions and criteria in written form, a psychological contract includes employee attitudes and beliefs regarding implicit commitments (Rousseau, 2001). It emphasizes the cognitive impression of mutual commitments established between firms and employees (Robinson & Rousseau, 1994). According to SET (Blau, 1968) and reciprocity provide a solid foundation for the psychological contract theory (Gouldner, 1960). Following this, the propensity of employees to reciprocate the firm's ideals is contingent on the extent to which the organization meets their wants and expectations (Farnese et al., 2018). Nevertheless, the exchange is likely to be regarded as being unbalanced if the employees believe that there is a mismatch between their job effort and the sufficient resources as well as the inducements they receive in return. As a result, workers could feel that the psychological contract is not honored (Birtch et al., 2016).

On the basis of SET, numerous researchers have investigated the causes and effects of PCF. Some predictors, for instance, could establish a climate that meets employees' expectations, thereby strengthening the relationship between organization-employee. Organizational factors, such as human resource practices (Aldossari & Robertson, 2016; Latorre et al., 2020), leadership (Jiang et al., 2017), and organizational culture (Lee et al., 2018), have been identified as important antecedents of the psychological contract. In addition, the attitudes and behavior outcomes of employees have been studied, such as organizational commitment (Jabeen et al., 2015; Quratulain et al., 2018), job satisfaction (Jabeen et al., 2015), turnover intention (Chen & Wu, 2017; Quratulain et al., 2018), organizational citizenship behavior (Shih & Chen, 2011), and job performance (Cheung et al., 2017). In the present study, we intend to investigate the mediating effect of PCF on the link between CSR initiative perception and job satisfaction. According to prior evidence, successful exchanges would result from firms embracing organizational-level CSR activities (such as satisfying employees' needs and promoting the well-being of society) as well as care and concern for its stakeholders (Kutaula et al., 2020). When fulfilling organizational tasks and commitments elevates

employees' expectations, employees display loyalty and dedication to the company and, as a result, enhance their job performance. Thus, the hypothesis is suggested that:

H4. Psychological contract fulfillment mediates the relationship between CSR perception and job satisfaction.

2.6. The moderator role of attachment styles

Attachment styles represent relational inclinations and are described as the individual tendency to form loving ties with the other people in one's immediate environment (Luu, 2019). Attachment theory, which depicts the innate human drive to form intimate ties (Bowlby, 1980), has been used in workplace performance and how they impact employees' attitudes, well-being, and behavior (Albert et al., 2015; Wu et al., 2014).

Scholars generally accept two dimensions of attachment: attachment anxiety and attachment avoidance (Mikulincer & Shaver, 2010). People who struggle with attachment anxiety tend to have low self-esteem and are acutely aware of other people's social and emotional cues (Chris Fraley et al., 2006; Mikulincer & Shaver, 2010). As a result, they have an excessive demand for reputable partnerships that may provide them with certainty, support, and safety. They appear to be too dependent on these connections and worry that the other participants in these interactions may reject or leave them (Mikulincer & Shaver, 2010). In contrast, persons with attachment avoidance have a tendency to see and focus on the negative aspects of others (Shaver & Mikulincer, 2007). Therefore, they place an undue emphasis on independence and wish to maintain a mental and emotional distance from others (Luu, 2017). As a result, they have a fear of reliance and proximity and do not value intimate connections (Mikulincer & Shaver, 2008; Shaver & Mikulincer, 2009).

Through the lens of SET theory, employees' subjective perceptions of the quality of the exchange experienced to determine the partners' actions in social exchange interactions (Blau, 1968). Attachment styles influence perceptions and interactions in relationships (Mikulincer & Shaver, 2010); they may also significantly influence employees' assessments of expectations, benefits received, and obligations to reciprocate in social exchanges.

Hazan and Shaver (1990) showed that anxiously attached persons had more positive attitudes toward their work and coworkers, indicating that a secure attachment style may be associated with more positive organization-related attitudes. Therefore, employees with an anxious attachment style closely identify with the organization and its CSR principles through their positive attitudes toward their work and coworkers. This evidence that anxious attachment style may be

associated with more positive organization-related sentiments. Employees with avoidant attachment styles exhibited a degree of inertia toward community-oriented actions with a negative opinion of others and a favorable perspective of themselves (Bartholomew & Horowitz, 1991). Therefore, employees with avoidant attachment styles are less likely to be inspired by CSR activities to raise themselves above self-identity, resulting in less pro-community activity engagement and society, including favorable work attitudes and organizational engagement.

The study anticipates that the previously established bidirectional association between CSR and attachment anxiety would be detected among workers with low avoidant attachment styles but not among employees with high attachment avoidant styles. Employees with low attachment avoidance but high attachment anxiety have a higher desire to stay with the firm and its CSR principles, which leads to increased engagement in PCF. On the other hand, employees with low attachment anxiety and attachment avoidant styles were less excited by CSR ideals and hence less sensitive to them. Employees with low attachment anxiety and attachment avoidant attachment styles are the team's weakest link since they are neither inert nor hyperactive regarding CSR ideals and are less likely to engage in PCF.

In contrast, the interaction effect between CSR and the avoidant attachment style indicated above is likely to be reversed for employees with solid attachment avoidant traits. High attachment anxiety lowers employee alienation from the firm and its CSR principles because a high avoidant attachment style might impede an employee's willingness to stay with the organization (Schusterschitz et al., 2018). In contrast, employees with high degrees of attachment avoidance may be less inclined to respond adversely to CSR ideals. On the other hand, employees with high attachment anxiety generally responded unfavorably to greater CSR values than those with low anxiety attachments. According to this reasoning, attachment anxiety, attachment avoidance, or a combination of both may moderate the relationship between CSR and psychological contract fulfillment, as suggested by the following hypotheses:

H5: The association between CSR and psychological contract fulfillment is adversely moderated by employees' attachment avoidance, making it weaker when attachment avoidance is strong as opposed to low.

H6: The association between CSR and psychological contract fulfillment is favorably moderated by employees' attachment anxiety, making it more extraordinary when attachment anxiety is high compared to low.

Based on above hypotheses, the proposed research model is as follows:

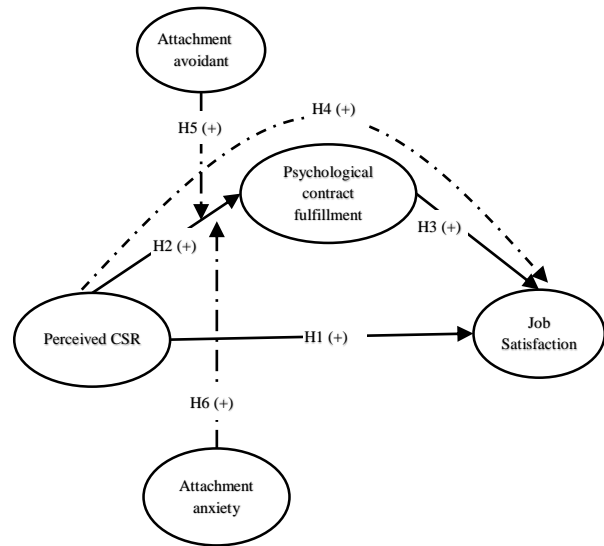


Figure 1: Proposed research model

3. METHODOLOGY

3.1. Proposed research methodology

There are two primary phases in the research process. In the first step, the literature review is undertaken to identify the research issues and gaps. Research variables, a research model, and hypotheses are proposed based on the observed research gaps. Measurement scales are created to measure the variables in the research model. The measurement scales are adopted from previous studies. Finally, a survey questionnaire for the primary study is created in this stage.

In the second step, the primary study aims to evaluate the accuracy, convergent validity, and discriminant validity of the measurement scales. A self-administered survey will be conducted to gather a sample of 400 employees from luxury hotels in Vietnam. The validity and reliability of the studied constructs and the presented hypotheses will be tested using this sample. To assess the reliability of the constructs, this study uses Cronbach's Alpha and composite reliability. Cronbach's Alpha and composite reliability values are expected to be higher than 0.7 to ensure the validity. The average variance extracted is used to assess convergent validity, and the cut-off value is 0.5. Finally, this study evaluates the discriminant validity using HTMT matrix, and the values of the matrix are expected to be lower than 0.85. The proposed hypotheses, including direct, indirect, and moderating effects, will also be tested using the partial least squares structural equation modeling (PLS-SEM) with SmartPLS version 3 on the collected data.

Based on the testing results, this study is going to suggest several theoretical conclusions that highlight the need to consider potential outcomes when attempting to understand the CSR research in the luxury hotel context.

This study is also expected to outline several implications for hotel managers and HR practices to improve the perception of CSR activities among their employees. Finally, we show some present study limitations that will help future research.

3.2. Measurement scale

More specifically, the multi-dimensional construct of CSR perception will come from the study of (Turker, 2009) with seventeen items. Six-item global satisfaction index will be used from (Agho et al., 1992) to measure job satisfaction. The *psychological contract fulfilment* scale comprises twenty-one items from Robinson and Morrison (1995)'s scale. Adult Attachment Scale will be used from Collins and Read (1990), including attachment avoidance (five items) and attachment anxiety (five items). Demographic variables include age, gender, education, and employee tenure.

4. RESEARCH IMPLICATIONS AND LIMITATIONS

4.1. Theoretical and practical implications

This research is expected to have some significant contributions in both academic and practical ways. Firstly, this study looks at the micro-level implications of CSR in the luxury hotel sector. Even though several studies have looked at how employees perceive CSR (Aguinis & Glavas, 2012; El Akremi et al., 2018; Farmaki, 2018), this study is anticipated to show that employees perceive of CSR activities benefit both social and non-social stakeholders and can also improve employees' favorable outcomes. The current study aims to support the hypothesis that CSR initiatives will positively impact employee work behavior and confirm findings from earlier research (e.g. Wang et al., 2020).

Secondly, it is anticipated that this study will contribute to the existing body of knowledge by investigating mediating processes in the relationship between CSR perceived and job satisfaction. By establishing the mediating influence of PCF in CSR and job satisfaction relationships, the present study answers a need to investigate mediators of stakeholder relations (Aguinis & Glavas, 2012). It is anticipated that the results of this study will reveal that CSR perceptions are regarded as significant indicators of firms' sustainable practices and are likely to foster harmonious organization-employee interactions.

Thirdly, the use of Bowlby (1978) attachment theory in management studies (Albert et al., 2015; Wu et al., 2014) is expected to expanded attachment theory literature. The first aspect has involved divergent impacts of attachment anxiety style and attachment avoidance style on the relationships of employees or other stakeholders with the organisation (Luu, 2017; Wu et al., 2014). According to Bowlby (1988), the second aspect addresses employees' connection to their employers for secure-base support of their prosocial

activity. This study is anticipated to add interactions between CSR and attachment anxiety or attachment avoidance factors to the attachment theory literature in order to predict PCF among hotel employees.

Fourth, to deliver services to customers, the hospitality and tourist businesses rely largely on human resources. Previous study has demonstrated that individuals with a greater degree of job satisfaction deliver superior customer service (Bednarska, 2014; Bednarska & Szczyt, 2015). Existing research implies that employees who have a favourable opinion of their company's CSR initiatives have greater levels of job satisfaction. Therefore, corporate leaders that wish for greater levels of job satisfaction among their employees should raise their employees' views of their CSR efforts, either by becoming more socially responsible or by bringing the activities to the attention of their employees.

Finally, by extending micro-CSR research that has focused on developed countries (Aguinis & Glavas, 2012) and presenting data from a small peripheral economy, Vietnam, this study is expected to contribute to the existing body of knowledge on the subject and educate corporate managers on the consistency of CSR impacts on organisational occurrences across a wide range of national cultures and settings.

4.2. Limitations

One of the disadvantages of this study is that it has only been done in one nation and its respondents are general staff of luxury hotels (i.e., Vietnam). Consequently, the future response target may encompass a broader field than the service business. It is also important to note that multinational corporations have spent significant money worldwide on CSR and sustainability awareness. However, these initiatives are not adequately implemented in the majority of nations.

This study describes how the luxury hotel industry has embraced the concept of sustainability and CSR. It confirms that CSR is a somewhat blurry subject and there is a lack of an overall accepted definition and guidelines. Future study should investigate additional hotel categories, such as local hotels and small-to-medium sized hotel enterprises, in a single country or in comparison to other nations.

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FACTORS AFFECTING VIETNAMESE YOUTH'S INTENTION TO USE CHATBOTS IN ONLINE SHOPPING

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Research purpose:

This study was conducted to identify the factors and determine their influence on young people's intention to use chatbots in online shopping.

Research motivation:

Considering the Vietnam e-commerce context, the shift in consumers' shopping habits due to the pandemic brings an unprecedented opportunity for the transformation of the digital retail segment. The efficient use of automatic agent applications, particularly the use of chatbots, has currently become a topic of interest to many businesses and academics, yet there has been little research on a particular customer segment, namely young customers under 29, which is a promising land for many businesses, with a great potential for online sales.

Research design, approach, and method:

This is quantitative research, using an online survey approach. In this research, regression models were employed to analyze 576 qualified answers. For testing the reliability and validity of the scales, SPSS 22.0 was used. The authors obtained a set of standards for testing the study model and research hypotheses, using Cronbach's Alpha, exploratory factor analysis (EFA), Pearson's correlation analysis, confirmatory factor analysis (CFA), and structural equation modelling (SEM). For assessing demographic differences, multi-group analysis was used.

Main findings:

6 factors including performance expectancy, perceived accuracy, social influence, hedonic motivation, perceived risk, and habit have positive impacts on young customers' intent to use chatbots in Vietnam, with performance expectancy being the most powerful, followed by perceived accuracy. Notably, perceived risk had a positive link with the intention to utilize chatbots, rather than adversely hypothesized, owing to the age of the studied population. The habit has the least amount of influence in comparison to the others. Furthermore, this study found that intention differs depending on location.

Practical/managerial implications:

This study made practical suggestions for businesses in enhancing the customer experience with chatbots in online shopping. Moreover, the research is expected to contribute to raising awareness of the safe access and use of technology, as well as a sense of security of personal information for young customers.

Keywords: chatbots, consumer behaviour, Vietnamese youth, online shopping, UTAUT2.

THE QUEUEING MODEL ON THE PARKING AREA: A CASE STUDY IN HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

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Research purpose:

The purpose of this study is to determine the queue model in a motorcycle parking area during rush hours at Hanoi University of Science and Technology (HUST) then measure the performance of the model and find out if the application of the model is effective. Queuing for parking at the D3 parking lot is considered a case study.

Research motivation:

Lots of research studies supporting the parking-related queueing theory have been done abroad. However, the queueing theory implemented to the problematics of parking has not yet been consistently studied and introduced to the public, but it has only been partially analyzed and handled and there are few studies on the scale of parking spaces in education buildings.

Research design, approach, and method:

The data collection method used is to directly observe the queues occurring. In this study, the data collected is the data on the number of vehicles arriving and the service time. The one-sample Kolmogorov-Smirnov test with software Statistics SPSS 20.0 is used to test arrival distribution and service time distribution. From there, determine the model of the parking lot based on Kendall Notation.

Main findings:

The results of the analysis show that the arrival distribution was the Poisson distribution, and the service time distribution was the Exponential distribution. Based on the results of data analysis in this research and Kendall Notation, the queue model obtained was (M/M/4): (FIFO/ ∞/∞).

Practical/managerial implications:

Modeling and analyzing queue systems through queueing theory helps to minimize their inconvenience and maximize the use of limited resources. The crowd service system (or queue system) is a complex system, calculating the operations and characteristics of the system to give advice to managers is a very necessary matter. This is a topic of high scientific and practical significance, not only being practically applicable to HUST's parking queue system but also applicable to the queueing system at parking lots and other facilities' other service providers.

Keywords: *queueing theory, parking lots, queue model, Kendall Notation, Kolmogorov-Smirnov*

THE IMPACT OF APP EXPERIENCE, LIVESTREAM AND PERSONAL COACH ON CUSTOMER SATISFACTION: A CASE STUDY FROM AN ENGLISH CENTRE

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Research purpose

This paper aims to study the impact of the study app, livestream class and personal coach on customer satisfaction in learning basic English language at an English centre.

Research motivation

Learning basic English in a smart and efficient way is a huge need for a variety of groups, from school students to graduates and old people. Step Up Education Limited Company is an English book producer who offers a total solution for English learners, from the book, app, livestream class and personal coach. How these factors could influence the company's customer satisfaction is an important question that needs research.

Research design, approach, and method

A sample of 138 customers who bought English learning books from an English education company was surveyed to study the impact of the book, study app, livestream class and personal coach on customer satisfaction. A structural equation model was applied to explore the interaction among the four input variables and the influence of these inputs to customer satisfaction.

Main findings

Among the four factors of the book the study app, livestream class and personal coach, the empirical evidence showed that there are three variables having a significant effect on learner satisfaction. They are the book, study app and personal coach.

Practical/managerial implication:

The study has useful implication for the companies who operate in English education and training. Learners who are customers, need more than a physical book, but also a total solution for their problems. Such companies should invest in designing and implementing not only the attractive books, but also useful study app and helpful personal coach services to their customers.

Keywords: *app experience, customer experience, livestream, personal coach, customer satisfaction, learner satisfaction.*

THE ROLE OF EMPATHETIC LEADERSHIP IN EMPLOYEES' FORMING RETURN TO WORK AFTER THE COVID-19 PANDEMIC: THE CASE OF THE DANANG – QUANGNAM HOSPITALITY INDUSTRY

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Research purpose:

The purpose of this study was to examine the impact of empathetic leaders on employees' intention to return to work after the covid-19 pandemic and also to find out a possible mediator effect of job satisfaction and employee loyalty in this relationship.

Research motivation:

Given the importance of the hospitality industry of the economy of Quang Nam – Danang, it is relevant studying how to reform it after the pandemic, of which the RTW of employees is a part.

Research design, approach, and method:

This study synthesized theories from past research to derive a conceptual model to clarify the phenomenon in question. This work applied structural equation modeling (SEM-PLS) and a multi-group analysis to test six hypotheses, with data from 115 employees of the hospitality industry in Danang - Quang Nam, Vietnam.

Main findings:

Empirical results showed that: Empathetic leadership has a positive indirect relationship with employees' intention to return to work, and job satisfaction and employee loyalty affect this relationship as a mediator.

Practical/Managerial implications:

The findings show that leader empathy has a vital influence on employee loyalty and RTW intention. A leader who provides subordinates with emotional care and enhances the solid craving of employees to keep up the engagement in the organization can expect his/her employees to strive to return to work. Lastly, these findings have implications for hospitality managers.

Keywords: Covid 19, empathetic leadership, hospitality industry, intention to RTW, job satisfaction, employee's loyalty

BENEFITS AND SUCCESS FACTORS OF APPLYING AGILE MODEL TO SOFTWARE DEVELOPMENT IN VIETNAM: CASE OF FPT SOFTWARE

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Research purpose:

This research aims to evaluate the impact of applying the agile model in software development compared to the traditional (waterfall) model. Besides, factors ensuring the success of an agile model are discovered.

Research motivation:

Software development must be fast to catch up with the trend and customer's requirements. The agile model, which enables project teams to respond effectively, is used worldwide. Vietnam's IT companies are moving from the traditional model to the agile model. However, there are still controversies in applying this model in practice.

Research design, approach, and method:

The authors took advantage of case study research with in-depth expert interview methods to gain insights into the research problem. The case selected, FPT software, is one of the leading software companies in Vietnam. Interviewees are experienced project managers of FPT software on different-scale projects for more than ten years.

Main findings:

Findings show the benefits of the agile model in comparison with the waterfall model in terms of progress, quality, customer satisfaction, and improvement of team members. Success factors from the academic and practical sites are also presented and discussed. Finally, the authors query and summarize the application case of this model.

Practical/managerial implications:

This paper provides managers in IT companies with benefits and success factors when applying agile models in software development projects. We also explore and suggest to managers suitable cases when a project should follow the agile or the waterfall model.

Keywords: *agile model, software development, benefits, success factor, application case*

1. RESEARCH BACKGROUND

Digital transformation is an inevitable trend in most businesses around the world. Therefore, the need to develop software to digitalize business processes is booming. The performance of software development projects is the most critical competitive advantage of technology companies. There are several models developed to ensure the quality, budget, timeline, and the stakeholder's final satisfaction of the project, such as Waterfall, V-model, Iterative, Prototyping, Spiral, Agile, and Kanban. Among them, the agile model is used popularly in many industries. Agile software development approaches were developed in 2001 and are being adopted across a huge number of worldwide organizations (Ambler, 2007). The agile model introduces an iterative approach to developing software

rapidly where the entire work volume or production lifecycle is broken down into smaller iterations. According to Flora et al. (2014), agile methodologies can help managers to minimize the overall risk and support the project to adapt to modifications rapidly and maintains the schedule and budget of the project (Aldahmash et al., 2017; Cohn & Ford, 2003; Flora et al., 2014). Several well-known agile software development methods are XP, Scrum, FDD, DSDM, Kanban, ASD, AUP, AM, Lean, and Crystal (Cohn & Ford, 2003; Flora et al., 2014). About 71% of organizations sometimes, often, or always employ agile approaches in their IT projects (PMI, 2017). In Vietnam, there are two popular models used in IT companies i.e., waterfall and agile model. The waterfall, a traditional software development model, is often careful and slow

at each stage, from requirements gathering to software programming and testing. In contrast, the agile model is the cyclic loop method. The method helps to implement a software project sequentially so that the project development team moves on to the subsequent development or testing phase only if the previous step is completed successfully. According to Al-Saqqa et al. (2020), a very heavy process is the major problem of traditional software development methods, including the waterfall model. Whereas the agile development model can deliver new products and features to users at a faster rate. Both the development and implementation of the required responses from customers with the product will benefit both the project side and the customer side.

However, there are several limitations of agile model including: (i) lack of emphasis on design and necessary documentation; (ii) Human resource size is usually limited from 7 to 10 people, there will be a big obstacle if the human resource requirement exceeds this number for example in exchange meetings; (iii) The number of requirements can be large and difficult to manage if it covers many different aspects of the project; (iv) As the number of human resources increases, the quality becomes more difficult to control; (v) Regular code testing and setting benchmarks to evaluate programmers' capabilities allow this drawback to be minimized.

Recently, there has been quite a lot of research conducted to explore benefit, principles of the agile model, teamwork in agile-based projects (Strode et al., 2022), framework and methodologies developed based on agile manifesto (Al-Saqqa et al., 2020), compare agile models with others (Balaji & Murugaiyan, 2012; McCormick, 2012; Morgan, 2018; Palmquist et al., 2013), challenges to move from waterfall model to agile approaches (Almeida, 2017).

From the practical site, in the context COVID-19 pandemic, companies choose Agile over Waterfall. The COVID-19 pandemic has put operating companies in a difficult position, forcing them to change the pace of digitization, analytics, globalization, automation, and more. In the report *A Case of Acute Disrupt*, Deloitte explains that the digital transformation has been happening at breakneck speed as the company is forced to change or die: "Slow, steady means inactive considering the dynamics of the pandemic". This is exactly why businesses are choosing Agile over Waterfall: because agility helps organizations keep pace with the rapid pace of digital transformation (Deloitte Insights, 2020). Vietnamese IT companies are no exception, switching switch from the waterfall model to the agile model. However, there are still controversies in the academy and among wondering practitioners

between the two models. "Criticism on agile methodology states that it fails to pay attention to architectural and design issues and therefore is bound to produce small design decisions" is an example (Kumar & Bhatia, 2012). There is also a lack of empirical study to propose or model support decision-makers in choosing which model should be used in each project (Thesing et al., 2021).

To fill the research gap, the authors proposed the following research questions:

1. What are the benefits and success factors of the implementation of the agile model in software development from the point of view of project managers?
2. What are suitable application cases for agile and waterfall models from the practical view?

This section has overviewed literature and practical issues about applying the agile model in developing software. The second section will present the research methodology used to answer our research question. The third section depicts the findings of our research. The conclusion is presented in section 4.

2. METHODOLOGY

In the paper, the authors used a qualitative approach to deal with research problem through secondary research and case study research. Secondary research is conducted by analyzing research papers gathered through Google scholar with keywords search and cross-reference. Case study research is an "in-depth investigation of a contemporary phenomenon within its real-life context and "involves a detailed and intensive analysis of a particular event, situation, organization, or social unit" (Schoch, 2020). This research chooses FPT Software to be the unit of analysis.

FPT software which is a member company of FPT Corporation (a global leading technology and IT services provider headquartered in Vietnam), is the largest and one of the fastest growing software companies in Vietnam. FPT software has developed over 11,000 software outsourcing projects in the last 19 years. Project managers of FPT software had started to use agile approach in 2012 and often deployed the Agile Innovation program with the desire to support projects to optimize resources and achieve high efficiency in project quality management.

To gain insights into the case and answer the research questions, the authors conducted interviews with PM of FPT software in August and September 2022. Selected interviewees are experienced project managers and Scrum Master of Projects. Each interview last 90 minutes. The detailed information about interviewees are as follows:

Table 1. Description of Interviewees

Interviewee and Experience	Domain of implemented projects
Interviewee A 16 years	Financial, Account, E-commerce
Interviewee B 18 years	Banking, Education, Human Resource, Telecom, Healthcare
Interviewee C 23 years	Automatic car, Logistics, payment, Government
Interviewee D 20 years	Finance, Logistics, Transport, Telecom, Human Resource

Questions for interview:

Part 1: Benefit of the agile model in software development

Question 1: To what extent do you think that the performance (quality, customer satisfaction, cost, time) of agile project is better than waterfall model?

Question 2: To what extent do you think that the volume of work/ tasks and complexity of a project will increase or decrease when using the agile module in comparison with waterfall model?

Part 2: Success factors

Question 3: In your opinion, what is the success factors (a factor that influences the success of a software development project) when applying the agile model?

Question 4: To what extent do you think that teamwork and participants' involvement impact the success of the project?

Part 3: Application case

Question 5: In your opinion, what are the suitable application cases for agile and waterfall model?

3. RESULTS AND DISCUSSION

This section presents findings from studying the case of FPT software with four key informants (A, B, C, and D with the number agile projects and waterfall project are 15-0, 17-3, 10-2, 12-4, respectively). The gathered responses from interviewees will be combined with findings from literature to discuss further.

3.1 Benefits of applying agile approach in software development

According to key informants of FPT software, sometimes it is hard to compare impact of waterfall and agile model but in general applying agile approach in software projects can bring the following benefits:

Projects can run faster

In agile approach, the project team is divided into many small teams to process work faster, exchange work more, and have better results (interview C).

Interviewee C also asserted that the project documentation in agile-based projects, which is lean and concise, helps staff to solve problems quickly. For example, during working on a project, if a developer has an error, he will immediately comment on the Jira tool to show all project members.

Increasing software quality and saving cost

Three interviewees (A, B, and C) said that agile model brings better software quality because it requires employees to shortly find bugs to fix quickly to avoid future software errors; besides, it also saves money on the cost of reworking tasks according to customer requirements. According to Interview B, if the agile model is applied actively, employees will not have free time. They will work harder to bring efficiency to the project. Risks against contract or delay or late delivery of agile project also much lower than waterfall project because the progress updated daily and step by step.

Improve quality and speed of response to customer

Because the principle of agile is waste reduction and adaptation to change quickly. It focuses on the end user, aiming to launch products that meet customer needs as soon as possible. According to Interview C, benefits of dividing large teams into many small teams are faster processing, more exchange work, and better output. Customers also feel better when they can update progress of projects more frequently (Interview D).

Better control

Agile model allows project managers to have better control over their projects due to its transparency, feedback integration, and quality-control features. Quality of projects is ensured throughout the implementation phase of the project and all stakeholders are involved in the process with daily progress reports through advanced reporting tools and techniques such as Jira, Kanban...

Reducing risk

Agile projects divide a task into small sprints that

focus on continuous delivery. There is always a small part that can be used as a back-up solution in the future even if a particular approach doesn't go as planned. However, risk from customers when they are too demanding is still hard to be reduced. According to informant D, sometimes each sprint cannot be completed due to customers disapprove.

Improving skills for employees

According to interviewee B, agile also helps employees practice and increase interpersonal skills not only all day long, just coding and testing. The human resource of the agile-based project is divided into groups instead of those employees of waterfall type working together. Each of these groups will perform different functions and tasks of the project. It enables streamlining work positions – everyone will do different roles. For example, a project can divide into groups having programmers, testers, business analysts, designers, etc. These groups will have a leader who will meet daily with other groups to unify the project's requirements. Each of these groups will work independently on the task. The more groups, the more group leader, and the more staff can gain better leadership skills and ability to work independently.

Findings from literature also advocate and demonstrate the same benefits. For example, “the aim of agile processes is to satisfy the customer, faster development times with lower defects rate” (Kumar & Bhatia, 2012; Sharma et al., 2012). Dima & Maassen (2018) asserted that agile model is “a dynamic model, that could add pressure on employees through the frequent evaluation of progress, but on the other side as motivating for self-improvement and adapting to customer requirements”

3.2. Success factors in applying agile model in software development

Although agile model brings many benefits to enterprises, applying process this model requires a

number of factors to ensure the success of projects. According to Misra et al. (2009), there are five criteria that can be used to determine the success of (agile) software development (projects):

- Reduced delivery schedules
- Increased return on investment (ROI)
- Increased ability to meet the current customer requirements
- Increased flexibility to meet the changing customer requirements
- Improved business processes.

Chow & Cao (2008) classified success factors into three main groups (a) Delivery Strategy, (b) Agile Software Engineering Techniques, and (c) Team Capability. Another classification framework presented success factors, including customer satisfaction, customer collaboration, customer commitment, decision time, corporate culture, control, personal characteristics, societal culture, and training and learning. While Aldahmash et al. (2017) present critical success factors in 8 groups:

- i. Delivery strategy (*)
- ii. Team capability and training
- iii. Agile development techniques
- iv. Customer involvement (*)
- v. Project management process
- vi. Organizational culture
- vii. Communication
- viii. Top management support

Table 2 summarizes success factors in applying agile model in software development adapted from Aldahmash et al., (2017), Chow & Cao, (2008); Dikert et al. (2016), and Misra et al. (2009).

Table 2. Success factors in applying agile model in software development

Group of factors	Elements
Technical factors	<ul style="list-style-type: none"> • Delivery strategy (*) • Agile development techniques
Organizational factors	<ul style="list-style-type: none"> • Organizational culture and environment • Communication of team (*) • Decision time (*) • Team distribution • Team size • Corporate culture • Planning • Control

People factors	<ul style="list-style-type: none"> • Team capability and training • Customer involvement (*) • Top management support • Communicate skill (*) • Training and learning (*) • Societal Culture • Personal Characteristics (*) • Competency
Process factors	<ul style="list-style-type: none"> • Project management process • Project Definition process
Project factors	<ul style="list-style-type: none"> • Project nature (*) • Project type (*) • Project schedule (*)
Customer factor	<ul style="list-style-type: none"> • Customer satisfaction • Customer collaboration (*) • Customer commitment

Source: adapted from Aldahmash et al., (2017), Chow & Cao, (2008); Dikert et al. (2016), and Misra et al. (2009).

The (*) factors are agreed upon by informants from FPT software during the interview. Those and the additional success factors found in the case of FPT software are synthesized and presented below the table

Adaptive and fast mindset of Product owners and scrum masters

To apply agile model, an organization needs to have full compliance. It requires not only implementation of new process but also new thinking (Tolfo et al., 2011). Companies should take care development of human resource such as leadership style, team resistance, collaboration and ownership, which are not easily changed (Gandomani et al., 2013). According to informant C, PO and Scrum Master need to have a fast mindset to adapt to continuous changes in project status and customer requirements. The quality of the project depends on how the scrum masters adopt the agile model. If scrum masters apply effectively and deliver well, the quality of the output will be good (Interviewee B).

Delivery strategy

As mentioned by Chow & Cao (2008), if managers want their project to success, they should follow Agile – style delivery strategy. The delivery strategy of the project is clear to team members; indeed, each member of the team should understand his or her mission in the project. At FPT software, in projects with Americans, customers require the development team to delivery products frequently and give new requirements every day (informant D).

Multi-task, work independently and high qualification team members

All informants agreed that the required qualification of model agile employees is higher than that of model

waterfall because model agile needs good employees to do many roles in the project. In comparison, model Waterfall employees work in one position during the project. For example, in an agile project, the Business analyst staff not only takes requirements but also tests the software. Therefore, Agile model needs more qualified staff than model Waterfall, which relies more on leaders. According to interviewee D, agile project personnel is always required to work independently and directly with the customer. The role of the PM, in this case, is reduced compared to the waterfall model because developers are in contact with the customers themselves.

Communication skills and working overtime

Interview C emphasized communication in the team and with customers is very important to smoothen the product development process.

Many projects of FPT software serves oversea customers with different time zones, for example, the United State, Japan, Australia. In agile project, customers are very happy when participating in answering requirements development questions. In addition, customers are also satisfied with quick and frequent replies. However, that will lead to delayed question communication or team members must work overtime (Informant C).

Training and learning

According to interviewee C, during the transition from waterfall to agile model at FPT software, previous generation developers and testers had the same old

mindset when applying agile model, many members were not actively learning. That causes a number of project management failures. Therefore, in order to apply the agile model successfully, members need to actively learn, and the company needs regular training courses.

Customer involvement

The success of agile projects, which have to get approval from customer at every sprint before continuing to the next stage heavily depend on customer behaviour. According to interviewee D, sometimes customers were too demanding. That caused delay in

progress of projects when customers did not allow the whole team goes ahead only due to one insignificant mistakes, change requirements too many times.

3.3 Application case of agile model

Agile model or traditional model has its own advantages and disadvantages, so this research aims to find the case in which each model can take full advantage.

Table 3 shows a specific case when the project should apply agile model or should use the traditional waterfall model.

Table 3. Application cases of agile and waterfall model

	Agile model	Waterfall model
Size of project	Large and long-term project	Small project
Duration	Long-term	Shor-term
Functions/ Delivery requirements	Change and update frequently	Little or no change
Document requirements	No requirement or not so demanding requirement	Demanding in document of project
Skill of employee	<ul style="list-style-type: none"> • Multi-tasking • Good communication skills • Not require (large) teamwork skills 	<ul style="list-style-type: none"> • Single skill • Weak communication skills, need specialized BA • Require good teamwork skills
Stakeholder and customer	Willing to communication frequently	Not willing to communication

According to experienced informants from FPT software, agile model is suitable for projects which last a long time and require updates, and revision frequently during the development process. From the opinion of interviewee D, there are many projects in which customers expect to receive products and update information about progress daily or extensible software, no limits, no endpoints project such as the Like function of Facebook. Those should be implemented under agile approach. However, there are still existing projects which are short, simple, not urgent, and customers do not need to get updated information, therefore, waterfall model is better to apply. In many cases, team members are limited by communication and multi-tasking skills; although agile model is suggested to apply but it would be better to use the traditional/ waterfall. Teamwork is crucial in software development (Strode et al., 2022). However, agile model allows people to work in a small group and only requires ability to work in this small scale. Whereas waterfall model requires members to work in a large team, therefore higher teamwork skill is needed.

4. CONCLUSION

The software industry is essential for the digital transformation era. In particular, companies focus on

flexibility and time to market, so agile methods have become an attractive alternative for companies trying to improve performance of their project. Unlike other traditional approaches, these methods focus on creating early releases of working products using mainly collaborative techniques such as pair programming, restructuring, and letting the client work on-site as a team member. In this paper, we present an assessment of gained benefits and success factors in applying the agile model in a software development project in general and completed projects of FPT software company in particular. To this end, the authors used keyword search to cross reference to collect research papers. We had set up interviews with experts of FPT software company to gain practical insights into the research problems. The study presents the benefits and success factors of agile model in terms of quality, cost, time, customer experience and human capacity development. Findings also pointed out six groups of factors (organizational, people, technical, project and customer) to ensure the success of software development projects. This paper also proposes some suitable application cases for traditional waterfall model depending on the size, duration, requirement of projects, skill of employees, characteristics of stakeholders and customers.

However, this research is limited by a qualitative approach with a small number of experts. Future research can interview more experts and quantitatively evaluate benefits/impacts and success factors of agile models or focus on the combination of lean and agile environments.

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APPLYING GENETIC ALGORITHM FOR LINE BALANCING PROBLEM IN GARMENT MANUFACTURE

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The garment industry is one of the most intensely competitive in the world, and productivity is essential to sustaining that competitiveness. As one of the sectors that utilizes a large number of people and various activities at workstations, the garment industry is one that places a high priority on increasing productivity and reducing production costs. One of the biggest problems the garment sector has is line balance, which arises from the way the work is organized on the line and the coordination between workers, machines, and stages. Therefore, in an effort to increase productivity and reduce production costs, the line balancing problem is posed. In order to handle the nonlinear programming challenge, the GA heuristics technique was employed in this study. This study was tested with data from a clothing company to determine the efficacy of line balancing. Based on the results of line balancing, line managers can quickly balance lines to minimize production cycle time and utilize workforce on the assembly line.

Research purpose:

The objective of this research is finding ways to improve the line balancing process, thereby helping to cut production costs, improve customer service quality and increase competitiveness for the garment enterprises.

Research motivation:

The garment industry is an important economic sector in Viet Nam, but currently garment manufactures still balance manually, using stopwatches, pens, tables and depending on the experience of workers. Therefore, finding a better balancing method is the motivation of this research.

Research design, approach and method:

The research will focus on analyzing the sewing lines changeover when the placement of workers in positions on the line still had many problems. From that, the objective is finding the bottle neck points and eliminating them using the GA method and sharing the workload.

Main findings:

Applying GA to solve the problem of line balance quite effectively, it helps the company save costs and increase the efficiency.

Practical/ managerial implications:

Effectively solving the line balancing problem helps improve costs, increase production efficiency and competitive advantages for the company.

Keyword: Line balancing, genetic algorithms, garment industry, efficiency

MANAGEMENT ENTRENCHMENT, AGENCY COST, FINANCIAL SLACK, AND CARBON EMISSION DISCLOSURE ON FIRM PERFORMANCE AT ENERGY SECTOR IN INDONESIA AND MALAYSIA FOR 2018 – 2021

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Research purpose:

This research is trying to find influence that being made by management entrenchment, agency cost, financial slack, and carbon emission disclosure on firm performance. The research also focusing on evaluate sustainability report especially in environmental aspect which is still got less attention by company.

Research motivation:

This research is comparing the company in Indonesia and Malaysia. Those countries are the object of this research because both of them are in one ASEAN's territory and incorporated as The Indonesia – Malaysian – Thailand Growth Triangle. This comparison hopefully can be used by Indonesian's company to learn the aspects and components from Malaysian's company that doesn't exist in Indonesia.

Research design, approach, and method:

This research is using causal-comparative method in finding the influence and how to find the reason of the problem. This research takes one cause, firm performance as dependent variable and testing the data to find the reason that connected to independent factors, management entrenchment, agency cost, financial slack and carbon emission disclosure.

Main findings:

The test results use multiple linear regression and give various effects. Management Entrenchment proxied by Managerial Ownership has no effect in Indonesia, but has a positive effect in Malaysia. Management Entrenchment proxied by Board Tenure has a negative effect in Indonesia, but has no effect in Malaysia. Management Entrenchment proxied by Board Interlocking has a negative effect in Indonesia and Malaysia. Management Entrenchment proxied by Board Independence has no effect in Indonesia and Malaysia. Agency Cost has a negative effect in Indonesia, but has no effect in Malaysia. Financial Slack proxied by High Discretionary has a negative effect in Indonesia and Malaysia. Financial Slack proxied by Low Discretionary has no effect in Indonesia and Malaysia. Carbon Emission Disclosure has no effect in Indonesia, but has a positive effect in Malaysia.

Practical/managerial implications:

This study is expected to be a contribution to the literature, especially on the use of the Management Entrenchment variable to use the board of directors and commissioners as an inseparable unit in calculating research variables because the majority of studies only use one of the top management structures in assessing their relationship with the dependent variable. In addition, this research is expected to be used as a theoretical basis for the government in determining the RAN-GRK (National Action Plan – Greenhouse Gases) by requiring the disclosure of carbon emissions, considering that the company's operational activities have started to run normally which causes emission expenditures to increase again.

This research is expected to provide a new understanding to shareholders on the indicators used in the study in determining the amount of investment return that is likely to be accepted by shareholders in the future. In addition,

this research can be used as consideration for companies adopting several characteristics of Malaysian companies, including the making of the Employee Share Scheme policy implemented by Malaysia and its committee to suppress managerial ownership for each individual in the company.

This research can also be used as input for companies in assessing individuals who work for more than one company in the same sector to create a positive impact that benefits both parties. Research can also be taken into consideration in conducting financial planning for the operational costs incurred so that they do not exceed the company's income. In addition, this research can also be applied to business analysts in determining the amount of reserve resources that must be prepared and strategies for their use so that the reserve funds prepared are not idle. Companies can also gradually take advantage of the disclosure of carbon emissions to determine whether the level of disclosure has had a significant effect or not so that the company can determine the next strategy, one of which is using renewable energy in stages as the first step in reducing greenhouse gases. In addition, you can study the methods and information disclosed by Malaysia in its annual sustainability report.

Keywords: *Management Entrenchment, Agency Cost, Financial Slack, Carbon Emission Disclosure, Firm Performance*

VALUE CREATION GOALS AND SOCIAL ENTREPRENEURS' PROCESS INNOVATION: ROLE OF DIGITAL TECHNOLOGY EXPLOITATION

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Research purpose:

The research aims to explore how differences in value creation goals affect the engagement of social entrepreneurs in process innovation and how digital technology exploitation influences this relationship

Research motivation:

There are different levels to which social entrepreneurs prioritise societal and environmental value creation in their ventures. Some social entrepreneurs focus on non-economic goals over economic goals while others more focus on economic goals. This may lead to variability in the engagement of process innovation among social entrepreneurs. Besides, although the literature shows that digital technologies generate a shift in the way in which entrepreneurs carry out their entrepreneurial activities such as innovation, research on how digital technology affects social entrepreneurial activities in general, social entrepreneurs' process innovation in specific, is scarce.

Research design, approach, and method:

There are different levels to which social entrepreneurs prioritise societal and environmental value creation in their ventures. Some social entrepreneurs focus on non-economic goals over economic goals while others more focus on economic goals. This may lead to variability in the engagement of process innovation among social entrepreneurs. Besides, although the literature shows that digital technologies generate a shift in the way in which entrepreneurs carry out their entrepreneurial activities such as innovation, research on how digital technology affects social entrepreneurial activities in general, social entrepreneurs' process innovation in specific, is scarce.

Main findings:

The finding shows that social entrepreneurs who prioritise non-economic value creation goals are less likely to engage in process innovation than those who prioritise economic ones. The negative link between non-economic value creation goals and process innovation is magnified by the number of patent and trademark applications in a country.

Practical/managerial implications:

This is the first study providing empirical evidence of the role of digital technology exploitation on social entrepreneurs' process innovation. First, the research advances our understanding of the innovative activities of social entrepreneurs, namely process innovation, which is emphasized in existing theoretical literature but still lacks empirical studies. Second, this study also advances our understanding of the impact of digital technology context on social entrepreneurial activities by investigating how the number of patent and trademark applications in a country moderates the relationship between social entrepreneurs' non-economic value creation goals and their process innovation.

Keywords: *social entrepreneurship, value creation goals, process innovation, digital technology exploitation, patent applications, trademark applications*

BUSINESS LEADERS' MINDSET AND FIRMS' CAPABILITIES CHANGE TOWARDS THE ADOPTION OF TECHNOLOGY AND INNOVATION THROUGH GOVERNMENT SPONSORED ENTREPREURIAL TRAINING PROGRAMS: THE CASE OF HERTFORDSHIRE, UK

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Research purpose:

The paper aims to: (1) Understand SMEs' current mindset and capabilities, and their future expectations towards the adoption of technology and innovation and; (2) Explore the relative influence and impact of the Help to Grow: management programme on the leaders' mindset and business capabilities of Hertfordshire business participants.

Research motivation:

The UK Government and many of the key sectors are increasingly focusing on growth, sustainability, and diversity. The paper explores the impact of a national programme to help the small business community (including micro and SMEs) to grow their businesses, with particular focus on the entrepreneurial mindset and businesses' capabilities to adopt technology and innovation.

Research design, approach and method:

Two surveys were conducted with different sizes to supplement information and make the analysis more accurate. The first survey was taken in 2019 and 2020 with 425 SMEs in Hertfordshire and in 2022, the second survey (and interviewed) were typically selected from the group of enterprises that were initially surveyed (n=20) to see more insight into the research issue.

Main findings:

The initial analysis (Hertfordshire-wide business community) and follow-on analysis (attendees of the Help-to-Grow: Management programme at UH) highlight the value of these short-intensive business leader skills programmes focused on developing the leadership and management skills of these business entrepreneurs and their small businesses capabilities.

Practical/ managerial implications:

The research results have important implications for small and medium enterprises in identifying, evaluating and changing their mindsets as well as capabilities towards technological improvement and innovation. In addition, the research also provides more evidence and practical basis for the government and related agencies to improve such programs to better support small and medium businesses.

Keywords: *Leader's mindset, firm's capabilities, management practice, technology, innovation, UK.*

THE IMPACT OF BOARD DIRECTOR CHARACTERISTICS ON THE QUALITY OF INFORMATION DISCLOSURE

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The purpose of this study is to explore the association between board member functions and information disclosure levels. Based on the literature variables such as the characteristics of the board of directors in the past, a single comprehensive indicator is established as a substitute variable for board functions, and the information disclosure evaluation results published by the securities and foundation are used to measure the information disclosure level of the company. This study focuses on companies listed on the taiwan stock exchange from 2016 to 2020, and uses descriptive statistical analysis, univariate analysis, correlation analysis and ordered probit regression for empirical analysis.

The empirical results show that there is a significant positive correlation between the function of board members and the quality of information disclosure. This study further shows that boards with better board member functions have higher levels of information disclosure. In addition, this study also found that higher board independence, lower director shareholding pledge ratio, higher director shareholding ratio, and directors with rich professional knowledge and practical experience can help improve the quality of information disclosure.

Keywords: *Function of board members, information disclosure*

1. INTRODUCTION

Corporate governance is a key factor affecting the survival and development of an enterprise. The board of directors has a core influence on the governance mechanism. Based on its responsibilities, the board of directors has the right to request to improve the information transparency of financial statements, so as to achieve the responsibility of supervising the management level and formulating company policies. Most studies have distinguished board characteristics into several different attributes (including board size, independence, etc.). In this study, the characteristics of various board members are combined as a single indicator to measure the overall board function; in addition, there are many foreign literatures discussing the impact of political ties on corporate value, audit quality and information transparency. To fill the gap in the literature on political ties, this study explores the influence of the functions of board members of Taiwan public offering companies on the degree of information disclosure.

Since 2001, large-scale corporate fraud cases and accounting scandals broke out in the United States, including World Communications, Xerox Corporation and Merck Pharmaceuticals, which caused national securities administrations and international organizations to actively promote various corporate governance mechanisms. The U.S. Congress passed the Sarbanes-Oxley Act in 2002 to strengthen corporate

governance of U.S. companies in order to improve information transparency and the quality of financial statements. On the other hand, in Taiwan, a series of fraudulent financial reports and insider transactions have occurred, such as Boda, Xundi Technology, Maosi Technology, and Huangtong Technology, which prompted investors in the capital market to request to improve the information transparency of enterprises, thereby reducing the relationship between enterprises and investors. In this wave of reforms, the government has actively promoted corporate governance and revised regulations. Among them, the Taiwan Stock Exchange and the OTC Exchange formulated the "Code of Practice for the Governance of Listed and OTC Companies" on October 4, 2002. Improving the transparency of corporate information is listed as one of the main items of the Five Principles of Corporate Governance (Mallin, 2002).

In the design of the internal governance mechanism, Taiwan stipulates that a board of directors and supervisors must be established. The governance mechanism is that the board of directors is responsible for business execution, and the supervisor is mainly to supervise the execution of business by the board of directors. When formulating the company's operating policy, the board of directors has the right to require the management authority to disclose more information to meet the needs of the board members when formulating policies, thereby providing investors with more

information to understand the company's operating results and operating conditions. It can be seen that the board of directors plays a very crucial role in corporate information disclosure, and the relationship between the characteristics of the board of directors and the degree of information disclosure is a topic worthy of in-depth discussion.

Previous studies on the relationship between the characteristics of the board of directors and information disclosure suggest that the characteristics of the board of directors mainly include the size and independence of the board of directors. Chen and Jaggi (2000) found that the higher the proportion of independent directors in the board of directors, the richer the mandatory disclosure in the annual report, which means that the existence of independent directors in the board of directors can help improve the company's compliance with the regulatory authorities' requirements for information disclosure. Since the board of directors plays three roles in the organization, namely service, strategy and control, whether the board of directors can effectively help reduce the information asymmetry of the company depends on the characteristics of the board of directors. However, recent studies have found that in addition to the shareholding ratio of board members and the ratio of independent directors, the part-time jobs, educational background, number of meetings attended, and pledge ratio of board members will all affect the quality of the board of directors. Therefore, this study will expand the interpretation of the quality of the board of directors, and include the above-mentioned characteristics of directors as a reference for the function of the board of directors, in order to explore the influence of the function of the board of directors on the quality of information disclosure.

Past research has suggested that corporate shareholders with close ties to national governments can benefit from political ties (Johnson and Mitton, 2003 for Malaysia; Leuz and Oberholzer-Gee, 2006). Chaney et al. (2011) found that government officials can influence a firm's economic value by awarding highly profitable government contracts, imposing tariffs on competitors, or reducing oversight requirements. Faccio (2006) shows that companies with political and business relationships are quite common in the world. Therefore, different from the research on the correlation between the characteristics of the board of directors and information disclosure in China, this study specially adds the characteristics of the political relationship of the board of directors to explore its influence on the information transparency.

Many literatures have previously found that politically connected companies have the motive to increase the quality of information disclosure. In order to avoid being falsely connected to the public and private in the election, the company insiders with political connections prefer to choose higher-quality

financial reports to ensure that foreign investors can be informed (Jensen and Meckling, 1976; Watts and Zimmerman, 1983). Therefore, when a company employs directors with good political and business relations, these directors, based on their own reputation and reputation, will hope that the company can improve the quality of its information disclosure; on the other hand, Piotroski et al. (2008) believe that information transparency will limit the politicians and executives, who control the ability of private interests, have found that politically connected companies are particularly fond of hiding information about bad economic outcomes. Politically-linked companies are more motivated to reduce information transparency because politically-linked companies tend to hide the benefits they derive from political ties, as companies with strong political ties are less likely to have strict external scrutiny.

According to Faccio (2006), enterprises with political and business relations are quite common in the world, and Rajan and Zingales (1998) found that the economic system in East Asia belongs to the relationship-based system. Hence, the literature on political connection is mainly based on China and Malaysia. Indonesia as the main object (Yang, 2003; Chan et al., 2006; Gul et al., 2007). Taiwan is a part of the East Asian economies, and corporate political relations are also quite common. In addition, it has been heard that Taiwanese politicians serve as directors or operators of listed OTC companies. This study especially considers the political connections of board members to further understand their impact on corporate information transparency.

In view of the policy of the domestic securities regulatory authorities to promote information transparency in recent years, it is indeed necessary to explore the influencing factors of information disclosure of listed OTC companies in Taiwan, in order to provide strong evidence for government agencies to implement relevant policies. Based on the above, this study mainly focuses on the research purposes are summarized as follows:

1. The impact of board member functions on the company's disclosure assessment results.
2. The impact of a company's employment of politically connected directors on the results of its disclosure assessment.

The contribution of this study is that most of the literature on the characteristics of the board of directors in the past focused on the size, independence and ownership structure of the board of directors. This study captures the relevant information of the board members in the annual reports of the shareholders' meetings of the listed OTC companies in Taiwan by manual collection, including the education of the board members. The degree, professional experience, number of

concurrently held other companies, the number of board meetings and the attendance rate of board members, etc., make this part of the research field more comprehensive and complete. In addition, this study attempts to integrate the characteristics of various board members as indicators for evaluating the functions of the overall board of directors, and explore its correlation with the degree of information disclosure. This study will provide competent authorities with the assessment of the current state of corporate governance in Taiwan and the formulation of information transparency policies. 's reference.

2. LITERATURE DISCUSSION

The purpose of this study is to analyze the impact of board membership functions on the results of a company's disclosure assessment, and to explore the impact of a company's employment of politically connected directors on its disclosure assessment results. This section first reviews the relevant literature on board member functions and the degree of information disclosure; second, the influence of politically connected board members, and finally discusses the relevance of politically connected boards to the degree of information disclosure.

Functions of members of the board of directors

The World Bank (World Bank) explained the corporate governance structure in 1999, arguing that corporate governance mechanisms can be divided into internal mechanisms and external mechanisms. The internal mechanism refers to the operation of the board of directors and the establishment of an internal audit system to promote the management to maximize the company's value and reduce agency problems. The external mechanism refers to the supervision of managers' behavior through the legal system (accounting and auditing standards, financial market system and market competition mechanism) and the participation of reputation institutions (accountants, credit rating agencies and investment consultants). The Organization for Economic Co-operation and Development (OECD) particularly emphasizes that the core of internal corporate governance lies in the board of directors. Zahra and Pearce (1989) divided board functions into four levels, including board composition, board characteristics, board structure and board operations. While past literature has focused on board composition (e.g., board size and independence), this study focused on board independence, board share-to-pledge ratio, busy directors, director background (expertise and experience), number of board meetings and attendance.

(1) Independence of the Board of Directors

Agency theory particularly emphasizes the mechanism of adding independent directors to the board of directors, which helps to monitor and restrain the opportunistic behavior of other directors (Jensen and

Meckling, 1976). Independent directors have no direct or indirect interest in the company, and usually have more professional knowledge and independent status, can provide decision-making opinions from the perspective of experts, and play an independent and impartial supervision function. Past research has shown that independent directors can strengthen the functions of the board of directors. The higher the proportion of independent directors in the board composition, the lower the possibility of corporate fraud (Klein, 2002). Beasley (1996) found that firms employing independent directors can reduce the incidence of financial reporting fraud. And companies with a high ratio of independent directors can effectively reduce the earnings management behavior of managers (Klein, 2002; Pope and Young, 2005). Lin and Lin (2002) pointed out that because the status of independent directors and supervisors is relatively independent, independent directors can objectively and impartially supervise the decision-making of the management authority, and independent supervisors can fulfill their duties of supervising directors. However, Core et al. (1999) believed that the shareholding ratio of outside independent directors is usually low, so the incentive to supervise managers is relatively reduced. Bhagat and Black (2002) explored the relationship between independent directors of US public companies and corporate performance, and the results showed a significant negative correlation. Taiwan's securities authorities require that new public offering companies to apply in 2002 should have two independent directors and one independent supervisor. It can be seen that Taiwan holds a positive view on the function of independent directors. From the relevant inferences, it is known that the higher the ratio of independent directors to the board of directors, the better the function of representing members of the board of directors.

(2) Shareholding pledge ratio of the board of directors

Most listed companies in Taiwan are controlled by families. In order to gain the ability to control the company's operations, they usually pledge their stocks to financial institutions to obtain funds, and then purchase stocks from the open market to obtain the right to operate the company. Pledge of directors' shareholding will lead to the deviation of control rights and cash flow rights. In order to prevent the company's stock price from falling and affect personal wealth, the pledged directors have incentives and motives to use earnings to manipulate and report false financial forecasts to affect the company's stock price. making financial reporting less reliable. Therefore, the goals of other shareholders gradually become inconsistent, and the severity of the agency problem is deepened. Chen and Hu (2001) took companies with more investment opportunities as samples, and the study showed that the behavior of directors and supervisors' equity pledge will increase the company's risk. It can be inferred from the above literature that the higher the shareholding pledge

ratio of the board of directors, the poorer the function of board members.

(3) Busy directors

A director who serves as a director of multiple companies is a busy director (Fich and Shivadasani, 2005). When directors hold several positions, they are limited by factors such as time and ability, which can easily divert their focus on the company and reduce the effectiveness of corporate governance. Elloumi and Gueyie (2001) shows that the more independent directors hold positions in other companies, the higher the probability of financial crisis. Therefore, most studies believe that the concurrent appointment of directors may lead to directors' inability to devote sufficient time to perform their duties and reduce the supervision of managers (Core et al. 1999; Millron, 2000).

However, Yermack (2004) believes that busy directors will actively engage in supervisory work in order to maintain their reputation, which will help improve the quality of the board. Zhang Hanshu's (2006) research in China found that when the ratio of busy directors to the board of directors is high, they cannot fully perform their due functions due to too many part-time jobs, thereby reducing the company's operating performance. The number of independent directors of Taiwan's special public offering companies shall not exceed three concurrently as independent directors of other public offering companies. This shows that Taiwan has a negative view of busy directors. That is, the more the number of concurrent directors on the board of directors, the worse the function of the board members.

(4) Director's background (professional knowledge and experience)

Regarding the background of the board of directors, it is generally believed that directors have diverse professional knowledge and experience, and can use their professional skills and past experience to give more diversified suggestions and assistance to the company and managers, and improve the quality of decision-making and supervision of the board of directors. Spence (1973) research shows that there is a significant positive correlation between educational attainment and job quality. Therefore, with the improvement of education level, directors can reflect their accumulated knowledge and professional skills in their work performance, and further improve their business performance. Nicholson and Kiel (2004) argue that directors' expertise and experience can help them supervise large and complex firms. Bhagat and Black (1999) pointed out that directors' professional knowledge and experience are more important than independence. Domestic research also believes that the higher the average education level of the board of directors, the better the company's performance.

At present, there are many laws and regulations that require members of the board of directors to have accounting background or experience. It is shown that directors with a background in accounting practice or accounting experts can strengthen the corporate governance mechanism. Sori et al. (2007) pointed out that independent directors have knowledge and background related to accounting or law, which can enhance the supervisory function of the audit committee. Xie et al. (2003) found that the higher the ratio of independent directors with management and financial backgrounds in the composition of the board and audit committee, the more inhibited managers from engaging in earnings management. McDaniel, Martin and Maines (2002) also pointed out that the board of directors has experts with financial accounting background, will raise more non-recurring items, and will also comply with financial accounting standards and meet the requirements of external auditors. It is inferred from the past literature that the richer the professional experience of directors, the better the function of board members.

(5) Number of Board Meetings and Attendance Rate

With the increase in the number of board meetings and the increase in the attendance rate of directors, the representative directors put more effort into their responsibilities, which helps to understand the company's operating conditions and improves the operating efficiency of the board of directors. Vafeas (1999) pointed out that increasing the number of board meetings can improve corporate performance. Xie et al. (2003) found that the more frequent the board meeting was, the lower the firm's adjudicative liquidity accrual, and the representative holding board meeting could strengthen the supervision of the company's financial reporting. Abbott et al. (2000) found that an audit committee meeting at least twice a year in the year before the annual report fraud can reduce the likelihood of a company's major financial reporting fraud. Farber (2005) mentioned that in the year of fraud, the frequency of meetings of the fraudulent company will increase, which in turn enables the company to identify the lack of internal control. Jiraporn et al. (2009a) empirically found that the attendance of busy directors was poor, and the number of attendances was not affected by the factor of shareholding. Therefore, this study infers that the more the number of board meetings and the higher the attendance rate, the better the function of board members.

(6) Shareholding ratio of the board of directors

According to the argument of the convergence of interest hypothesis, when the management authority and directors hold a higher shareholding ratio, they will be motivated to pursue the behavior of maximizing the value of the company because their own wealth is combined with the company's interests. Fama and

Jensen (1983) found that the number of shares held by directors and supervisors is negatively related to agency costs, and board members will do their best to supervise the decision-making of the management authority because of the high shareholding ratio. Kesner (1987) showed that director shareholding has a positive impact on firm performance. Liao (2006) pointed out that in non-family enterprises, the higher the director's shareholding, the better the company's performance, especially the influence of the equity of internal directors and supervisors is more significant. Taiwan's law stipulates that directors and supervisors of public offering companies must hold a certain percentage of the company's shares, so as to enhance the supervisory function of directors and protect the rights and interests of shareholders. It is inferred from the above literature that the higher the shareholding ratio of the board of directors, the better the function of the board members.

The influence of the functions of board members on the degree of information disclosure

Jensen and Meckling (1976) argue that the agency problem arises because of information asymmetry between shareholders and managers. No matter whether the agency problem is strong or weak, it will lead to low operating efficiency. To solve these problems, the only way to solve these problems is to strengthen the corporate governance mechanism. The operation of the board of directors is the foundation of sound corporate governance. The board of directors will urge managers to disclose more company information in order to strengthen the ability to make company business decisions and ensure that the company abides by relevant laws and regulations. The transparency of financial reports is bound to be improved, and information inaccuracy will be reduced. Symmetrical situation maximizes the effect of corporate governance.

Reviewing previous studies on the degree of information disclosure, it is found that there is generally a positive correlation with the function of board members as inferred by this study. Forker (1992) found that the higher the proportion of independent directors in the board of directors, the better the management authority's compliance with the regulatory agency's disclosure of annual reports, the higher the quality of information disclosure, and the less likely the management authority to hide company information to obtain benefits. Chen (2007) also found that the higher the ratio of independent directors is positively correlated with the company's level of information disclosure. Most research suggests that the professional competence and supervisory function of independent directors can improve the quality of financial reporting, prevent the management from harming the interests of stakeholders by taking advantage of their positions, and reduce the degree of information asymmetry between management and shareholders.

Ho and Wong (2001) believe that the proportion of

family members in directors is negatively related to the quality of voluntary disclosure by companies. Fan and Wong (2002) pointed out that when the proportion of control rights is greater than the proportion of cash flow rights, the controlling shareholders report accounting information based on their own interests, and hide the company's information to other shareholders, reducing the transparency of financial reports. The behavior of directors' shareholding and pledge is likely to cause the deviation of control rights and cash flow rights, so it will also affect the degree of company information disclosure. In the exploration of the relationship between busy directors and the degree of information disclosure, Burt (1983) believed that company directors also hold important positions in other companies (such as directors, senior managers, etc.), so they can obtain information on the operation of different corporate governance and provide them with management authorities. Reference to help it improve the efficiency of corporate governance, further strengthen information transparency, and reduce the problem of information asymmetry inside and outside the company. Huang (2004) shows that the larger the board size, the more diverse the background of the board members, and the different requirements for information, thus requiring companies to improve the quality of information disclosure.

The influence of politically connected board members on the degree of information disclosure

Prior academic research suggests that exchanges between politicians and corporations enhance the value of politically connected firms, including low-interest borrowing from government state-owned banks, lower taxes, preferential treatment in competing for government contracts, easing corporate oversight requirements, or Tighter regulation of its competitors, among many other means (Adhikari et al., 2006; Faccio et al., 2006; Goldman et al., 2009). Adhikari et al. (2006) took Malaysia as a research object and confirmed that politically linked companies enjoy lower taxes than non-linked companies of the same size. It can be seen that political relations are a major determinant of tax rates. Khwaja and Mian (2005) points out that politically connected firms can use their political influence to obtain preferential debt financing from state-run banks. Luo and Liu (2009) explored the political connections of Chinese private enterprises, showing that companies with political connections are more likely to obtain concessions and operate special industries restricted by the government. Faccio et al. (2006) found that the government is more likely to bail out politically linked firms in times of economic downturn or financial distress. will face less risk. Goldman et al. (2009) pointed out that companies with political connections in the United States tend to obtain highly profitable government procurement contracts. Li et al. (2008) took Chinese private enterprises as a research sample, and showed that when the owners of private enterprises are

members of the Communist Party of China, they have a positive impact on the performance of their enterprises. Wong (2010) studied the impact of political ties on corporate performance and found that political ties can improve corporate equity returns and market-to-book value ratios.

Regarding the relationship between political connection and information transparency, Piotroski and Smith (2004) used a cross-country sample analysis to point out that companies with higher government-owned equity have lower financial information transparency. Bushman et al. (2004) researched that the information transparency of non-state-owned enterprises will be lower as the government holds more equity. It is generally believed that companies involved in political figures or the government will have a lower degree of information disclosure, so companies with political connections may influence the company's information disclosure (Walker and Reid, 2002; Shleifer and Vishny, 1994). Jomo and Gomez (2000) pointed out that politically linked companies have the characteristics of favoring cronies and opaque information compared with non-politically linked companies. Leuz and Oberholzer-Gee (2006) found that companies with close political ties are less willing to provide information on the company's capital supervision. Because government figures may face the risk of exposure when they use their influence, some compensation is usually required. On the other hand, companies avoid exposure to gain from political connections, so these compensations are usually hidden, revealing too much Company information can lead to third parties monitoring the legitimacy of the benefits. Therefore, the quality of information disclosure of politically linked enterprises is lower, especially in relation-based economic systems (Shleifer and Vishny, 1994).

However, many literatures have found that politically connected companies have the motivation to increase the quality of information disclosure. Because the insiders of politically connected companies prefer to choose higher-quality connections in order to avoid false public-private connections during elections Financial reporting to ensure the trust of outside investors (Jensen and Meckling, 1976; Watts and Zimmerman, 1983). Guedhami et al. (2010) argue that politically connected firms prefer to appoint firms with high audit quality, thereby sending a signal to external investors that firm resources will not be diverted by politically connected insiders. Therefore, when a company employs directors with good political and business relations, these directors, based on their own reputation and reputation, will hope that the company can improve the quality of its information disclosure. Based on the above, whether the influence of politically connected boards on the degree of information disclosure is positive or negative remains to be further verified.

Hypothesis development

The personal knowledge and experience of the board members will affect the decision-making quality of the board of directors. Directors with rich professional knowledge, skills and qualities usually have a deep and broad-level business vision. When making decisions and judgments for the company, they will actively ask the management to provide different backgrounds. The relevant information in the field is of great help to the degree of information disclosure, and also has a positive impact on the quality and value of the company's decision-making. Vafeas (1999) believes that the number of board meetings represents the efficiency of board operations. According to the viewpoint of agency theory, with the effective development of corporate governance mechanism, it is beneficial to improve information transparency and reduce the problem of information asymmetry. Therefore, the degree of information disclosure of a company may be affected by the number of board meetings.

Based on the above and literature discussion, with good function of board members, the company will have a higher level of information disclosure. The higher the average pledge ratio of the board of directors, the more the average number of part-time companies on the board of directors, which means that there is a poor function of board member. At this time, the company will have a low-quality information disclosure level. In addition, this study refers to DeFond et al. (2005), which combines the above-mentioned functions of board members according to the expected direction, and develops a single indicator to measure the function of the overall board as a proxy variable of the function of the board of directors. A well-functioning board of directors is expected to urge management to disclose more corporate information, whether in monitoring or decision-making. From the above discussion, it is known that the function of board members is positively related to the quality of information disclosure. Therefore, the following issues are developed: Validated Hypotheses:

Hypothesis 1: Boards with better director functions will have higher levels of information disclosure.

The board of directors can not only increase the value of the company by supervising or providing decision-making advice, but also obtain benefits from the political relationship of the board of directors, further enhancing the performance and value of the company, which is one of the reasons why politically connected companies are common around the world. The results of previous research have two different views. Piotroski et al. (2008) researched that information transparency can limit the ability of politicians and managers to control private interests, and they found that politically connected companies especially like to hide information about bad economic

outcomes. Leuz and Oberholzer-Gee (2006) pointed out that companies with close political ties are less willing to provide information on the company's capital. In other words, companies with close political ties are less likely to be subject to strict public supervision. Chaney et al. (2011) shows that the quality of accounting information of companies with political ties is lower than that of companies without political ties. Therefore, politically linked companies may mislead the investing public by deliberately disclosing low-quality information so that insiders can profit from the payments made by the company.

However, Faccio (2006) found that global enterprises generally have political relations, and the more democratic the national system, the higher the quality of corporate information disclosure. Jensen and Meckling (1976) and Watts and Zimmerman (1983) pointed out that politically connected company insiders choose high-quality financial reports to gain the trust of foreign investors in order to avoid false public-private connections during elections. It can be seen that in countries with sound legal systems and developed market mechanisms, when companies employ directors with good political and business relations, in order to maintain their own reputation and reputation, these directors will hope that the company can improve the quality of information disclosure, so as to make external investment. It was stated that company resources would not be improperly diverted by politically connected insiders.

It is quite common for Taiwanese politicians to participate in politics as directors of listed companies, senior executives or major shareholders. Therefore, this study intends to examine the influence of directors' political connections on the quality of information disclosure. Knowing that there is a certain degree of correlation between politically connected boards of directors and the quality of information disclosure, this study develops the following hypotheses to be tested:

Hypothesis 2: Politically connected boards are associated with levels of information disclosure.

3. RESEARCH METHODS AND DESIGN

(1) The influence of the functions of board members on the quality of information disclosure

This study aims to explore the impact of board member functions on the quality of information disclosure. The measurement of board member functions is to add up the indicators of seven board functions to obtain a single indicator of the overall board function. The Ordered Probit model is described as follows:

$$\text{Disclosure} = \alpha_0 + \alpha_1 \text{DIRE_Function} + \alpha_2 \text{SIZE} + \alpha_3 \text{LEV} + \alpha_4 \text{CPA} + \alpha_5 \text{ROA} + \alpha_6 \text{GROWTH} + \delta \text{YEAR} + \varphi \text{INDUSTRY} + \varepsilon \quad (1)$$

(2) The influence of politically connected boards of

directors on the quality of information disclosure

In order to clarify the influence of the political connection of the board of directors on the quality of information disclosure, this study constructs a dummy variable (DIRE_Political) to measure whether the board members have political connections. The Ordered Probit model is described as follows:

$$\text{Disclosure} = \beta_0 + \beta_1 \text{DIRE_Political} + \beta_2 \text{SIZE} + \beta_3 \text{LEV} + \beta_4 \text{CPA} + \beta_5 \text{ROA} + \beta_6 \text{GROWTH} + \delta \text{YEAR} + \varphi \text{INDUSTRY} + \varepsilon \quad (2)$$

Disclosure = level of disclosure

DIRE_Function = Board Member Function

DIRE_Political = Political Links to the Board

SIZE = company size

LEV = financial leverage ratio

CPA = accounting firm

ROA = Profitability

GROWTH = operating income growth rate

Levels of Information Disclosure

This study is based on the results of the information disclosure assessment published by the Securities and Foundation, as a measure of the quality of information disclosure. There are five categories, including compliance with relevant laws and regulations on information disclosure, timeliness of information disclosure, disclosure of predictive financial information, information disclosure of annual reports, and information disclosure of websites. The rated companies are divided into 5 grades according to the evaluation results, which are divided into A+, A, B, C and C-. This study set, A+ grade: 5, A grade: 4, B grade: 3, C grade: 2, C- grade: 1. Since the information disclosure evaluation system evaluates the company's information disclosure level through a professional third party, it is independent and impartial. Therefore, this study uses the results of the information disclosure assessment as a proxy variable for the quality of corporate disclosure.

Measurement of independent variables

Board Member Function (DIRE_Function)

This study refers to the practice of DeFond et al. (2005), and establishes a dummy variable to measure the function of the board of directors (DIRE_Function). First, seven indicators are used to calculate the score of the board function. When the company's score is greater than the sample median, it is listed as a Better board function (the DIRE_Function variable is set to 1), and if it is less than the median, it is classified as poor board function (the DIRE_Function variable is set to 0). The above seven indicators are board independence, board average Number of part-time companies (busy board), average board profession (board profession), average board pledge ratio (board pledge), average number of

board meetings (board meetings), average board education (board education) and board ownership ratio (board ownership). The descriptions of its seven indicators are as follows:

(1) Board independence: The ratio of the number of independent directors to the total number of directors is the basis for measuring this variable. Past research has shown that independent directors can strengthen the function of the board of directors, and when the proportion of independent directors on the board of directors is larger, the possibility of fraud can be reduced (Klein, 2002). Therefore, this study believes that the higher the independence of the board of directors, the better the function of the board members, so set the proportion of independent directors on the board of directors is greater than the sample median as 1, and set as 0 if it is less than the sample median.

(2) The average number of part-time companies on the board of directors (busy board): Most studies believe that busy directors cannot devote sufficient time to perform their duties as directors, which leads to a decrease in the effectiveness of the supervisory mechanism (Core et al. 1999; Millron, 2000). Therefore, this study uses the average number of part-time companies on the board of directors of the company as a measure. When the average number of part-time companies on the board of directors of the company is less than the sample median, it is set to 1, and if it is greater than the sample median, it is set to 0.

(3) The average professional degree of the board of directors (board profession): when the directors have professional experience and background, they can increase the company's business vision, master information from different backgrounds and fields, provide management authorities with more professional advice, and improve management decision-making Quality (Liu and Ye, 1999). Therefore, this study believes that the higher the professional level of the board of directors, the better the function of the board members. Therefore, the ratio of the number of directors with legal and business background to the total number of directors is used as the basis for measuring this variable. When the ratio is greater than the sample median, it is set as 1, set to 0 if it is less than the sample median.

(4) The average board pledge ratio (board pledge): stock pledge is a financing method for credit expansion, and it is easy to deepen the severity of the agency problem. Previous studies have found that the higher the shareholding and pledge ratio of directors and supervisors, the worse the company's operating performance (Xiong, 2000; Chen, 2001; Qiu, 2002). Therefore, this study takes the average pledge ratio of board members as a measure. When the pledge ratio is less than the sample median, it is set to 1, and if it is greater than the sample median, it is set to 0.

(5) The average attendance rate of board meetings

(board meetings): Directors' attendance at board meetings is generally regarded as the degree of participation in company affairs and management decisions. The lower the accruals, the greater the oversight of the company's financial reporting by representatives holding board meetings. Therefore, this study uses the average attendance rate of board members of each company's board of directors in the annual report as a measure. When the company's average board meeting attendance rate is greater than the sample median, it is set to 1, and if it is less than the sample median, it is set to 0.

(6) Average board education: Past studies have shown that the average education level of board members is positively correlated with company performance (Liao, Li, and Wu, 2006). Therefore, this study divides the educational background of directors into four levels: primary and secondary school, senior high school, junior college, master and doctorate. 3 for directors; 4 for directors with a master's degree and a doctorate. Add up the scores of all directors of the company and divide by the number of directors to obtain the ratio of the average educational background of the board of directors. The ratio Yu Gao indicates that the professional knowledge of the directors is more sufficient. Set to 1 if it is greater than the sample median, and set to 0 if it is less than the sample median.

(7) Board ownership ratio:

Fama and Jensen (1983) believe that the shareholding of directors and supervisors is an effective internal control mechanism. When the shareholding ratio of directors and supervisors is high, it can effectively reduce agency costs and prevent management from engaging in behaviors that damage the company's value. Therefore, this study uses the shareholding ratio of board members of each company as a measure to measure the degree of ownership concentration of board members. When the shareholding ratio is greater than the sample median, it is set to 1, and if it is less than the sample median, it is set to 0.

Overall, this study expects a board with better director function to have a positive impact on the quality of disclosure.

Board of Directors with Political Connections (DIRE_Political)

This study constructs a dummy variable with political connections among board members. The variable is based on whether any member of the board of directors of each company has or is currently holding political positions such as central government officials, public opinion representatives or political party positions. If you have held relevant political positions in the past, let it be 1 (set the DIRE_Political variable to 1), otherwise let it be 0 (set the DIRE_Political variable to 0). This study expects politically connected boards to

be associated with disclosure levels, but does not anticipate a direction.

Research Period and Data Sources

This study focuses on companies listed on the Taiwan Stock Exchange from 2016 to 2020. The empirical data sources required for this study are mainly collected and organized manually. The relevant information on the functions of board members is obtained from the annual report of the shareholders' meeting of listed companies in the Public Information Observatory. The politically linked information on directors holding political party positions is collected from the websites of various political parties. The part that directors hold government positions is taken from the websites of governments and agencies at all levels. The source of the information disclosure level is the SEC website. The financial variable information is retrieved from the database of Taiwan Economic News. The samples for this study were selected from the listed OTC companies publicly issued by the Taiwan Stock Exchange and the OTC Trading Center. The selection period was from 2016 to 2020. For the sample selection process, please refer to Panel A in Table 1.

This study is based on firm-year as an observation, five-year samples were obtained from the annual reports published by the listed companies in the public information observatory, and 9,369 research samples were initially selected, excluding 213 companies in the financial, insurance and securities industries, and deducting the lower part of the research period. There were 4,359 samples with incomplete information on city and related variables, and finally 4,797 valid samples were obtained.

This study uses the TEJ industry code in the Taiwan Economic News Database as the standard to classify the industries of each sample. The industry distribution of the samples is shown in Panel B of Table 1. Among them, the electronics industry has the largest proportion, accounting for 57.41% of the total sample. %, which is greater than the sum of the number of companies in other industries. It shows that companies in the high-tech industry account for the largest number, followed by chemical, medical, medical, and electrical machinery industries, with sample ratios of 6.11% and 5.25%, respectively.

Table 1. Sample selection process and industry/annual distribution of sample companies

Panel A: Sample Screening Process			
From 2016 to 2020, Taiwan does not include a sample of listed (cabinet) companies that do not include the calendar year system			9,369
Less: Exclude sample of financial, insurance and securities companies			(213)
Minus: delisting during the study period, incomplete data on relevant variables			(4,359)
number of valid samples			4,797
Panel B: Industry distribution of sample companies			
Industry name	Industry code	Number of samples	% of the total sample
cement industry	11	34	0.71%
food industry	12	106	2.21%
Plastic Industry	13	125	2.63%
textile industry	14	195	4.07%
Motor machinery	15	252	5.25%
electrical cable	16	65	1.36%
chemical technology medical	17	293	6.11%
glass ceramic	18	20	0.42%
paper industry	19	35	0.73%
iron industry	20	145	3.02%
rubber industry	21	51	1.06%
auto industry	22	25	0.52%

electronics industry	23	2754	57.41%
Building materials construction	25	194	4.04%
Shipping	26	91	1.90%
go sightseeing	27	35	0.73%
trade department store	29	75	1.56%
Oil, electricity and gas	97	50	1.04%
other	99	252	5.25%
total		4,797	100%

4. EMPIRICAL RESULTS

Descriptive Statistical Analysis

Table 2 of Panel A is the descriptive statistics of each variable. First of all, the average number of the information disclosure level (Disclosure) of the variable number is 3.096, that is to say, the average level of B is obtained, and the company with the worst information disclosure evaluation is 1.000, that is, it is obtained C-grade. In terms of independent variables, the average number of board member functions (DIRE_Function) is 0.312 and the median is 0.000, indicating that there is still a lot of room for improvement in board functions of Taiwan. The average number of board members with

political connections (DIRE_Political) The number is 0.205 and the median is 0.000, indicating that 20.5% of Taiwan listed OTC companies employ board members with political connections. In terms of control variables, the mean of company size (SIZE) is 6.708, the median is 6.629; the mean of financial leverage ratio (LEV) is 0.418, the median is 0.423; the mean of accounting firms (CPA) is 0.848, The median is 1.000, indicating that most of Taiwan's listed OTC companies are checked by the Big Four accounting firms; the average profitability (ROA) is 0.064, the median is 0.058; the average growth rate (GROWTH) is 0.122, the median 0.064.

Table 2. Sample descriptive statistics

All samples (N=4,797)						
variable a	average	standard deviation	minimum	Q1	median	Q3
strain number						
Disclosure	3.096	0.757	1.000	3.000	3.000	4.000
independent variable						
DIRE_Function	0.312	0.463	0.000	0.000	0.000	1.000
DIRE_Political	0.205	0.404	0.000	0.000	0.000	0.000
control variable						
SIZE	6.708	0.608	5.183	6.277	6.629	7.029
LEV	0.418	0.168	0.013	0.291	0.423	0.539
CPA	0.848	0.359	0.000	1.000	1.000	1.000
ROA	0.064	0.108	-0.785	0.010	0.058	0.115
GROWTH	0.122	0.704	-0.961	-0.085	0.064	0.231

a. Variable description:

- Disclosure = The information disclosure evaluation results published by the Securities and Foundation, A+ grade: 5, A grade: 4, B grade: 3, C grade: 2, C- grade: 1.
- DIRE_Function = If the board member function, when the company's score is greater than the sample median, it is classified as a better board member function (the DIRE_Function variable is set to 1), and if it is less than the median, it is listed as a poor board member function (the DIRE_Function variable set to 0).

DIRE_Political	=	If the director of the company has held relevant political positions at present or in the past, let it be 1, otherwise let it be 0. 1, otherwise 0
SIZE	=	The company's total assets at the end of the year take the natural logarithm.
LEV	=	The company's total liabilities at the end of the year divided by its total assets.
CPA	=	If the company is checked by QinyeZhongxin, AnhouJianye, Zicheng, and Ernst & Young, it is 1; otherwise, it is 0.
ROA	=	Operating profit in the last 4 quarters/[(current assets + fixed assets - short-term investments) + (current assets for the same period last year + fixed assets for the same period last year - short-term investments for the same period last year)]
GROWTH	=	(net operating income - net operating income for the same period last year)/net operating income for the same period last year

b.***, **, * represent the 1%, 5%, and 10% significance levels, respectively.

c . The mean difference between the two groups was tested by t test; the median difference was tested by Wilcoxon rank sign test.

Correlation Analysis

Table 3 shows the Pearson correlation analysis of each variable. From the results in the table, it can be found that the Pearson correlation coefficient between the quality of information disclosure (Disclosure) and the function of board members (DIRE_Function) is 0.0306 and has a significant level (p=0.0338). It is shown that the board of directors with better function of board members can indeed enable enterprises to have a higher level of information disclosure, which is preliminarily in line with the expectations of the hypothesis. The Pearson correlation coefficient between the quality of information disclosure (Disclosure) and the board of directors with political connections (DIRE_Political) is 0.0706, and both are positively correlated and reach a significant level (p=0.0000). It indicates that politically connected boards of directors are related to the quality of information disclosure,

which preliminarily meets the expectations of the hypothesis.

The quality of information disclosure is significantly positively correlated with company size (SIZE), accounting firm (CPA), and profitability (ROA), and is significantly negatively correlated with financial leverage ratio (LEV) and growth rate (GROWTH), which initially supports company size. , accounting firm, profitability, financial leverage ratio, growth rate is one of the main factors explaining the quality of corporate information disclosure. Overall, the correlation coefficient between the explanatory variables does not exceed 0.5, indicating that the degree of collinearity between the explanatory variables is not serious. Therefore, the inference of the empirical results will not be affected by the collinearity problem in the regression analysis.

Table 3. Pearson correlation coefficient table

Variables	Disclosure	DIRE_Function	DIRE_Political	SIZE	LEV	CPA	ROA	GROWTH
Disclosure								
DIRE_Function	0.0306** (0.0338)							
DIRE_Political	0.0706*** (0.0000)	0.0198 (0.1693)						
SIZE	0.2318*** (0.0000)	-0.1684*** (0.0000)	0.1315*** (0.0000)					
LEV	-0.0577*** (0.0001)	-0.1481*** (0.0000)	0.0050 (0.7273)	0.3134*** (0.0000)				
CPA	0.1411*** (0.0000)	0.0201 (0.1637)	-0.0051 (0.7263)	0.1411*** (0.0000)	0.0053 (0.7116)			

ROA	0.1174*** (0.0000)	0.0664*** (0.0000)	0.0180 (0.2136)	0.1212*** (0.0000)	-0.1992*** (0.0000)	0.1209*** (0.0000)	
GROWTH	-0.0266* (0.0651)	-0.0015 (0.9186)	0.0020 (0.8879)	0.0249* (0.0851)	0.0527*** (0.0003)	-0.0078 (0.5907)	0.1590*** (0.0000)

Note: 1. All variables are defined as in Table 2.

2. () is the p value, ***, **, * represent the 1%, 5%, and 10% significance levels, respectively.

Regression Results

1. The influence of the functions of board members on the quality of information disclosure

This study uses the Ordered Probit regression model to examine the impact of board member functions on the quality of information disclosure. From the results in Table 4, it can be found that the coefficient of the board member function (DIRE_Function) variable is significantly positive (coefficient estimate = 0.070, p = 0.056), which is consistent with the expected results, showing that boards with better board member functions will have higher levels of information disclosure. This result also shows that boards with good functions will urge management to disclose more company information, in order to strengthen the ability of board members to supervise the company and make decisions. It can be seen that the board of directors has irreplaceable importance in reducing information asymmetry.

As for the control variable, company size (SIZE) has a significant positive correlation with the quality of information disclosure (estimated coefficient = 0.513, p = 0.000), indicating that large companies have more economies of scale in collecting information and are more willing to provide detailed information to make

the information available. The quality of disclosure is better; the financial leverage ratio (LEV) is significantly negatively correlated with the quality of information disclosure (estimated coefficient=-0.630, p=0.000), which is not in line with our expectations. It can be seen that the higher the debt ratio, the more It is easy to reduce the quality of information disclosure and hide the potential costs borne by shareholders; accounting firms (CPA) are significantly positively correlated with the quality of information disclosure (estimated coefficient = 0.207, p = 0.000), indicating that large accounting firms are more independent , and in order to maintain the reputation of the firm, the company will be required to disclose more information, so that the quality of information disclosure is better; Profitability (ROA) is significantly positively correlated with the quality of information disclosure (coefficient estimate = 0.563, p = 0.001), indicating that companies with good profits will actively disclose more information to the investing public; the growth rate (GROWTH) is significantly negatively correlated with the quality of information disclosure (estimated coefficient=-0.051, p=0.028), which is inconsistent with the expected direction, showing that the higher the company's growth rate, the worse the quality of information disclosure.

Table 4. The relationship between the functions of board and the quality of information disclosure

Dependent Variable=Disclosure				
Variables	Expected Sign	Coefficient	Z-statistic	p-value
DIRE_Function	+	0.070	1.910	0.056 *
SIZE	+	0.513	16.560	0.000 ***
LEV	+	-0.630	-5.850	0.000 ***
CPA	+	0.207	4.470	0.000 ***
ROA	+	0.563	3.230	0.001 ***
GROWTH	+	-0.051	-2.190	0.028 **
YEAR		omit	omit	omit
INDUSTRY		omit	omit	omit
Log likelihood		-5050.945		
Pseudo R 2		0.071		

Note: 1. All variables are defined as in Table 2.

2. ***, **, * represent 1%, 5%, and 10% significance levels, respectively.

2. The influence of politically connected boards of directors on the quality of information disclosure

This study uses Ordered Probit regression model to examine the influence of politically connected boards of directors on the quality of information disclosure. From the results in Table 5, it can be found that the coefficient of the politically connected board of directors (DIRE_Political) variable is significantly positive (coefficient estimate = 0.120, p = 0.003), in line with the expectations of this study, showing a correlation between politically connected boards and levels of disclosure, and consistent with Jensen and Meckling (1976) and Watts and Zimmerman (1983). The findings are consistent, showing that a board of directors with political connections has a positive impact on the quality of information disclosure. The empirical results also show that directors with good political and business relations will supervise the company to improve the quality of information disclosure based on their reputation and reputation. , to gain the trust of foreign investors.

As for the control variables, the company size (SIZE) was significantly positively correlated with the quality of information disclosure (estimated coefficient = 0.496, p=0.000); the leverage ratio (LEV) was significantly negatively correlated with the quality of information disclosure (estimated coefficient = -0.630), p=0.000); accounting firm (CPA) was significantly positively correlated with the quality of information disclosure (estimated coefficient = 0.211, p=0.000); profitability (ROA) was significantly positively correlated with the quality of information disclosure (estimated coefficient = 0.579, p=0.001); the growth rate (GROWTH) was significantly negatively correlated with the quality of information disclosure (estimated coefficient=-0.052, p=0.027), consistent with the results in Table 4, supporting company size, financial leverage ratio, accounting affairs Profitability, profitability, and growth rate are important factors explaining the quality of corporate information disclosure.

Table 5. The relationship between the politically linked board of directors and the quality of information disclosure

Dependent Variable=Disclosure				
Variable	Expected Sign	Coefficient	Z-statistic	p-value
DIRE_Politicaly	?	0.120	2.950	0.003 ***
SIZE	+	0.496	16.030	0.000 ***
LEV	+	-0.630	-5.850	0.000 ***
CPA	+	0.211	4.540	0.000 ***
ROA	+	0.579	3.330	0.001 ***
GROWTH	+	-0.052	-2.220	0.027 **
YEAR		omit	omit	omit
INDUSTRY		omit	omit	omit
Log likelihood		-5048.432		
Pseudo R 2		0.071		

Note: 1. All variables are defined as in Table 2.

2. () is the p value, ***, **, * represent the 1%, 5%, and 10% significance levels, respectively.

3. Measurement of the functions of board members - measured by the original total score

This study uses seven indicators to calculate the score of board function. When the company's score is greater than the sample median, it is classified as a better board function (the DIRE_Function variable is set to 1), and if it is less than the median, it is classified as a poor board function. (then the DIRE_Function variable is set to 0), in order to avoid the difference in the measurement basis of the board member functions (DIRE_Function),

which will affect the robustness of the results of this study, this study is based on the original total score of the board member functions and re-implemented the table. The return of 4. The relevant results are shown in Table 7. The coefficient of the DIRE_Function variable is significantly positive (coefficient estimate = 0.053, p = 0.000), indicating that the board with better director function has a higher quality of information disclosure. In terms of control variables, the coefficients of company size (SIZE), accounting firm (CPA), and

profitability (ROA) are 0.529, 0.202, and 0.547, showing a significant positive correlation; financial leverage ratio (LEV), growth rate (GROWTH) The coefficients are -0.615 and -0.051, showing a significant negative correlation, which is the same as the previous

research results. It shows that company size, financial leverage ratio, accounting firm, profitability, and growth rate are important factors in explaining the quality of corporate information disclosure.

Table 7. Board Member Functions - Measured by Raw Total Score

Dependent Variable=Disclosure				
Variable	Expectd Sign	Coefficient	Z-statistic	p-value
DIRE_Function	+	0.053	4.180	0.000 ***
SIZE	+	0.529	16.910	0.000 ***
LEV	+	-0.615	-5.700	0.000 ***
CPA	+	0.202	4.340	0.000 ***
ROA	+	0.547	3.140	0.002 ***
GROWTH	+	-0.051	-2.190	0.028 **
YEAR		omit	omit	omit
INDUSTRY		omit	omit	omit
Log likelihood		-5044.021		
Pseudo R 2		0.072		

Note: 1. All variables are defined as in Table 2

3. ***, **, * represent 1%, 5%, and 10% significance levels, respectively

5. CONCLUSIONS

Good corporate governance can improve the quality of information disclosure. The board of directors is the core of internal corporate governance, and board members play a pivotal role in reducing information asymmetry. This study integrates the literature variables such as the functions of board members in the past, and establishes a single comprehensive indicator as Surrogate variables for overall board functions, exploring the correlation between board member functions and disclosure levels. The economic environment of Taiwan is different from that of European and American countries and Southeast Asian countries. There is still room for further discussion on whether past researches related to political connections are applicable to the Taiwan market. There is no consistent statement in many foreign research literatures on the impact of transparency in the past. Therefore, this study specifically explores whether politically connected boards of directors will affect the quality of information disclosure of companies.

The empirical results show that the board of directors does play the most important role in corporate information disclosure. A board of directors with better functions represents a better corporate governance mechanism, and directors can more impartially implement the mission entrusted by shareholders, and also improve the quality of information disclosure. In

addition, the higher the independence of the board of directors, the more objectively it can supervise the company's financial reporting, and the quality of information disclosure will also improve; the higher the director's shareholding and the lower the pledge ratio, the more the interests of directors and shareholders will be aligned, and the more willing to provide Information about the business performance of investors; the higher the education level of directors and the more professional the practical background, the more knowledge and professional training they have learned can be reflected in their work, which helps to improve the operational efficiency of the board of directors.

Regarding the correlation between politically connected boards of directors and the quality of information disclosure, empirical results show that boards with political connections have higher levels of information disclosure. It can be seen that in order to maintain their own reputation and reputation, board members with political connections will demand. The company has increased the disclosure of relevant information to external investors, thereby conveying a signal that the company's resources will not be improperly diverted by politically connected insiders, thereby raising the quality of corporate information disclosure. Therefore, having a politically connected board will have a positive impact on a company's disclosure level.

6. RECOMMENDATIONS AND LIMITATIONS

This study uses the SEC Information Disclosure Evaluation System to measure the quality of information disclosure. The evaluation indicators of the system are mainly divided into compliance with relevant laws and regulations on information disclosure, timeliness of information disclosure, disclosure of predictive financial information, and annual reports. However, this study did not examine the impact of board functions on each category of indicators, so future research can expand the scope of discussion to different categories of indicators.

Additionally, because we defined one of the board members hold a political position as a political-connected company, it is restricted from holding politically related positions during the research period. Thus, it is hardly to distinguish the politically connected board members. This influence is limited to directorships, so future research could define the political ties or connections using another definition.

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EXPLORING MARKETING OPTIONS FOR SMALLHOLDER FARMERS IN TRANSITIONAL CONTEXT OF THE VIETNAMESE SHRIMP SECTOR

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Research purpose:

This study explores the marketing options of smallholder farmers in the rapidly transitioning context of Vietnamese shrimp farming.

Research motivation:

On global scale, agricultural systems are under pressure to increase productivity to meet the growing demand for food. This particularly also holds for smallholder-based systems in emerging markets which are faced with the challenge to transition to a system that can substantially increase productivity and quality. Inevitably, this also impacts on the marketing options for smallholder farmers in transitional markets.

Research design, approach and method:

Drawing on among others institutional and value chain literatures, the study collects qualitative data from in-depth interviews of sixteen informants. These informants represent a diverse background about the Vietnamese shrimp sector, including farmers, collectors, processors, exporters, extension workers, authority, and researchers.

Main findings:

Next to the traditional marketing systems, smallholder farmers can find new marketing opportunities for their shrimps through new business models such as vertical integration and cooperatives. The new opportunities however also seem to bring smallholder farmers in a dilemma where on the one hand, they want to stay in the traditional farming model because of their social commitment to the middlemen and on the other hand, they want to join new business models because of opportunities to change for export production

Practical/managerial implications:

Policy makers and companies ease the transition process for farmers by adapting business models to take smallholder farmers' social relations into account when developing policies to increase quality and productivity.

Keywords: *transitional agribusiness; smallholders; market integration; Vietnam; shrimp; aquaculture.*

THE ROLE OF ORGANIZATIONAL CAPABILITY, MARKET ORIENTATION, AND IT ADOPTION ON BUSINESS PERFORMANCE OF CREATIVE INDUSTRIAL ENTERPRISES IN SEMARANG, INDONESIA

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Research purpose:

This study aims to analyze the effect of Organizational Capability, Market Orientation, and IT Adoption on Business Performance of Creative Industry Enterprise in Semarang, Indonesia.

Research motivation:

Even though the creative industry has a very important role in the national economy, its contribution is still relatively small to the overall sectoral contribution to the national economy. Previous studies also still found different results, several studies have shown that organizational capability, market orientation, and IT adoption have a positive and significant effect on business performance, while other studies state that there is no significant effect on business performance. Referring to the phenomena and research gap mentioned, it is necessary to conduct research regarding the impact of organizational capability, market orientation, and its adoption on the business performance of creative industry enterprises in Semarang, Indonesia.

Research design, approach, and method:

A total of 67 creative industries in Semarang were used as research samples using the purposive sample method. The results of the study were analyzed by SEM-PLS.

Main findings:

The results of the study proved that Organizational Capability, Market Orientation, and IT Adoption were significantly effect on Business Performance of Creative Industry Enterprise in Semarang.

Practical/managerial implications:

The recovery of the creative industry after the COVID-19 pandemic needs to get full support from the government and the private sector, especially assistance in the form of training and information technology equipment to increase product competitiveness in local and global markets.

Keywords: *Creative industry, Organizational Capability, Market Orientation, IT Adoption, Business Performance*

EWOM AND BOOKING BEHAVIOR ON ONLINE TRAVEL AGENCIES

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Research purpose:

This study investigates the effect of EWOM, EWOM adoption in the context of electronic word of mouth (EWOM) on online accommodation booking behaviour, EWOM intention, the mediating role of customers' attitude toward online travel agency (OTA) as well as customers' attitude toward accommodation service, and the moderating role of trust in EWOM, emotional experience in predicting customer booking behaviour.

Research design, approach, and method:

The study uses Structural Equation Modelling (SEM) with survey data of 412 customers who booked their accommodation on online travel agencies (OTA). Besides, the group discussion technique is used to adjust the scale to suit the research context in Vietnam.

Main findings:

The results show that EWOM adoption is affected by 6 antecedents including EWOM quality, source credibility, service rating, EWOM quantity, ease of use of OTA, and service response. In addition, EWOM adoption has a positive influence on booking behaviour, customer attitude towards OTA and customer attitude towards accommodation service have a mediating role in the relationship between EWOM adoption and booking behaviour. In particular, the positive impact of booking behaviour on customers' EWOM intention and the moderating role of emotional experience are also supported in the results.

Practical/managerial implications:

This research implicates for the managers' policies to invest in EWOM on OTA as an effective communication channel and to create a good customer experience. Measures to increase trust in EWOM and good impression so that customers appreciate and have sympathy for OTAs are necessary.

Keywords: *Online word of mouth; trust in EWOM; online customer behaviour; SOR; emotional experience; customers' attitude.*

FACTORS AFFECTING IMPULSE BUYING BEHAVIOR OF VIETNAM CONSUMERS DURING COVID-19 PANDEMIC

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Research purpose:

The major purpose of this study was to explore factors impact on impulse buying behavior in the context of the COVID-19 pandemic based on the Stimuli-Organism-Response model (Mehrabian and Russell, 1974), which enriches the application scenario of S-O-R model and extends research related to the COVID-19 pandemic to the consumer level.

Research motivation:

Impulsive buying means making an unplanned purchase. During the COVID-19 pandemic, this behavior occurs more frequently that has caused a serious shortage of emergency supplies and intensified public panic.

Research design, approach, and method:

In order to test the proposed model and hypotheses, an online survey, in Google form, was administered via emails and Facebook groups. After the data screening process, 454 valid questionnaires were used for final analysis. The data was then processed by SPSS 23 and AMOS 22 software.

Main findings:

The findings indicated that social media and perception of Covid-19 were significant predictors of fear of Covid-19. In addition, social media, perception of Covid-19, scarcity of essential products, panic buying and fear of Covid-19 were found to be positively related to impulse buying behavior.

Practical/managerial implications:

These findings contribute to a better comprehension of how COVID-19 triggers consumer impulse buying behavior through fearful emotion, and suggest various valid implications for government, businesses and policy makers alike on how to control consumer fear and promote the consumption in Covid-19.

Keywords: *impulse buying behavior, Covid-19, social media, fear, S-O-R model.*

VIETNAM SEAFOOD ADAPTATION TO UNCERTAINTIES AND CSR APPLICATION FOR SUSTAINABLE DEVELOPMENT

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Research purpose:

To investigate Vietnam's seafood industry adaptation in the world of uncertainties and provide a suitable strategy for venture based on situation evaluation.

Research motivation:

Seafood has played a key role in Vietnam's economy, yet the study about Covid-19 impact and venture's strategic adaptation is under-researched. Therefore, a more insightful evaluation of the pandemic's impact on the macro & microenvironment and strategic suggestions for venture adaptation need to be drawn.

Main findings:

The PESTEL analysis shows that Vietnam is having wonderful opportunity to recover after the pandemic, as the stable politic boosts the activity of free trade agreements like EVFTA and high demand from the buyer, especially from western countries. Innovative technologies such as CAS and Polyurethane storage material can help the firm to reduce costs and increase operating efficiency. Customers both domestic and international pay more attention to the reliability, quality of seafood sourcing, and environmental impact.

Practical/managerial implications:

Seafood ventures must acknowledge the opportunity outweighs the difficulty even during the pandemic of Covid-19. By understanding the competition within the microenvironment is more intense, and the customer is more aware of environment protection and seafood quality, the venture can consider suggested recommendations to their sustainable development.

Keywords: *Seafood; Adaption; Strategy; Uncertainties; Vietnam; CSR; sustainable development.*

THE EFFECTS OF PERCEIVED CORPORATE SOCIAL RESPONSIBILITY ON COMMITMENT IN GIG ECONOMY: THE MEDIATING ROLE OF EMPOWERMENT AND TRUST

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Research purpose:

The purpose of this study is to determine the effects of perceived corporate social responsibility (CSR) on gig workers' commitment to the gig economy platform. Specifically, perceived CSR is recognised as a second-order construct reflecting three aspects – economic, environment, and ethics.

Research motivation:

The gig economy is characterised by the prevalence of temporary or part-time employment, as well as the prevalence of independent contractors and freelancers as opposed to full-time workers. However, research about how the gig economy model works, the corporate social responsibility aspects and its effects on gig worker commitment is still lacking. This paper strives to assess the dimensions of Perceived CSR and its influence on commitment via the mediating roles of trust and empowerment.

Research design, approach, and method:

This study carries a focused literature review of related articles in the research theme of CSR, Empowerment, Trust and Gig economy. This paper uses content analysis to extract and aggregate challenges identified by researchers in their fieldwork and then analysed this data using qualitative approach.

Findings:

Through the integration of prior research publications, a research model has been developed to explain and develop research hypotheses. The research model suggests that the interaction between CSR knowledge and commitment with gig platforms have the mediate role of empowerment and trust. To verify the aforementioned research model, a detailed experimental investigation will be required.

Practical/Managerial implications:

Gig economy is found as a new form of employment relationship which the commitment of gig workers is usually with the platform rather than a sole employer. Owners of gig platforms should improve CSR perception to increase employee engagement and maintain of their workforce in order to attract new users.

Keywords: *Corporate Social Responsibility (CSR), Perceived CSR, Commitment, Empowerment, Trust.*

IMPACT OF PLACE ATTACHMENT ON STUDENTS' INTENTION TO RETURN TO THE PLACE OF ORIGIN

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Research purpose:

This research aims to identify and test a theoretical model of the impact of place attachment on students' intention to return to their hometown applying the platform of the theory of reason behaviour.

Research motivation:

Due to the lack of higher educational institutions in rural areas, young people from rural areas leave their hometowns to obtain higher education at big cities. Limited numbers of them, however, return back to their rural place of origin region. The rural brain drain will lead to the obstruction of home regions' development activities. How to attract more quality worker to return to their place of origin is a big question for the provincial governments.

Research design, approach, and method:

Quantitative research was conducted through a survey of 440 undergraduate students in Vietnam. Structural equation modelling with Amos version 23 was used to test the theoretical model.

Main findings:

The research confirms that natural and personal attachments with the place of origin are significantly related to return intention. Social attachment is not significantly related to return intention. The attitude towards becoming return and perceived behavioural control mediate these relationships. TPB is a valuable model for understanding the relationship between students' intention to return hometown for working and exogenous factors in Vietnam – a developing country context.

Practical/managerial implications:

From the research findings, four main recommendations have been suggested for policy makers in order to attract high quality labour resources for the economic development of cities and rural areas: preserve social networks and emotional connections of citizens, strengthen the relationship between students with their hometown, promote nature conservation.

Keywords: *Place attachment, graduate student (s), return migration, developing countries.*

DIGITAL DIVIDE WITHIN ELDERLY PEOPLE IN VIETNAM: EVIDENCE FROM A SOCIOLOGICAL SURVEY

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Research purpose:

The purpose of this research is to identify the existence and differences in the digital divide among Vietnam's elderly internet users, including accessibility, digital skills, usage, and outcomes.

Research motivation:

The rapid and breakthrough development of digital technologies in the digital age profoundly changes all human activities and lifestyles. The risk of falling behind and digital exclusion of the elderly may then emerge in the context of Vietnam's digital transformation and formation of a digital society.

Research design, approach, and method:

Research problems and assumptions are built on the basis of the van Dijk's Causal Model of Resources and Appropriation Theory of the Digital Divide. The hypotheses are validated by the results of a sociological survey conducted by the research team using a qualitative research method.

Main findings:

The existence of deep digital divide among Vietnamese elderly at all levels under the influence of their demographic characteristics and socioeconomic conditions. According to the study, there is a gradual decline in digital inclusion of the elderly with aging. Furthermore, there is the lack of attention to elderly customers by government agencies, ICT companies and online service providers.

Practical/managerial implications:

The policy implications given may be useful in closing the digital divide among the older people.

Keywords: *digital technology, digital society, digital divide, the elderly, digital inclusion*

CUSTOMER ATTITUDE TOWARDS CORPORATE SOCIAL RESPONSIBILITY OF VIETNAMESE COMPANIES

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Research purpose: The paper aims to explore the customers' attitudes towards companies' engagements in corporate socially responsible activities given the context of Covid-19 pandemic, their criterion when taking purchasing decision, and willingness to support CSR firms

Research motivation: With aim of examining customer perceptions towards CSR companies and willingness to purchase their CSR products and services, the study answers the following questions:

- (1) Are CSR initiatives perceived positively by the consumers?
- (2) What purposes do customers presume for goodwill programs?
- (3) To what extent are customers' perceptions translated into actions?
- (4) How customers react to shifts in CSR activities given challenges resulted from Covid-19 pandemic?

Research design, approach, and method:

A qualitative approach is proposed for this study. To have insights into customer perceptions and attitudes, the author utilizes semi-structured and in-depth individual interviews with customers. A small but yet diversified sample is employed as it concentrates on a thorough investigation. Hence, respondents with a range of purchasing tendencies, from quality and price conscious, and also different demographics, are selected. Besides, the CSR model by Carroll (1979) is adopted to investigate which criteria are prioritized by customers when it comes to purchasing decisions.

Main findings:

While conducting individual interviews and employing Carroll (1979)'s CSR framework, the author identifies that among advantages brought by CSR engagements, the positive customer attitude towards firms' CSR activities is one of the most significant goals of a CSR campaign and a driving force for a firm to behave responsibly. Besides, although the public generally demonstrates positiveness towards CSR engagements, not all customers are willing to financially support CSR firms; instead, there are other criteria to be emphasized when having buying considerations. Lastly, CSR framework is proved to be valid until the present since companies are expected to perform economic responsibilities and "unethical" actions first, especially in the context of CSR shifts during the pandemic.

Keywords: *Corporate social responsibility, Economic responsibility, Ethical responsibility, Philanthropic responsibility*

1. INTRODUCTION

Corporate Social Responsibility, also known as CSR, is currently one of the most widely mentioned terms since a rise in CSR initiatives, namely green movements, financial donations from firms or other forms of philanthropy in recent years have all been hinted at. Moreover, owing to the proliferation of mass media and communications, companies are increasingly successful at disclosing CSR activities to the public and enabling audiences to make an immediate approach to news about such actions.

Researches have proved a growing interest in CSR (Berens et al., 2005; Nielsen, 2008; Vlachos et al, 2009). Most consumers believe that companies should commit to social contributions and those initiatives in return would be beneficial for them (Becker-Olsen et al, 2006; Nielsen, 2008). Also, previous studies indicated that not only do customers pay attention to CSR activities but they do consider CSR when evaluating companies, especially when taking purchasing decisions (Brown & Dacin, 1997; Sen & Bhattacharya, 2001). On the other hand, despite a growing number of researches, there have been uncertainties about how the public see a

company's CSR efforts and whether specific CSR campaigns have certain impacts on changing consumer behaviours (Phole & Hittner, 2008). Hence, in-depth research has been done to better understand CSR's constituent parts as well as the relationships between their functions and customer perceptions of brand and buying intentions. More precisely, CSR initiatives can improve customers' perceptions of a certain brand or business in terms of attachment, engagement, trust and contentment (Servera-Frances & Piqueras-Tomas, 2019; Brown & Dacin, 1997; Mohr & Webb, 2005; Sen & Bhattacharya, 2001). As a result, businesses and customers evidently are two of the most critical stakeholders in such corporate social responsibilities. Furthermore, CSR initiatives significantly affect how the target market feels about the business and if they plan to make a purchase (Wongpitch et al., 2016).

Then came a global crisis, which dramatically altered the whole world as the human race has to encounter with one of the most serious fatal disease – Covid 19. As of the most recent report on December 22nd, 2021, the most severe Covid-19 epidemic in Vietnam has reached 1,588,000 total cases, 30,250 total fatalities, 16,105 total cases per million people, and 307 total deaths per million people (Worldmeters, 2021). Industries were put into turmoil as the whole world was swept by the virus, and some businesses have even declared bankruptcy (Gustafsson, 2018). It is obvious that such an unexpected event can increase the cost of CSR initiatives (Cao & Chen, 2018) and heighten consumer awareness. The disclosure of CSR initiatives has grown intensively as companies have become more adaptable and visible in a variety of media channels in order to reach out to stakeholders. Various forms of mediums, ranging from online publications, television or social media are among the popular methods for companies to market their CSR efforts. This effect was heightened by the regulations of quarantines and social distancing requiring individuals to stay at home, resulting in more exposure to digital gadgets. Moreover, whether a firm should prioritize its social obligation in this scenario or its bottom line has also put on agenda. Also, it is unclear how much customer support there would be for CSR-focused businesses. Reports on CSR are common, especially in Western nations where individuality is valued and the power imbalance is not wide. However, the CSR disclosure rate is lower in Asia, where countries are often more cautious.

Therefore, the objective of this paper is to investigate the customer attitude towards the CSR efforts of Vietnamese companies, especially amid the impacts of Covid-19 epidemic. Initially, the paper starts with relevant background information about CSR activities and researches in Vietnam, followed by the consideration of the chosen conceptual framework to evaluate the customers' perspectives and behaviours towards corporate social responsibility and presentation

of preliminary findings relating to the customers' attitudes towards CSR actions conducted by Vietnamese companies considering the emerging situation of Covid-19. Lastly, the author underlines the nature of findings and conclude with suggestions for further studies.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Conceptualization of CSR

After long-time discussion and debate under different situations, Corporate Social Responsibility has got no official and widely single accepted definitions (Freeman et al., 2010; Dusuki & Yusof, 2008; Dahlsrud, 2008) despite more than thirty-five definitions of CSR having been proposed (Dahlsrud, 2008; Matten & Moon, 2008). Apparently, this is a topic that acquires lots of attention from the general public to these days. As a way to communicate their CSR performance, a vast of businesses publish CSR reports and activities and these efforts expand as a result of increased public and corporate awareness (Orzes et al., 2020). Numerous standards have been utilized as frameworks for such social reporting. The Global Reporting Initiatives (GRI) has gained popularity for reporting sustainability since it can be used to access progress year over year and easily make comparisons with competitors (Koseoglu et al., 2021; Curto-Pages et al., 2021). Three benchmarks are offered, including indicators regarding society, economy and environment (MacNeil et al., 2021). Meanwhile, ESG (Environment, Society, and Governance) disclosures assist business entities in becoming more dependable and transparent, which will subsequently enhance their image (Chuang & Huang, 2018). Additionally, while ISO 26,000 is not certifiable, it does provide companies and the public sector with recommendations on socially responsible behaviours (Zu, 2013). The United Nations Global Compact (UNGC), which links business goals and practices to the values of human rights, labour, the environment, and anticorruption, is one of the most useful frameworks (Orzes et al., 2020). Regarding preserving social practices in the workplace, Social Accountability International's SA8000 standard and the FLA Workplace Code is the most widely used (Beijo et al., 2021).

Under this circumstance, there is one definition covering all appropriate CSR themes, considering all stakeholder focus and matching the research context of the Vietnamese economy: a new definitional by European Commission, which states that CSR is "the responsibility of enterprises for their impacts on society". (European Commission, 2011, p.6).

2.2. Covid-19 impacts on CSR domains

The pandemic has posed certain threats on different aspects and on a global scale, ranging from countries, communities to the environment and its ecosystem (Carroll, 2021). However, this paper will focus only on

companies as this domain is where CSR is most concentrated, even if the concept of these levels and in most industries.

Business entities are defined as a grouping of profit-driven firms, including one-family businesses or large international organization in addition to medium-sized companies, partnerships and single proprietorships (Carroll, 2021). Although the pandemic has substantially affected small and medium sized companies (SMEs), this paper will discuss the issues among significant and prominent organizations. It is evident that stakeholders having close relationships with enterprises are affected the most, taking the impacts of Covid-19 into consideration. Meanwhile, the most probable stakeholders to have significant impacts include: employees, consumers, communities, competitors, suppliers and the environment.

2.2.1. Economic impacts

The impacts resulted from the pandemic are undeniable, which negatively pose threats on all types of companies, especially small-scaled ones, as well as the economies, industries or business sectors. From the perspective of individual firms, the economic category represents the essence of free-enterprise system and is a vital condition or requirement for its existence and longevity (Carroll, 2021). At the first glance, it seems unusual to regard economics and financial expectations as part of the social responsibility; however, it is stressed that such expectations are a must since the society counts on businesses to provide products and services. Besides, businesses are expected to fulfil these objectives through effective strategic decision making that is integrated with their financial and operational goals.

Economic performance and suitability have become critical and compulsory goals in the present fierce global competition (Carroll, 2021). Companies fail in their economic and financial sectors or any further obligations will go out the business. Due to this, financial responsibility is a key outcome that must be met in a competitive corporate environment (Carroll, 2016), and this has been clearly demonstrated in the current pandemic period when economies have to fight for survival, let alone development.

2.2.2. Legal impact

Societies have sanctioned economic systems by allowing and expecting businesses to take on the productive role as a vital part of the social compact. Nevertheless, they have also set the guidelines or legal framework that firms are requested to follow (Carroll, 2021). As a result, laws and regulations form obligations that companies have to the society and their stakeholders, and such obligations are placed on all economic activities (Carroll, 1979). Most of legal disputes arise in an effort to protect citizens from unfavourable outcomes, poorly-made decision, and

other practices that companies may adopt (Carroll, 2015, p.90). Legislation may be seen as the “rules of the game” of business as well as “codified ethics” because laws and regulations were prompted by ethical alarms (eg. Discrimination, environmental pollution, unsafe products, dangerous working conditions and so on). Hence, the legal frameworks regulating companies are expected and demanded to be followed by business entities while they are bound to their economic objectives.

It is noted that there has not been enough time to properly assess the legal issues raised by the pandemic since it has only recently spread over the globe (Carroll, 2021). However, on the other hand, given the litigious culture we already inhabit, it is anticipated that legal issues and barriers would sharply rise, notably in terms of the labour force, supply chains, and the development, distribution and marketing of goods and services. There will be undoubtedly be more regulations, including those prohibiting social gatherings, social segregation, or wearing masks in public, at all levels rather than the municipal one. Immigration laws have already been affected, and this trend could persist.

2.2.3. Ethical impact

Legal and regulatory frameworks are critical, but they are insufficient. In many situations, business ethics must accept norms and behaviours accepted or forbidden by the society, even if they are not formalized in laws or regulations (Carroll, 2021). When it comes to ethical obligations, businesses are required to adhere to both the letter and spirit of the law. Stakeholders see ethical obligations as encompassing the full spectrum of norms, standards, values and expectations that reflect what they view as fair, just, and consistent with respecting and defending stakeholders’ moral rights and interests (Carroll, 1991).

Also, Carroll (2021) affirms that employees are one of the most important stakeholders to take into account in terms of moral conducts. Businesses are reliant on their employees; thus, their performance of economic, legal, ethical and philanthropic obligations affect companies’ members. It should be acknowledged that any moral decision or rule that influence employees lead to financial consequence and legal issues might result from failing to abide by moral principles.

In the context of Covid-19 outbreak, workers have faced the possibility of being dismissed or reduced working hours. Essential professions, including those dealing with the public issues or requiring social interaction, have to alter their personal lives to accommodate working hours or perform their duties in risky environments (Carroll, 2021). Obviously, not only can Covid-19 increase overall exhaustion, but it also exhausts different types of personnel.

2.2.4. Philanthropic impact

Philanthropic responsibility has been widely

acknowledged as the most crucial CSR domain since it delineates companies taking voluntary actions to help society through investing in or using the corporate resources on their own. In fact, some commentators claim that CSR and charity are identical. There are occasions when the voluntary efforts are justified ethically and strategically. Compatibility with company policies and bottom-line thinking would be the subject of strategic reasoning (Carroll and Shabana, 2010). In an effort to “give back to society” and establish themselves as significant, recognized corporate citizens in the eyes of stakeholders, businesses view charitable activities as voluntary, self-imposed “responsibilities” that are also publicly anticipated. Therefore, those who are involved in society either “want” or “expect” corporate philanthropic actions.

2.3. Analytical framework for corporate social responsibility

Dozens of definitions on corporate social responsibilities have been formulated, however, there is one particular outstanding framework that has been recognized with its most popular and wide usage (Visser, 2006). That is Carroll’s Pyramid Corporate Social Responsibility published in 1979, illustrating a four-part building blocks in the form of a pyramid (Figure 1). According to Carroll (1979), this framework takes into account the current societal expectations for corporates in terms of economy, laws ethics and philanthropy. Besides, it can be said that, when it comes to understanding each type of responsibility, society requires businesses to have an economic responsibility and a legal responsibility. Also, it expects businesses to acquire an ethical responsibility and desires such entities to have a philanthropic responsibility (Carroll, 1979, 1991).



Fig. 1: Carroll’s pyramid of CSR. Source: Carroll (2016)

Simultaneously, the society is sending a message to all businesses that they should abide by the law and all applicable regulations since these are society’s formulation of the fundamental principles under which corporates are to function in a democratic society

(Carroll, 2016). If CSR is considered in developing countries, for instance, then the existence or absence of a legal or regulatory framework has posed a vital impact on whether multinational corporations will or will not make investments there. This is because such legislative frameworks are essential to create a platform for legitimate corporate development.

Furthermore, Carroll (2016) affirms that conducting business ethically is demanded. In order to avoid or alleviate risks to all involved entities with whom it has interactions, companies have to bear responsibilities to operate in a moral, just and fair mechanism. Each firm is required to be a responsible individual, meaning that it should provide personnel, physical resources and economic backing to the society in which it operates.

As mentioned, Carroll’s CSR pyramid (1991) consists of four fundamental components of CSR and this framework has been applied in numerous researches by Dusuki and Yusof (2008), Huang et al (2019) and Smirnova (2012) to investigate distinct aspects of CSR and stakeholders’ viewpoints of CSR or to examine CSR orientation by Ehie (2016). Other studies which have included the framework are CSR practices (Baden, 2016) or influences of CSR on firm performances (Long, 2015; Lee et al., 2013). However, although this theoretical framework has been utilized in numerous studies, there is still an argument over the unsuitability of applying Carroll’s mode (1991) in developing countries (Visser, 2008; Maignan, 2001). Hence, taking this fact into account, this paper applies this model for data analysis to explore the suitability and new local insights in the context of Vietnam – a developing country, amid the outspread of Covid-19 epidemic.

2.3. Related works on corporate social responsibilities in Vietnam

A research conducted by Hieu (2011) discovered captivating details on two factors influencing CSR adopting and publicizing in Vietnamese enterprises. Managers’ high level of CSR knowledge may not act as a pillar in an organization’s CSR obligations and commitments. Although customers might not have a defined mindset, the study found out that CSR implementation and disclosure have greatly influenced Vietnamese customers’ comprehension of CSR and their buying intentions. Despite the fact that providing quality products and services at a fair price is an important component of being socially responsible, the CSR transparency and managerial belief are still absent. Considering the lack of national regulations and expectations of both investors and consumers, Vietnamese firms are reticent to make their CSR implementations public. Consequently, the consumer side are either clueless or have little understanding of their CSR actions and achievements. With regards to businesses, they aim to take full advantages of CSR while concurrently marketing their brands. In actual fact, most people pay more attention to product pricing

than such goodwill initiatives while making purchasing selections. Following that, there is a perceived gap between the supplying and consuming sides. Having a positive awareness on CSR management is required but not adequate for an effective CSR deployment and practices. As a result, customers having the ability to directly influence the profitability of competing enterprises and indirectly the development of the whole market should have more attentions to whether or not corporates are taking socially responsible actions (Hansen and Schrader, 1997). Issues relating to environment and society might be averted if CSR issues could earn more public attention. Positive awareness among the citizens about CSR drives firms to operate responsibly and ethically.

On the other hand, Long (2015) analyses the influences of market orientation and CSR on business performance in Vietnam, which is perceived as a transitional economy. According to his research, while CSR is constructed based on four major pillars, including economic factors, legislation, ethics and philanthropy, market orientation (MO) comprises of behavioural variables, which are customer and competitor orientations and inter-functional synergy. Accordingly, both CSR and MO pose a positive influence on a company success. The research findings show that top managers in Vietnamese enterprises or business owners should broaden their viewpoints on the significance of CSR so as to outcompete in such a market-oriented economy.

To summarize, researches on CSR in the Vietnamese context takes many views and methodologies. Nevertheless, the lack of a qualitative methodology that explores the customers' viewpoints on CSR initiatives is apparent. Rather than quantitative data, the qualitative method could exploit more insights in customers' belief. Moreover, due to the damaging outcomes of the Covid-19 pandemic to the overall business performance across the globe, an updated framework is required to examine the transition in CSR involvement as well as changes in customer perceptions regarding this huge shift.

3. METHODOLOGY

3.1. Research method

A review of CSR researches depicts a shortage of qualitative research on customer attitudes towards Vietnamese businesses' CSR efforts (Brunk, 2010; Eckhardt et al, 2010), especially considering an emerging context like Covid-19 pandemic. Besides that, as consumers' perspectives on CSR are still unclarified to managers and scholars (Phole & Hittner, 2008), the research methodology using qualitative data seems a proper research method as it investigates in-depth subject areas that are broad and abstract (Fischer, 2006; McCracken, 1998; Drumwright, 1996; Eisenhardt, 1989). Accordingly, a small yet diversified sample is proposed as it concentrates on a thorough investigation.

Eight in-depth interviews are sufficient for qualitative research procts (McCracken, 1988). A diverse and engaging set of interviewees using theoretical sampling is selected. This suggests that we locate customers who may expose their knowledge on the research topic for the study (Creswell, 2017; Glaser & Stauss, 1967). One of the ultimate goals, however, is to gather a representative sample of consumption habits that are diversifying. Consequently, respondents with a range of purchasing tendencies, ranging from quality conscious to price conscious, is chosen.

Additionally, the author selects out customer respondents based on their demographics (eg. Age, gender, educational attainment, work status, and current residence). There were 20 participants involved in the interview, with a female-male proportion of 45 and 55 percent respectively. In terms of the age range, half of the interview attendees aged from 18 to 22 and the others are in the working age, from 23 and above (Table 1).

3.2. Data collection and interview design

20 interviews were carried out with each lasting around 20 to 30 minutes. During the interview, attendees were encouraged to describe how they perceive about corporate social responsibility, how a socially responsible corporate is and which responsibilities a corporate should shoulder in normal circumstances and during the pandemic context.

Table 1. Illustration of data demographic of respondents

Measures	Items	N	%
Gender	Male	9	45%
	Female	11	55%
Age	18 to 22	8	40%
	23 to 25	4	20%
	26 to 30	3	15%
	Over 30	5	25%
Education	High school	1	5%
	Bachelor or college	15	75%
	Master's or higher	4	20%
Occupation	Student	4	20%
	Employee	12	60%
	Public Servant	2	10%
	Freelancer	2	10%
	Other	0	0%
Current place of residence	Hanoi	13	65%
	HCM City	5	25%
	Other	2	10%

In order to evaluate customers' reactions to CSR companies, the paper uses a semi-structured interview, which might lead to differences between the planned and real interviews.

4. RESEARCH FINDINGS AND DISCUSSION

4.1. The society's awareness of CSR

The study sheds some light on the consumers' opinion on the general awareness of the community of CSR activities. There are divided answers on this matter. While there is a proportion of the population agree that CSR plays a fundamental role in the general benefit of the society, others consider CSR is a minor issue and not worth attention:

"The issue is not everyone's concern. First and foremost, I believe those having interest in this topic are people directly affected while working in the industry. The other category is educated on this subject. Nevertheless, blue collars are supposed to have no idea when it comes to buying intentions".

"Those who have come across this issue might be interested. They could handle, especially if they could see and understand the serious ramifications of negative impacts on the society. However, I believe that people living in rural regions pay no attention to this issue as they are informed or taught about it. On the other hand, I'm confident that people will put more weights on this matter as long as they are aware of the problems".

The interview reflected how certain stakeholders would be linked with the firms' ethical or unethical doings. The preponderance of the interviewees agrees that only relevant stakeholders and knowledgeable individuals are concerned about CSR. In fact, they contended that only informed and educated individuals would recognize CSR, enabling them to turn their understanding into practical actions. Thus, better attitudes and strong behavioural intentions towards purchasing goods from a socially responsible firm resulting from improves customer knowledge is compatible with the past papers (Sen et al., 2006; Pomeroy & Dolnicar, 2009).

Nonetheless, several customers said that despite the significant concentration of farmers and blue collars in rural areas, CSR did not work there as they were not informed about CSR or financially unable to do so, then such persons would not be concerned about it. Additionally, it is evident that only when businesses engage in unethical behaviour will the close-by direct victims be brought up and receive media attention. Hence, even while harmful behaviours have always been existed, it can be challenging to make the public aware of such deeds. This lack of awareness is fundamentally a hamper to strong consumer responses to CSR programs (Mohr et al., 2001).

4.2. Consumers' attitudes and perceptions towards CSR

Although there are divided opinions about how Vietnamese people are aware of social responsibilities of firms in different aspects, all participants think that CSR efforts are beneficial. CSR adds significant values by attempting to improve society regarding environmental issues, economic security and health problems. Hence, all interviewees agree that an increasing number of CSR projects should be supported. Figure 1 displays the interview participants' positive keywords associated with CSR.



Fig 2. Consumers' attitude about CSR activities.

Source: Compiled by author

Besides, the positiveness of customers' attitude is also reflected through their comments during the talk:

"Generally, it is satisfactory. Companies engaging in CSR projects are having economic advantages and charitable. It is favourable for both the businesses themselves and the whole society."

"From my perspective, such companies have the attitude to tackle social problems as they believe that it is their job to do good for the community".

"Witnessing such actions is incredible. In the era of continuous development and expansion, the Vietnamese economy has been booming quickly, but enterprises are mainly concerned with themselves. Today, I am encouraged to see businesses are at the same time making profits and recognizing social issues and are well prepared to address such problems".

Views of the connection between CSR and companies, however, are diverse among the various participant groups. On one level, some customers link charitable endeavours to the economic prowess, political sway and relative place in the business landscape. From another angle, some claim that CSR is linked to the implicit duties that individuals must do for the community.

The findings also reveal how consumers see businesses' motivations for engaging in CSR. Most

consumers think that there are three major purposes of engaging in CSR activities: (1) contributing to the society, (2) brand building, and (3) a win-win outcome.

For the group opting for philanthropic purposes, customers think the corporates are acting with good intentions, they are more inclined to accept the idea that this organization is motivated by values. They believe that businesses launch CSR programs out of concern and that such programs are a result of a business' moral behaviour:

“These initiatives, I believe, stem from the businesses' moral standpoints. Regardless of the company size and scale, it is the company's belief to give back to the society. Also, I believe that instead of turning to profit generation, companies should be in charge of bettering the community. Such actions have the potential to extend their brand reputation so they should go for it. As a result, CSR companies will be seen more than just a money generating entity but they are also decent citizens who are eager to boost the living standards of millions of the Vietnamese. However, in general, in my opinion, these efforts are primarily motivated by their ethics.”

Meanwhile, the second group considers CSR as a strategic move from the firms, turning such deeds into promotional tools. Businesses may benefit from CSR in a number of ways, including brand building, market acceptance, or favourable government and authority policies.

“What motivates a company to have socially responsible activities is simply a strategic decision: earning the public attention and familiarity. They are doing so just because they want their businesses to be consolidated.”

“I assume that companies have been looking for strategies to generate more profitability. They have abundant techniques to get what they desire. One of them might be brand expansion. Other reasons might be making a better world but I'm not sure how much of that accounts for.”

It should be mentioned, however, that although while this group views the incentives for charitable work as marketing strategies, they accept that the origins of such acts also lie in the innate inclination to be accountable to businesses, even though this motivation is not predominating.

There is a fairly even distribution across group (1) and group (2) with the idea to balance their strategic goals and their desire to do good:

“I believe companies have an outlook to address the issues that the society is encountering. They recognize that their job is to improve the environment that they are operating in. additionally, it is also a part of their brand management. Such efforts will lead to an increasing favourable

awareness of their brand image, both externally and internally. Generally speaking, such socially responsible initiatives are beneficial and they should be expanded and implemented on a larger scal..”

“Numerous businesses are mainly committed to doing things that benefit the society rather than just generating profits. Such efforts will contribute to customer base expansion and it will result in a win-win outcome.”

The interview demonstrates both the internal and external effects of CSR. When a company gives back to the community, its employees are proud of it and think favourably of the organizations for which they work. This is important to note since it has long been the case that consumer perceptions of CSR, rather than employee perspectives, have been the focus of discussion. This is considered as a win-win situation for all stakeholders. Businesses have the opportunities to serve society while also establishing their brands, resulting in significant gains for all parties involved as people and the government obtain advantages they require. This is also in line with Ellen et al's (2006) research, identifying different kinds of attributions: other-centred (stakeholder-driven and value-driven), self-centred (strategy-driven and egoistically driven attributions), and win-win. In contrast to self-centred ones, which portray corporations engaging in CSR for strategic reasons, the first attribution refers to customers' opinions that businesses have a moral obligation and consider it as their responsibility to help. While this is going on, the majority of the public believe that companies who participate in CSR do so for mixed motives (Ellen et al., 2006).

4.3. Customers' actions and commitments to support CSR firms

On the other hand, regardless of the customers; viewpoints on the ultimate motivation of a CSR firm being promoting a brand or contributing to the society, the extent that customers can their favourable impression of a CSR firm to operational practices, such as exchanging products or promoting verbal advertising should be questioned.

Although every consumer demonstrates their positive sentiment to the firms focusing on providing significant contributions to the community, not everybody is ready to show their support through exchanging offerings. Supporters displayed their willingness to financially support socially responsible firms since customers' purchasing power appears to be associated with enterprises' choice to raise prices, considering the huge costs of producing green products. Accordingly, businesses would consider boosting prices if their customers are equipped with a broad understanding and dedication to realistic and socially conscious actions, and a sense of CSR and are dedicated to donate their financial resources to the shared goals, leading to a sustainable society:

“I have a more favourable opinion of them as they are motivated to follow the environmental preservation, which is a wonderful thing. Furthermore, this trend is a strong marketing effort. Taking beverage brands as an example. When customers see brands reduce plastic consumption, they might feel compelled to purchase such bottles in order to be environmentally friendly. They will constantly strive to exchange such items, even when they cost higher”.

“Supporting such brand is definitely a right thing to do. Such green products are substantially pricey than their competitors since sustainable resources are employed in the production process, which is raises the entire expenses. As a consumer having a good financial standing, I am optimistic that I could purchase such items with ease.”

These comments are also in accordance with the findings of Sen and Bhattacharya (2001), in which the appeal of a product can be directly impacted by CSR commitments. In other words, a company's CSR activities have a direct impact on customers' purchase intentions because they align with customers' CSR beliefs and garner their support. This outcome is also consistent with researches of Mohr and Webb in 2005, stating that customers who demonstrate favourable reactions to corporate socially responsible initiatives will as well make more duty-bound purchasing selection.

On the other hand, however, non-supporters claimed that there should be other influencing criteria in their buying decisions:

“It is reliant on purchasing habits. For example, when I buy a product and I know that they are doing nice things to the environment, I may have a more optimistic view of them, but in case the product price rises, I will not go for it.”

Evidently, CSR is one of the intrinsic obligations that businesses have to carry out and that other criteria, including price, quality and convenience should be more emphasized when making a purchase and CSR have no influence on their decision-making process. This is consistent with earlier studies of Beckmann et al in 2001, Lichtenstein et al., 2004, or Bray et al in 2011, indicating that CSR is not a priority for consumers.

In addition, customers only verbally encourage socially responsible businesses and the majority of their purchases are determined by their recurring daily necessities, showing that purchasing habits is the dominant factor in selecting which items to buy; thus, making CSR irrelevant in their purchase intention. CSR should belong to the assumed responsibilities of businesses rather than being taken into account in purchasing decisions. While generating profits, such corporations should carry out their economic commitments and charitable responsibilities as their

primary mission.

“Most of people are unconcerned. When it comes to such matters, Vietnamese people are supposed to be quite oblivious. They only consume things that are convenient for them.”

“Maybe not for businesses supporting social responsibilities. One of their obligations is to devote to goodwill actions. Hence, I am not inclined to companies engaging to such behaviours. On the other hand, I will support company offerings that appeal to me and have fair prices.”

In general, these outcomes are equivalent to those of previous studies by Oberseder et al (2011) and Carrigan and Attalla (2001) underlining the importance of price as well as the predominance of pecuniary considerations over ethical ones when making purchases (Bray et al., 2011).

4.4. Consumers' perceptions on CSR activities during COVID-19

It is crucial to note that many of the respondents linked the business benefits from CSR with the government and authorities as many of CSR efforts conducted during the Covid-19 pandemic in Vietnam were intended to support the government's vaccine budget. More specifically, they proposed that the sponsorship in forms of finance, medical supplies, and other items may be in exchange for future favourable laws or tax regulations:

“Such donations are assumed to be part of large-scale corporations' operation costs. They have a huge volume of finance and these figures for philanthropy seem little to them. In addition, companies might also benefit from the authority that they are not even fully conscious.”

“Ultimately, they aim to help the community. Aside from that, the governmental bodies may enhance the impact of such ethical activities. If companies are willing to support the State during the challenging period, the State will definitely establish laws and regulations that benefit the companies in return.”

Accordingly, it is a common acknowledgement that moral actions are undertaken for the government and concerned authorities to form relationships with politicians, despite the fact that the apparent advantages of CSR in daily life can be attributed to the development of corporate brand or the implementation of a marketing campaign. Therefore, these donations are regarded as investments that may be traded for long-term business advantages.

More importantly, with regards to the large-scale staff layoff owing to the shortage of operational resources, the Covid-19 outbreak presented enterprises with a problem between prioritizing the economic performances or ethical duties. While the dimension has

not been identified in prior literature, numerous group participants have highlighted this aspect in their evaluations.

“It is morally justified in certain ways. Besides, in case two parties of a contract, agree on stipulations enabling corporates to give sack to their employees, then the company are permitted to do so since it is legal. Nonetheless, retaining too many redundant employees will lead to a negative outcome for the organizations, and consequently, they might wind up terminating more personnel.”

“From a moral perspective, the choice to dismiss staff is justified. Some of corporates had gone through obstacles during the social isolation and production halt, which posed a threat on their finances. They must discard a number of employees in order to survive the competition, or else they might go bankruptcy if the companies decided to run on a minimal budget while still keeping the workforce. In this case, employee dismissal would be the best solution in this circumstance. In addition to that, they are completely capable of delivering the finest options in accordance with company regulations. So, this is where the businesses’ morality comes into play, as long as the contract is cancelled withing the required and legal time frame.”

As indicated in Carroll’s CSR model (1979), enterprises are viewed as profit-making companies; as a result, they must prioritize their financial obligations, which suggests that worker layoff might be taken as a proactive decision to keep the company survive. At the same time, the interview proves that customers often demonstrate a high level of empathy for struggling firms. With a limited financial resource to operate during the social distancing period, enterprises might encounter the worst situation of lacking fund to cover salaries and wages while retaining employees.

To conclude, most interviewees came to agreement that businesses are money generating entities; thereby, staying survival and remaining profitable should be put on the highest priority. However, this cannot imply that they should renounce their moral principles. The fact is that employee dismissal could be immoral under normal situations, but if companies encounter financial shocks, especially in the context of pandemic outbreak, it can be morally justified as long as they comply with the law and protect employment rights.

5. CONCLUSION

5.1. Theoretical implications

This study consists of four critical theoretical implications. First, customers’ views about CSR initiatives have been clarified by this qualitative study. Additionally, these attitudes were examined in the context of Covid-19 epidemic, which forced businesses to deal with significant economic shocks and caused a

shift in their relation with CSR. Literature for consumers’ view of CSR has been improved as a result of the mental expectations and changes in perceptions of CSR during this pandemic. Additionally, the examination is conducted in Vietnam, where there is still little knowledge about corporate social responsibility. The results, therefore, may clarify the literature on situations of other emerging countries.

Second, based on consumer views about CSR, the current study also distinguished several customer groups. While quantitative researches provide a clear indication of whether consumers are aware of CSR and willing to take actions, the qualitative approach of this paper demonstrated that attitudes towards socially responsible businesses and how they manifest in actual actions are largely dependent on individual traits. It is clear from the study’s background that customers’ preferences are divided; although some consider CSR as vital, others downplay its significance.

Third, the results revealed how consumers regarded driving motivations why companies engage in CSR initiatives. As the interviewees are disseminated along with the descriptions of the features from the prior study, the three groups’ results from Ellen et al (2006) are still relevant. Furthermore, by revealing how consumers perceive CSR throughout the pandemic, this research advances our understanding of the subject. Three respondent categories, based on their perceived motives which are (1) contributing to the society, (2) furthering one’s own interest and (3) pursuing a win-win situation, remain mostly consistent, despite some light changes in the response about socially responsible activities during the pandemic.

Fourth, the current paper sheds light on how the widespread of Covid-19 leading to staff layoffs affected customers’ perceptions during this period. The findings suggest that customers view companies as profit-generating entities, meaning that dismissing employees may be ethically acceptable. Carroll’s CSR pyramid, which stated that economic responsibility is the most critical than ethical responsibility; and this has been supported by this research.

5.2. Practical implications

The paper makes four main contributions of four main practical implications. Firstly, CSR communication has not yet carried out effectively in Vietnam, which is proved by the lack of awareness among Vietnamese customers in terms of CSR. Meanwhile, the number of informed and conscious customers about CSR activities is limited, the others could not approach such information. This necessitates the application of more broad CSR communication techniques, as well as more effort and improved publicity-generating tactics. On the other hand, CSR communication, however, is a challenging topic to handle. While stakeholders claim to be interested in knowing about the charitable endeavours of the

companies they deal with, they may rapidly start to suspect extrinsic reasons when businesses publicize their CSR initiatives. Corporate social responsibility messaging may fail if customers start to doubt businesses' social efforts and think they are primarily motivated by irrelevant goals. Consequently, there comes a major challenge in CSR communication, which might be stakeholder suspicion and producing negative CSR attributions. Hence, companies need to discover the correct components, such as message content, communication methods, corporate and stakeholder-specific aspects that affect CSR communication efficacy, in order to successfully transmit the information.

Secondly, CSR cannot be the sole factor in determining a company's favourable reputation or a promise of increased sales. Businesses must understand that while it is true for people to be positive about charitable endeavours, this positivity is insufficient to convince people to purchase goods and services. Companies should develop a comprehensive and long-term marketing program, where CSR might play a significant part alongside other conventional marketing initiatives, in order to successfully integrate CSR into promotional activities. The firm's reputation would be widely propagated with the help of this method, which would also increase the efficacy of CSR communications.

The third practical implication that should be mentioned is that customers are categorised into different groups based on how they see corporate social responsibility. This would suggest that goodwill initiatives are out of customers' interests since they are relevant to them, and companies should not expect to gain profitability through charitable giving. Instead, people ought to commit to such efforts out of a sense of altruism. Besides, it should be highlighted that some customers are willing to pay more for items that are beneficial to the environment. Therefore, in order to have engagement in CSR participation, firms need to have a thorough grasp of their customers. Whenever feasible, it should be made clear why products from socially conscious businesses are not more expensive than similar ones from competing brands. Since clients pay great attention to price proportionality, brand managers must monitor pricing differences with competing products if the price is not within everyone's budget. Also, consumers who care about CSR demand high-quality products, pricing is especially important for managers in high-price and high-quality industries. If managers opt to ignore possible CSR interests of customers, it is preferable to offer products and services in the low-price category.

5.3. Recommendations

From theoretical and practical implications, this study gives some recommendations. First of all, quantitative researches can be applied to investigating

the impacts of CSR on purchasing decisions. Factors that were found might be contained in a questionnaire. To evaluate the effects of the indicated components in various consumption scenarios, a large-scale survey might be employed.

Furthermore, observational method would be another feasible method, given that the goals of the research is to determine whether a good attitude could translate into tangible actions. Future studies could analyse consumer habits in great detail by adopting a third-person perspective and without directly interfering with the decision-making process of customers. Additionally, this strategy ensures that no fictitious records of activities are included into the inquiry by allowing true and honest acts on the side of customers. Longitudinal studies where the exposure to the presentation of CSR activities is the independent variable and consumer purchases are recorded as the dependent variable is also proposed.

Besides, further research could concentrate on potential communication strategies and their impacts on the target audience as the amount of information is considered to be a crucial aspect in assessing corporate CSR initiatives. Following that, the influence of various means of media on CSR communication should be concerned. While conventional platforms, such as television or newspaper, still serve as channels, via which businesses spread the word about their charitable endeavors, contemporary and fashionable

More importantly, the subject concerning Covid-19 can be looked into in the future. Since the pandemic had numerous ramifications for firms in particular as well as the entire community in general, it has not been obvious whether the company value grows when they respond to the pandemic with CSR responses. The value of many CSR activities has undoubtedly changed as a result of the pandemic, at least temporarily. For instance, several companies have increased their philanthropic activities dramatically. It would be fascinating to find out if there are any differences between the pre- and post-pandemic perceptions of the value of different CSR initiatives and whether or not philanthropy continues to be valued after the crisis.

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IDENTIFICATION OF MARKET VOLATILITY WITH SOLID VAR AUTOREGRESION VALIDITY - A CASE OF INDONESIA CRYPTOCURRENCIES OR GOLD FOR HEDGING STRATEGY

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Research purpose:

The purpose of this paper is to determine the relationship between the return of the most traded cryptocurrency in Indonesia and other investment assets in Indonesia such as market indexes, rupiah exchange rate against the dollar, and gold, and related to cryptocurrencies in Indonesia.

Research motivation:

This paper focuses on the Indonesian market due to the phenomenon of an increase in the number of investors and the number of cryptocurrency transactions over the last three years. In this study, cryptocurrencies such as Ethereum are used, which are one of the most traded cryptocurrencies in Indonesia where there is still limited research related to Ethereum in previous studies, especially research in turmoil periods such as pandemics.

Research design, approach, and method:

This quantitative research uses secondary data in the form of crypto trading price returns, namely Ethereum (RETH) then gold trading prices (RGOLD), rupiah exchange rates (RKURS) and the composite stock price index (RM) in the Indonesian stock market on a weekly basis. All data were processed using the VAR (Vector Autoregressive) method to see the relationship of causality and response between research variables.

Main findings:

The results show that most information spillover among RETH (Cryptocurrencies of Ethereum) markets vary over time, which indicates the presence of evolving market linkages among domestic markets commodities. Ethereum shock will decrease the return of the market and gold but increase the market return in the opposite. The conclusion is reflecting investors' behavior that asks for more return for additional investment risk. The use of the dollar as a trading instrument of crypto transaction explains the reason for increased returns on currencies. The outline of the research shows that the Ethereum movement is influenced by itself meanwhile influencing other instruments in short term.

Practical/managerial implications:

Implications for the dynamic domestic pricing of securities, for hedging and other trading strategies, and for regulatory policies within those four financial commodities markets. Accepting that volatility is caused by the same factors in these markets then we need to assess the impact of these factors for our understanding of the degree of co-integration in the pricing of securities within the regional context.

Keywords: *Cryptocurrencies, Gold, Market, Currency, VAR Auto Regression, Hedge*

THE EFFECT OF ORGANIZATIONAL COMMITMENT AND WORK-LIFE BALANCE ON INTENTION TO TRANSFER WITH ORGANIZATIONAL CITIZENSHIP BEHAVIOR AS MEDIATION ON MILENIAL WORKERS IN DKI JAKARTA

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This research aims to analyze the effect of organizational commitment and work-life balance to turnover intention mediated by organizational citizenship behavior in the millennial worker in DKI Jakarta. This research uses survey methods to gather data. There are 283 respondents as a sample for millennial workers in DKI Jakarta. Questionnaire uses likert scale to state the questionnaire with 4 scales. The results of this research showed that organizational commitment had positive influence on organizational citizenship behavior, work-life balance had potential to get positive influence within organizational citizenship behavior, organizational commitment had positive influence on turnover intention mediated by organizational citizenship behavior, and organizational citizenship behavior has not influence work-life balance to turnover intention.

Keywords: *Commitment, Work-life Balance, OCB, Turnover, Millennial, Jakarta*

CIRCULAR ECONOMY: DRIVERS AND BARRIERS TO DEVELOPMENT – EXPERIENCE FROM OTHER COUNTRIES TO VIETNAM

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As resource use is increasing globally, resources are becoming scarcer and more expensive, the extraction and consumption of resources have significant impact on the environment. The efficient use of resources is at the heart of current policies across countries. All policies recognize the need to improve and enhance human welfare, along with the resource efficiency and environmental protection. Many countries have approached and applied the circular economy model to promote resource efficiency and sustainable development. Vietnam is currently working on establishing a legal framework for the application of circular economy models to production, business activities and daily life. Circular economy is being studied and integrated into economic development policies and strategies at all levels. By the desk research, this paper is aimed to synthesize the drives and barriers of circular economy development. The main findings indicate that (i) the barriers are more than drivers; (ii) government policies, macro economics, information and consumers are main important drivers to promote circular production in business; (iv) some successful circular models in Vietnam relate to agricultural production and (iv) the experience of other countries is meaningful for Vietnam in developing circular economy models and sustainable development.

Keywords: *Circular economy, linear economy, barriers, drivers, sustainability*

CORPORATE SOCIAL RESPONSIBILITY AND CLIMATE CHANGE MITIGATION BY BANKS IN SINGAPORE

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Research purpose:

This paper reviews banks' CSR activities and explores how banks practise CSR to contribute to mitigating climate change impacts, using Singapore as a case study.

Research motivation:

Many prior studies focus on the relationship between CSR and financial performance as well as disclosure and sustainability reporting. Thus, it is important to examine the relationship between banks' CSR practice and climate change mitigation.

Research design, approach, and method:

This is an explorative study. Data for this study were obtained from the annual reports, CSR and/or sustainability reports of banks in Singapore. The content analysis approach has been adopted to analyse the current CSR activities and practices of these banks.

Main findings:

First, CSR initiatives have not been uniformly practiced across banks and branches of the banks. Second, CSR activities related to climate change mitigation are incorporated in the ethical and philanthropic responsibilities. Third, business strategies have shaped and driven CSR practice, including activities to address environmental issues. Finally, philanthropic activities have been popular by the banks.

Practical/managerial implications:

CSR is understood and implemented differently by different banks in Singapore. CSR initiatives of the banks are blended into their business strategies. Also, CSR activities by the banks to mitigate climate change impacts are limited in the scope and scale. Finally, practising CSR can help banks change stakeholders' perceptions of their corporate performance. Thus, more work needs to be done by banks to contribute to climate change management.

Keywords: *Corporate social responsibility, banking sector, environmental protection, climate change mitigation, Singapore, business strategies*

LIFELONG LEARNING INTENTION OF VIETNAMESE ADULTS IN THE INDUSTRY 4.0: BUSINESS SECTOR PERSPECTIVE

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Research purpose:

The purpose of this study is to investigate the factors affecting lifelong learning intention (LLI) of Vietnamese adults in the business sector by integrating individual and social antecedents forming LLI.

Research motivation:

In the context of the Industry 4.0, research on LLI and adoption is valuable for developing learning society. However, prior studies on LLI of adults have primarily focused on the impact of individual characteristics or environment sporadically. There is a lack of research approaching LLI of adults. In emerging markets like Vietnam, although lifelong learning is an essential competence, the scholars have not focused on this issue. Therefore, this study has built a path model to explain factors affecting LLI of Vietnamese adults in the business sector by integrating individual and social antecedents forming LLI.

Research design, approach, and method:

We empirically analyse the data obtained through a survey from 417 adults. The PLS analysis is used to examine the path model.

Main findings:

The findings that are established using SmartPLS Algorithm and bootstrapping functions certify that attitude, social influence, perceived behavioural control, voluntariness, and self-efficacy are significant determinants of both perceived usefulness of lifelong learning (PUoLL) and LLI of adults. While jobs relevant in the business sector have impacted on PUoLL, it is not directly the relation with LLI. The study establishes a strong positive influence of PUoLL on LLI of adults in the business sector.

Practical/managerial implications:

The results provide important insights for policymakers, educators, scholars, and learners to develop the strategies of lifelong learning for adults.

Keywords: *Lifelong learning intention, perceived usefulness, adults, business sector, Vietnam*

PROCESS DIGITALIZATION IN VIETNAMESE SMALL AND MEDIUM ENTERPRISES: BARRIERS AND SOLUTIONS

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Research purpose:

This research aims to explore issues and solutions in the digitalizing business processes in Vietnamese small and medium enterprises (SMEs).

Research motivation:

Process digitization, which is a steppingstone for digital business transformation, helps enterprises to ensure operational excellence, save cost, facilitate decision-making process, and increase transparency. Small and medium enterprises play an essential role in national economics by creating jobs and contributing to the budget revenue. However, these companies face a lot of constraints in digitalizing their business process.

Research design, approach, and method:

Authors used a qualitative approach through both primary data via expert interviews and secondary data such as research papers and industry reports to explore research problems.

Main findings:

This paper analyzed barriers and success factors for the digital transformation of each and all processes of SMEs in Vietnam. The investment cost, understanding and commitment from leaders, lack of internal human resources to apply digital technology, and difficulty in changing business habits and culture are the major barriers. Business process management is a must for process digitalization. Taking advantage of internal resources to improve business process management practice and build a digitalization roadmap, and seeking external support are proposed success factors and solutions for Vietnamese SMEs.

Practical/managerial implications:

Findings provide practitioners input to have right strategy and action plan for their process digitalization project(s).

Keywords: *process digitalization, SMEs, issues, solutions*

1. INTRODUCTION

Digitalization brings a lot of benefits to enterprises by embedding digital technologies in products/ services and business processes. It is clear that the COVID-19 pandemic has resulted in a permanent and significant digital adoption spurt in Vietnam (PwC Vietnam, 2021). Therefore, process digitalization is a must-have to do business effectively in the new normal. However, there are a lot of challenges in applying these technologies (Baier et al., 2022). In addition, digital transformation is often seen as only suitable for large enterprises. According to a survey by Vietnam Software and IT Service Association (VINASA), the percentage of businesses implementing digital transformation activities accounts for about 15%. In which, 99% of

small and medium enterprises (SMEs) have difficulty in the capital, so they often consider digital transformation as the “playground” of the big guys (Tat Dat, 2022). However, SMEs themselves play an important role in national economy and the national digital and technology transformation agenda. Therefore, it is necessary to have an in-depth investigation into the status of quo, challenges, success factors of process digitalization in SMEs. The remainder of this paper is structured as follows. In Section 2, authors present literature review on digitalizing business process. The used research methodology is described in Section 3. Section 4 includes the results and discussion. Section 5 summarizes the findings, limitations, and suggestions for future research.

2. LITERATURE REVIEW

This section provides an overview of studies in the field of Business Process Digitalization and figures out research gaps that this paper aims to fill in.

2.1 Digitalization

Digitalization is defined as “the use of digital technologies to innovate a business model and provide new revenue streams and value-producing opportunities” (Annarelli et al., 2021) via rethinking the manner of arranging and gathering manpower, data, and business processes. To create a cooperative environment that ensures successfully digitally transform within the whole enterprise, the three components: technology, processes, and human, must cooperate (CPC.EVN, 2021). In which, business process digitalization is the very first step and the major component of digital transformation progress.

2.2 Process digitalization

Process digitalization is one kind of digitalization that concerns the application of digital technologies to the scope of a business process, step by step, towards digitalizing the entire enterprise. It enables “data collection, data storage, and analysis, automatic decision-making, and production along the production process” (Yang & Yee, 2022). Process digitalization, which is “increasingly adopted in firms to achieve business goals and organizational competitive advantage” (Yang & Yee, 2022), requires the combination of digitalization and business process management (BPM). BPM can be defined as a methodology, which aims at increasing performance of companies by concentrating on identifying, design, modelling, analyzing, and improving business processes (Dumas et al., 2018; Dumcius & Skersys, 2019). BPM is not a new but very important concept and success factor during the digital transformation of enterprises (CPC.EVN, 2021). Based on digitalized business processes, members in organizations can react and handle business processes on a shared platform and increase data connectivity as well as synchronization.

2.3 Digitalization and SMEs

The classification of SMEs is based on staff headcount and turnover or balance sheet total (European Commission, 2022) differently in each country and region. Normally, an enterprise with less than 50 employees is a small-sized company. A medium-sized company needs to have 50-200 employees. SMEs represent 99% of all businesses in the EU (European Commission, 2022). Although SMEs account for huge proportion, such companies are operating in poor condition of limited financial resources, information system, and business experience in terms of optimizing, automating, and digitalizing its business processes (Dumcius & Skersys, 2019). Realizing the significance and vitality of SMEs and digitalization in SMEs,

recently, many governments developed and strengthened policies and programs to support SMEs’ digital transformation plan (Chen et al., 2021).

2.4 Process digitalization in SMEs in Vietnam

By 2021, the Vietnam government has approved the National Digital Transformation Programme by 2025, with an orientation towards 2030. Nowadays, in Vietnam, business processes in almost sectors have been and are being digitized, such as manufacturing, agriculture, retail, banking, and insurance.

For example, many manual processes in banking and insurance now become automated and digitized by leveraging technologies, including: (i) acquiring new customers, (ii) opening banking and insurance products through the mobile apps, (iii) automating a wide variety of tasks such as Know Your Customer (KYC) checks, Anti Money Laundering (AML), and ID verifications by using advanced technologies such as Robotic Process Automation (RPA) and Artificial Intelligence, (iv) gain hidden insights through advanced data analytics, and (v) improve frauds checking with machine learning. In the tourism industry, nearly all Vietnamese enterprises used digital marketing, however, only a half of domestic enterprises successfully implement digital sales and payment systems. According to data from the Vietnam Logistics Business Association (VLA), the proportion of logistics enterprises digitalizing their operations increased from 15- 20% to 40-50% in recent years. However, more than half of these businesses have not adopted digital technologies. (Le & Tran, 2020)

“What are the barriers of this situation?” and “how to overcome those barriers?” are urgent questions that needed answers. In addition, according to (Baier et al., 2022), there is a lack of research on how organizations can foster and successfully implement the digitalization their business processes. Moreover, there are differences between SMEs and large companies in degree and manner of digitalizing business processes (BarNir et al., 2003). This research aims to fill in the gap of research focusing on the SMEs in their process digitalization journey.

3. METHODOLOGY

Authors took advantage of the qualitative approach by collecting and synthesizing secondary data such as research papers, industry reports, and expert interviews.

Firstly, authors collected research papers and industry reports in both English and Vietnamese. Data were collected through keyword search and cross-reference on reputable and official databases. Keywords used to search were: (i) Barrier/ issue/ obstacles/ difficulties AND digitaliz* AND business process AND SMEs for English data; (ii) Khó khăn/

thách thức/ vấn đề/ cản trở AND số hoá, chuyển đổi số AND quy trình AND doanh nghiệp vừa và nhỏ for Vietnamese data.

Secondly, gathered documents were studied, systematically analyzed and synthesized to gain insights into the research questions.

Thirdly, the expert interview was used to supplement and verify findings from secondary data. Expert A is the director of an IT company, which has developed and implemented digital solutions for SMEs for 15 years. Expert B and expert C are senior consultants for digitalization projects of Vietnamese companies.

4. Results and discussion

4.1 Barriers to business process digitalization of Vietnamese SMEs

Digital transformation is imperative for all businesses of all sizes. It helps businesses improve operational efficiency, customer experience and especially competitiveness in the market. However, for small businesses with little capital and limited ability to invest in technology, there are more barriers to business process digitization.

The annual report on the digital transformation of enterprises “Digital Transformation Barriers and Needs” by USAID LinkSME and the Ministry of Planning and Investment, which surveyed more than 1,300 businesses about the motivations and difficulties in digital transformation, pointed out the following barriers and difficulties of enterprises when implementing digital transformation

- Fear of data leakage
- Difficult to change habits and business culture
- Lack of commitment and understanding of leaders
- Lack of commitment and understanding of employees
- Difficulties in integrating digital technology solutions
- Lack of information about digital technology
- Lack of digital technology infrastructure
- Lack of internal human resources to apply digital technology
- Barriers on investment costs and technology application

In this research of AED, the size of company is defined by the number of employees (mall-sized enterprise: 11-100 employees and medium-sized enterprise: 101-200 employees).

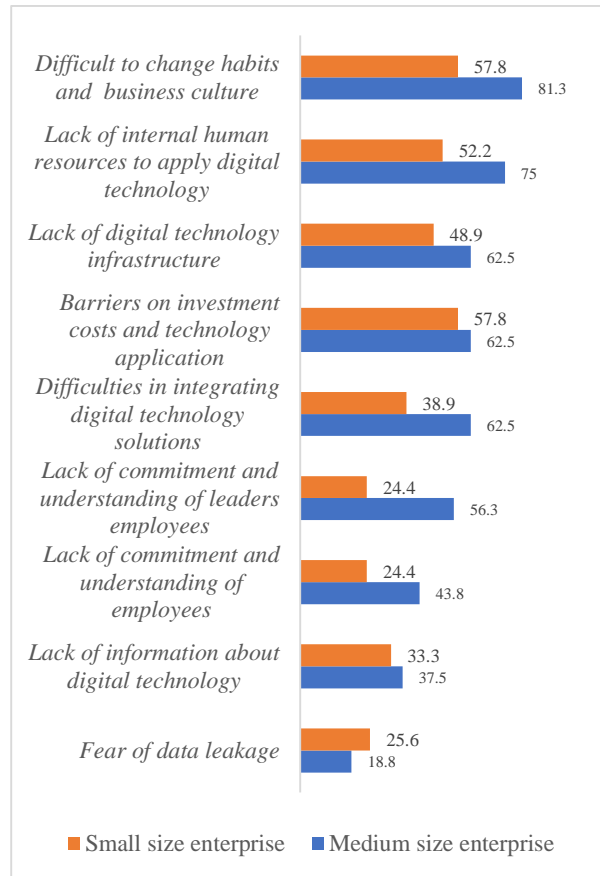


Fig.1 Barriers to process digitalization in SMEs (AED, 2021)

Fig. 1 shows the percentage of respondents agreeing that they faced the corresponding barriers in the digitalization of their business processes. The investment cost is the most significant barrier to small-sized enterprises. In comparison, the difficulty in changing habits and business culture is the most significant issue in medium-sized enterprises. While fear of data leakage is the most minor obstacle for medium-sized ones, and “lack of commitment and understanding of leaders and employees” is the slightest issue for small-size companies. That seems to reflect the fact that the first step to digitalizing small businesses is to balance benefits/ cost and their financial resource. Medium-sized companies can overcome financial issues much easier and digitalize under the pressure of operational issues, such as normal business practices and internal human processes.

Investment costs and technology application

According to the survey of the Agency of Enterprise Development (AED), Ministry of Planning and Investment, in 2021, high cost is the major barrier of SMEs in digitalization, with 57.8 percent of small enterprises and 62.5 percent of medium enterprises agreeing. Barriers related to investment costs and technology application: Enterprises think that the cost of investing in digital technology solutions and the cost of deploying and maintaining technology is relatively high

compared to other current costs, while the effectiveness of technology application in production and business processes is not evident in the short term. The cost of implementing digital transformation not only includes the cost of investing in additional digital technologies but may also incur additional costs such as:

- The cost of changing the process and training personnel to adapt to the new process.
- Investment costs for information technology infrastructure. The challenge will be greater if we have to change or abolish traditional systems.
- Costs in system building, security, safety, and risk prevention. Compared with traditional business models, digital transformation results in applying many technologies, creating a huge amount of data, requiring storage space and data analysis, as well as the need to protect the security and data safety of the systems.

Lack of internal human resources to apply digital technology

Lack of internal human resources to apply digital technology was assessed as the second most common barrier, with 75% of medium enterprises and 52.2% of small enterprises agreeing.

Difficulty in changing business habits and culture in medium sized enterprises

To medium-sized enterprises, difficulty in changing business habits and practices is the most significant barrier, with 81.3 percent of medium enterprises agreeing. Digital transformation requires changing business habits and practices, while this factor is considered long-term, difficult to implement, and depends on many factors. According to AED (2021), digital transformation projects can impact an enterprise's operating model, specific processes, and activities and can affect its organizational structure, personnel and culture, habits, and working manner. Enterprises need to be ready to make the necessary and appropriate adjustments. For small and micro businesses, this is not too big of a problem. But for medium-sized enterprises, with a more complex organizational structure with many departments, divisions, and levels of management, this is a huge barrier. That makes it necessary to actively communicate and train on digital transformation in medium and large enterprises.

Limited awareness and implementation capacity

According to expert A and the report of AED (2021), one of the most significant reasons for the failure of a process digitalization project is that there is no process existing in the company. Every task/ work is done by the individual by experience, not by a standardized process. That is why there is a saying Business Process Management is a must before Business Process Digitalization.

For many businesses that do not have much experience in applying and exploiting technology, deciding how to implement a digital transformation project, and choosing which solutions are significant barriers. Digital transformation, if only in the plan without the right human resources to deploy, is also meaningless (AED,2021).

According to expert A, many businesses today are still confused between digitization, digital transformation, and electronic storage. They think digitalizing processes is simply taking pictures of the task records and putting them all in the cloud. But that's just electronic storage, not digitization or digital transformation of business processes.

Difficulties in integrating digital technology solutions

Due to high investment cost, the implementation of management software, serving production and business activities sporadically and without planning, makes it difficult for businesses to integrate technology solutions into a seamless system, making it difficult for businesses to perform digital transformation. 62.5% of medium-sized enterprises and 33.3% of small-sized enterprises worried about this barrier.

Limitations on information about digital transformation solutions

Currently, the digital solutions in the market of domestic and international suppliers are very diverse and rich. However, determining which is the right solution to the conditions and needs of the business establishment is not simple (AED, 2021). 37.5% of medium-sized enterprises and 33.3% of small-sized enterprises stated that they lack information about digital technology.

Fear of data leakage

Only 18.8% of medium-sized enterprises and 25.6% of small-sized enterprises think that fear of personal/business data leakage is a barrier to digital transformation.

4.2 From success factors to solutions for Vietnamese SMEs to overcome barriers in digitalizing business process

Digital transformation is an important solution and an inevitable trend for Vietnamese businesses to survive, improve their competitiveness and production efficiency, be able to participate in the global value chain, accelerate and develop. This section presents critical success factors for the digital transformation process.

Internal success factors

According to Baier et al., (2022), there are seven groups and 20 success factors of a process digitalization project (see Table 1).

Table 1. Success factors of a process digitalization project (adapted from Baier et al., (2022))

Group	Success factor (SF)
Strategy	Digital Ambition
Structure	Organizational Agility
Culture	Digitalization Attitude Partner Agility
People	Data Analysis Partner Domain Knowledge Partner Technology Knowledge Customer Knowledge Management Domain Knowledge Management Technology Knowledge
Process	Process Goal Clarity Process Design Process Monitoring
Project	Project Goal Clarity Project Monitoring
Technology	Technology Comprehensibility Infrastructural Readiness Technology Complexity Technology Maturity

Digital ambition is defined as companies' continuous focus on the digitalization of the organization and its processes (Lehong & Waller, 2017). This SF enhances the motivation and commitment of all members and increases the effectiveness and efficiency of the digitalization project.

Organizational Agility means structure of enterprise can be agile for digital transformation (DT).

Digitalization Attitude refers to the willingness to change and open-mindedness toward DT.

Partner agility means Partners' ability and willingness to cope with new conditions together with companies toward DT.

People SF group (knowledge of the domain, technology, data analysis skill) is required to correctly analyze the context and ensure the sufficient knowledge to implement DT project. Knowledge, experience, and skills in promoting and executing the digital transformation of top management are the major component of a firm's digitally transforming capability (Sousa-Zomer et al., 2020).

Process and project SF groups are to ensure the success of project, processes are being digitalized, and the project plan should have a clarified goal, standardized design, and be well monitored.

Technology SF group enables "understanding the functionality of the DT in focus and how to use it in the affected business process" and "facilitates successful implementation of the DT in focus within the existing infrastructure" (Baier et al., 2022).

Understanding and commitment of leaders and good BPM practices - the must of Vietnam SMEs toward digital transformation.

According to Mr. Trinh Ngoc Bao, Director of Base.vn (the company has implemented 52,000 process digitalization projects in Vietnam SMEs), awareness and will of leaders are the first and the most important success factor. Enterprises misunderstand that "buying software and using it is already digital transformation" (Tat Dat, 2022). In addition, if there is no scientific operating process, the use of software is only to generate reports and inaccurate data. From there, businesses create a loop that is difficult to solve. Therefore, digital transformation should start with right awareness of managers and employees about what is and how to digitalize business process, cost, to-do list, impact, trade-offs, expected, and unexpected outcomes. Businesses need to always pay attention to the ultimate goal of digital transformation, "to bring customers and businesses special value, create a sustainable competitive advantage".

According to interviewed experts, it is necessary to have good process management and a scientific process to convert digitally. Business processes need to be standardized and reengineered before applying digital technologies. Like automation technology in a saying of Bill Gates, "The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency."

In literature, business process management (BPM), project management, and digitalization are relevant reference disciplines. To succeed in the process digitalization project, team must be good at these three subjects of knowledge and skills. BPM introduces a process-oriented view of the flows of materials, information, and services through and across organizations. It includes concepts, methods, and techniques to support the design, administration, configuration, enactment, and analysis of business processes. More than workflows and process modeling, it is the comprehensive practice that aims to achieve an organization's goals by understanding, improving, and optimizing business processes (Dumas et al., 2018).

Digital transformation roadmap

Where to start and how to implement are crucial questions that decide the outcome of DT project. According to the results of the expert discussion about process digitalization should start at the most vulnerable process or the best-controlled process; the answer is that

there are four major criteria: (i) need/ requirements from customers, (ii) importance of process in delivering value to the customer, (iii) how the process is designed and controlled, and (iv) feasibility of DT project to this process. Especially, SMEs should start from (very) small changes. The roadmap to digitalize has to be developed at the beginning of the project and frequently be reviewed and revised by adopting an agile approach. For small and medium-sized enterprises with limited resources, the digital transformation must be based on the budget of the enterprise, linking digital transformation with the business model and target value. Besides, SMEs have to accept long-term thinking in digital transformation. It normally takes 3-5 years to prepare resources for digital transformation.

Actively seeking support from outside of the enterprise

Besides internal success factors, SMEs need to know opportunities/ support from outside to seek support for their digital transformation roadmap.

Taking advantage of support from government

Both finance and non-finance support as well as direction from governments, are the main drivers for the digital transformation of SMEs in Vietnam. Typically, Hanoi People of Committee decided to deploy to support small and medium-sized enterprises in the area with digital transformation packages, including a start-up package, an acceleration package, and Global market-oriented support package in the period from now to 2025.

Non-finance support can be policies to improve the quality of scientific research works and promote technology transfer to SMEs. In addition, governments can support SMEs using manuals and self-assessment tools for digital transformation readiness, supporting digital transformation knowledge training, consulting support, providing digital transformation platforms in enterprises, financial support for renting and buying digital transformation solutions.

On January 7, 2021, the Ministry of Planning and Investment issued Decision No. 12/QD-BKHDT, approving the program to support businesses in digital transformation for the period 2021-2025. The program aims to support the promotion of digital transformation in enterprises through the integration and application of digital technology to improve the efficiency of production and business activities, improve capacity and competitive advantage, and create new value for business. Specifically, the goal is that by 2025, 100% of businesses will have increased awareness of digital transformation; at least 100 thousand businesses will receive support from the Program; The 100 supported businesses are typical successes in digital transformation, targeting manufacturing and processing enterprises and establishing an expert network of at least 100 consulting organizations and individuals to promote

digital transformation. The target of this program is SMEs.

Taking advantage of the Vietnam ICT industry

The development of ICT companies that provide digitalization solution plays an important role in the digital transformation of Vietnamese businesses (Le & Tran, 2020). Vietnam has set a goal of mastering broadband infrastructure, including 5G equipment infrastructure as well as infrastructure technologies and platforms in the direction of Make in Vietnam. It is in this digital transformation process that Vietnamese digital technology enterprises have affirmed their pioneering role in research, development, and innovation, mastering technology, making important contributions to the development of the digital economy and supporting SMEs who has the limited financial resource.

Taking advantage of support from international organizations

In 2021, World Bank kicked off a digital transformation project for 600 SMEs in Vietnam. With this project, the World Bank supports small and medium-sized enterprises (SMEs) to apply technology solutions to business processes, in order to improve labor productivity as well as competitiveness in the process of operation. Vietnamese SMEs can seek this and similar funds to recover their limitation in the financial budget.

5. CONCLUSION

Business process digitalization is a long journey with challenges but inevitable in the Industry 4.0 era to improve current and create new operation processes and deliver more value to customers. Global spending on digital transformation is projected to reach 1.8 trillion U.S. dollars by 2022 and 2.8 trillion U.S. dollars by 2025 (Statista, 2022). Vietnam has about 870,000 enterprises, of which small and medium enterprises account for more than 98%. In the post-pandemic context of the covid-19 pandemic, digital transformation is considered a new adaptation method, helping small and medium-sized enterprises survive to sprout, thereby contributing to the development of the country. This paper analyzed barriers and success factors for the digital transformation of each and entire processes of SMEs in Vietnam. Findings support practitioners have right strategy and action plan for their digitalization project(s). This research is limited by secondary research, small samples of enterprised surveyed in secondary data, and small number of experts. Future research can conduct empirical study with larger size of informants.

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HUMAN RIGHTS AND BUSINESS: A LESSON FROM VIETNAM

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Research purpose:

The purpose of the study is to propose lessons on integrating responsible business and human rights in Vietnamese enterprises through systematizing the theoretical basis and analysing experiences in responsible business implementation and human rights of some businesses in the world.

Research motivation:

Integrating responsible business and human rights helps businesses achieve profit goals while exercising their responsibility to respect legitimate rights and interests, as well as ensure the welfare of stakeholders, protect the environment and business integrity, and take remedial action when something negative occurs.

Research design, approach, and method:

Research using the method of analysing secondary documents is domestic and foreign academic research, reports on responsible business and human rights of organizations, relevant legal documents of other countries and statements of enterprises to clarify the theoretical basis, the reality of integrating responsible business and human rights, thereby proposing lessons for Vietnamese enterprises.

Main findings:

The study shows that implementing responsible business and human rights integration in Vietnamese enterprises is new at level 1, which is the expression of human rights in statements of mission, goals and core values. Businesses need to integrate responsible business and human rights into their business strategies, policies, programs and processes to truly bring human rights issues into their actual business operations. The study also suggests the points that businesses need to prepare to do this problem.

Practical/managerial implications:

The study has important practical implications for Vietnamese businesses in the context of deep international economic integration and the increasing requirements for the implementation of social responsibility and human rights of stakeholders in the business process.

Keywords: *business and human rights, corporate social responsibility, UNGPs.*

AN EVALUATION OF VIETNAM AIRLINES' GROUND HANDLING SERVICE NETWORK USING ENTROPY-TOPSIS METHOD

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Research purpose:

This paper aims to investigate the ground handling activity on a sole basis through a Vietnam Airlines case study in order to give a perspective of how strategic management is supported with a scientific method, entropy-TOPSIS used to evaluate the service quality provided.

Research motivation:

In pursuit of “safety and quality”, Vietnam Airlines’ (VNA) mission has focused on maximizing both the effectiveness and efficiency of its outsourced ground handling service network. To support the mission, this research would like to stress on improvement of ground handling service quality of the airline company.

Research design, approach, and method:

The combined method was applied to rank the ground handling service network that Vietnam Airlines outsources at twenty-six international airports according to three categories, which are formulated from eight evaluation indices. The three categories include: Customer feedback, efficiency, and total quality

Main findings:

The three rankings obtained are able to assist the airline by providing a deeper insight into the network service quality. This is especially true regarding the weaknesses needing improvement in both domestic-based airports and that of specific, individual locations. In addition, entropy weights that are calculated indicate the important indices in each category related to which safety and on-time performance indices have been confirmed as the first- and second-most important indices in total quality. This is consistent with the literature. The weights of entropy also show that efficiency was considered to be the most important attribute in comparison with customer feedback and performance stability.

Practical/managerial implications:

By using the method, the managers will be able to have an insight into the network service quality, then they can take action accordingly. Also, based on the found degree of importance of the criteria, the managers can adjust their tactics to improve the efficiency of the network in order to better satisfy their customers.

Keywords: *Vietnam Airlines; ground handling; international airports; service quality; Entropy-TOPSIS; efficiency*

WHEN, WHAT CONDITIONS TRUST ENHANCE SUPPLY CHAIN RESPONSIVENESS IN VOLATILE SUPPLY NETWORKS?

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Research purpose:

The main purpose of this study is to investigate when trust-based business-to-business (B2B) supply chain relationships and under what conditions enhance supply chain responsiveness in volatile supply networks.

Research motivation:

In the aftermath of Covid-19 pandemic, firms face increasing uncertainties in their global supply chain with frequent disruptions caused by geo-political tensions, Russia-Ukraine conflict, and trade-war between the U.S. and China. The increased volatility adversely affects timely response and contractual governance of supply chain relationships. Thus, the present study attempts to examine when and what conditions trust is an effective mechanism for supply chain responsiveness in the context of volatile supply networks.

Research design, approach, and method:

A multiple case study method has been implemented through participation of seven large international companies based in Georgia. Case studies are considered appropriate, as the research focuses on contemporary events and attempts to explain reasons for the use of trust-based relations for supply chain management in the context of high uncertainty and volatile supply networks.

Main findings:

Our findings show that large companies are constrained by strict adherence of company procedures and contractual policies especially when dealing with small and medium-sized suppliers in uncertain market conditions. The case companies rely on building trust through non-contractual relations to reduce transaction costs and potential legal lawsuits in breach of contracts. Complex supply chain activities benefit from mutually trustworthy partners in volatile supply networks.

Practical/managerial implications:

While most large international companies prefer to engage in formal contract in their extensive supply chain networks of relationships, our study shows that trust enhances flexibility in the forms of governance can reduce delays and transaction costs in volatile market conditions. In particular, trust-based relationships have been shown to support strategic collaboration for rapid response in uncertain markets. The findings suggest that managers must develop trust with their key supply chain actors and mobilize them to reduce uncertainty and enhance supply chain responsiveness.

Keywords: *Non-contractual governance, Strategic relationships, Complex supply chain activities, B2B trust development.*

THE INTEGRATION OF LEAN, AGILE, RESILIENCE AND GREEN (LARG) MODEL IN ENHANCING THE SEAPORT PERFORMANCE: A PROBE IN DANANG SEAPORT

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Research purpose:

This study aims to re-assess the LARG model and the criteria in the context of Danang seaport, with an aim to practically contribute to the overall enhancement of performance in this focal point of Vietnam supply chain through some possible suggestions in terms of policy and decision-making.

Research motivation:

The maritime sector is one of the most important businesses in Vietnam since it connects the nation to the global supply chain. With over 1900 miles of coastline and over 320 marine ports, the country is becoming increasingly important in global trade. Danang has the potential to become a significant Vietnamese transportation hub.

Research design, approach and method:

The survey comprises three main stages. The first stage focuses on literature review to identify and filter the criteria. Next, the interviews with questionnaire were conducted both onsite and online to capture the perspectives and judgements of a group of ten experts, including industrial and academic specialists. Subsequently, in the third stage, calculations were performed, following the method of AHP, in order to realize the weights of the paradigm practices and rank them in order of significance in terms of their impact on the overall seaport performance. As a result, this paper concluded some suggestions on decision making to improve the effectiveness and efficiency of seaport operation.

Main findings:

The AHP results have indicated that Quick response to customer need and claim in Agile paradigm is the most significant practice that contributes to the performance advancement of seaports.

Keywords: *LARG paradigms, LARG paradigms practices, Danang seaport, Seaport performance enhancement, AHP, Maritime supply chain*

A STUDY OF FACTOR INFLUENCING THE ORGANIZATIONAL COMMITMENT OF GENERATION Z AT IT SECTOR IN VIETNAM

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Research purpose:

The purpose of this study is to help recruiters and human resource managers understand and predict Gen Z's needs in the workplace. From there, employers can develop strategies to recruit, motivate and retain these talented young employees, who will soon become critical members of the company's growth.

Research motivation:

This research will provide many Vietnamese technology businesses better understanding of Gen Z employees. It will also contribute knowledge about factors affecting the commitment level of Generation Z employees in the information technology companies in Vietnam to supplement knowledge as a premise for future national and worldwide related studies.

Research design, approach, and method:

The study uses the regression analysis to determine the factors affecting the level of organizational commitment of Vietnamese gen Z working at IT companies and how each factor influences them. This study proposes eight influencing factors, including (1) Income; (2) Reward and welfare; (3) Work environment; (4) Colleagues; (5) Direct manager, (6) Promotion; (7) Job characteristics; (8) Green initiatives. The research subjects are Generation Z employees born from 1997 to 2013 who work in IT positions at Information Technology companies in Vietnam. The employee commitment levels using 48 indicators were built on eight independent stated factors. They will be measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Main findings:

This study indicates that all eight stated factors positively affected the organizational commitment of Vietnamese generation Z working at IT companies. It also shows that a direct manager significantly influences employee commitment in IT companies, while colleagues have the lowest effect on employee commitment in IT companies.

Practical/managerial implications:

This study encourages us to explore more specific organizational green initiatives that can influence prospective employees' behaviours. Building an open, creative, and flexible working environment may make Generation Z employees happier. Organizations can support Gen Zers by creating diverse communication channels, mentor programs, and opportunities for cross-generational peer networking.

Keywords: *Generation Z, management practices, green initiatives, employee commitment, information and technology sector, Vietnam.*

SOLUTIONS TO A SUSTAINABLE SUPPLY CHAIN OF STRIPED CATFISH FILLETS IN MEKONG DELTA – CASE OF VINH HOAN CORP.

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Research purpose:

Seeking an appropriate and long-term supply chain strategy for striped catfish fillets of Vinh Hoan Corp.

Research motivation:

This work is not only to help improve the quality of striped catfish fillets and the supply chain to operate smoothly, but also help the business increase profits and sustainably export striped catfish fillets to international markets.

Research design, approach, and method:

The authors have synthesized and analysed relevant information to provide reference approaches which are appropriate to the current situation.

Main findings:

Striped catfish fillets' export is a remarkable development for the seafood export industry. Aqua farming and processing must get the highest quality based on foreign countries' strict standards from an early stage to a final stage for consumption. So that, supply chain activities in aqua farming and processing are extremely important to ensure that quality.

Practical/managerial implications:

Vinh Hoan Corp. in particular and other companies in the same industry in general need to carefully research how to implement the supply chain for this product because it plays an extremely significant role in a company's operations.

Keywords: *Striped catfish (Pangasius) fillets, Mekong Delta, Export, Supply chain management, Vinh Hoan Corp.*

1. IDENTIFYING ISSUES

1.1. Introducing Vinh Hoan Corp.

Vinh Hoan Corp. is an enterprise specialized in farming, processing, and exporting striped catfish fillets in Vietnam for more than 25 years. The company has fish farming areas, two fish processing and preservation factories and a striped catfish feed factory. The company is in the top 10 striped catfish exporters

in the first quarter of 2021.

90% of Vinh Hoan Corp.'s the process from searching for customer needs to decision to manufacture striped catfish fillets usually follows the pull system, which is based on customer needs for production and processing. The company often looks for and makes long-term contracts to export this product. The purpose is to focus on production according to customers' requirements.



Fig. 1.1: Vinh Hoan Corp.'s Pull system of the supply chain of striped catfish fillets

The supply chain of striped catfish fillets follows the process: breeding, farming, purchasing, processing, preserving, and exporting.

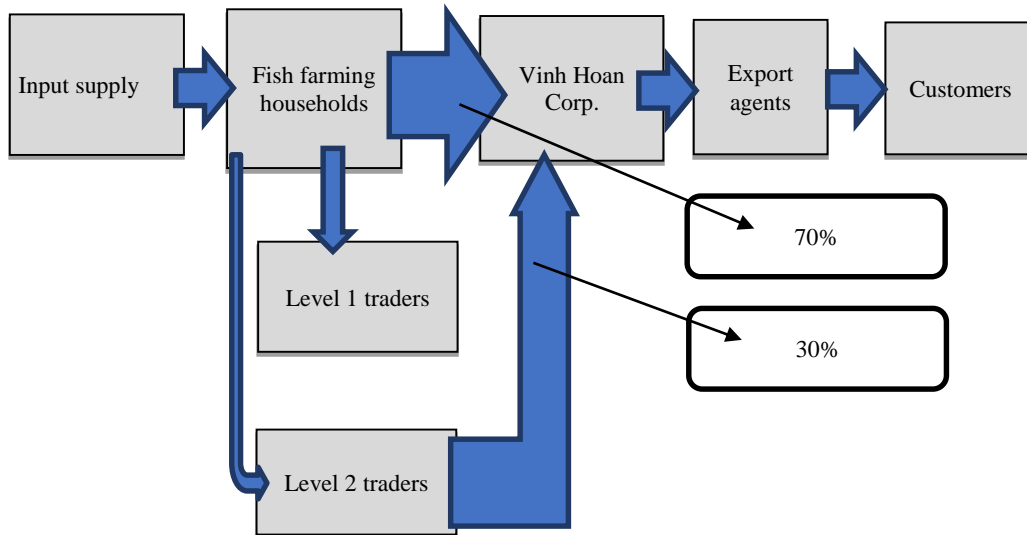


Fig. 1.2: The supply chain of striped catfish fillets
(Source: Vinh Hoan Corp., Department of Planning and Statistics, 2020)

Vinh Hoan Corp. has a closed-loop production chain including fish breeding, feed production, fish farming area, factories of processing, packaging, preserving, distributing, and exporting striped catfish. Specifically, Vinh Hoan Corp. owns two fish processing factories, CL-Fish and DA-Fish, equipped with modern technology for the production capacity of 80,000 tons of fish per year with the total area of 120ha in An Giang and Dong Thap provinces. The farming areas have got the approved ASC Certificate, certifications from BAP and Global GAP. The areas have met 70% of the company's needs for fishes, the remaining 30% will be purchased from households in the region. Therefore, the feed factory has three production lines with an output of 650 tons/year to meet the demand of the farming region (Vinh Hoan Corp., 2020).

During the past 25 years, the company has constantly researched, developed aquaculture, and processed seafood to meet the needs of various markets around the world. Generally, the company must get quality standards including breeders, appropriate water environment and areas, the right quantity of quality fish feed, time of rearing and fishing. Those should not be overlapped to avoid processing warehouses being overloaded on preserving unsatisfactory fish. Especially, there are knowledgeable and experienced teams of engineers to work on its checking process, so that errors will not occur. Therefore, with the intention of increasingly satisfying demanding markets such as the EU, US and China, the company should implement intense research on and re-check the supply chain to come up with flexible strategies to be more efficient in its production.

1.2 The basis problem of poor-quality striped catfish fillets according to HACCP standards

It is known that the striped catfish export sector plays an increasingly vital role in Vietnam's economy, while Vietnam is one of the six major seafood exporting countries in the world. But there are countless times that this product has been under supervision by Europeans with a warning level from not critical to dangerous. Because when the shipment of striped catfish fillets arrives at the port of import, they are often considered to have a redundant quantity of antibiotics according to HACCP standards or excessive glazing increases the virtual weight of the product. From January 1 to May 1, 2019, 8 out of 9 shipments of striped catfish fillets from Vietnam were returned. The predicted reason was that the shipment failed to meet food hygiene and safety standards, the volume of packaging specifications and being unable to determine its origin. (De Silva & Phuong 2011)

1.3 The impact of poor-quality striped catfish fillets according to HACCP standards

The returned shipments lead to the company's heavy financial loss. It costs abundantly export and return shipping charges, the cost of recycling products for domestic consumption or at worst, the company loses everything when the products have to be destroyed when its quality is not up to the requirements. This also leads to extremely low purchase price of striped catfish fillets for farming households and there is no price stabilization. Because processing businesses compete with each other, farmers are disadvantageous to the point of abandoning their ponds, businesses lose money, products are rejected, and prices are dropped.

1.4 Describe the problem of poor-quality striped catfish fillets according to HACCP standards

Previously, the farming and production of striped catfish did not follow any standards, each household operated individually in a different way, so that there are no proofs of the origin and production costs when exporting to the world market. This has led to bringing bad results to companies working in this field because these products have been returned to the country due to the redundant number of antibiotic residues and too much food for fishes. Although this is gradually remedied by state agencies and related organizations, the existence and occurrence are still at a very high level. The main cause of this problem is that farmers lack knowledge about fish farming in accordance with international standards, businesses do not pay attention to standards of farming process, and insufficient management of State agencies. This breaks the connection among the stages of breeding, farming, processing, and exporting, and it makes products inefficient while export markets demand extremely high quality.

So how to solve the problem of origin and food safety of products? Establishing a sustainable striped catfish supply chain which provides quality products and enhancing the business position in the international market and developing Vietnam's position in the field of exporting seafood in general and this product in particular. To solve this problem, it is necessary to build a close and professional association of stakeholders from farmers, businesses, government agencies, exporters, and importers. Establishing the efficient striped catfish supply chain.

1.5. Identifying the core problem by methods

Information and analysis collection methods:

- Secondary source of information from the Ministry of Agriculture and Rural Development on striped catfish fillet exports and the current status of product returns over the years: there are basic supply chain theories to apply into the actual operation process of the production of striped catfish fillet to find out its causes, standards in striped catfish farming and processing: Global Gap, HACCP and information from scientific articles, relevant journal that the author uses in the essay.
- Primary source of information: from local rearing households (Chau Phu district, An Giang province) about the situation of rearing fishes according to individual models, horizontal and vertical linkages and from Vinh Hoan Corp., there was a container of goods returned in 2019.

2. THEORETICAL BASIS

2.1. Theory related to product quality problem

2.1.1. Global Gap standard (IQC,2019)

“Global Gap is a set of global standards for good agricultural practices to create safe, sustainable global agriculture”¹. Global Gap focuses on three areas: farming, breeding, seafood.

The Global Gap standard needs to ensure the following elements:

- The origin and safety of the product
- Environmental friendliness
- Working conditions, health, and safety of production participants
- How animals are raised and living conditions
- Standards for Integrated Crop Management (ICM), Integrated Pest Management (IPC), Quality Management Systems (QMS), and Hazard Analysis and Critical Control Points (HACCP) systems (De Silva & Phuong 2011).

Global Gap standards for aquaculture include food safety, animal welfare, worker welfare, environment, traceability, and key sustainability areas in all stages production segment. The main goal of the Global Gap standard is to minimize the use of chemicals in the entire rearing process, to minimize the negative impact of agricultural activities on the surrounding environment, and to maintain longevity for agricultural land.

Benefits of production objects when achieving Global Gap standards:

- Global Gap standards help increase product prestige and value
- Diversifying customers, expanding markets, expanding domestic and abroad distribution
- Minimizing food safety risks when it is certified in accordance with Global Gap standards.
- Improving agricultural production processes
- Creating benefits for consumers when using products that meet Global Gap standards.
- Consumers use clean and quality food sources
- Health is guaranteed when consumers eat foods that meet global standards
- Traceability of production of products that meet Global Gap standards.

2.1.2. Food safety and hygiene standards

The application of HACCP (Hazard Analysis Critical Control Points)² must comply with good

to markets. This system implements measures to prevent and control critical points. This principle is applied globally to the food and beverage industries in the distribution and sale of products

¹ IQC Certification and Inspection Joint Stock Company at URL: <https://iqc.com.vn/tim-hieu-tieu-chuan/tieu-chuan-globalgap>

² HACCP is a preventive management system dedicated to ensuring food safety through the identifying hazards in food sold

manufacturing practices according to GMP standards (Good Manufacturing Practice)³, good hygiene practices according to SSOP standards (Sanitation Standard Operating Procedures)⁴ and several other practices to meet food safety standards.

Subjects of application:

- Enterprises producing and trading aquatic products, food, animal feed, etc.
- Food or animal feed processing facilities, export processing zones
- Catering establishments, restaurants, hotels, and food-related organizations

Benefits of applying HACCP:

- Benefits for businesses: improving reputation of their products' quality, increasing their competitiveness, and abilities to dominate and expand the market.

- Benefits for the industry: increasing competitiveness and marketing; reducing costs by minimizing damaged and recalled products.
- Benefits for the country: improving public health, improving the efficiency of food control, reducing the budget for public health, creating extremely favorable conditions for economic development.
- Benefits for consumers: reducing the risk of contagious diseases through food consumption, improving the health, and living standards of consumers.

2.1.3. Standards for quality assessment of striped-catfish fillets

Striped-catfish fillets' quality is assessed based on following sensory, chemical, biological, packing, transportation, and storage criteria (see Table 1). (TCVN 8338:2010; QCVN 02-27:2017/BNNPTNT - National technical regulation; TCVN 12370:2018)

Table 1: Standards for quality assessment of striped-catfish fillets

Sensory criteria		
No.	Name of criteria	Requirements
1	Color of striped catfish	White, not yellow, or unnatural color. It will be sorted under following colors: white, light pink, hard pink.
2	Smell of striped catfish	No strange smell such as soil smell
3	Taste of striped catfish after food processing	No strange taste
4	State of striped catfish after filleting	Fish flesh is smooth, firm and elastic Each fillet must be smooth, free of bones, skin and fat parts are removed cleanly, with no more than two blood spots or veins or a sign of parasite on a fillet.
5	Impurities	Do not allow
6	Weight	Net weight of a fillet is the actual weight after the fillet is washed and drained or after defrosting and draining, with an error of 2.5%. At the same time, its weight must be exactly as on the product packaging.
Chemical criteria		
No.	Name of criteria	Level
1	Volatile nitrogen content in 100 grams of fillets is not more than ... in mg.	25
2	Borate content in 1 kilogram of fillets in mg.	Do not allow
3	Residues of antibiotics in 1 kilogram of fillets in mg.	Do not allow
4	Residues of pesticides in 1 kilogram of fillets in mg.	Do not allow
5	Water content, by % of mass	83

³ GMP is a system of general regulations or guidelines to ensure that manufacturers always make products of registered quality and safe for

users
⁴ SSOP is an operating process of hygiene standards

6	Total volatile base nitrogen (TVB-N), mg/100 g of fillets	25
7	Phosphorus, as P ₂ O ₅ , g/kg of fillets	5
8	Arsenic (inorganic), mg/kg of fillets	2,0
9	Lead, mg/kg of fillets	0,2
10	Cadmium, mg/kg of fillets	0,05
11	Mercury, mg/kg of fillets	0,5
Biological criteria		
No.	Name of criteria	Level
1	The total number of aerobic microorganisms in 1g of product, in the number of colonies, does not exceed	10 ⁶
2	The total number of Coliforms in 1g of fillets, in the number of colonies, does not exceed	200
3	Staphylococcus Aureus, in the number of colonies, in 1g of fillets does not exceed	100
4	E.Coli in 1g of fillets, in the number of colonies	Do not allow
5	Salmonella in 25g of fillets, in the number of colonies	Do not allow
6	Vibrio cholera in 25g of fillets, in the number of colonies	Do not allow
Packing, transportation, and storage criteria		
No.	Name of criteria	Requirements
1	Packing	Fillets inside PE (Polyethylene) packaging must be clean, dry, intact, and the weight of a package is not more than 1 kg. There are product labels with content including: product name, manufacturer's address, product volume, ingredients, instructions for use, production date, expiration date
2	Transportation	By refrigerated truck to ensure the temperature is below minus 18 degrees Celsius
3	Storage	Stored in cold storage below minus 18 degrees Celsius, within 24 months

(based on source: <https://vinaucare.com/tieu-chuan-chat-luong-ca-tra-ca-ba-sa-dong-lanh.html>)

Frozen striped-catfish fillets are sized according to the weight of the fillet. Sizing in g/fillet, divided into 5 sizes: 60 to 120; 120 to 170; 170 to 220; 220 to 300; 300 or more. Sizing in ounces/fillet (1 oz = 28.35 g), divided into 6 sizes: 2 to 4; 4 to 6; 6 to 8; 8 to 12; 12 to 14; 14 and up. Moreover, the glaze must cover the product surface, and the glaze color must be clear or translucent white. Percentage of the glaze should not exceed 20% of the net weight of the product, while water content should not exceed 86% of the net weight of the product.

2.2 Types of striped catfish farming

A type of individual fish farming is a traditional one in the fish industry that has been established since the 1990s. Striped catfish farming households pay all costs in the whole season and look for dealers to buy striped catfish.

The type of horizontal integration in fish farming is that farming households jointly establish striped catfish farming cooperatives or associations with common and mobilized capital from other sources to support and help each other economically in farming processes and

techniques. It is to maintain, develop and improve economic efficiency for members participating in cooperatives or associations. The type of cooperative has been developed in Vinh Long province and Can Tho city, while associations has been developed in An Giang and Dong Thap provinces. (De Silva & Phuong 2011)

In 2004, vertical integration was established. It is the type of farming households associated with seafood processing and exporting enterprises or businesses which have aquafeed production under contracts agreed upon between the two parties. In this type of association, a farming household is invested 100% by a company in feed and other farming costs including: breeders, medicine, pond rent, electricity/oil, workers' wages, and other expenses. In which, the cost of feed is fixed according to fish's feed conversion ratio, protein ratio

and supply according to the needs of farmers who have registered the output of fish with the company. Farmers must advance expenses (except for feed) and be paid by the enterprise after a season is done (De Silva & Phuong 2011).

2.4. Push and Pull strategies

According to Bonney et al. (1999), the push system forecasts the quantity and demand for consumption and the ability to supply products that can be produced to determine the level of goods to be produced, and stored in stock or push the product to market. On the contrary, the pull system does not have to predict the outcome, but as soon as an order is placed, the production process begins. The actual demand of customers is the tool that drives this system.

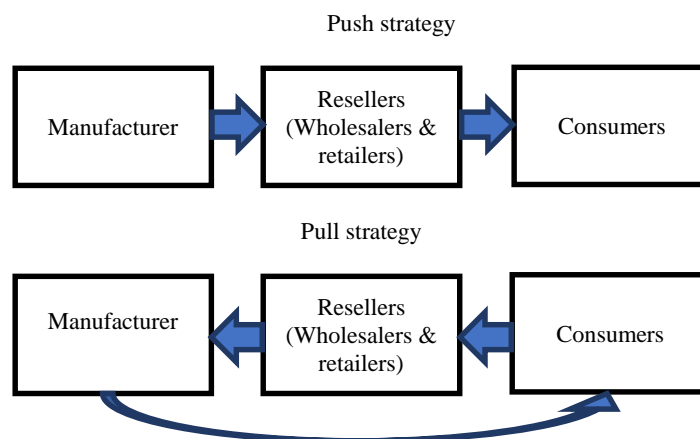


Fig. 2.3: Push and Pull system (Source: Bonney et al., 1999)

2.4 Causes affecting poor quality striped catfish fillets according to HACCP standards

The main cause of poor-quality striped catfish is that farmers and businesses have not complied with Global Gap standards in striped catfish farming and processing, including Food Safety, Animal Welfare, Worker benefit, Environment, Traceability and key sustainability areas in all stages of production. For example, households purchase juvenile striped catfish with unknown origin from local farming households for saving money. Next, because of lack of trust between farmers and processing enterprises, lack of attention from state agencies, it leads to an incomplete connection; the parties do not understand each other; the supply chain is interrupted and ineffective. The next reason is that farming households lack knowledge when farming individually, then they uncontrollably use aquaculture drugs without knowing quantity and origin, which are sold widely in the market. The problem is banned substances existing in striped catfish fillets. The unsatisfactory transportation process, the glazing more than 10% increasing its virtual weight and improper packaging are also the reasons. The final cause is during transportation of fishes from Vietnam to importing countries, unguaranteed reefer container temperature or sudden power failure will

certainly reduce product quality.

3. STATUS ANALYSIS

3.1. Farmers and businesses have not yet complied with Global Gap standards in striped catfish farming and processing

At the stage of choosing breeders: Breeders is usually bought in the region, from specialized households of breeding striped catfish, the price is about 15,000-18,000 VND/kg, about 30-35 fishes compared to the price of Vietnamese Australia group's striped catfish at about 20,000 -22,000 VND/kg for the benefit of being close to home and cheap, but the breed will not be branded. This may affect the quality of input fish when buying and processing.

“Feed in the process of raising striped catfish: in An Giang province, the number of fish farming households using industrial feed accounts for about 78.8% and 21.2% of households using both homemade feed and industrial feed. Meanwhile, in Can Tho city, Vinh Long province, and Dong Thap province, 100% of fish farming households use industrial feed. The use of homemade feed will not control the nutritional content of striped catfish fillets” (VASEP,2019).

Fish farmers play an important role in the supply chain of raw materials to process quality striped catfish fillets. (Saty & Unteawati 2018) Because the fewer farming households there are, the more severe the shortage of raw materials will be. When fish farmers lack knowledge and experience in farming, it will directly affect the quality of input materials.

Striped catfish farming households need to know technical information about farming in accordance with Global Gap standards. For example, the average time for each season is about 7 months and the average farming area is 0.4ha/pond and the average depth is 3.1m (Le Le Hien, 2008) and until now, the area and depth remain unchanged. The number of farmed striped catfish ranges from 45-60 fish/m², the fingerling size is about 1.2-2.0 cm.

As mentioned, Vinh Hoan Corp. has 70% of its self-breeding output, corresponding to 120ha, of which 80ha is the land that the company cooperates with farming households in the form of horizontal integration and 40ha is invested by the company which hires experienced farmers in the area for farming. The remaining 30% of output is to buy fish back from individual farming households. Most fishes have been raised according to GlobalG.A.P standards⁵ with special care from the company's engineers and self-produced feed. It is shown that the production cycle has ensured the input standards for striped catfish. About 30% of purchases are from individual farming households, most have to go through two levels of traders, because Vinh Hoan Corp. cannot find and buy striped catfish directly from farming households because the payment is often not reached, and people do not trust the business enough. Because the traditional way of selling to local traders is considered a culture in the supply chain of striped catfish, today's outside purchases must go through traders. When buying striped catfish from individual farming households, there are problems, including unidentified origins, oversized fishes and an excess quantity of feed certainly cause fish flesh being contaminated with antibiotics and turned yellow, etc. (De Silva & Phuong 2011).

There is a lack of attention from competent agencies such as: Association of Seafood Exporters and Producers, Ministry of Agriculture and Rural Development for households farming and processing striped catfish fillets such as: there is no connection to provide a link between processing companies and farming households. Processing companies would look for a source of raw materials themselves, the farming households would look for the output by themselves, so that it causes many inadequacies about the striped catfish fillets supply chain in general and the quality of the quality of striped catfish fillets.

In 2020, Vinh Hoan Corp.'s 750kg of striped catfish fillets did not meet Global Gap standards, accounting for about 8% of the company's entire products, with symptoms such as yellowed flesh, nitrogen content exceeding 25%. But the light system only detected its poor quality, then the company had to destroy all products because it occurred from the farming stage when those were bought from farmers. This caused great damage to the company (Vinh Hoan Corp., 2019).

3.2. Farming households lack knowledge when rearing individually

Currently, according to farming household Nguyen Van Dung living in Chau Phu district, An Giang province, he has more than 10 years of experience in striped catfish farming. In recent years, although the price of striped catfish has increased more than before, the cost is too high, so than annual fish farming households still sell it at a loss, this is explained as follows: if farming fishes individually, fish farming time will be lower than in horizontal integration and higher than the vertical integration. Productivity in individual operations will be lowest because most farming is based on an individual experience without the sharing of experience from cooperatives or associations in horizontal integration or periodic inspection by aquaculture engineers in vertical integration. Many people choose to operate individually because they are afraid that the price will be lower, but the market fluctuates depending on seasons, so various local farming households still taste bitter fruits many times because they must sell fishes at too low prices to many traders. But if you keep it, you will lose money because you must spend every day on fish feed (Saty & Unteawati 2018). In addition, if operating in the form of vertical integration and horizontal integration, farmers will often be invested for farming costs, while in the form of individual farming households must spend 100% of their own capital, this has put a burden on farming households

3.3. There are abundant shortcomings in the process of transporting, processing, and packaging striped catfish fillets

Next is the issue of purchasing and transporting fishes to a processing plant. The geographical distance from a place of purchase to a processing plant is the most important thing because striped catfish only live in stable environmental conditions, when environmental changes will cause an impact on its quality and safety. Because when buying striped catfish from a place, it is necessary to weigh it and put it in a container and then load it on the transport vehicle to move a long distance. It makes the striped catfish be easily overwhelmed and died before being sent to the factory for processing. It affects the quality of finished striped catfish fillets.

⁵ GLOBALG.A.P. is the internationally recognized standard for farm production. More details at URL:

https://www.globalgap.org/uk_en/for-producers/globalg.a.p/

Processing frozen striped catfish fillets:

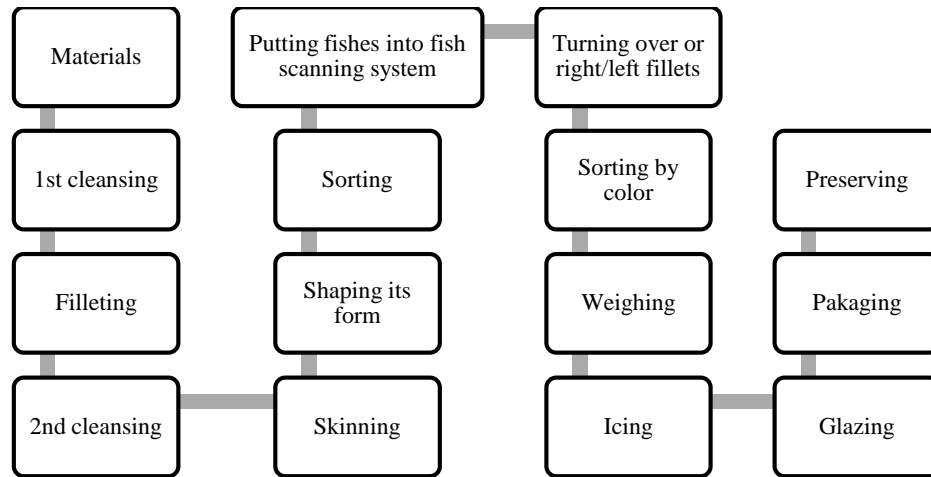


Fig. 3.3: Production process of frozen striped catfish fillets

The processing must be in an appropriate environmental condition below 20 degrees Celsius so that the raw material warehouse and the finished product warehouse are separate. Striped catfish must be processed immediately after being brought to the factory and be continuously scanned under light system to ensure quality parameters for each step. Finally, fishes must be frozen to maintain the temperature and to ensure the quality of fish after processing. As mentioned above, in 2019, the returned container of striped catfish fillets from the EU market due to the increased virtual volume by glazing more than 10%, caused the damage of more than 50,000 USD including its freight cost. The business has learned a great lesson until now (De Silva & Phuong 2011).

3.4. The process of transporting from Vietnam to foreign markets

Exporters must maintain fish quality and create a reputation for trusting. Exporters need to choose hygienic refrigerated containers at a temperature below minus 18 degrees Celsius. Arranging time to pick up the goods and loading on ships as planned. Exporters often encounter external factors such as not choosing a clean container that affects product quality, ships departing later than expected and slow customs clearance problems, sudden power failure of cold containers. Unusual temperature affecting the quality of striped catfish and slow delivery cause distrust of foreign customers.

The main cause of poor-quality striped catfish fillets is that farmers and the business do not comply with Global Gap standards. Once they do not comply with the standards, products will not meet requirements of export markets. Non-exported products will damage the output of farmers' striped catfish, the business' striped catfish fillets and the export share of the Vietnamese economy.

Therefore, it is necessary to find prospective solutions to farm and process quality striped catfish fillets to meet global standards and to improve the position of products in the international market.

4. PROSPECTIVE SOLUTION ANALYSIS

With the purpose of complying with Global Gap standards in farming and processing quality striped catfish fillets, firstly, it is necessary to find a breeder source to ensure its origin and viability. (De Silva & Phuong 2011) To ensure required breeders' source, it is necessary to use breeders from the three-level striped catfish breeding model. Vinh Hoan Corp. has participated in a three-level striped catfish breeding project including: level 1 is the research institute for aquaculture and Vinh Hoan Corp., level 2 is the An Giang aquatic breeding center and level 3 is the aquatic breeding branch which produces about 1-2 billion juvenile striped catfish per year. Vinh Hoan Corp.'s striped catfish farming project is expected to build an area of about 130 hectares with a total investment of 1,000 billion VND, on My Phu commune and Binh Phu commune in Chau Phu district, An Giang province.

The total project is divided into two areas. In which, the production area for three-level breeder has an investment of 300 billion VND in an area of nearly 50 hectares. The second is the high technology application area for commercial striped catfish farming with an investment of 700 billion VND in an area of 80 hectares. At the three-level striped catfish production with high standards, each year, about 190 million quality breeders are produced within Vinh Hoan Corp.'s farming areas, the remainder will be sold to individual farmers.

In the commercial striped catfish farming area, each year produces 80,000 tons of striped catfish for processing to export. Vinh Hoan Corp. has equipped the

entire farming area with micro-nano aeration technology and bakture catalyst for water treatment. With this technology, striped catfish farming in Chau Phu district, An Giang province will not need to discharge wastewater from ponds into the natural environment, and not need to dredge ponds' bottom by a natural method to comply with Global Gap standards as welfare for the environment (De Silva & Phuong 2011).

Vinh Hoan Corp. needs to continue to conduct in-depth research on factors causing yellow striped catfish flesh to increase its quality in accordance with the set standards. Following solutions may help the enterprise enhance its processes. Quickly applying the "four houses" model to increase supply chain efficiency. In which, cooperative farming households should establish a horizontal integration to increase a connection between farmers and Vinh Hoan Corp., both will agree on reasonable prices for processing and breeding fishes in seasons under market regulations, so that farmers can reduce their capital and stabilize prices. Enterprises like Vinh Hoan Corp. should focus on developing the market, predicting consumption, farming, and complying with processing standards and welfare for employees involved. Research scientists should come up with good breeders, solutions to increase production, quality and reduce product costs. The State should invest in infrastructure, provide information, standardize export products, have mechanisms and policies to promote production, have credit support and implement connections, etc.

5. IMPLEMENTATION PLAN

Based on a competitive advantage analysis model for frozen white shrimp for export at Nha Trang Seafood - F17 Joint Stock Company: this study shows the association of farming households to create large-scale farming according to standards. It will reduce the risk of poor-quality products.

Based on the supply chain distribution analysis model for catfish in Lampung, Indonesia: this model shows noteworthy points when transporting striped catfish to avoid errors during transporting goods to abroad.

Breeding and processing striped catfish fillets according to Global Gap standards are to ensure the quality of the input of breeders and the output according to the HACCP standard (Saty & Unteawati 2018).

Step 1: Continuously participating in the three-level striped catfish breeder production project, increasing from 350ha to 500ha in 2021 and expanding to neighboring provinces such as Can Tho and Dong Thap to increase the market. In 3rd quarter of 2021, expanding more than 50ha to raise breeders in Dong Thap, 50ha in Can Tho. In 4th quarter of 2021, expanding more than 50ha in An Giang province, Binh Quoi hamlet, Chau Phu district.

Step 2: Meeting with a local fisheries association to encourage farmers to joint together in horizontal or vertical integration to ensure quality during the process of rearing breeders. The process monitored by engineers is to ensure the output for 30% of commercial striped catfish purchased from households. There are two options for this step: Option one, if Vinh Hoan Corp. has sufficient financial potential: then using it for investment and product consumption applying the vertical integration. Option two, if Vinh Hoan Corp. has insufficient financial potential: signing a contract to commit to purchasing and controlling the purchasing process under the horizontal integration.

Step 3: The company's engineers are assigned to instruct method of aeration at the bottom of ponds and controlled water change applied in striped catfish ponds to create a stable, quality environment for fish farming; arrange breeders according to the recommended time of locality, the number of breeders according to the area of ponds and lakes; check every 2 weeks to ensure early detection of fish diseases and cure it timely. Checking fishes once a month, randomly weigh 30 fishes in a pond to estimate feed quantity. Feed is adjusted daily according to its eating capacity to limit excess feed. Estimating a date to harvest commercial striped catfish and follow that plan.

Step 4: Carrying out the process of fish weighing, cleaning, processing, and quality checking more strictly, if irregularities are detected, they must be clarified and corrected immediately. It is to avoid the situation that when the processing is finished, then products' quality is detected insufficient, or returned goods after being transported to the unloading port will cause economic losses for the business because poor quality products are not detected in time. The packaging and glazing processes need to comply with its standards, because over glazing increases the virtual weight and affect reputation of the products.

6. CONCLUSION

Striped catfish (*Pangasius hypophthalmus*) export market is the one which Vietnam has a great influence on the world. But the quality problem has always been a huge barrier for the striped catfish export industry. Because of the current situation, there is still no organization that carefully monitors the process of raising and processing striped catfish fillets according to the global common standards as Global G.A.P and HACCP to be able to meet various markets' rigorous quality requirements. Along with the knowledge learned, the author group's essay is to show the quality status of exported striped catfish fillets. Simultaneously, the essay gives a better overview of the importance of quality products when exporting to foreign markets so as to improve the competitiveness of the products and minimize poor-quality products that affect businesses severely. Vinh Hoan Corp. is also renovating and

completing its supply chain of farming and processing striped catfish fillets to enhance its quality.

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THE INFLUENCE OF CAREER DEVELOPMENT, LEADERSHIP, REWARDS AND MEDIATION OF EMPLOYEE ENGAGEMENT ON ORGANIZATIONAL COMMITMENT TO MILLENNIAL EMPLOYEES IN DKI JAKARTA

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Research purpose:

This study aims to determine the effect of career development, leadership, and reward on organizational commitment by using employee engagement as a mediating variable.

Research motivation:

The importance of the company in building organizational commitment and the lack of consistency in the relationship between the variables used encourage researchers to conduct further research to be able to provide evidence. In addition, some previous studies were mostly conducted outside Indonesia, although some were conducted in Indonesia, the object of research used was not specifically focused on the millennial generation. Given that millennial employees are the generation that dominates the workforce in Indonesia (BPS, 2019), it is deemed necessary to conduct research to prepare regulations or HR management practices that are in accordance with the character of the millennial generation.

Research design, approach, and method:

Quantitative research uses path analysis techniques with the help of SPSS version 26 software. This study uses a purposive sampling strategy by getting 280 individuals as respondents. Sample criteria: 1) Employees who work in DKI Jakarta; 2) Have a year of birth 1980- 2000; 3) Working period of 1 year or more. Google forms are used to get data.

Main findings:

The findings show that career development, leadership, reward, and employee engagement as mediating variables choose a significant influence on career development.

Practical/managerial implications:

The company's HR department can conduct measurements or surveys on employee engagement on a regular basis to find out what factors can be maximized to increase employee engagement. Because from this research it is known that employee engagement can mediate employee organizational commitment.

Keywords: *Career Development, Leadership, Reward, Employee Engagement, Organizational Commitment*

DIGITAL TRANSFORMATION ROADMAP FOR VIETNAMESE SMALL AND MEDIUM ENTERPRISES

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Research purpose:

The purpose of this study is to build a model to assess the level of digital transformation for small and medium enterprises. The model consists of 2 parts: a set of criteria to evaluate the elements of digital transformation, and a set of criteria to evaluate the necessary conditions/means when implementing digital transformation projects. From there, propose digital transformation roadmap suit the context of resources and capacity at Vietnamese SMEs.

Research motivation:

After the COVID-19 pandemic, the digital transformation race is getting hotter by the hour. According to the CISCO report on the digital transformation of SMEs in Asia Pacific in 2020, 69% of SMEs are accelerating their transformation to overcome the challenges posed by the pandemic. Enterprises actively implementing digital transformation have also achieved certain successes, in these enterprises both revenue and employee productivity increased by at least 50%, and in leading enterprises, this number is 100%.

However, current Vietnamese SMEs are showing many negative points, most enterprises are still less interested and indifferent to digital transformation, the average level of digital transformation of Vietnamese SMEs is even lower than that of many neighbouring countries such as Thailand, Malaysia, the Philippines, and Indonesia... The main reasons given were Lack of digital mindset (16%), Don't know where to start (14%), Lack of enabling technologies (12%). These reasons are all showing confusion and lack of confidence from the management team

This requires much more support in helping enterprises clearly understand digital transformation, identify their current level and build appropriate goals, roadmaps and tasks. This is the biggest motivation of this study.

Research design, approach, and method:

The research process consists of 5 stages:

- Review current digital transformation assessment models and digital maturity models to indicate applicability to small and medium-sized enterprises in Vietnam.
- Overview of the current state of digital transformation for SMEs in Vietnam, identifying requirements/characteristics affecting the success of the digital transformation process.
- Building a model framework for digital transformation, including definitions, participating elements, conditions/means to promote the implementation process.
- Case study at 2 typical small and medium enterprises in Vietnam by applying the built-in model to assess the digital transformation level. Data collection is carried out through direct review, survey, and measurement at selected enterprises
- Evaluate results, draw conclusions, and propose solutions

Main findings:

The study identified seven key factors that determine the successful digital transformation of small and medium-sized enterprises, related to the strategic leverage of key resources and capabilities accompanied by the innovative use of digital technologies, include: (1) Resources: Human Resources, Financial Resources, Knowledge Resources; (2) Capabilities: Digital Capabilities, Dynamic Capabilities; (3) Technology: Foundational Technology, Data.

The study also proposes a digital assessment model with 4 dimensions: digitize customer experience, digitize products & services, digitize operations with 6 levels from 0 to 5, accompanied by the tasks of implementing Digital technology, developing the required Resources and Capabilities. This model helps enterprises identify their current level, set appropriate goals and plan tasks before embarking on digital transformation with the highest efficiency.

Then, proposing a 4-stages roadmap: Awareness training, Current level analysis, Foundation building and Transformation in scale, focusing on helping the entire participating team understand digital transformation clearly, assess the current level of the enterprise, implement tasks that enhance the factors that are a condition/means of digital transformation, and expand digital transformation projects.

Practical/managerial implications:

The study has made some scholarly contributions to the theoretical system of digital transformation:

Based on considering digital transformation as a fundamental change process, the research has clarified the factors that are important conditions determining the success of digital transformation, in accordance with the requirements of group of small and medium enterprises in Vietnam

Develop and propose appropriate digital transformation roadmaps for small and medium-sized enterprises corresponding to digital maturity levels

Keywords: *Digital transformation, Digital maturity model, Digital transformation roadmaps, Vietnam Small and medium enterprises*

THE PROFILE AND PURCHASE INTENTION OF GREEN CONSUMERS IN INDONESIA

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Research purpose:

This study aims to investigate the difference of consumer demographic profile such as gender, age, expenditure on the consumers' purchase intention in food and beverage industry, especially green restaurants.

Research motivation:

In today's world, consumers perceive companies to be more than profit centers, and many restaurants are doing go-green initiatives. In addition, they view them as socially responsible institutions. In order to meet market demand, the company needs to pay attention to consumer buying behavior or purchase intentions. Green products are more likely to be purchased by individuals concerned about the environment.

Research design, approach, and method:

This type of research is quantitative and is carried out through primary data collection. The target population of this study is the final consumer who has transacted in the food and beverage industry (restaurants, cafes, and other places to eat) with a green concept. The sample size in this study was 423 samples. The first analysis is a statistical description of the collected questionnaire data, such as the average. The second test is Kruskal Wallis H, a non-parametric test used to test whether or not there are significant differences between 3 or more independent sample groups.

Main findings:

This study's results indicate significant differences in perceptions between age groups/generations and spending intention to buy at green restaurants in Jabodetabek. However, gender did not differ in purchasing intentions at green restaurants.

Practical/managerial implications:

Business actors in the food and beverages industry are advised to ensure the compatibility between target consumers based on demographics and the strategies they implement to obtain excellent or positive perceptions.

Keywords: *demographic, green restaurant, purchase intention*

1. INTRODUCTION

The food and beverage industry is any place of business that provides services and serves food or beverages as finished products to be sold to consumers, such as restaurants, cafes, and others. In 2019, the food and beverage industry continued to increase and is projected to grow at 9.86%. However, the food and beverage industry is the industry most affected and experienced a significant decline in revenue due to the COVID-19 pandemic in 2020 (Santia, 2020)). Kumparan News (2020) also said that a pandemic is an event that will remind humans of the environment, be it the natural, economic, or social environment, and will

change the way we view and live in that environment.

Environmental issues have received wide attention in recent years. One of the party that have this kind of concern is the society. Nowadays, citizen's awareness towards environmental sustainability is increasing. Awareness of environmental sustainability can be seen from changes in behavior that are more environmentally friendly, such as bike to work, recycling behavior and also responsible consumption (Sitio et al., 2021). One of the activities launched by many business actors and will be increasingly trending in society after the COVID-19 pandemic is go-green activities, such as reducing the use of plastic straws and the growth of restaurants that go

green (ABC Australia, 2018).

Consumers who consume green products or services are part of an environmentally friendly movement. Previous empirical studies have shown that consumers choose green products more often nowadays (Apaydin & Szczepaniak, 2017). In today's world, consumers perceive companies as more than profit centers. They also see them as institutions that are concerned about social issues (Sreen et al., 2018). It means that the company must begin to pay attention to the pattern of buying behavior or purchase intention from consumers to meet market demand. It has been shown that individuals who are concerned about the environment are more likely to purchase green products (Sarumathi, 2014; Sreen et al., 2018).

This study aims to investigate the difference of consumer demographic profile such as gender, age, expenditure on the consumers' purchase intention in food and beverage industry, especially green restaurants.

2. LITERATURE REVIEW

2.1. Green Food

Green food is an activity that includes sustainable food, namely by using food ingredients that support the environment for the long term in the future, such as organic materials or materials that are easily obtained, as well as providing unique information on the menu (Leonardo et al., 2014). Some activities included green food activities ((Budiantoro et al., 2015; Chen et al., 2009; Martin, 2007; Patel, 2007)

a. Purchase and use organic materials for some of the preparation needs.

b. Purchase and use local materials for some of the preparation needs.

c. Make menu changes using local or seasonal ingredients.

d. Provide information on menus with unique characteristics such as low fat and vegetarian.

2.2. Purchase intention

Purchase intention is a form of consumer behavior who wishes to buy or choose a product based on experience, use and desire for a product (Kotler et al., 2016). According to Kinnear & Taylor (2002) buying interest is a stage that shows the consumer's tendency to act before the buying decision is actually implemented. Schiffman & Kanuk (2008) suggest that buying interest is a thought that arises because of feelings of interest and wanting to have an expected product or service.

According to Ferdinand (2006) there are 4 indicators for buying interest, namely as follows.

1. Transactional interest

A person's desire or inclination to buy a product.

2. Referral interest

A person's desire or tendency to refer a product to others.

3. Preferential interest

Desires or tendencies that describe the behavior of someone who has a major preference for the product. This preference can only be overridden if something happens to the product of its preference.

4. exploratory interest

The desire or behavioral tendency of someone who is always looking for information about the product he is interested in

2.3. Linkage between demographic characteristics and purchase intention

It has been shown that consumers' green purchasing behaviors and expressed intentions are influenced by demographic characteristics, such as age, gender, education, and income (Apaydin & Szczepaniak, 2017). Moreover, Apaydin & Szczepaniak (2017) mention that green-conscious consumers are more likely to be a female gender than man, belong to younger age group, more educated and have a higher income level.

3. METHODOLOGY

3.1. Type of research

This type of research is quantitative and is carried out through primary. Primary data was obtained through a survey by distributing questionnaires to predetermined respondents, and data collection was only carried out once for one group of respondents (single cross-sectional design).

3.2. Data collection

The survey method used is an electronic questionnaire through Google Forms. In this study, the questionnaire is structured, meaning respondents are given several alternative answers. Two scales will be used in this questionnaire, namely the nominal scale and the interval scale. The interval scale used in this study to measure each variable is the Likert scale (Laibahas, 2018; Septiana, 2015; Tuhumury, 2013). The Likert scale in this study consisted of 5 response categories which indicated the level of approval of the questions in the questionnaire.

3.3. Population and Samples

The target population of this study is the final consumer who has transacted in the food and beverage industry (restaurants, cafes, and other places to eat) with a green concept. The affordable population of this study is the final consumer who has transacted in the food and beverage industry (restaurants, cafes, and other places to eat) with a green concept, is domiciled in Greater Jakarta, and has an income equal to or above the UMR (Regional Minimum Wage). According to Putra (2020), specifically for the DKI Jakarta area, 4,836,977 people work and have a minimum wage above the average.

Non-probability sampling technique - convenience sampling. The sample size in this study was 423 samples, which included 384 samples based on the Krejcie & Morgan rules/formula and added with a buffer of 10%. According to **SEKARAN & BOUGIE (2013)** for a population above 1,000,000, the number of samples required is 384 samples. Questionnaires were distributed via email or instant messaging to research colleagues. Respondents will go through a screening process with the following criteria.

1. Have transacted at a place to eat or drink with a green concept.
2. Domiciled in Greater Jakarta.
3. Have income equal to or above the minimum wage.

3.4. Data analysis technique

The first analysis used is a statistical description of the collected questionnaire data, such as the average,. Then, descriptive statistical analysis can be used to find out about the description of the respondent's profile and the tendency of respondents' responses to each of the variables asked in the questionnaire, which is presented in the form of tables or graphs.

The second test is Kruskal Wallis H, a non-parametric test used to test whether or not there are significant differences between 3 or more independent sample groups. In carrying out this test, it is not necessary to test for normality or homogeneity as a prerequisite (Jayadiputra & Kuntardjo, 2013) Kruskal Wallis H test can be done using SPSS software. If the value of asymp. sig. (2-tailed) less than 0.05, it can be concluded that there is a significant difference between the two sample groups

4. RESULTS AND DISCUSSION

4.1. Profil Respondents

1. Gender

At this stage, descriptive statistical analysis was carried out on the profiles of 425 respondents who had been obtained. When viewed by gender, the number of female respondents was more than that of male respondents. For example, the results in Figure 1 show that female respondents have a percentage of 61% or as many as 259 respondents, while the percentage of male respondents is 39% or 166 respondents.

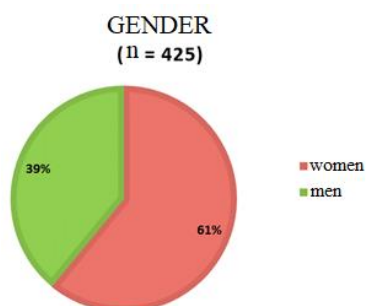


Fig. 1. Respondent's profile by gender

2. Age

The grouping of respondents based on age can be divided into eight categories, namely under 20 years old, 20-24 years old, 25-29 years old, 30-34 years old, 35-39 years old, 40-44 years old, 45-49 years old years and over 49 years of age. Based on Figure 2, it can be seen that 43% of respondents aged 25-29 years, 18% of respondents aged 20-24 years, 16% of respondents aged 30-34 years, and the remaining 24% are in other age categories.

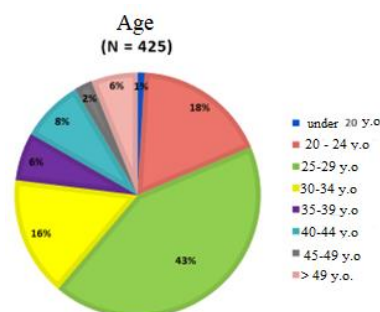


Fig. 2. Respondent's profile by gender

Then when analyzed further by generation, as seen in Figure 4.3, the following results are obtained (Oblinger & Oblinger, 2005).

- i. Age categories under 20 years old and 20-24 years are Gen Z, with a percentage of 19% of respondents or 79 respondents.
- ii. The categories of age 25-29 years, ages 30-34 years, and ages 35-39 years are Gen Y (Millennials), with the percentage of respondents being 65% or as many as 275 respondents.
- iii. The categories of age 40-44 years, 45-49 years, and over 49 years are Gen X. Because there is no maximum age limit, there is a possibility that ages above 55 years can also be respondents included in the Baby Boomers Generation, with the percentage of respondents by 17% or as many as 71 respondents.

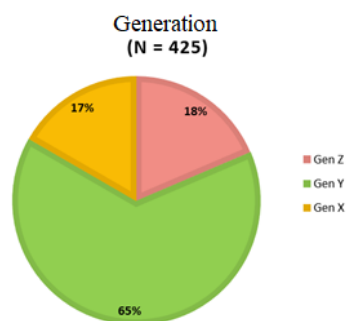


Fig. 3. Respondent's profile by gender

5. EXPENDITURE

The grouping of respondents based on the average monthly expenditure for consumption is divided into six categories below Rp. 3,000,000, Rp. 3,000,000 to Rp.

6,000,000, Rp. 6,000,001 to Rp. 12,000,000, Rp. 12,000,001 to Rp. 18,000. 000, Rp. 18,000,0001 to Rp. 24,000,000, and Rp. 24,000,001 to Rp. 30,000,000. Based on Figure 4.5, it can be seen that the largest group of respondents, namely 38% with a total of 163 respondents, has an average monthly expenditure of Rp. 3,000,000 to Rp. 6,000,000. Then in the second rank is the respondents with expenditures below Rp. 3,000,000 as many as 109 respondents (26%). In the third rank are the respondents with an expenditure of Rp 6,000,001 to Rp 12,000,000, as many as 103 respondents (24%).

Average monthly spending on consumption

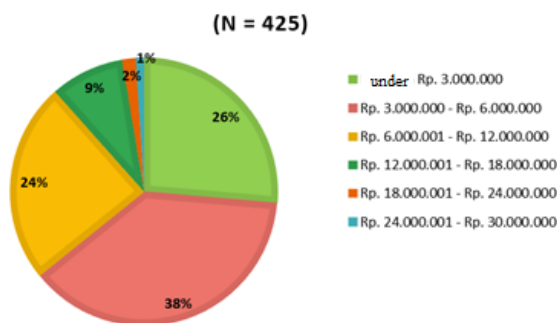


Fig. 4. Respondent's profile by gender

5.1. Analysis of purchase intention variables based on gender

On the aspect of gender, respondents were divided into 2 groups of categories, namely men and women. Figure 1 shows the average score of the buying interest variable based on gender. When compared with the scale range category, it can be said that both male and female respondents have a high buying interest in restaurants in Greater Jakarta that have communicated green activities.

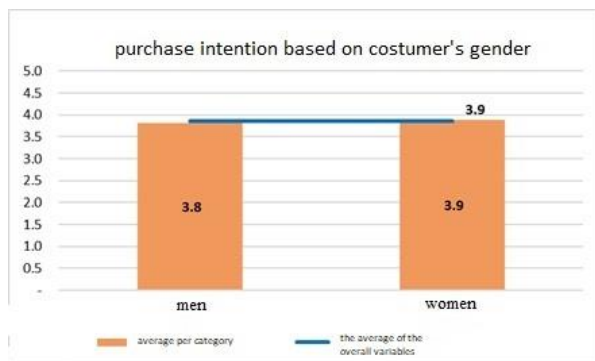


Fig. 5. Analysis of Purchase Intention in the Food and Beverages Industry – Gender

Furthermore, an analysis was carried out using the Mann Whitney U test to find out whether there was a significant difference between the buying interest of male respondents and female respondents' buying interest in restaurants that had communicated green activities. Table 1 is the result of the Mann Whitney U test and obtained a significance value greater than 0.05, which is 0.227. This explains that there is no significant difference between the buying interest of male

respondents and the buying interest of female respondents towards restaurants in Greater Jakarta that have communicated green activities that have been carried out.

Table 1. Mann-Whitney U Test Results (Gender with Purchase Intention)

Grouping Variable	Mean Rank	Variable List	Mann-Whitney U	Assymp. Sig. (2-tailed)
Men	204.03	Purchase intention	20008.50	0.227
Women	218.75			

5.2. Analysis of purchase intention variables based on generation

After analyzing buying interest variables based on gender groups, an analysis of buying interest variables based on generation groups was also carried out. Figure 2 shows the average value of the buying interest variable score by generation group. When compared to the category of scale range, it can be said that all generations have a high buying interest in restaurants in Greater Jakarta that have communicated green activities.

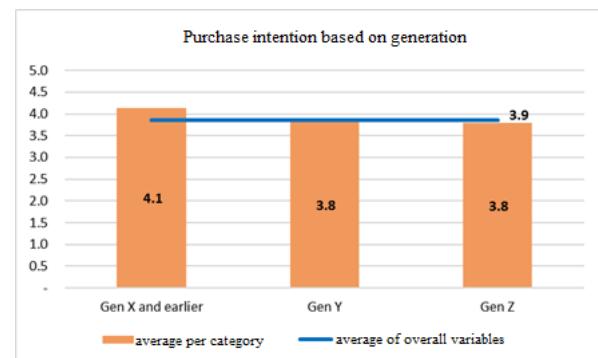


Fig. 6. Analysis of Purchase Intention in the Food and Beverages Industry – Generation

Furthermore, an analysis was carried out using the Kruskal Wallis test to determine whether there was a significant difference in purchase intention between one generation group and another for restaurants that communicated green activities. Table 2 is the result of the Kruskal Wallis test, and the significance value is smaller than 0.05, which is 0.002. Therefore, there is a significant difference in the buying interest of generation Z, generation Y, and generation X.

Table 2 also shows the average rank of each group so that the enormous mean rank value can sort the group with the highest buying interest. Based on the table, it can be said that generation X and earlier have the highest buying interest in restaurants that have communicated green activities in Jabodetabek. After generation X, it is followed by generation Y in the second order and generation Z in the last order.

Table 2. Mann-Whitney U Test Results (Gender with Purchase Intention)

Grouping Variable	Mean Rank	Variable List	Chi-square	Assymp. Sig. (2-tailed)
Gen Z	195.91	Purchase intention	12.761	0.002
Gen Y	205.88			
Gen X and earlier	259.60			

The results of this study indicate that generation X has the highest buying interest in restaurants that have communicated green activities, followed by generation Y and the last generation Z.

This study's results align with the results of research presented Royne et al. (2016) that as consumers age, consumers will have a higher buying interest in environmentally friendly places to eat. The results of this study indicate that generation X has the highest buying interest in restaurants that have communicated green activities, followed by generation Y and the last generation Z.

This study's results align with the results of research presented by Royne et al (2016) that as consumers age, consumers will have a higher buying interest in environmentally friendly places to eat.

5.3. Analysis of purchase intention variables based on expenditure

Respondents are grouped into six categories in the average expenditure for consumption per month. This analysis aims to see whether there are differences in purchase intentions between the six categories of restaurants that have communicated green activities that have been carried out. Figure 3 shows the average value of the purchase intention variable score based on expenditure groups for consumption per month. When compared with the categories of scale ranges, it can be said that respondents with all expenditure ranges agree to have purchase intentions at restaurants in Jabodetabek that have communicated green activities.

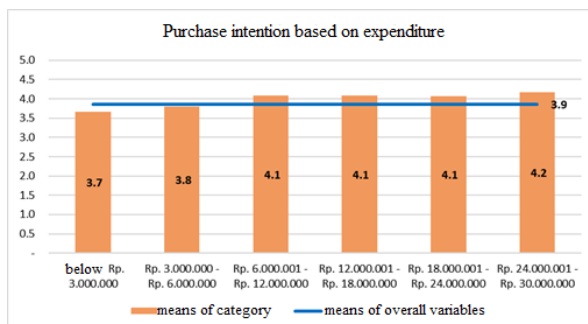


Fig. 7. Analysis of Purchase Intention in the Food and Beverages Industry – Expenditure

Furthermore, an analysis was carried out using the Kruskal Wallis test to determine whether there was a significant difference in buying interest between one group of respondents based on expenditure and other groups for restaurants that had communicated green activities. Table 3 shows Kruskal Wallis test results obtained a significance value smaller than 0.05, equal to 0.00. This test explains a significant difference in buying interest between respondents with a certain level of expenditure with other groups. Table 3 also shows the mean rank of each group of respondents based on expenditure so that the group with the highest buying interest can be sorted by the value of the largest mean rank. Based on the table, it can be concluded that the

respondent group with an expenditure of Rp 12,000,000 to Rp 18,000,000 has the highest purchase intention of restaurants that have communicated green activities in Jabodetabek. Then, followed by other groups of respondents in sequence, namely the group of respondents with an expenditure of Rp. 24,000,001 to Rp. 30,000,000, a group of respondents with an expenditure of Rp. 6,000,001 to Rp. 12,000,000, a group of respondents with an expenditure of Rp. 18,000,001 to Rp. 24,000,000, the group of respondents with expenses of Rp. 3,000,000 to Rp. 6,000,000, and the respondents with expenditures of less than Rp. 3,000,000.

Table 3. Mann-Whitney U Test Results (Expenditure with Purchase Intention)

Grouping Variable	Mean Rank	Variable List	Chi-square	Assymp. Sig. (2-tailed)
below Rp. 3,000,000	169.58	Purchase intention	32.323	0.000
Rp. 3,000,000 - Rp. 6,000,000	203.24			
Rp. 6,000,001 - Rp. 12,000,000	252.34			
Rp. 12,000,001 - Rp. 18,000,000	260.37			
Rp. 18,000,001 - Rp. 24,000,000	250.93			
Rp. 24,000,001 - Rp. 30,000,000	252.50			

In addition to generational groups, consumer buying interest in restaurants that have communicated green is also determined by the level of expenditure per month. The different test results from this study prove significant differences in buying interest between consumers with a certain level of spending. Consumers with a higher level of spending have a higher buying interest in restaurants that communicate green activities. This study's results align with the results of previous research submitted by Porong & Santoso (2019) that consumers with higher spending levels will also have a higher buying interest.

6. CONCLUSION

This study's results indicate significant differences in perceptions between age groups/generations and spending intention to buy at green restaurants in Jabodetabek. However, gender did not differ in purchasing intentions at green restaurants. Based on these results, business actors in the food and beverages industry are advised to ensure the compatibility between target consumers based on demographics and the strategies they implement to obtain excellent or positive perceptions.

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KNOWLEDGE MANAGEMENT AND INNOVATIVE LEARNING ENVIRONMENTS IN HIGHER EDUCATION

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Research purpose:

The purpose of this paper is two-fold: to explore the link between Knowledge Management practices and Innovative Learning Environments in higher education; and to provide some lessons for Vietnamese Higher Education Institutions in fostering Innovative Learning Environments through Knowledge Management practices.

Research motivation:

This research will provide useful information, suggestions, and valuable initiatives to foster Innovative Learning Environments through Knowledge Management practices at Vietnamese Higher Education for innovation.

Research design, approach, and method:

The methodology used was literature research by reviewing and analysing most influential articles on Knowledge Management and Innovative Learning Environments in higher education.

Main findings:

It was essential to establish the Innovative Learning Environments in higher education for innovation of teaching and research. Knowledge Management practices would help the Higher Education Institutions to create Innovative Learning Environments and meet their strategic goals. Thus, it is vital for Higher Education Institutions to Knowledge Management practices and Innovative Learning Environments in higher education.

Practical/managerial implications:

The paper significantly contributes to increasing the understanding of the link between Knowledge Management practices and Innovative Learning Environments to enhance innovation, teaching, and research performance at higher education institutions.

Keywords: *knowledge management, innovative learning environment, teaching innovation, higher education.*

INTRODUCTION

In the last few decades, ILEs has been increasingly regarded as a crucial factor in improving teaching quality in HEIs. Many universities are enhancing learning environments through a platform for student and teacher collaboration, creativity, complex problem solving and digital information gathering and sharing. The ILEs are different from the traditional teaching approach that was common during the height of the industrial age of education. Numerous universities, particularly in the Western countries, were designed as technology enhanced learning environments consisting of a series of open-plan visually connected spaces with semi-connected 'breakout' areas (Rose-Munro, 2021).

A shift away from traditional teaching design towards ILEs commenced in Australia between 2008 and 2012. This move represents a significant new

paradigm. Many of the practices that worked very well in a traditional "one teacher, one classroom, one class" approach need to be changed or replaced. In order to learn to operate successfully in these new learning environments, both educators and lecturers need to innovate to move beyond existing routines, rethink key ideas, and question assumptions and values. These changes require people to abandon previously valued behaviours and activities, make a break from the past and develop new knowledge and skills. In this situation, KM are considered to be one of the new practices in supporting universities in their teaching, research and knowledge transfer missions (Veer Ramjeawon & Rowley, 2017; Thang et al., 2021). However, most of prior research on ILEs has been conducted in developed countries with modern higher education systems (e.g. UK, Australia) such that there is a knowledge gap in relation to developing countries with a lack of clarity

over learning goals, and insufficient pedagogical. In addition, in such countries, the KM application in creating ILEs in higher education is viewed as pivotal to the teaching quality improvements of the university.

This paper aims to advance understanding of the factors that hinder or promote ILEs in higher education by reviewing the results of previous studies that have examined the enablers and barriers to enhance ILEs in university. In addition, the study also highlights the importance of KM application in creating ILEs in higher education and proposes some solutions for Vietnamese higher education institutions in fostering ILEs through KM.

2. LITERATURE REVIEW

2.1 Innovative learning environments

In this section, we will explore “learning environments” in general and “innovative learning environments” in particular.

Learning environments

OECD, (2013) defines a learning environment is as an organic, holistic concept that embraces the learning taking place as well as the setting: an eco-system of learning that includes the activity and outcomes of the learning. More specifically, a learning environment consists of the physical and digital setting in which learners carry out their activities, including all the tools, documents and other artefacts to be found in that setting. Besides the physical and digital setting, it includes the socio-cultural context. Therefore, context can usefully be viewed as integral to the main environment players and variables, most obviously the learners who enter in already with particular social profiles, family experiences, knowledge and expectations, and cultural experience and values. These are all importantly formed in wider family, community and social settings but they are made manifest within the educational setting.

Having determined that a “learning environment” is a holistic eco-system that functions over time and in context and includes the activity and outcomes of learning, first, we identified some the key following elements of the learning environment in higher education institutions: learners, teachers, educators, stakeholders (industry-academia linkages, exchange), contents, resources (knowledge repositories), technology (ICT), and organisational culture. However, these elements do not sit in empty isolation but are brought into relation one with another. So, the second part of the core of learning environments is made up of the relationships and dynamics that combine the elements together in particular ways (OECD, 2013). Therefore, both the elements and the relationships are important for improving learning environments.

Innovative Learning Environments

There is a consensus in the learning sciences that the learning environment is play an important role in higher

education institutions (Thang et al., 2021). In fact, learning environment refer to a combination focusing on arrangements for teaching and learning and on the organisation of these arrangements. According to OECD, (2013), learning environment is comprised four key elements, including learners (who?), teachers or educators (with whom?), content (what?), and resources (with what?), especially physical resources (buildings, facilities, infrastructure), digital resources, learning spaces and learning materials. However, elements do not stay alone but are brought into relation one with another. Therefore, both the elements and their relationships are important in learning environment. In order to success in these new learning environments, educators need to move beyond existing routines, rethink key ideas and practices. According to Rose-Munro, (2021) innovative learning environments (ILEs) are a platform primarily designed to support for student, teacher, and stakeholder collaboration, creativity, complex problem solving and digital information gathering and sharing.

ILEs are focused on innovative ways of organising learning for young people with the view to positively influence the contemporary education reform agenda with forward-looking insights about learning and innovation. ILEs are referred to the wider ecosystem of people (social), practice (pedagogical) and physical/property (Rose-Munro, 2021; Thang et al., 2021). More specifically, an innovative learning environment is one that can evolve and adapting as educational practices evolve and change - thus remaining future focused. It supports strengths-based teaching and learning. It offers students and teachers flexibility, agency, ubiquity, and connectedness. An innovative learning environment can support collaborative, reflections and inquiries in teaching and learning. Furthermore, communities engaged leads to a more robust, knowledge sharing, and continuously improving community of practice.

HEIs recognize the importance of ILEs and are changing from traditional “one teacher, one classroom, one class” approach design to ILEs. For example, some HEIs were designed as technology enhanced learning environments consisting of a series of open-plan visually connected spaces with open talk areas. The spaces were designed to inspire student-centred active learning pursuits. Such pedagogical approaches value student collaboration and participation in socially oriented learning and twenty-first-century skill development (Rose-Munro, 2021). Other HEIs were encouraged to shifts the focus from isolated individuals to learning environments or learning ecologies and invested more in learning spaces and digital resources. In addition, many of the practices in a traditional approach need to be adjusted or replaced. For instance, how does lecturers can integrate a lesson with real organization? or how does educator can cooperate with companies in a learning environment?

2.2. Knowledge management in higher education

KM is a process of creating, usage, storage, sharing, applying knowledge to enhance organisational performance. In context of higher education, KM is an organized and systematic approach encompassing knowledge processes such as the creation and maintenance of knowledge repositories, improving knowledge access, enhancing knowledge environment, and applying knowledge (Rowley, 2000; Fullwood et al., 2013). In addition, most scholars agreed that KM is a dynamic and continuous process of different activities and events of individuals and groups to create, store, transfer or apply their knowledge to the organization (Newell et al., 2003; Pawlowski and Bick, 2012; Pirkkalainen and Pawlowski, 2014). Thus, KM can be viewed as a sequential process that influences the KM outcomes and KM outcomes then lead to organizational level outcomes.

Universities are knowledge-intensive organizations with many KM activities (Rowley, 2000). The university environment is appropriate for the application of knowledge management principles and methods because universities often own new information repositories, sharing knowledge infrastructure, new curricula development and the student expectations to gain knowledge from the accessible resources (Biloslavo & Trnavcevic, 2007). However, universities are criticized for being slow to respond to market demand (Patrinos, 1990; Ramachandran, Chong and Ismail, 2009), complex political systems and bureaucratic (Chubb and Moe, 1990; Mintzberg, 1993), and hinder the development of learning communities (White and Weathersby, 2005). Thus, in the globalization context, the university's top management and their staffs need to be aware of the important role of KM to their organizations as well as a society for increasing the quality and efficiency of education and research outcomes.

Table 1: Definitions of the specific KM processes in the HEIs

KM stages	Definition
Knowledge creation	Knowledge creation is a social process among academics to develop new ways of doing things or knowledge repositories on which both current and future generations of scholars and researchers may use for their job.
Knowledge access	Knowledge access is the retrieval of knowledge to users. Through network infrastructures in HEIs academics have accessed to knowledge sources, including a host of electronic documents, and specifically electronic journals.

Knowledge dissemination Knowledge dissemination is the interactive process of personalising knowledge and communicating it to target academics and audiences via determined channels to create a positive impact on the acquisition of knowledge and practice.

Knowledge application Knowledge application is the process of integrating knowledge of academics into an HEI's teaching or research outcomes. The application of knowledge may generate new knowledge or update current knowledge that has to be stored in the databases of the HEIs.

In the context of Vietnam, Thang et al., (2021) defines KM in higher education is a dynamic and continuous process such as knowledge creation, knowledge access, knowledge dissemination, and knowledge application. The definitions of the specific KM processes in the HEIs were adapted from Ramachandran, Chong and Ismail, (2009) and Rowley, (2000) as presented in table 1.

2.3. Knowledge management and Innovative Learning Environments in higher education

As presented in previous section, KM are several dynamic and continuous circles with four key stages (Tuan et al., 2015; Thang et al., 2021; Phi et al., 2022). In knowledge creation stage, lecturers, learners and other stakeholders can interact and discuss each other in order to create new knowledge. ILEs will foster the knowledge creation by providing learning ecologies, learning spaces and digital resources for them (Arntzen et al., 2009). By contrast, knowledge creation is resulted in new knowledge which can add to resources of ILEs. In the second stage – knowledge access – users can access to knowledge sources through learning spaces and digital resources HEIs. In this circumstance, ILEs is play an important role for efficiency knowledge access by providing the excellent learning spaces and digital resources. In the opposite direction, it is widely reported that poor infrastructures (e.g., library, digital resources, or networks) in HEIs adversely affect students and users in accessing new knowledge. In the third stage – knowledge dissemination – personalizing knowledge and distributing knowledge is organized in a useful format to meet the specific needs of all users (Rowley, 2000; Fullwood et al., 2013; Veer Ramjeawon & Rowley, 2020). Publications, websites, teaching and learning activities, and reports are examples of mechanisms used by HEIs to disseminate and/or transfer knowledge (Chong et al., 2014). Thus, knowledge dissemination and ILEs have correlated to each other. In the last stage – knowledge application – happens when knowledge is applied to new situations in which users can learn and generate new knowledge. The application

of knowledge may also update current knowledge that has to be stored in the databases of the HEIs (V. Nair & Munusami, 2019). Therefore, ILEs can support knowledge application in HEIs and vice versa.

3. KNOWLEDGE MANAGEMENT ENABLERS AND BARRIERS IN HIGHER EDUCATION

KM enablers are factors or institutional mechanisms that encourage knowledge creation, facilitate knowledge sharing, and promote knowledge transfer, while KM barriers are factors that have a negative effect on KM process and activities in higher education (Choi & Lee, 2002; (Veer Ramjeawon & Rowley, 2017; Thang et al., 2021). Research on KM in higher education has identified numerous enablers and barriers, such as organisational culture and structure (e.g., Thang et al., 2021), technology (e.g., Tuan et al., 2015), rewards and incentives (e.g., Fullwood et al., 2013), leadership (e.g., Ramachandran et al., 2009), industry-academia linkages (e.g., Gertner et al., 2011), and research repositories (e.g., Arntzen et al., 2009).

KM depends on many organizational factors such as organisational culture and structure. For example, researchers have suggested that the culture in universities is individualistic, and the major of lecturers tend to work independently with few collaborations occurring. In fact, there is evidence that well-developed lecture learning communities and collaborations has positive influence on teaching practices, student achievement, and the research team performance (Ramachandran et al., 2009; Hahn & Wang, 2009). Also, the benefit of organisational structure in knowledge creation and sharing have been recognised. Veer Ramjeawon & Rowley, (2017) suggests that both formal and informal organisational structures can be important, with factors such the physical layout of offices facilitating social interaction and communities of practice.

The traditional teaching styles and methods in higher education has shifted from a traditional teaching to a highly open and dynamic knowledge-based environment due to the large adoption of computers, internet, intranet and instructional software applications (Arntzen et al., 2009). In addition, the COVID-19 pandemic has caused a significant interruption in traditional teaching activities in higher education. Therefore, the effective application of information and communication technology is essential in systematizing an efficient online educational program as well as supporting the processes of knowledge acquiring, storing, accessing, and sharing across time and distance.

In order to enhance KM activities, reward and incentive system has been viewed as an enabler for KM. There is a consensus that the use of appropriate reward and incentive programs can help universities to move towards a knowledge-based learning organization. Fullwood et al., (2013) suggests that appropriate

incentive and reward practice are important in promoting knowledge sharing. Lecturers expect their engagement in knowledge sharing to improve and extend their relationships with colleagues, and to offer opportunities for internal promotion and career development in their universities. Therefore, universities need to introduce reward and recognition systems that motivate innovative work practices and knowledge sharing behaviour amongst academics.

Leadership is considered as one of the four pillars of KM, and is concerned with environmental, strategic, and enterprise-level decision-making processes. Ramachandran et al., (2013) suggest that leaders can play an important role in promoting KM cultivating knowledge sharing behaviour, through contributing to employee's experiential learning, and through providing opportunities for and managing the processes whereby their staff share or transfer their knowledge. they control the knowledge processing environment such as IT systems, reward systems, opportunities for interaction, and the availability of budget. However, various leadership styles might be different influence on KM process, which in turn, may result in different KM outcomes in higher education. In fact, Yelder & Codling, (2004) suggest that there are two leadership styles in higher education – academic leadership and managerial leadership styles. Academic leadership focused more on knowledge, professional recognition and expertise, personal qualities and team acceptance, while managerial leadership focused more on hierarchical position, job responsibilities, control and authority.

Creating wider industry-academia linkages is an outstanding feature of KM. Partnering with a university can offer an important extension of research capacity to a learning environment, enriching its own knowledge about what it is doing. According to (Gertner et al. (2011), knowledge transfer from academia to industry requires time and space in which to develop a shared understanding, nurture relationships and identify mutual interests among the partners. The university benefits from having an external trainer/counsellor from the nearby corporations, while the students from the university do their practical courses, professional development, and internships at the partner corporations. However, universities in developing countries generally face greater challenges in such alliances, because they look to the Government to provide the overall framework for developing these linkages, which requires the formulation of policy directions and reward systems.

Obviously, research repositories are contributing to enhance knowledge sharing between lecturers, students and improving access to knowledge. Modern libraries are available to support knowledge sharing across time and distance. Arntzen et al. (2009) present an interesting case study based on KM practice at Bangkok University,

which developed knowledge repositories, such as online courses, set up collaborative tools, emails-forum-chat-video, knowledge mapping, coaching/mentoring and best practices, with a view to facilitating knowledge sharing. However, not all academics participated due variously to lack of time, incentives and motivation, fear of sharing, and complex ICT tools.

4. Lessons for Vietnamese hEI in fostering iLE through kM

4.1. Turning lecturers and students into innovators

Innovative learning environment are a platform primarily designed to support the activity of speaking, listening and learning. Therefore, educators ensure that innovative learning environment results in lecturers and students being innovators. More specifically, students join to class actively seeking information and feedback. They need lessons planned and delivered in a slightly different way than in the past. When students have opportunities to regularly learn curricular content with effective strategies to enhance long-term retention, they become more engaged. By applying knowledge management as a springboard for knowledge creating, they naturally find more information and create more knowledge. Finally, they need to readily have access to large amounts of information in multi-sensory formats to make connections between existing knowledge and new possibilities. On the other hand, lecturers, whether teaching in-person or remote, can have confidence that by making the changes to lesson planning and teaching methods such as using morning work or encouraging flexible work groups.

4.2. Use technology to maximize access to information

Traditionally in university, students have only been able to see and hear about a topic from a teacher. Textbooks and print materials can only provide so much information and generally not enough to create the environment that engenders deep thinking. However, in today's information age, both lecturers and students need access enough information that can lead to deep thinking about any given topic in a university's curriculum. In this situation, the development of electronic knowledge repositories in universities are very important. Arntzen et al. (2009) suggest that knowledge repositories such as online courses, set up collaborative tools, emails-forum-chat-video, knowledge mapping, coaching/mentoring and best practices provided not only a venue for communication of meaning but also conveyed the sense that managers, lecturers, and students were willing to facilitate knowledge sharing and innovation. Therefore, when a teacher plans lessons that incorporate technology, students have access to almost information they need. By searching online, students can literally find something to "think about," to generate better original ideas. Searching online provides more than just basic

textbook information. It can also provide video, pictures, diagrams, opportunities to modify models, and ways to seek and receive feedback. In addition, when planning lessons, lecturers can ask themselves some questions about using technology such as "How would more information help students see the details and breadth of this topic?", "How would interacting with programs or other people provide clarifying and corrective feedback?", "How would inquiry—a thinking skill—enrich the depth of a topic?", or "What innovative ideas could students produce?".

4.3. Fostering innovative learning environment through human resource policies, organisational culture and structures

In fact, higher education institutions embarking on implementing innovative learning environments face many challenges. Veer Ramjeawon & Rowley, (2017) noted that organisational culture and structures can play an important role in facilitating knowledge flows. Therefore, universities can foster knowledge creation and knowledge sharing during the organisational culture and structure changes. When seeking to implement new initiatives to enhance institutional performance, university leaders and academics can view organisational culture and structure change as a learning process that involves creating and moving knowledge across organisational boundaries. Under conditions of change, the creation and movement of knowledge may require the development of new culture and structures and the use of communications that have a high level of media richness. For example, universities may foster knowledge sharing culture in order to help academics engage in knowledge sharing to improve and extend their relationships with colleagues. Universities also may introduce reward and recognition systems such as financial incentives or promotion opportunities and career development that foster innovative work practices and knowledge sharing with external organizations. In addition, universities can foster knowledge creation and knowledge sharing though increasing intersectoral mobility and integration of international researchers.

4.4. Enhancing industry-academia collaboration

Creating and enhancing wider partnerships is an outstanding feature of the innovative learning environment in higher education institutions because this collaboration can not only create more resources and expertise available to the learning environment but also reduce the established institutional boundaries so that the learning is not restricted to internal people (e.g., learners, teachers, educators) within its university. Partnering with an organisation can offer an important extension of training and research capacity to a learning environment, enriching its own knowledge about what it is doing. The industry-academia collaboration is one of the ways in which learning environments are becoming information-rich to inform their on-going

process of learning design and redesign. Universities can be very helpful in building the capacity and expertise based on this collaboration and eliminate the inherent mismatch between the teaching and research orientations of firms and universities. In addition, the industry-academia linkages are developed so as to provide teacher education, professional development and internships, and the wider sharing of practice as well as help universities to solve with their limited budgets. Veer Ramjeawon & Rowley, (2017) noted that universities in developing countries generally face greater challenges in such collaboration, because they look to the Government to provide the overall framework for developing these linkages, which requires the formulation of policy directions and cooperation mechanisms. Therefore, university leaders need to develop a cooperation framework for industry-academia collaboration in training and research.

5. CONCLUSION

Innovative learning environments are a key element of today's university. This study contributes to research on how to apply KM for enhancing innovative learning environments in higher education institutions, by studying its processes and challenges through a review of KM literatures in higher education. This paper also analyses in detail the KM enablers and barriers in higher education and propose some lessons learned for Vietnamese higher education institutions in fostering innovative learning environment through KM.

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ACCRUAL- BASED EARNINGS MANAGEMENT AND FIRM PERFORMANCE: EVIDENCE FROM VIETNAM

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Research purpose:

The paper is to analyze the impact of earnings management on the firm performance of publicly listed companies in the Vietnamese stock market. The research implemented the method of measuring earnings management with the Modified Jones model (1995), which values firms' discretionary-based accruals. The measures used for evaluating firm performance, from which the impact of earnings management was determined, was firms' return on assets (ROA), return on equity (ROE) and Tobin's Q ratio.

Research motivation:

Earnings management is a matter that has lately acquired attraction among financial information users, shareholders, as well as other stakeholders. In the present setting of Vietnam, the economy has shown indications of recovery in macroeconomic statistics, but analysts say the nation is still in crisis, especially due to the effect of the Covid 19 pandemic, with growth falling short of potential and many other underlying causes remaining unaddressed. The challenging economy has resulted in the failure of numerous domestic firms. There has been proof of Vietnamese firms on the stock exchange market that engage in activities of earnings management, in order to beautify financial reporting - the face of firms to their investors and stockholders.

Research design, approach and method:

The research sample includes 251 manufacturing companies listed on the Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX) provided by FiinPro's database from 2018 to 2021. Panel data is processed using regression model including OLS, REM and FEM.

Main findings:

The results found the evidence to prove that earnings management has a negative relationship with firm performance.

Practical/managerial implications:

This study provides more evidence about the relationship between earnings management and firm performance of manufacturing firms in Vietnam, Therefore, the research suggested that Vietnamese listed firms should present their financial statements appropriately in order for investors to make sound decisions. The regulators might also establish further frameworks to identify earnings manipulation by listed companies and ensure that all firms' financial statements be presented with a reflection of fair and true results.

Keywords: *Earnings management, discretionary accruals, firm performance, manufacturing firms.*

1. INTRODUCTION

Earnings management refers to the activities and alterations of the company's managers that affect the company's operating variables in contrast to the profit realized at the enterprise's normal operating level which are reflected in the annual financial statements. This can be accomplished by employing a flexible set of accounting principles, procedures, or estimations to alter earnings. Earnings management strategies in businesses try to improve the appearance of annual

income by displaying a high profit for the current accounting period at the expense of future income or a decrease in current earnings to report high future earnings (Ronen and Yaari, 2008). Furthermore, the implementation of measures such as debt relief, steeply reduced pricing to attract new clients, over-production of items to lower cost of goods sold, or aggressively slashing discretionary costs of businesses all have the impact of raising profit during the period. As a result, purposefully changing the financial information disclosed in the yearly financial statements in order to

misrepresent the company's underlying economic status to users, or to get certain contractual benefits dependent on the accounting figures reported in the financial statements (Healy and Wahlen, 1999, Bergstresser and Phillippon, 2003).

Earnings management is a matter that has lately acquired traction among financial information users, shareholders, as well as other stakeholders. In the present setting of Vietnam, the economy has shown indications of recovery in macroeconomic statistics, but analysts say the nation is still in crisis, especially due to the effect of the pandemic, with growth falling short of potential and many other underlying causes remaining unaddressed. The challenging economy has resulted in the failure of numerous domestic firms. A study investigating accrual-based earnings management and real activity manipulation in 824 firms on Vietnam stock market from 2008 to 2018 has confirmed that, seasoned equity issuers can improve reported profitability prior to the offering by changing discretionary accounting accruals and engaging in actual activity manipulation, such as accelerating sales timing through larger price discounts or more lenient credit conditions (Pham & Tran, 2019). From this confirmation, the authors found the need to investigate further, to determine whether the firms in the context of this market that implement earnings management activities have subsequently-influenced performance.

Previous study has shown that managers participate in earnings management activities to fulfill expected profit margins, as well as compare them to the industry profitability threshold (Bharath, et al., 2008; Chou, et al., 2009; DeFond and Jiambalvo, 1994; Ding, et al., 2018; Elayan, et al., 2008; Razaque, et al., 2016).

Numbers of empirical research have been carried out to determine the link between accounting elements and profits management in various nations and periods of time. Total Accruals and Discretionary Accruals were chosen as earnings management measures, and regressions were created between those components and total accruals or discretionary accruals in empirical research to establish the association between accounting components and earnings management.

According to the examination of the relevant literature, the goal of the study is to investigate the link that exists between two independent parameters: earnings management and firm performance. The study's overall objective is to assess the influence of earnings management on firm performance for manufacturing businesses listed on the Vietnam stock exchange. This research paper consists of 5 parts: (1) Introduction, (2) Literature review, (3) Research methodology, (4) Research results and discussion, (5) Conclusions and recommendations.

2. LITERATURE REVIEW

2.1. Earnings management

2.1.1. Concept of earnings management

There are three groups of classifications to categorize multiple definitions of earnings management (Ronen and Yaari, 2008), which are white, gray and black. Authors with white opinions have defined earnings management as the act of benefiting from accounting treatment flexibility to indicate the manager's expectations about the company's future cash flows (Beneish, 2001, etc). Gray definitions indicate that earnings management is managers' deciding on an opportunistic (maximizing the usefulness of management) or economically-efficient approach of accounting (Fields, Lys and Vincent, 2001). Black definitions, however, see earnings management as the act of adopting methods to falsify or diminish the transparency of financial statements.

Previous research has indicated that earnings management approaches are intended to fulfill expectations of analysts and stakeholders towards the financial performance of a firm. Earnings management activities are frequently motivated by managerial pressure (Burgstahler and Dechow, 1997). Furthermore, the administrator also has a great incentive to implement earnings management associated with contracts and the event of raising capital through stock issuance. For purposes like merger and acquisitions (M&A), companies will aim to under-reserve their losses in order to improve their profitability before acquisitions or initial public offers (Sommer & Xie, 2015), and raise the worth and price of their company for M&As by doing so. According to Yaping (2009), earnings management, when done correctly, is not a fraud since it just manipulates the timing of net income; nonetheless, it does not modify the firm's long-run financial information. As a result, earnings management does not distort the firm's market financial condition.

Earnings management in a firm may be performed in a variety of methods, which are divided into two categories: accrual-based earnings management (using accrual accounting) and real earnings management - the direct manipulation of real performance in the company. The accrual concept is a crucial accounting principle that requires businesses to record income and expenditures when the benefit is realized rather than when the money is received or paid. This is one of the widely known accounting concepts that managers utilize to improve or diminish the firm's financial performance (Dechow and Skinner, 2000). Accrual management may not include changing the core operations of a firm; rather, it entails selecting accounting systems to reflect many activities performed by the company. Accrual accounting thus gives managers a considerable power to determine the profits

of the firm in various periods, with the control over the recognition of cost items, as well as revenues, all of which can be used for earnings manipulation to suit the objectives of managers (Teoh et al., 1998).

2.1.2. Some theories related to earnings management

Agency theory

Agency theory describes the link between the business's owners, who are the principal, and the managers, who are the owners' agents (Jensen and Meckling, 1976). Due to the size of the firm, the distribution of ownership in which there is a wide range of shareholders, and the nature of the business that requires skills and specialties, the owners may not be able to control the operations. Therefore, they engage managers to handle the business on their behalf in contemporary businesses. Though managers are expected to act in the best interests of the owners, they may act on their own, resulting in a conflict regarding principal agents. Regarding this conflict, Eisenhardt (1989) proposed that there should be greater compensation for executives depending on their performance and behavior while working for the firm in order to eliminate the conflict of interest. A supervisory board may also be necessary to keep close oversight over the executives' activities. According to Booth and Schulz (2004), Shapiro (2005), earnings management is explained by agency theory because managers are driven to control earnings in order to raise their bonuses, compensations, and commissions, which are directly linked to the firm's earnings.

Signal Theory

The signal theory explains the underlying reason why firms with lower performance and quality will often choose clever accounting strategies and policies, such as earnings management methods, to mask the shortages in their financial results, while higher-quality firms will clearly demonstrate their figures and numbers. Several studies in this area have confirmed the signaling theory's hypotheses (Dechow et al., 1995, McNichols, 2000; Gunny, 2010; Habib et al., 2018).

2.2. The relationship between earnings management and firm performance

According to Al-Shattarat et al. (2018), earnings management can be seen from two opposing views: the first view emphasizes managers' "opportunistic conduct," in which they aim to maximize their own interests. As a result, there can only be a negative influence on a company's financial performance (Kothari et al., 2015; Leggett, 2016). On the other hand, various researches support the existence of a second perspective that directs earnings management reflections in the midst of this opportunistic conduct. They see it as a method to increase shareholder value. It is also known as the "informational viewpoint" (Gul et al., 2003). From these two opposing points of view, it

can be seen that there have been studies proving two different impacts of earnings management on firm performance - negative and positive impact.

There have been studies establishing the existence of a negative impact of earnings management of firms and their performance (Cohen and Zarowin, 2010; Ardekani et al., 2012; Kothari, 2015; Tabassum et al., 2015). In this viewpoint, the market values managers' discretion since they have privileged information as compared to other economic players. As a result, the theory behind this positive relationship is signal theory, which holds that accounting processes may be utilized to indicate private information (Leland and Pyle, 1977). The management of the outcome in the scope of signaling aims at the transfer of private information about the company's future prospects.

At the same time, various researches have confirmed that earnings management has a positive influence on the financial success of the organization in the context of the informational viewpoint (Dechow et al., 1995; Teoh et al., 1998; Gunny, 2010; Habib et al., 2018; Al-Shattarat et al., 2018; Nguyen et al., 2019; Setiawan, 2020; Dakhllalh, 2020). Indeed, earnings management allows numerous economic players, notably investors, to disclose their predictions about the company's future (Arya et al., 2003). Earnings management helps investors make more informed judgments to some extent. Managers might indicate their predictions of the market with such management.

3. RESEARCH METHODOLOGY

3.1. Research model

This study builds on the initial premise that earnings management affects firm performance. This research focuses on manufacturing enterprises listed on the HOSE and HNX stock exchange, two biggest capital markets in Vietnam with many strong listed firms, and have been expanding at a fast pace. The model used for hypotheses testing is as follows:

$$ROA_{it} = \beta_0 + \beta_1 DA_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 PPE_{it} + \beta_5 LIQ_{it} + \beta_6 CFO_{it} + \beta_7 GROWTH_{it} + \beta_8 ZSCORE_{it} + \epsilon_{it} \text{ (Model 1)}$$

$$ROE_{it} = \beta_0 + \beta_1 DA_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 PPE_{it} + \beta_5 LIQ_{it} + \beta_6 CFO_{it} + \beta_7 GROWTH_{it} + \beta_8 ZSCORE_{it} + \epsilon_{it} \text{ (Model 2)}$$

$$TQ_{it} = \beta_0 + \beta_0 + \beta_1 DA_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 PPE_{it} + \beta_5 LIQ_{it} + \beta_6 CFO_{it} + \beta_7 GROWTH_{it} + \beta_8 ZSCORE_{it} + \epsilon_{it} \text{ (Model 3)}$$

Summary and explanation of the variables are shown in Table 1.

To measure earnings management, the modified Jones Model (1995) was applied in this research because it is thought to be the most powerful for assessing earnings management as well as abnormal accruals, which is a sign that firms' managers are engaging in earnings management techniques (Dechow et al., 1995).

As a result, abnormal accruals in this study can be identified using the Modified Jones' model as shown below:

Step 1: Calculating total accruals for each firm:

$TA_t = \text{Net income} - \text{Cash flow from operating activities}$

Step 2: Calculate coefficient α using the Modified Jones (1995) model:

$$\frac{TA_t}{A_{t-1}} = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta REC_t) + \alpha_3 PPE_t$$

In which:

TA: Total accruals;

At-1: the amount of total assets at the start of the year;

ΔREV_t : change in revenue;

ΔREC_t : change in net receivables

PPEt: the amount of tangible capital assets;

Step 3: Calculate discretionary accruals using the above coefficient:

$$\frac{DA_t}{A_{t-1}} = \frac{TA_t}{A_{t-1}} - \frac{NDA_t}{A_{t-1}} \\ = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta REC_t) + \alpha_3 PPE_t$$

In our model, we employ other control variables including firm size (SIZE), leverage (LEV), liquidity (LIQ), Property, plant and equipment (PPE), Cash flow from operating activities (CFO), Firm Growth (GROWTH) and Z-Score (ZSCORE). Empirical research on corporate finance has frequently utilized *firm size* as an essential and basic firm performance variable. This element is important to examine since company rules and taxes policies frequently change across large, medium, and small enterprises, affecting the firm's performance (Garicano et al. 2016, 2017). Several research on the link between business size and firm performance have attempted to assess the degree of competitiveness or corporate social performance of small and large organizations (Wolff and Pett, 2000; Dogan, 2013; Vu et al., 2019). In terms of *leverage*, researchers have shown that high leverage results in matured maturities, which raise expenses and have an impact on firm performance (Desai and Dharmapala, 2009; Gompers et al (2003). Companies with a high level of debt, on the other hand, will face more scrutiny from banks. Several previous studies have found that debt monitoring has a positive impact on firm performance (Cheng and Tzeng, 2011; Bukit et al, 2017). With regards to *liquidity*, many theorists sought to analyze the influence of liquidity on financial performance (Gill et al., 2010; Banos-Caballero et al., 2012; Owolabi and Obida, 2012). In addition, since the property's earnings does not pay the expense of the

property (Desai and Dharmapala, 2009; Chen, et al., 2014), *longer-term asset investments* will put additional pressure on asset revenue, which may have a negative impact on firm performance. According to Nguyen et al. (2019), other factors affecting earnings management are *cash flow from operating activities* and *firm growth*. Previous studies discovered that firm expansion has a considerable impact and a positive relationship with firm performance (Hermuningsih, 2013; Moeljadi and Supriyati, 2014). Finally, *Z-score* is included in our model because Z-Score with a lower value indicates a higher likelihood of financial distress and vice versa. Therefore, it is predicted to be positively connected with company performance (MacKie-Mason 1990).

3.2. Research hypothesis

The opportunistic approach to firm performance creates an analysis framework that justifies the presence of earnings management's negative impact on a firms' financial performance. The accrual principle is an important accounting theory that requires firms to recognize income and expenditure items when the benefit is gained rather than when the cash is paid or received. This is one of the GAAP that managers use to improve or reduce performance (Dechow & Skinner, 2000). Accrual management may not require modifying the company's core operations; rather, it includes choosing accounting procedures to represent the company's varied activities. Managers therefore have control over the cost item identification time period. They can also detect gains, such as early revenue recognition via credit sales, and manipulate earnings to meet the demands of the manager, according to Teoh et al. (1998). The findings from Molstafa (2018) demonstrate that earnings management is negatively associated with a firm's performance. Suprianto and Setiawan (2020) have offered evidence that accrual earnings management in Indonesian enterprises is more efficient than opportunistic. Dakhllalh (2020) also offered evidence of poor performance owing to accrual earnings management.

Vietnam, as previously said, is developing strongly in terms of the activities of firms on the stock market. This goes alongside with higher risks of frauds and ingenuine conduct of enterprises managers, as seen from major accusations of large shareholders in Vietnam recently. It can be implied that lax standards and oversight will have an influence on business performance. Based on the findings of these many research papers, it can be concluded that earnings management has a major negative influence on firms' financial performance. Then, we propose our hypothesis as follows:

H1: Earnings management has a negative impact on firm performance.

3.3. Data collection and analysis method

The data source used for this study was extracted

from the database of FiinPro Group, a reputable financial data collector and provider in Vietnam. 251 firms were selected from 2018 to 2021 with the distribution by industry respectively: Consumer Goods - 34.25%, Energy & Resources - 65.75%. This research applies a combination of primary research and quantitative analysis. A linear regression model was used to test the hypothesis, with earning management as an independent variable and firm performance as a dependent variable, among other control variables. The data in this research was processed via panel data using STATA 16. We first conducted a descriptive statistics analysis on the variables. Afterwards, correlation matrix was used to test correlation among dependent and independent variables. The research employ OLS (Ordinary Least Square), REM (Random Effect Model) and FEM (Fixed Effect Model), an then, a Hausman test was finally conducted to determine the best fit model for the data available.

4. RESEARCH FINDINGS

4.1. Descriptive statistics

ROA, ROE, and TOBINQ were used as firm performance measures in this article. ROA reflects the annual return earned by companies, ranging from -0.4673 to 0.4181, with a mean of 0.0601. The lowest number of ROE was -40.8206, indicating that there were enterprises that made extreme losses compared to their shareholders' equity. The ratio of ROA and ROE has a relatively equal average number. The average value of TOBINQ was 1.2208, indicating that enterprises in general record profits throughout the years according to their actual market value. The indicator for earnings management (DA) had an average value of 0.1013, which was practically equivalent to zero, according to the table of descriptive statistics above. Based only on this figure, there was minimal earnings management among the studied firms.

In this research, seven control variables were used: firm size; leverage ratio; liquidity; tangible fixed assets, cash flow from operating activities, firm growth and Z-Score. Firm size ranged from 23.9398 to 32.8141, with an average of 27.6737. This is understandable because firm sizes vary, and the article might provide valid results for firms in the population.

4.2. Correlation matrix

With supplement to the descriptive statistics table, the following Correlation Matrix table shows the Pearson correlation coefficients, as well as the relationships among the variables ROA, ROE, TOBINQ, DA, SIZE, LEV, LIQ, PPE, CFO, FGROWTH and ZSCORE. According to Kennedy (2003) and Neter et al. (1996), the Pearson correlation coefficient between the independent variables should not be more than 0.75. In this investigation, all correlation coefficients had values smaller than 0.75.

Hence, the multicollinearity problem does not exist.

4.3. Regression results

The regression results have shown that REM is favor in all Models. The results are shown in the Table 4:

(1) Earnings management

It can be drawn from all three models that DA is inversely associated with firm performance as assessed by ROA, ROE and TOBINQ with the coefficient is -0.0379, -0.3137, -0.1773 respectively. This outcome is consistent with earlier research (Dechow et al., 1995; Teoh et al., 1998; Gunny, 2010; Habib et al., 2018; Al-Shattarat et al., 2018; Nguyen et al., 2019; Setiawan, 2020; Dakhlallah, 2020). As a result, it can be verified that earnings management has a negative influence on the financial performance of Vietnamese manufacturing enterprises. It could be explained by both agency theory and signal theory.

The empirical results obtained are consistent with the researcher's expectations, which prove the earning results of Vietnamese enterprises can be controlled downwards in an opportunistic strategy of earnings management (Gunny, 2010; Al-Shattarat et al., 2018). This viewpoint views managers' discretionary behavior as a manipulation tool operating in their own best interests. Investors in Vietnamese manufacturing firms operate rationally and thereby avoid being misled by opportunistic maneuvers by some management. They are capable of detecting manipulations and penalizing the firm through devaluation. Our findings support for the above-mentioned hypothesis.

(2) Control variables

The findings revealed that firm size was positively connected to firm performance and also significant in Model 1 and Model 2. The leverage ratio has a strong and inverse association with earnings management. This is consistent with earlier studies, indicating that as debt increases, so the amount of earnings management decreases. It might be explained by market fluctuations from 2018 to 2021, especially with the influence of Covid-19 pandemic, which caused management to falsify results in order to make them appear attractive. Liquidity, on the other hand, has a negative influence on firm performance with a value of -0.0005; -0.009; -0.0145 respectively. This conclusion enables us to address an unresolved issue, namely the link between liquidity and financial performance. Tangible fixed assets and firm growth has a positive correlation with firm performance. As a result, we may infer that in the Vietnamese setting, large enterprises outperform small firms in terms of financial success. Z-Score - indicator of financial health of firms was also found to be positively and significantly correlated with firm performance, which supports Mackie-Mason (1990)'s theory that this metric reflects a firm's financial well-being.

Table 1. Summary of variables in the research model

Type	Variable	Code	Measurement
Dependent variables	Return on assets	ROA	Net income/Total assets
	Return on equity	ROE	Net income/Total equity
	Tobin's Q ratio	TOBINQ	Tobin's Q ratio = (Market value of total equity + Accounting value of debts)/Total Assets
Independent variable	Earnings management Discretionary accrual	DA	Modified Jones' model (1995)
Control variables	Firm size	SIZE	Natural logarithm of total assets
	Leverage	LEV	Total debt/Total assets
	Liquidity	LIQ	Current assets/Current liabilities
	Property, plant & equipment	PPE	Cost of tangible fixed assets/Total assets
	Operating cash flow	CFO	Cash flow from operating activities/Total assets
	Firm growth	FGROWTH	% change in total assets of 2 consecutive years
	Z-score	ZSCORE	The Mackie-Mason (1990) Z-score= 3.3(net income _t /total asset _{t-1}) + 1.0(sale _t /total asset _{t-1}) + 1.4(retained earning _t /total asset _{t-1}) + 1.2(working capital _t /total asset _{t-1})

Table 2. Descriptive statistics for variables in the model

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	1,004	.060143	.0746187	-.4672669	.4180553
ROE	1,004	.06239	1.301541	-40.82061	1.586803
TOBINQ	1,004	1.220827	.8349984	.125401	12.41286
DA	1,004	.1013345	.1344075	0	2.600422
SIZE	1,004	27.67367	1.59256	23.93982	32.81413
LEV	1,004	.4612124	.2027186	.0026735	1.294471
LIQ	1,004	2.366072	3.665777	.2117454	62.70258
PPE	1,004	.591752	.5180907	0	3.295183
CFO	1,004	-.0018762	.0780926	-1.037907	.4741603
FGROWTH	1,004	.1247897	.7757049	-.972846	15.94737
ZSCORE	1,004	-4.971182	1.487246	-10.52952	5.63337

Source: STATA 16

Table 3. Correlation matrix for variables included in the model

	ROA	ROE	TOBIQ	DA	SIZE	LEV	LIQ	PPE	CFO	FGROWH	ZSCORE
ROA	1										
ROE	0.2286 0.0000	1									
TOBINQ	0.4214 0.0000	0.0343 0.2771	1								
DA	-0.0477 0.1313	-0.0242 0.4431	-0.0421 0.1829	1							
SIZE	0.0018 0.9855	-0.0082 0.7957	0.0917 0.0036	-0.1321 0.0000	1						

	ROA	ROE	TOBIQ	DA	SIZE	LEV	LIQ	PPE	CFO	FGROWH	ZSCORE
LEV	-0.4119 0.0000	-0.1006 0.0014	-0.0931 0.0032	0.0022 0.9435	0.2621 0.0000	1					
LIQ	0.1206 0.0001	0.0130 0.6806	-0.027 0.3931	0.0799 0.0114	-0.1805 0.0000	-0.4699 0.0000	1				
PPE	0.1322 0.0000	0.0316 0.3173	0.0539 0.0877	-0.1080 0.0006	0.0373 0.2382	-0.1289 0.0000	-0.1116 0.0004	1			
CFO	0.0052 0.8696	-0.0108 0.7326	-0.0246 0.4358	-0.0099 0.7552	0.0399 0.2060	0.0239 0.4489	-0.0336 0.2881	-0.0016 0.9604	1		
FGROWTH	0.0455 0.1499	0.0164 0.6032	-0.0055 0.8625	0.2195 0.0000	-0.0075 0.8126	-0.0135 0.6689	0.0257 0.4157	-0.0586 0.0634	0.0264 0.4027	1	
ZSCORE	0.4166 0.0000	0.1114 0.0004	0.0945 0.0027	0.1137 0.0003	-0.2479 0.0000	-0.2162 0.0000	0.0491 0.1200	-0.1046 0.0009	-0.0066 0.8344	0.0045 0.8860	1

Source: STATA 16

Table 4. OLS, FEM ad REM regression results

Variables	Coeff.										
	ROA (Model 1)			ROE (Model 2)			TOBINQ (Model 3)				
	OLS	FEM	REM	OLS	FEM	REM	OLS	FEM	REM		
DA	-0.0508*** (-3.19)	-0.0382*** (-2.55)	-0.0379*** (-2.53)	-0.3725** (-1.17)	-0.3079* (-0.97)	-0.3137 (-0.99)	-0.2288** (-1.13)	0.0690*** (-1.08)	-0.1773* (-0.88)		
SIZE	0.0059*** (4.35)	0.0085*** (6.55)	0.0085*** (6.55)	0.0161** (0.59)	0.0269*** (0.98)	0.0278*** (1.01)	0.0623*** (3.60)	-0.5167 (3.98)	0.0725*** (4.15)		
LEV	-0.1359*** (-11.9)	-0.1355** (-11.73)	-0.1351** (-11.72)	-0.6136*** (-2.54)	-0.6028*** (-2.47)	-0.6111*** (-2.50)	-0.5834*** (1.5)	-0.0154*** (-3.36)	-0.5363* (-3.45)		
LIQ	0.003*** (5.21)	-0.0004*** (-0.72)	-0.0005*** (-0.74)	0.0061** (0.54)	-0.0099*** (-0.76)	-0.009*** (-0.73)	-0.0009* (-0.12)	0.0465*** (-1.88)	-0.0145*** (-1.76)		
PPE	0.027*** (6.70)	0.0166*** (4.26)	0.0164*** (4.23)	0.1085*** (1.35)	0.0565** (0.69)	0.0607*** (0.74)	0.0959*** (1.88)	-0.4198 (0.90)	0.0540*** (1.03)		
CFO	0.0056** (0.21)	0.0111*** (0.44)	0.0062*** (0.25)	-0.1867* (-0.36)	-0.3155 (-0.59)	-0.1831 (-0.35)	-0.3107** (-0.93)	0.0012*** (-1.26)	-0.3075 ** (-0.92)		
GROWTH	0.0069*** (2.53)	0.0057*** (2.21)	0.0060*** (2.34)	0.0450** (0.83)	0.0457*** (0.84)	0.0410*** (0.76)	0.0078** (0.23)	0.0631*** (0.04)	0.0042*** (0.12)		
ZSCORE	0.0236*** (16.44)	0.0202*** (14.64)	0.0202*** (14.66)	0.1086*** (3.80)	0.0935*** (3.20)	0.0932*** (3.19)	0.0754*** (4.13)	0.0690*** (3.43)	0.0619*** (3.33)		
F test (REM is favor)		R-sq=0.3377 Wald chi2(8) = 507.45 Prob>chi2 = 0.0029				R-sq=0.0229 Wald chi2(8) = 23.42 Prob > chi2 = 0.0029				R-sq=0.0406 Wald chi2(8) = 42.08 Prob > chi2 = 0.0000	
Hausman test (REM is favor)		Prob>chi2 = 0.9929				Prob>chi2 = 0.9999				Prob>chi2 = 0.2637	

Notes: t statistics in bracket, *, **, *** represent statistical significance at 10%, 5%, and 1%, respectively.

Source: STATA 16

5. CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

5.1. Conclusions

Based on the data of 251 firms were selected from 2018 to 2021, the results show that manufacturing companies listed on the HNX and HOSE stock exchange participate in earnings management tactics by modifying earnings to be lower so that they can benefit from tax breaks, or higher to impress financial statement users and other stakeholders of the financial results and performance of the firm. Earnings management was discovered to be practiced by all firms examined, implying that companies listed in Vietnam may all be conducting earnings management in various methods. The research also proves a causation and negative relationship between earnings management and firm performance, which is in line with the findings of Dechow et al. (1995), Teoh et al. (1998), Gunny (2010), Habib et al. (2018), Al-Shattarat et al. (2018); Nguyen et al. (2019); Setiawan (2020), Dakhllalh (2020).

5.2. Recommendations

5.2.1. Recommendations for listed firms and managers

The results have shown that earnings management does not increase the firm performance but has the opposite impact on it. Therefore, managers should keep earnings management to a minimum and publish reports to the public in a more genuine and clear way.

5.2.2. Recommendations for regulators

The Vietnamese stock exchange authorities should establish more measures to identify profits manipulation among public firms, and guarantee that all firms submit financial statements that reflect a genuine and fair perspective. Firms should be more closely monitored in regard to any discretionary accruals. Controlling for national income, economic heterogeneity between nations, and international disparities in accounting regulations and ownership consolidation strengthens the study's findings. They should be treated with caution, however, because earnings management is hard to assess and the conceptual relationships among institutional components are not well defined, making them difficult to separate.

5.2.3. Recommendations for investors and users of financial statements

Earnings management has been shown to have a negative influence on firm performance; consequently, the research advises financial statements' users should prioritize assessing if the aimed enterprises participate in earnings management, as well as do research on the firms' activities of managing earning, so that the judgments made are proper. It is highly advised that authorities and facilitators put into place laws insisting that investors acquire financial reports before making investing decisions, and that these investors undertake

an in-depth investigation.

5.3. Limitations of the research

Although the research contributes to the literature on earnings management in Vietnam context, it is by no means without problems. First, to measure earnings management of Vietnamese listed firms, the research has only managed to look into earnings management utilizing accruals models. In reality, there are various earnings management metrics, therefore it is recommended to investigate this factor in relation to real earnings management. In addition, the research did not employ other different quantitative methods that could be utilized to examine the data for robustness check. For example, the potential endogeneity between earning management and firm performance could exist. The studies of Nguyen & Tran (2017); Razaque et al., (2016) have shown that firm performance may lead to earning management. Therefore, the further research should be conducted in the near future to reveal more strong conclusions.

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EXAMINING THE IMPACTS OF MANAGEMENT EXPERIENCE, MANAGEMENT PRACTICE ON FIRMS' INNOVATION ACTIVITIES ACROSS ASEAN COUNTRIES

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Research purpose:

This research focuses to examine the role and influences of management practice and management experience on firms' innovation across ASEAN countries.

Research motivation:

The previous research emphasized on several antecedents of innovation such as firm capabilities, value network or industrial related factors. However, little attention has focused on the management experience and practices; especially, these factors will be vital to help firms dealing with uncertainties such as Covid-19 pandemic impacts.

Research design, approach, and method:

Techniques for multilevel modelling have been developed as a means of overcoming the shortcomings of classic regression models when used to the estimation of hierarchical data. The information used in this investigation came from the World Bank's Enterprise Surveys which included a total of 180,000 enterprises across 154 countries. For the context of ASEAN area, we use the World Bank's Enterprise Surveys data for seven economies (Vietnam, Thailand, Indonesia, Philippines, Malaysia, Laos, and Cambodia).

Main findings:

The findings indicate that both management experience and management practices significantly increase the effectiveness of innovation across ASEAN firms.

Practical/managerial implications:

This strengthens the confidence that businesses will continue to focus on innovation, and over time, experience and experience will make it successful. Hence, leaders should not be discouraged when they have just launched an innovation activity that is not immediately successful because this takes time.

Keywords: *management experience, management practices, firms' innovation, and ASEAN*

1. INTRODUCTION

The theoretical literature recognizes the significance of innovation, and as a result, academics are still motivated to study it. According to some researchers, management innovation is when a corporation does something that has never been done before (Zbaracki, 1998). Innovation, in Schumpeter's view (1934), is the transformation of knowledge into new products or processes. Many regions try to get businesses to adopt creative and managerial methods. Since obtaining technological capabilities is typically used to characterize innovation at the corporate level in emerging countries (Wignaraja, 2012). Therefore, over the past 20 years, emerging countries have increased their focus on innovation in order to spur economic

growth and strengthen competitiveness. Innovation has become recognized as a critical activity as firms fight to survive in a world of fiercer competition on both domestic and international markets.

When a company tries to innovate, it encounters a number of difficulties that are good reasons for it to delay off investing in and taking part in innovation activities. As a result, the majority of empirical research concentrates on examining and assessing financial challenges to innovation. However, it has been discovered that factors relating to the firm, such as its size, ownership, management style, and managerial expertise, are all important influences on the input of innovation (Crowley and Bourke, 2018). Management practices are a vital concern for organizations in order

to boost production, enhance the quality of their products, and preserve their competitiveness (Pil and MacDuffie, 1996). Furthermore, research has recently focused mostly on the significance of innovation for businesses and economic development in emerging countries, although ASEAN countries have not seen much study on this topic. Due to the development of technology, societies in the ASEAN region are changing. Hence, the first gaps in the research on the motivations behind management practice adoption by organizations. Numerous studies focus on how specific practices spread across industries through time and place (Westphal and Zajac, 2001). The theoretical foundations of this discipline also take into account the importance of the individual, their traits, and their experience in directing creative decision-making. Few studies specifically examine the company at the level of analysis to assess the impact of management techniques and experiences (Mol and Birkinshaw, 2009). In the current study, the main gap in the literature is addressed. In the context of this study, which focuses on firm-level, management experience is essential to fostering an innovative environment in firms and frequently serves as a catalyst in innovation processes (Kleinschmidt et al, 2007). The World bank's enterprise surveys, a firm-level survey of a stratified representative sample of enterprises, allowed for the comparison of firms' returns innovation across nations in this study. A wide range of nations are represented in the data used in this paper. Hence, this study precisely explores the impact of the firms' management practices and management experience allocation in innovation activities in ASEAN countries to bring more new insight for the innovation performance of the firms.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The prior studies revealed the essential role of the top management team (TMT) in shaping resources for creativity and innovation (Crowley and Brouker, 2017). TMT might decide the changes in all organizational aspects to meet the requirement of innovation. Some studies have drawn attention on management characteristics and structures (Goll et al., 2008) towards the innovation performance. Drawing on the gaps, this study will focus on management experience and management practices to examine the influence of those factors towards innovation activities solely in ASEAN group.

2.1. Management experience and firms' innovation

Management experience refers to the prior knowledge, skills, capabilities and relationships towards past situations (Li and Patel, 2019). Those experiences can be seen as valuable personal resources that managers can further apply on their management (Swanson et al, 2020). Taking a signpost from social capital theory, the entrepreneurship and innovation outcomes can be significantly determined by the

supported resources during business operation (Nag et al., 2020). Those accessible resources enable managers to foster their speed in making decisions and solving issues (Swanson et al., 2020). Precisely, for innovation activities, the internal resources facilitate the needs for new ideas generation and implementation process. Notably, there are a huge number of unexpected issues happening throughout ideas implementation. Those available internal resources and management experience might help managers solve those issues by providing needed materials in a timely manner. Furthermore, external relationships and resources might be the alternatives for businesses to overcome challenges during the innovation process (Seenaiah and Rath, 2018). When it comes to ASEAN countries, these are under the influence of Confucianism ideology which emphasizes the relationships and networking in business (Alejo et al., 2019). Hence, it can predict that the available relationships and other resources might enable firms to engage in innovation activities. The first hypothesis is proposed as follows.

H1: Management experience positively impacts on firms' innovation

2.2. Management practice

The second issue that the research team would like to explore is the influence of management practices on innovation activities. According to IGI Global Dictionary, the management practices can be defined as a new working application to improve the business process. IT can be applied in various aspects in a business.

Prior studies have drawn attention on management practices towards knowledge management outcomes or supply chain management (Dávila et al., 2019). In such areas, new practices might help firms to empower the new knowledge dissemination (), improve human capital by applying new schemes for human resources (Crowley and Brouker, 2017), and continual improvement (Mushtaq and Peng, 2020). In general, management practices can foster the adaptability of firms in a turbulent environment. Additionally, the new approaches might help firms to overcome the status quo and improve their overall performance. Hence, this study predicts that the management practices might encourage the innovation activities and research team strives to investigate in ASEAN cluster. The second hypothesis is constructed as follows.

H2: Management practice positively impacts on firms' innovation

3. METHODOLOGY

3.1. Data sources

The information used in this investigation came from the World Bank's Enterprise Surveys, which included a total of 180,000 enterprises across 154 countries (World Bank, 2022). In-person interviews

with company owners and senior managers are conducted in order to gather more than 100 indicators about the characteristics of businesses and their evaluations of the environment in which they operate. In addition, these statistics are compiled using methods that are both standardized and consistent throughout the whole process, which enables comparisons across countries (Luo & Bu, 2016; and World Bank, 2022). For the context of ASEAN area, we use the World Bank's Enterprise Surveys data for seven economies (Vietnam, Thailand, Indonesia, Philippines, Malaysia, Laos, and Cambodia). We base our analysis on the most current surveys, conducted in 2015 or 2016. Finally, we have 4,143 observations representing 23 distinct manufacturing sectors.

3.2. Variables

Dependent variables

The dependent variable in this study is Innovation. Innovation is a categorical variable, showing the degree of radicalness or novelty of product innovation (0 = no innovation, 1 = innovation but only new the firm, 2 = innovation and new to the market) (Karakara & Osabuohien, 2020; Tojeiro-Rivero & Moreno, 2019).

Independent variables

CEO experience: CEO experience is measured as the top manager's years of experience in the current sector.

Management practice: Management practice is constructed as a dummy variable, = 1 if the firm answered "Yes" to the question "During the last three years, has this establishment introduced any new or significantly improved organizational structures or management practices?", = 0 otherwise.

Control variables

Following previous studies on determinants of innovation (Barasa, et al., 2017; Fonseca, de Faria, & Lima, 2019; Silva, Gomes, & Lages, 2017), the following control variables are employed. R&D: Dummy variable, = 1 if the firm answered 'Yes' to the question 'During the last three years, did this

establishment spend on formal research and development activities?', = 0 otherwise. Foreign: Dummy variable, = 1 if foreign individuals, companies or organizations own more than 50% of the firm's capital, = 0 otherwise. Firm age: The number of years in operation of the firm in log form. Firm size: The total employees of the firm in log form. Country: Country categorical variable of each country. There are 7 countries: Vietnam, Thailand, Indonesia, Philippines, Malaysia, Laos, and Cambodia.

Industry: Categorical variables for two-digit industrial classification of the firm.

3.3. Empirical method

It is essential to take into consideration that the structure of our dataset is hierarchical. To be more specific, businesses are nested inside industrial sectors, and industrial sectors are nested within nations. Because observations inside the same cluster have a tendency to link to one another, the hierarchical data may generate a non-independence issue. This problem manifests itself as inaccurate standard errors when the data are analyzed using conventional statistical methods (McCoach, 2019).

Techniques for multilevel modeling have been developed as a means of overcoming the shortcomings of classic regression models when used to the estimation of hierarchical data. In light of this, we will conduct the analysis of our hierarchical data with the help of the multilevel mixed-effects ordered logit model, which is an advancement of the traditional ordered logit model (StataCorp, 2017). In Stata, the MOLM is estimated by the "meologit" command.

4. RESULTS AND DISCUSSION

4.1. Figures and tables

The results shown in table 1, 7% of firms were engaged in "innovation but only new the firm", and roughly 14% of businesses had "innovation and new to the market". Organizational innovation (Management practice) was implemented by about 18% of businesses.

Table 1. Descriptive statistics

Variable	Obs	M	Std	Min	Max
Innovation	4,143	0.352	0.715	0	2
No innovation	3,270 (78.93 %)				
Innovation but only new the firm	288 (6.95 %)				
Innovation and new to the market	585 (14.12 %)				
Management practice	4,083	0.176	0.381	0	1
CEO experience	3,932	17.754	10.164	2	70
Female CEO	4,108	0.306	0.461	0	1
R&D	4,066	0.151	0.358	0	1
Foreign ownership	4,116	10.457	27.390	0	100
Firm age	4,143	2.783	0.630	0	5.081
Firm size	4,143	3.999	1.535	0.693	14.509

Table 2 reports the pairwise correlations. The pairwise correlation coefficients between independent and control variables are lower than 0.5, suggesting that there are no signals of multicollinearity (Dormann et al., 2013).

Table 2. Pairwise correlations

Variable	1	2	3	4	5	6	7
Management experience	1						
CEO experience	0.0039	1					
Female CEO	-0.0460***	0.0349**	1				
R&D	0.3979***	0.0067	-0.0104	1			
Foreign ownership	0.1013***	-0.0914***	-0.0804***	0.1014***	1		
Firm age (log)	0.0564***	0.4121***	0.0117	0.0556***	-0.0478***	1	
Firm size (log)	0.2574***	0.0028	-0.0412***	0.2731***	0.2953***	0.1861***	1

Note: * p < .10; ** p < .05; *** p < .01

Multilevel mixed-effects logit estimation findings are shown in Table 3 below. In regard to the problem with the hierarchical data, the likelihood-ratio test that compares the multilevel mixed-effects logit with the conventional logit regression is reported. Regarding hypothesis testing, first, the coefficient of CEO experience is positive and statistically significant, which provides strong support for H1. This indicates that management experience has a positive impact on innovation activities. Second, the coefficient of Management practice is positive and statistically significant in, which provides strong support for H2. This indicates that management practices (proxied by organizational innovation) have a positive impact on innovation activities.

Table 3. Estimation results

Management practice	1.349***
	(0.107)
CEO experience	0.011**
	(0.005)
Female CEO	0.328***
	(0.104)
R&D	1.263***
	(0.110)
Foreign ownership	-0.003
	(0.002)
Firm age (log)	0.237***
	(0.083)
Firm size (log)	0.065**
	(0.032)

Country dummies	Included
Industry dummies	Included
/cut1	3.208
	(0.350)
/cut2	3.809
	(0.352)
Country (var(_cons))	0.463
	(0.263)
Country > Industry (var(_cons))	0.050
	(0.035)
Wald χ^2	459.82
Prob > χ^2	0.0000
	LR test vs. ologit model: $\chi^2 = 179.53$
	Prob >= $\chi^2 = 0.0000$

Note: Standard errors in parentheses. * p < .10; ** p < .05; *** p < .01

5. CONCLUSION

The findings indicate that management experience, and practices significantly improve innovation effectiveness in Vietnamese firms. The findings explain the fundamental reasons businesses adopt management practices in innovation across businesses over time and space to enhance efficiency (Westphal & Zajac, 2001). Prior knowledge, skills, capabilities, and relationships are referred to as management experience. The importance of the individual, their traits, and their experience in guiding innovative decision-making.

Management experience can increase foreign ownership. The coefficient of experience of CEO, management experience has an impact on innovation activities. Positive management practices indicate management practices (driven by organizational innovation) that have a positive impact on innovation activities. This is also consistent with the results of previous studies (Çakar & Ertürk, 2010; Jung, Chow, & Wu, 2003).

At the firm level, management experience is critical for fostering an innovative environment and frequently catalyzes innovation processes (Kleinschmidt et al., 2007). Management practice and research and development activities have the most significant influence. Female managers and firm age have a moderate impact (Dezsö & Ross, 2012). Rather than focusing on the impact of female directors on firm performance, we investigated their contribution to the degree of organizational innovation by answering the question. How do female directors contribute to organizational innovation at their companies? It is worth noting that female management experience is more important than CEO management experience. This validates female CEOs' ability to manage innovation and creativity activities in Vietnamese businesses effectively (Dang, Bender, & Scotto, 2014). This new research result, particularly in Vietnam, affirms women's capacity and gender equality in business. According to data, foreign-owned enterprises did not significantly impact Vietnamese enterprise innovation activities. There are over 4000 enterprises implementing innovation in Vietnam. The number of enterprises practicing management exceeds 4,000. This graph shows that the structure of women in the Vietnamese corporate governance system is also quite large.

Consider the board of directors to be a decision-making body. We investigate the contribution of women to the level of organizational innovation through their participation in the board's strategic missions by forming different mandates. The paper has significant implications for corporate boards and policymakers, emphasizing the importance of increasing the number of women on corporate boards to benefit from diversity. They bring a wide range of values, perspectives, backgrounds, and skills to the boards (Al-Qahtani & Elgharbawy, 2020). The size of the female director minority necessitates special consideration: appointing only one female director appears inappropriate because, as token theories suggest, they would be the majority group (including male directors) that categorizes, stereotypes, and ignores. This study's findings may help dispel societal prejudices about women's ability to succeed in a complex field like innovation (Suseno & Abbott, 2021). This will assist other businesses in making bold choices for the right women in leadership roles, particularly in innovation activities.

Research and development activities are currently

very effective and necessary to increase business efficiency. R&D activities are costly, requiring capital, human resources, and infrastructure, making investment difficult. Furthermore, businesses are hesitant to invest in R&D activities because they fear taking risks and not knowing whether they will succeed. The findings of this study confirm that the cost of R&D activities assists businesses in achieving the effectiveness of their innovation activities (Shaikh & O'Connor, 2020). As a result, it is necessary to spend money on R&D activities, and it is necessary to have a ready budget for R&D activities, followed by marketing activities to raise customer awareness about the business's innovation activities (Papanastassiou, Pearce, & Zanfei, 2020). Improve your company's competitive advantage, and revenue will follow. In conclusion, the significance of innovation for businesses and economic development in developing countries, particularly ASEAN nations.

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SUPPLY CHAIN INNOVATION AND FINANCIAL PERFORMANCE: EVIDENCE FROM ASEAN MANUFACTURING FIRMS

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Research purpose:

This study aims to investigate the relationship between supply chain innovation and financial performance in ASEAN manufacturing firms.

Research motivation:

The field of supply chain innovation has grown significantly over the past decades. Most of previous studies in the field of supply chain innovation confined themselves to a limited sample size, and within a limited geographic scope. Therefore, it is necessary to study this topic using broader and more diverse sampling population. To address these research gaps, a research focusing on supply chain innovation practices in organizations is necessary to understand the effectiveness of these practices as well as their influence on organizational performance in the context of Asian firms.

Research design, approach, and method:

A representative sample of an economy's private sector is surveyed at the firm level in a World Bank Enterprise Survey. The surveys include a wide range of business environment themes, such as infrastructure, competition, access to finance, and performance indicators. To analyze the data, a novel regression models in estimating hierarchical data, multilevel modelling techniques are developed to investigate the effect of supply chain innovation on financial performance in ASEAN countries.

Main findings:

The results of examining the role of multiple aspects of supply chain innovation on ASEAN manufacturing firms show positive results confirming all proposed hypotheses.

Practical/managerial implications:

The results provide evidence to validate the importance of supply chain innovation for firm performance in ASEAN countries. The results shed new light on the management approach in ASEAN firms to further improve firm performance.

Keywords: *supply chain innovation, financial performance, ASEAN manufacturing firms.*

FRUIT SUPPLY CHAIN DISRUPTION AND RECOVERY STRATEGIES IN VIETNAM: LESSONS FROM ASIAN COUNTRIES

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Research purpose:

Vietnamese fruit supply chain is an expanding industry. However, postharvest losses and inefficiency, caused by multiple reasons, hinder the fruit supply chain. Identifying these difficulties and obstacles can lead to effective mitigation strategies. As a result, the current study was carried out with the following goals:

- Provide better understanding and potential changes to the fruit industry's supply chain;
- To investigate the elements influencing the fruit sector's supply chain in Vietnam;
- To provide risk mitigation technological strategies for identified issues in the Vietnamese fruit supply chain based on lessons learned from other Asian countries.

Research motivation:

Most of earlier work on the fruit supply chain has concentrated on generic topics such as cold chain, marketing efficiency, and so on. There is a need for an assessment of the supply chain, particularly in the fruit sector, to identify all of the elements affecting it and to offer mitigating approaches. In addition, overcoming issues and challenges is also an urgent topic needed to be discussed in detail in order to benefit decision makers and various stakeholders such as farmers, state governments, transporters, and food processing units in understanding the current status, issues, and challenges in the field of fruits and vegetables supply chain for better planning and management.

From all of the above, it requires us to have an article that is legacy and covers more issues of the fruit supply chain. Whence, based on the previous research articles, our group developed the topic as well as proposed managerial implication and the model of the supply chain recovery model in Vietnam, from which we hope to contribute as a basis for the following studies.

Research design, approach and method:

Research design:

Subject: Domestic fruit supply chain disruption.

Scope: Viet Nam and other Asian countries.

Structure of the study:

- Theoretical basis;
- The current situation in Vietnam;
- Research on the recovery of fruit supply chains from Asian countries;
- Proposal for the recovery of fruit supply chains in Vietnam.

Research approach: Qualitative Research. In this paper, we assemble data from a wide range of sources to investigate the occurrence of supply chain disruptions in the fruit industry and the following recovery measures that are taken by countries throughout the world.

Research method: Secondary Data Analysis/ Case Study

Main findings:

Vietnam's fruit supply chain has expanded and evolved rapidly over the years, thanks to the country's flourishing fruit industry. However, the development of the fruit supply chain has resulted in many drawbacks and a variety of sources of disruption, which is investigated in 4 main groups: Functional Areas - Environmental Factors - Decision Making - Fruit Characteristics. After researching Vietnam's current fruit supply chain situation and possible triggers of disruption, we investigated other Asian countries' disruption case study and their innovative post-disruption recovery strategy, including China, Philippines, and Singapore. With the lessons acquired from the case study, combined with the suggested recovery strategy models, we propose solutions that are applicable in the Vietnam fruit supply chain situation:

- Protect suppliers: focuses on strengthening the supply chain by improving reliability and resiliency of the suppliers.
- Multiple suppliers: businesses should consider multiple sourcing to mitigate disruption risk.
- IoT in Cold Chain Logistics: Building a synchronous cold transport system with cold storage and the climate system is essential. These are trucks, refrigerated containers, and specialized equipment for transportation and delivery.

Practical/managerial implications:

Practical implications: Overcoming these challenges and issues will allow planners and relevant parties, such as farm owners, state governments, carriers, and fresh produce processing units, to gain a better understanding of the purpose, concerns, and struggles in the fruits and vegetables supply chain, allowing for better planning and management.

Originality/Value: Previous studies on the fruit supply chain concentrated on broad topics like cold chain, marketing efficiency, etc. In the fruit sector, a supply chain study is needed to identify all influencing components and recommend mitigation measures. The research examines a knowledge gap in fruit supply chain management.

Keywords: *fruit supply chain; Vietnam; Asia; disruption; recovery strategies; sustainability*

INVESTIGATING CUSTOMERS' ATTITUDE TOWARD FIRMS' CSR ACTIVITIES

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Research purpose:

Consumers' attitudes toward CSR (Corporate Social Responsibility) are among the most widely investigated topics discussed in recent years in Vietnam. Among the benefits, the positive customer feelings toward businesses' philanthropic doings are one of the most crucial goals of a CSR campaign and a motive for why firms behave responsibly. This paper aims to investigate the consumers' attitude toward CSR activities on the proposed aspects.

Research design, approach, and method:

The qualitative results from 20 interviewees suggested that consumers generally display positive emotions toward CSR engagements, but not everybody is willing to support socially responsible firms financially.

Main findings:

To some consumers, CSR is not a criterion in their purchasing intention, further emphasizing the role of price and quality. For others, when they self-identified with meaningful and community-related values, they would commit practical actions to support the socially responsible firms. The findings also pointed out that the pyramid model remained valid since consumers expect firms to be economically accountable first and pursue other responsibilities later.

Practical/managerial implications:

This study also identified the consumers' motives for firms' goodwill activities, varying from total utilitarian to values-driven purposes. Furthermore, the current paper shed light on the attitude of consumers toward immoral actions of firms and puts CSR in the context of the COVID-19 pandemic to see the shift in consumers' expectation for companies' engagement in goodwill. Critical implications and recommendations are included in the last section.

Keywords: *Corporate social responsibility, Attitude, Perception, Vietnam*

1. INTRODUCTION

The concept of CSR (Corporate Social Responsibility) is no longer an uncommon phenomenon. The increasing number of philanthropic actions, green movements, and significant financial contributions of firms has suggested a substantial development in CSR in recent years. With the rapid growth of the communications and media industry, firms have been more effective in the process of CSR disclosure to the public. From the consumers' perspective, the omnipresence of digital devices allowed them to discover news about such activities within a few clicks and touches.

Talking about two sides of a coin, Öberseder et al. (2011) discussed CSR aspects from the perspective of two major vital stakeholders. They stated that the interest has progressively grown during the past decade. When we talk about the supply side, businesses are

becoming more involved in CSR activities and emphasizing advertising their efforts. At the same time, consumer advocacy groups spotlight the companies' behaviors that are deemed inappropriate and irresponsible (Snider et al. 2003). Consumer buying intentions tend to be affected by the rising focus on CSR, as evidenced by various surveys and experiments (e.g., Brown and Dacin 1997; Mohr and Webb 2005; Sen and Bhattacharya 2001). Therefore, it can be shown that two of the most critical stakeholders in CSR are the businesses themselves and the consumers.

But it was not only the global health that the pandemic has dealt damage. As COVID-19 swept the globe, all sectors were thrown into disarray. The private sector, which represents the lifeline of every economy, was particularly vulnerable. The unexpected nature of this epidemic had a severe influence on local, national, and global economies.

This led to the question of the intervention and support of multiple vital stakeholders such as the states, health organizations, and businesses. In such a challenging time, the assistance of firms, whether in the form of financial donations or practical measures, could be vital to the country's recovery. The pandemic surge presented a sign of the shift in the CSR paradigm of businesses. Given the dire situation in Vietnam in the COVID-19 period, the need for medical equipment, vaccines, and food security has never been more prominent. Vinamilk was once again the leading business in doing goodwill for the nation.

With the extensive amount of CSR activities in the recent period, a question that should be raised is, "Are these initiatives perceived positively by the consumers?". After all, CSR also aims to improve the brand image and spread the reputation of brands for every individual. What are the implications of the increasing number of corporate activities and more extensive information? What do they think about such ethical initiatives? And what purposes do consumers presume for the goodwill programs?

Furthermore, to what extent do their perceptions translate into actions? This paper aims to investigate consumers' attitudes on toward CSR activities of businesses while tackling various aspects. Additionally, given the disruptive nature of the COVID-19 and the significant changes that it brought about, there has been a shift in CSR activities during the pandemic period. How will consumers react to firms' actions in such emerging situations? These are the questions that this paper aims to answer.

2. LITERATURE REVIEW

2.1 CSR concept

There is no doubt that CSR is a difficult concept to define. Mohr et al. (2001) stated that CSR is a broad concept. Therefore, there should be no surprise that various meanings have been given to this; Dahlsrud (2008) argued that despite many efforts to develop a clear and objective definition of CSR, there is still significant debate over how it should be defined. However, how CSR should be defined is a point of contention in both the corporate and academic worlds; in a review of various definitions and models, the findings showed they lacked empirical and theoretical validity and hence have failed to provide a solid foundation for a clear foundation understanding of the phenomenon and generated confusion in the literature (Zenisek, 1979); despite more than six decades of research in the field, little progress appears to have been made in terms of reaching a consensus on a definition or even what constitutes "CSR" (Campbell, 2007); Corporate social responsibility (CSR) continues to be plagued by issues, with critics accusing it of being chameleon-like, vacuous or an utterly meaningless concept (Sarkar & Searcy, 2016).

In general, despite its long history and its giant impact on the world, the way to define CSR still troubles many practitioners and scholars. On the one hand, a simple definition would facilitate the issue and could open the gateway for a unified view of this matter. On the other hand, with such a simplified definition, there is the possibility that it can not cover all the aspects of CSR. While it is true that the concept has to adapt and grow with the actual reality of the phenomenon, there must be one definition that stays valid and constitute a unified view.

2.2 The role of CSR for firms

The role of CSR is indispensable for the development of businesses. According to the literature review on the CSR's impact by Šontaitė-Petkevičienė (2015), multiple benefits are associated with goodwill commitments. CSR builds beneficial relationships in five crucial areas, according to Weber (2008). This also demonstrates five reasons for CSR: favorable impact on the organization's image and reputation; positive effect on employee engagement, retention, and recruitment; cost savings; revenue increases through increased sales and market share; and CSR-related risk reduction or management. Enhanced financial performance, contribution to market value, a more general good impact on society stakeholders, a connection with consumers, and improved product quality are all possible motivations for firms to be socially responsible, according to Polonsky & Jevons (2009). According to the authors, internal causes include enhanced staff dedication, reduced employee turnover, and a better society.

Furthermore, according to Bhattacharya & Sen (2004), CSR efforts produce more immediate consequences such as positive word-of-mouth, resistance to unfavorable corporate information, and customer understanding, attitudes, and attributions about why companies engage in CSR projects. Feldman and Vasquez-Parraga (2013) compiled a list of plausible explanations for CSR based on research from various sources. They claim that companies may engage in CSR for six different reasons. First, CSR activities have impact customers perceive a firm and its products. Second, CSR activities are part of certain company specificities to attract and keep customers. Third, buyers weigh CSR product aspects against traditional product attributes, including price, quality, convenience, lack of information, and brand dominance and quality. Fourth, consumer perceptions of a company's CSR may be linked to their perceptions of its responsibility in economics, law, ethics, and philanthropy. Fifth, consumers' perceptions of firms' CSR efforts are positively influenced by their assessments of the fit between companies' CSR operations and their qualities or interests. Sixth, consumers who are informed about a's CSR efforts have a higher level of CSR awareness which leads to better views toward purchasing items

from CSR enterprises. All of this contributes to the other's improved business reputation and financial performance. As a result, according to Polonsky & Jevons (2009), CSR should not be considered simply as another promotional opportunity to be exploited, albeit some companies do make the error of attempting to use CSR in a superficial tactical way.

3. METHODOLOGY

3.1 Research philosophy

Research philosophy refers to a system of beliefs and assumptions about developing knowledge (Saunders et al., 2019). To construct a coherent study, it is essential to determine the philosophical commitments and associated assumptions. In addition, a research philosophy is tremendously vital to a study as it guides the authors to define the suitable research designs and impacts how they understand the issue under investigation.

In line with most qualitative studies on CSR, the interpretivism approach was selected for this thesis. Interpretivism emphasizes the impact of social and cultural influences on a person's life. This perspective focuses on people's views and ideas regarding the socio-cultural context. The interpretive perspective requires the researcher to take an active position in the study since a comprehensive picture of the participant's behaviors, ideas, and meanings is required. (Saunders et al., 2019). In other words, interpretivism is openly subjectivist, focusing on complexity, richness, numerous interpretations, and meaning-making. Interpretivism recognizes that their understanding of research materials and data, and hence their values and views, play an essential part in the research process, as an axiological implication of this.

3.2 Research design

The research design refers to the general plan of how research questions will be answered. Since the goal of this research is to comprehend the meanings that people's behaviors convey rather than to anticipate their behavior and to investigate and understand perceptions, beliefs, and values, a qualitative inquiry appears to be the most appropriate method (McCracken 1988). Furthermore, qualitative approaches are seen to be the most useful in circumstances where stated views and actual conduct differ (Belk et al. 2005) and when a real-life setting is critical (Sinkovics et al. 2005; Sykes 1990).

According to Saunders et al. (2019), to establish a conceptual framework and theoretical contribution, qualitative research examines participants' meanings and their interactions utilizing a range of data gathering techniques and analytical approaches. The qualitative researcher's success is contingent on not just having physical access to persons who participate but also on establishing rapport and displaying sensitivity in order to acquire cognitive access to their data (Saunders et al.,

2019). Those who agree to participate in qualitative research are thus considered as more than just respondents but active participants in the data gathering process.

3.3 Data collection

Because research on ethics-related subjects is prone to social desirability bias, significant caution must be exercised when gathering data (Brunk 2010; Mohr et al. 2001). As a result, many measures have been taken to eliminate social desirability bias: The author chose online interviews to ensure the safety regulations during the pandemic. Furthermore, it allowed to take off the pressure on interviewees to "do and say the correct thing" (Bristol and Fern 2003).

The interviews were conducted online via Zoom. To ensure the comfort and ease of interviewees, a prearranged time was set up between the interviewer and the interviewees. The interviewees were given a trusted environment by the relaxed and familiar ambiance, as well as the open yet focused interview style of semi-structured interviews, which encouraged them to answer frankly and honestly. An interview generally lasted from 20 to 35 minutes. Furthermore, the participants were informed before the interview that the study's goal was to research their thoughts and beliefs, and that there were no right or wrong responses to the interview questions. It was also revealed to them that their data would be confidential and would serve educational purposes, and there would be no third party involved. Each interview was audiotaped and transcribed with the participants' agreement, resulting in 60 pages of text. In addition, notes on the discussions and observations were gathered.

3.4 Sample

A small yet diversified sample is advised for qualitative research since it focuses on an in-depth study. McCracken (1988) claims that eight extensive interviews are adequate for qualitative research projects. We used theoretical sampling to choose a broad and fascinating group of interviewees. This implies that we identified customers who could provide us with information on the study's research problem (Creswell 2007; Glaser and Strauss 1967). Consumer views regarding CSR that is, diverse levels of interest and different attitudes toward CSR-related topics such as organic products, fair trade, and so on, were the major underlying component for purposive sampling.

However, obtaining a representative sample of diversifying consumption patterns was one of the main objectives. As a result, buyers with various buying behaviors were chosen, ranging from price-conscious to quality-conscious. Furthermore, the authors recruited customers from multiple backgrounds based on demographic factors such as age, gender, level of education, employment, and current place of living. As a result, the sampling technique was influenced by

theory rather than representativeness. Snowballing was also applied in this research to ensure that the sample is representative and diversified.

4. RESULTS AND DISCUSSION

4.1 Consumers' attitudes to CSR

All of the respondents agree that CSR activities are positive in general. This is predictable since CSR is meant to be meaningful for the community at its core. Therefore, every individual in the community is also a beneficiary. Moreover, the value that CSR brings out is a significant contribution, which aims to improve our society, so all respondents support these activities and think that there should be more CSR activities in the future. Many keywords associated with CSR by the interviewees were recorded. Below are some statements of consumers on their feelings toward the CSR activities of firms:

"In general, it's good. They (the firms that do CSR activities) are rich and generous at the same time. It's good for them and the community."

The above interviewees made a connection between the economic well-being of firms and their capacity to engage in CSR. By the same token, she argued that small and medium enterprises are unable to commit to large-scale CSR since the utmost objective for these firms is to maximize profit.

"My opinion is that they have the mindset to solve the common problems we face as a society. They acknowledge that they have the responsibility to do good for the society."

The above interviewee talked about how the leaders of businesses are thoughtful and have the mindset to solve everyday problems. He went on to talk about the connection between distinguished individuals and the viewpoint that they adopted after years in the business environment that allowed them to develop initiatives to make significant contributions to society.

4.2 Consumers' perception of CSR motivations

Most consumers think that there two primary purposes for firms to do CSR: act to contribute to society and the other is for brand building. In this group, there are three trends in answer that can be identified, the ones who distribute equal weights to the motivations, the ones who think firms are genuinely good, and the ones who think firms want to do CSR for their gains.

The above interviewee has a background in marketing. Therefore, he was able to link the impact of CSR to the internal marketing aspect as well as external. He argued that when a firm conducts meaningful actions for the community, its employees feel proud and contemplate a certain positiveness toward their working agencies. This is an interesting point since the perceptions of CSR have long been discussed from the perspective of consumers but rarely from the

perspective of the employees.

"I think that these companies want to do the philanthropic work to help the people in Vietnam, but at the same time, it is their strategy to spread their brand, and more and more people will know about their brand."

"I think these activities serve two purposes. The first one is a contribution to the community. The second one is they can promote the brand to the community that they are helping. I think that the underprivileged people who received the help will mark in their minds who helped them, so that could be a significant impact."

The above interviewee elaborates on how the beneficiaries of the CSR activities are the ones that would have the most optimistic impressions of the firms. For example, the children who were granted gifts from Vinamilk would be more likely to think highly about this company, or the government would favor Vingroup since the conglomerate gave them the essential aid during the epidemic.

"I see many firms they do not only focus on maximizing profits, but rather commit to actions that contribute positively to the society. In such activities, they also have the chance to grow their customer pools. So I think that it is a win-win situation"

In conclusion, this group thinks that it is a win-win situation for every stakeholder. In the case of firms, they have the opportunity to contribute and give back to society while developing their brands. From the perspective of the people and the government, they can receive the benefit they need. The overall quality of the environment, healthcare, and society also improve significantly. Therefore, in this group, consumers perceive firms as economic entities with the utmost goals to maximize benefits, but they are also responsible citizens who behave selflessly for society.

This group of interviewees believes that firms do CSR due to their philanthropic purpose. More precisely, the corporate givings are considered selfless and noble, aiming to strive for a better future for society. Notably, most consumers in this group link the ability to help the community with firms' financial capability. They often assume that the wealthy firms have the available resources to undertake the big goodwill projects.

"I think they want to give back. I believe that if one person gets richer, there is another who will get worse. So they want to give back. They may also acknowledge that they are today's big firms because they have taken advantage. Therefore, donating makes them feel better about giving back to the giving community. Moreover, successful people are often open-minded and generous, which explains their behaviors. The other reason may be doing good for the brand. But I truly believe that they want to pay back for society."

The above interviewee attributes the willingness to do goodwill activities to their philanthropic personality. Moreover, he thinks that doing CSR is a way that makes the business owners “feel good” since he perceives the acquired value of firms initially stems from the shared resources of the society.

For mostly strategic purpose, the interviewees perceive CSR activities as a strategic move from the firms. They think they don't do goodwill out of their selfless heart but merely as a means for personal gains. Most of the answers include advancement in brand development, popularity among the citizens, and favors in policies from the government as the perks that businesses can get out of CSR.

“Why do they do it? Merely the strategic decision – they want the popularity and the public to focus on them... Yeah, doing good maybe, but in my opinion, they do it because they want to grow their brands”

However, it should be noted that while this group attributes the motivations for conducting charity of companies for their marketing purposes, they acknowledge that the roots of such actions may be the inherent willingness to be responsible for firms, albeit this motivation is not dominant.

“I mean, these guys do business; they know what they are doing. They have been trying to find ways to make more money and gain as much profit as possible. So, I think they are full of tricks like that to gain what they want. This might be one of them. The purpose is mostly for brand development. Other motivations may include doing good, but I'm not even sure how many percentages that account for.”

4.3. Consumers' perception of CSR motivations during COVID-19

During COVID-19, the aids and assistance of firms in financial donations were vital in growing the Vietnam vaccine fund. This impact is amplified on a higher level when the broadcast programs and social media play a massive part in distributing information. Additionally, since more people stayed home and their screen time increased as a product of social distancing, the results of CSR communication became more visible. Thus, it should not be a surprise that most interviewees acknowledged the CSR movements during the epidemic, especially from big enterprises such as Vingroup or Vinamilk (as shown in the interview).

This part of the interview proposed the question, including the dilemma of making profits in a challenging time and helping the nation. While most of the interviewees kept their opinions and stayed in the same group as earlier, interviewees gave three common explanations for the motivations for doing CSR during the COVID-19. These motivations can be described as follows: the responsibility and economic capability of big firms; the altruism of firms; CSR as a means for political and corporate gains.

The responsibility and economic capability of big firms

To this group, financial aid is strongly tied to the responsibility and the scale of the development of businesses. In their opinion, companies are expected to help the nation in challenging times. In addition, they perceive that the large firms are economically capable of making significant contributions to the recovery progress during COVID-19. Some respondents claim that such businesses have a fund for goodwill causes, explaining why there were tremendous amounts of donations.

“I think the big businesses all have an established reputation for their wealth and professionalism. Therefore, during COVID-19, which was a terrible disaster, many people were in a dire situation. So, where do they turn to? People generally expect these firms to “give a hand” to those in difficulty. Because they are so well-known, it is not absurd to expect them to help. From the perspective of big firms, since they also know that people think highly of them, they also feel the need to do something to help the people who support them. So I think it is like mutual trust and expectation from the two parties.”

This interviewee talked about the trust between stakeholders in a critical period. More precisely, he spoke about how firms and consumers had permanently established a mutual trust within their relationship in everyday context: firms in optimal operation because there are consumers who purchase their goods; consumers acquire the utility they desire in daily life because they can buy their favorite products and services. Over a long time, there had been a strong, established link between these two parties. Therefore, when the pandemic struck the nation, citizens were, without a doubt, put in a dire condition, firms were expected to help their partners.

“I suppose that these donations are included in their cost estimation for giant cooperations like they would have to pay some fee to facilitate their businesses. Such donations are how they do it. Since they have big amounts of wealth, these numbers may be minimal to them, and these donations are included in their operating expenses. Moreover, they could get some political advantages that we may not be aware of.”

This interviewee argued that giant firms all have a fund for CSR activities. He claimed that CSR is included in the spectrum on which firms operate their businesses. Thus, when large donations were made for the community, it should not have been a surprise since enterprises had calculated before committing to the initiatives.

The altruism of firms

This group of respondents attributes the motivation for firms' CSR to their altruist selves. They perceive CSR to reflect the exemplary characters of firms and the values of the Vietnamese people. Meanwhile, there is an acknowledgment that there might be additional advantages associated with CSR; they choose to believe that these actions stem from the willingness to be good and do good. According to their statements, despite the economic turmoil that the epidemic brought about, firms should always be the pioneers in transforming and improving the nation.

“One real motivation is the Vietnam values. As a country, we have gone through several painful periods where food was scarce, war was reigning, and millions of lives were lost. Those were the actual scenarios back in the day. But as Vietnamese, we overcame them all with our community values and mental strength, and we always look out for one another. I think that the Vietnamese have never changed. The COVID-19 pandemic is just like a war to test our courage. And I think that we have stood strong and the firms are showing the best qualities of Vietnam.”

“I think every firm had to encounter certain difficulties. But as I stated, it belongs to the ethics of the firms. So if they want to be good and do good, nothing can stop them, even if it is COVID-19. That's what ethics is all about. The reason why they have become giants is that the Vietnamese had been supporting them till that point. Therefore, in some sense, they did owe something to the people. Therefore, they genuinely want to give back and protect the people who got them to the point they are today. Moreover, they could lose some money for these philanthropic movements, but they gain people's trust, like going back one step to advance two steps. they may have various purposes that I don't know about.”

CSR as a means for corporate gains

It is worth noting that most of the interviewees in this group are from the group “For strategic purpose” mentioned in the last part of the interview. They can be characterized as utilitarians and assign certain benefits for businesses' actions most of the time. Their perceptions of perks received through CSR vary from the favors in policies implemented by the state to trust the citizens. The most popular opinion is that firms want the country to get to the optimal status as early as possible. Therefore, they can continue their business activities as usual.

“First of foremost, they want to help people. Other than that, the impact of their actions can amplify by the government. If they assist the state in a challenging time, then after that, the state might implement policies that are in favor of the firms that gave the donations.”

4.4 Consumers' opinion on employee dismissal during COVID-19

To assess the economic pillar of CSR defined by Carroll, an inquiry concerning the dismissal of employees of firms was presented in the interview. Most of the interviewees claimed that the ultimate objective of firms is to maintain operation, even at a minimum level, thus morally justifying the decision to lay off workers. Many argued that keeping many employees and not having a sufficient budget to pay the salary would eventually be worse than the initial problem. Therefore, it can be concluded that consumers generally display a high level of sympathy and understanding for businesses in difficulties.

“Morally speaking, it is somehow justifiable. Moreover, suppose there is a contract between two parties, in which there include clauses that allow the companies to dismiss the employee in difficulties. In that case, they can do so since it follows the laws. But keeping many people will negatively impact the company; they might end up firing more people.”

The above interviewee links the decision to lay off people to the legal perspective, stating that if specific clauses in the labor contract allow the company to terminate the agreement under certain conditions, it is morally and legally valid.

“I think that even in the moral aspect of firms, the decision to lay off employees is justifiable. Some businesses had undergone a tough period of social distancing and the halt of the production, which had already taken a heavy toll on their finance. To exist, they have to dismiss some people. Nothing is absurd about that. Long-term speaking, if they decide to run on a low budget and still keep the employees, they would've gone bankrupt. In that scenario, nobody got jobs anymore, so rather than that, it is better to sack some employees first before things go south. To this extent, these firms did the best they could, and their decision is the most suitable one in that situation. Furthermore, when laying off people, they are fully capable of providing them with the best solutions according to their policies. So this is when the morality of the firms comes in, as long as they terminate the contract in a legal m, there should be no ethical issue.”

The above interviewee elaborated on the worse scenarios if firms had been hesitant in their decisions to dismiss employees. Given the low budget that businesses had to run on during the pandemic, it would not be realistic for firms to retain their employees

5. CONCLUSION

This study includes four critical theoretical implications. First, this qualitative study has shed light on consumers' attitudes toward CSR activities. Furthermore, these attitudes were put in the context of

the COVID-19 pandemic, when firms had to encounter severe economic shocks, and their relationship with CSR also changed during the period. The mental expectations, as well as the shifts in the perceptions of CSR during the epidemic, have enriched the standard literature for consumers' opinions on CSR. Furthermore, the investigation takes place in Vietnam, where the awareness of CSR remains limited. Therefore, the findings could shed light on the literature on cases of other emerging countries.

Second, the current study also identified different groups of consumers based on their attitudes toward CSR. While the quantitative studies often point to a definite answer of whether consumers are CSR-aware and willing to act, by adopting a qualitative approach, this paper showed that the feelings toward socially responsible firms and the translation to practical actions depend primarily on the characteristics of individuals. In this study context, it is demonstrated that consumers are divided on their preferences; while some consider CSR to be crucial, others dismiss its importance.

Third, the findings showed the consumers' perceived motives for CSR activities from businesses. The three groups' results from Ellen et al. (2006) remain valid as the interviewees in this investigation are also distributed along with the description of the characteristics from the previous study. Moreover, this research enhances the current knowledge by providing the consumers' perception of CSR during the epidemic. While there are some minor alterations in the answers regarding socially responsible actions during the COVID-19 pandemic, basically, the three groups of respondents based on their perceived motives remain unchanged: (1) to contribute to society, (2) to self-gain, and (3) to aim for a win-win outcome. This is proof that the general consumers' beliefs on CSR were not significantly altered in a global upheaval like the pandemic.

Fourth, the current research also provides insight into the consumer's perspective on the large-scale employee layoffs that occurred during the COVID-19 pandemic. The results point toward the idea that consumers consider businesses as profit-making entities; therefore, the decision to dismiss employees can be morally justified. This finding gives further confirmation to Carroll's CSR pyramid, stating that economic responsibilities have greater importance than ethical responsibilities.

The current study contributes four critical practical implications. The first one is that CSR communication is not yet effectively undertaken in Vietnam. This is proved by the lack of awareness from Vietnamese consumers regarding CSR. Meanwhile, the number of CSR-conscious consumers remains limited; they also claim that only the informed consumers are aware. Still, the others could not acquire such a piece of information. This calls for more extensive methods of CSR

communication, more efforts, and better strategies when it comes to getting publicity on the goodwill actions.

However, the communication of CSR is not an easy subject to deal with. While stakeholders profess to be interested in learning about the good works of the firms with whom they contact, they might quickly become suspicious of extrinsic motivations when corporations advertise their CSR activities. If consumers grow distrustful of firms' social endeavors and believe irrelevant objectives primarily drive them, corporate social responsibility communication can backfire. As a result, overcoming stakeholder mistrust and generating favorable CSR attributions is a significant problem in CSR communication. To effectively communicate the information, firms have to find the right ingredients, including message content and communication channels, as well as corporate and stakeholder-specific factors that impact CSR communication efficacy.

The second practical implication is that CSR can not be the sole determinant for the positive image of firms as well as a guarantee for an increase in sales. Businesses have to acknowledge that while it is valid that consumers are generally optimistic about philanthropic commitments, such initiatives are not enough to persuade them to buy the products and services. In order to effectively embed CSR into the promotional activities, firms should build an extensive and long-term marketing program, where CSR could play a crucial role along with other traditional marketing campaigns. With this strategy, the firm's image would be spread on a broad level; simultaneously, the effectiveness of the CSR communication will also be enhanced as a result.

The third insight extracted from this paper is that consumers are divided into different groups based on their take on CSR. This would indicate that some consumers would not pay attention to the goodwill activities, as they are outside of their interest. Therefore, firms should not place high expectations in terms of gaining profits by doing philanthropy. Instead, they should commit to such initiatives for their desire to do good. It should be noted that there are also consumers who would pay extra for environment-friendly products. Thus, businesses should have a comprehensive understanding of their consumers to make an informed decision regarding CSR engagement. Wherever possible, the emphasis should explain that a socially responsible company's products are not more expensive than other items. If the price is not affordable for everyone, managers must keep an eye on pricing discrepancies with competing items since customers pay close attention to price proportionality. Pricing is especially crucial for managers in high-price/high-quality sectors because consumers who care about CSR want high-quality items. It is preferable to sell items in the low-price sector if managers choose to overlook consumers' potential CSR interests.

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MOBILE PAYMENT BUSINESS MODELS IN CHINA AND LESSONS FOR VIETNAM

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Research purpose:

This research examines the primary characteristics of mobile payments, the forms of mobile payments, and the effects of mobile payments on the micro, macro, and customer behavior. Analysis and evaluation of the existing situation of business models for electronic payment in China. Then, investigate remark on, and derive Vietnam-specific insights from some China significant case studies. Analyze the implementation circumstances between China and Vietnam; the lessons gained from China about the development of mobile payment systems in Vietnam between 2022 and 2030.

Research motivation:

Research examines China's experience in developing business models and activities in Mobile Payment. Research provide solutions to be implemented in Vietnam between 2022 and 2030.

Research design, approach, and method:

The authors collect and analyzes data using desk research and qualitative research methodologies: statistical method and case study method. The authors examine case studies of leaders in China Mobile Payment based on a theoretical framework (STOF Model) to analyze business models and activities; then to evaluate the benefits and drawbacks of each model.

Main findings:

With the central objective of providing market insights in the context of China's massive mobile payments, this study present the possibilities and limitations when engaging with Chinese mobile payment solutions; and identify lessons Vietnam companies can learn when contemplating establishing a footprint in China.

Practical/managerial implications:

This research contributes to a better understanding of challenges and success factors associated with the design of business models for new mobile services and uses the lens of the STOF model in China. The growth of Chinese mobile payments systems is proving particularly useful in Vietnam.

Keywords: *Mobile Payment, Mobile Money, Business Model, STOF, Service provider*

1. INTRODUCTION

The global Covid-19 pandemic was the single most impactful theme on the global economy in 2021. Consumers' purchasing behavior was dramatically affected by the pandemic itself, alongside hygiene concerns around the use of cash. Hence, the digital payments sector greatly benefited from the pandemic as consumers' shifted away from cash, which forced consumers to develop new payments habits that contributed to the growth of alternative payments. Mobile payment has become a popular payment method in many industrialized nations, resulting in the world's largest gain in transaction volume in the recent decade.

The Chinese consumers pay for things has evolved dynamically and very differently from the experience of Western countries. In most Western countries, the mode

of making payments went from cash to checks to using credit and debit cards to contactless cards, and now slowly transitioning to mobile payments.

China is the world's largest mobile payments market by a significant margin, and the key players - UnionPay, Ant Group, and Tencent - are all tied up to one degree or another with the Chinese government. Chinese players have also all been forging partnerships and making acquisitions to expand beyond China's borders and move into new markets. A rapid expansion of mobile payments is anticipated, with the transaction volume reaching \$26.341 trillion USD by 2026. (Global and China Mobile Payment Industry Report 2020 – 2026, 2020). Mobile payment transactions in China expected to reach 112.5 trillion USD in 2020, an increase of 31.8 percent on an annualized basis (Global and China Mobile Payment Industry Report 2020 –

2026, 2020).

Cash remains the predominant payment method in Vietnam, the number of mobile payments reached nearly 700 million by end-August in 2020, up 980% against in the same period of 2019, according to Reuters (2020). China has a similar economic background as Vietnam and is moving towards cashless economy.

2. INTRODUCTION OF MOBILE PAYMENT BUSINESS MODELS

2.1. Overview of mobile payment business models

Mobile Payment (also known as mobile money, mobile money transfers, and mobile wallets) generally refers to payment services made from or through a mobile device. Instead of paying by cash, check, or credit card, consumers can use mobile phones to pay for a wide range of goods and services.

In terms of main characteristics, there are two categories of technological features in general and mobile payment services in specific, which are general and particular. For general characteristics, Rogers (2003) highlighted the general features, which include specificity, the ability to be tested, perceptibility, comparative advantage, and complexity. For specific characteristics, Davis (1989) found the following properties of the technology: speed, dependability, enjoyment of use, control over the usage process, and danger of use.

Mobile Payment classifications

a. Mobile wallet

A mobile wallet is a place to store all your debit and credit cards, coupons, coupons. When a user pays with a mobile wallet at a store, this mobile application will use a technology that roughly translates to a short-range magnetic connection that uses radio frequencies to connect the devices together.

b. NFC

Near-field communication (NFC) technology has been around for a while now. In the past, it was mainly used in transit systems, such as public transport ticketing and electronic payment. However, today, NFC is being used for a much more comprehensive range of applications, including wearable technology and smartphone payments. NFC is identical to Bluetooth in that it supports digital wallets and sound payments. NFC connects by near-field radio frequency recognition; hence, it is considered "contactless" because the mobile device does not have to physically touch the terminal.

c. Carrier Billing – Carrier Billing

Users utilize mobile billing to make purchases on e-commerce websites, such as online gambling sites. After PIN and One-Time-Password (often abbreviated as OTP) authentication, the consumer's mobile account will be charged for the transaction. This is a precise online payment method that does not require a

credit/debit card or pre-registration, so it completely avoids banks and credit card providers

d. QR Code

It is also known as a matrix barcode (Matrix-barcode), a quick response code, or a QR Code. QR codes can be divided into 2 types as: Scan personal QR Code and Scan Store QR Code.

e. Magnetic Secure Transmission and Mobile Payment Terminals

Magnetic secure transmission sends card payment data to a magnetic stripe scanner using electromagnetic means. Because they do not require a typical point of sale, this payment option is ideal for businesses. Using a card reader, such as a portable magnetic stripe reader, is the only way to operate these machines.

f. Sound wave payment

Devices can be connected to a POS machine using high frequency, wireless communication technology known as sound waves. In order to finish and permit the transfer, sound waves are delivered to the customer's device.

2.2. Impact of Mobile Payment

2.2.1. Impact of Mobile Payment on the macroeconomic

Beck et al. (2018) show significant quantitative implications of mobile money for entrepreneurial growth and macroeconomic development. According to 2019 statistics from Statista, cash transactions in Sweden account for only about 12.8%, and 17.4% in South Korea of the total value of payments. Among advanced economies, Sweden and South Korea are the leaders in the transition to a cashless economy. Sweden has implemented a series of policies to encourage cashless payments, aiming to reduce the number of ATMs nationwide through the promotion of e-KYC and real-time payments. Many initiatives are being carried out in Africa. Rwanda and Kenya aim to become cashless economies by 2024. Mobile payment continues to make significant contributions to China's economy. In 2021, mobile technologies and services generated 5.6% of GDP in the region, a contribution that amounted to nearly \$900 billion of economic value added (Global and China Mobile Payment Industry Report 2020 – 2026, 2020). The mobile ecosystem also supported approximately 6 million jobs (directly and indirectly) and made a substantial contribution to the funding of the public sector, with around \$100 billion raised through taxation.

2.2.2 Impact of Mobile Payment on the microeconomic

For individuals: mobile payment services deliver specific benefits to people, particularly those who have not utilized service banking or used it as a function (unbanked and underbanked); help to payment which is simple and more convenient.

For small and medium-sized businesses, mobile payment systems play a crucial role in fostering the growth of them. The mobile payment service enables these firms to diversify payment methods, collect the consumption habits of customers, and efficiently promote the appropriate items to those in need, therefore boosting sales.

For service providers of mobile money with primary accounts, mobile payment reduces transaction costs and decreases the quantity of currency in information. It is viewed as a competitive approach to raise income for carriers based on client loyalty.

2.2.3. Impact of Mobile Payment on the customer behaviors

Cashless payments are no longer only a payment method; they have become an integral element of daily living. As the use of cellphones has expanded, cashless transactions have grown in popularity. Probably the easiest method is wire transfer, and more recently, QR code transmission. Previously, account opening required sending information such as account number, bank, and bank branch; now, only the QR code is required. In addition, customers can pay through credit card and electronic wallet. In addition, even when Mobile money service is launched, customers will be able to pay for products and services using the phone number issued by the network operator.

2.3. Business Model Concept

Business models pertain to the ways through which a company creates and extracts value from a service, product, or technology (Amit and Zott, 2001; Chesbrough and Rosenbloom, 2002). In addition, business models describe a company's justification for producing and delivering consumer value (Osterwalder et al., 2005).

Timmers (1998) define electronic business models as "An architecture for the product and service flows as well as an explanation of the various business activities and their responsibilities". E-business models study also seeks to identify particular business models that explain how organizations engage on the Internet and how value is produced for consumers and other stakeholders (Applegate, 2001). Business model innovations have a direct impact on service and service innovation.

2.4. Theoretical Research Framework

For the research topic of Mobile Payment, this paper uses the STOF model as the primary evaluation approach. To begin, it is vital to define the STOF model and comprehend its principles and features. The STOF model includes many distinct components, but the services, technology, institutional arrangements, and financial difficulties are the four key components (Booz, et al., 1982). This concept is the foundation for (mobile Internet) service business model designs.

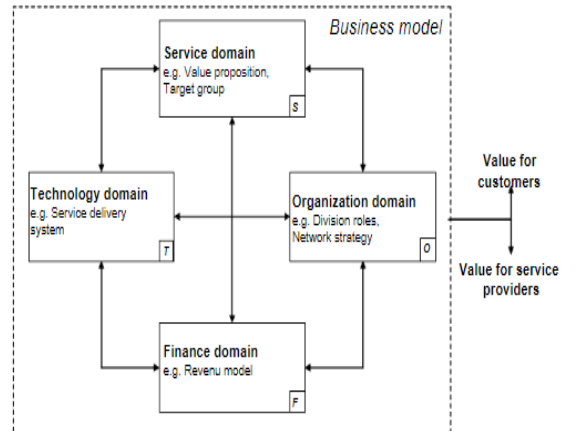


Figure 1: STOF Business model domains

Source: Booz et al., 1982

Service domain: It is the foundation for addressing company strategies. Customer value is one of the most important issues in the service development process. Furthermore, there are challenges in the mobile domain that require special attention, such as the concept of mobility and the specific values of mobile services, particularly internet services.

Technology domain: In terms of technical architecture, middleware (mobile) is critical for the development of service management. IT engagement in management and business processes is an option for organizations. External software and application services, middleware and application services, and back-end data services are all part of most web services' infrastructure.

Organization domain: Organizational difficulties generally focus around resources and capabilities, which are mostly related to technology, marketing, and finance, and must be executed in order to supply the service.

Finance domain: Finance is one of the indispensable resources of the value network. The bottom line of services designed is also determined by finance. The two big issues with financing arrangements are investment decisions and revenue models. Targeted financing methods target average cost effectiveness, net cash value of the business, and internal rates of return.

3. ASSESSMENT OF MOBILE PAYMENT IN CHINA

Over the years, China's Alipay and Wechat have led the online payment market in China, with more than half of the country's population using mobile payments every quarter. Before 2010, online payment was still trying to find its place in the domestic market. China's telecom operators, state-owned banks, commercial banks and banking associations have joined hands to build a payment mechanism to replace direct cash payments. These preconditions led to the success of the online payment industry in 2013. This would

significantly increase mobile payment transactions in China, which reached 777.5 trillion RMB in 2020, an increase of 31.8 percent on an annualized basis (Global and China Mobile Payment Industry Report 2020 – 2026, 2020)

3.1 Mobile Network Operator – based model

A Mobile Network Operator (MNO) is a specific organization that provides telecommunications services to registered mobile users. Specifically providing wireless voice and data communication.

Case Study: China Mobile

China Mobile Communications Corporation also known as China Mobile is one of the largest mobile operators in China. As of now, China Mobile is the world's largest mobile phone operator ranked by number of subscribers, with 655 million subscribers.

Service

The communication technologies used by China Mobile include some popular networks in China such as GSM, TD-SCDMA, TD-LTE and WLAN. When it comes to products and services, China Mobile provides voice services including local calls, international long distance calls, international and provincial roaming, and added services such as caller ID, standby calls, voicemail, and conference calls.

Technology

Since its founding, China Mobile has grown into the world's largest telecommunications operator. Serving more than 950 million individual users and 200 million home users. Now, the company is generating more revenue with new and innovative technologies in applications using 5G technology

Organization

The organizational structure of China Mobile is quite complicated. Ordinary customers will only contact and work with very small branches of China Mobile or through the customer service hotline. The hotline “10086” service hotline provided round-the-clock support to all customers across all four CHBN markets. They upgraded the hotline by replacing its traditional IVR (interactive voice response) model with a smart interactive voice system that can operate on a single voice instruction from callers. In 2021, customer satisfaction with mobile Internet, household broadband and other businesses continued to improve. Customer satisfaction with our CHBN markets improved across board, with customer complaints reducing significantly (SEC report, 2022). People often know that China mobile has branches in provinces and cities across the country, but the truth is that in addition to those branches, China mobile also has professional subsidiaries and direct affiliated units.

Finances

China's economy continues to grow stronger and

stronger, which provides a favorable environment for China Mobile's business development. Despite this, the group's finances still face various challenges arising from market saturation and increasing competition among MNOs and from telecommunications service providers using the Internet and alternative technologies especially internet service providers.

Advantages and disadvantages of model

Society is increasingly developing in the direction of modernization and automation, leading to the continuous development of technology, so MNOs are increasingly developing, providing fast and reliable wireless network services to customers.

However, MNO is still facing many challenges because of the risk from hackers and cybercriminals who are exploiting vulnerabilities in network devices to undermine customers' privacy. These mobile network threats range from common cyberattacks such as email phishing, spam phone calls and spam messages to more advanced methods including wireless spoofing, software distribution, and software distribution.

3.2 Bank–based model

In a bank-based model, money flows and in the process operates primarily through financial intermediaries. These intermediaries are typically banks, savings and loan associations, mutual funds, and pension funds.

Case Study: Industrial and Mobile money commercial Bank of China

ICBC is a leading bank in China established in 1984. ICBC is considered one of the most profitable companies in the world, ranking fourth on the Forbes list.

Service

ICBC is a business providing financial services and commercial banking. Banking is divided into different areas such as: Corporate banking, Personal banking, Warehouse operations and some other fields. For Corporate Banking, ICBC provides corporate loans, trade finance, deposit taking and corporate wealth management services, other activities such as custody and banking intermediary services

Technology

Currently, ICBC is one of the largest banks in the world. Therefore, technology issues are worthy of attention. ICBC Corporation officially established ICBC Technology Co., Ltd., which is a wholly owned subsidiary of Industrial and Commercial Bank of China. With the goal of advancing finance-related technologies, ICBC was established to support the transformation of business and IT architectures based on the open financial services concept.

Organization

ICBC follows the hierarchical structure. According

to ICBC Manager, this structure brings to ICBC some benefits as below:

- Clearer distinctions between levels of power and responsibility.
- Display those to whom each individual reports or with whom they should discuss certain tasks.
- Motivate employees by providing them with distinct career routes and promotion chances

Finances

In ICBC Annual Report 2021, the financial system worked without incident. The balance of broad money supply (M2) was RMB238.3 trillion at the end of 2021, up 9.0 percent annually. The present social finance scale size was RMB311,1 trillion, an increase of 10.3 percent over the previous year. The outstanding RMB loans reached RMB192,7 trillion, an 11.6 percent increase from the previous year. The balance of RMB deposits was RMB232.3 trillion, an increase of 9.3 percent year-over-year.

Advantages and disadvantages of model

Before the advent of the modern banking system, people used to save their money in cash. They keep this cash in lockers, underground, etc. There have been many cases of money being stolen, torn by termites or simply damaged over the years. With the modern banking system, the above problems will be thoroughly overcome. The development of banking also promotes economic development. Although modern banking has many benefits, it also comes with certain limitations. The possibility of bank bankruptcy is very large if there are risks that are difficult to deal with during the operation. Due to the credit creation function, it would be difficult for a bank to pay all its customers at the same time. In addition, regarding finance, the risk of fraud and theft is inevitable. The modern banking system will have more sophisticated ways of defrauding users.

3.3 Trusted Third Party – based model

Trusted third parties are organizations and applications established with high reputation that are entrusted with responsibility by the parties to an agreement or contract, acting as an intermediary to resolve the issue in a timely manner.

Case Study: Alipay

Alipay was founded by Alibaba Group with the aim of adding financial functionality to Taobao - China's largest e-commerce platform - with the aim of making payments easily and quickly. With the expansion of Taobao and the growing strength of Alibaba Group, Alipay quickly grew strong and was at the forefront of the trend of using the most popular third-party payment solution in China.

Service

Alipay acts as an online payment platform that allows users to pay for online transactions such as online

shopping, paying bills, buying airline tickets, buying movie tickets, and recharging electricity. phone, game card payment... Currently, Alipay is developing with China's cashless trend, thereby developing online payment services by phone quickly and easily.

Technology

With Alipay, customers can go directly to their app and website to pay, check their investments or buy movie or plane tickets. Providing the best service to customers at Alipay will be through most of the Alipay application available on the phone.

Organization

Alipay is an application developed by Alibaba group and operated directly by the group. With Alibaba's influence and continued growth of other services in the group, Alipay has become one of the largest payment applications in the world.

Finances

Currently, AliPay has more than 450 million active accounts. In 2016, this application had up to 91 billion transactions. In 2014, Alibaba founded Ant Financial to directly operate Alipay and other Alibaba financial services. From the original Alipay idea, Ant Financial now has an ecosystem that includes the Yu'eBao market fund, Sesame Credit online credit service, MYBank internet banking, Zhao third-party financial services platform Cai Bao and microloan service provider Micro Ant.

Advantages and disadvantages of model

Based on the underlying application architecture of the trusted third-party model (TTP), the researchers analyzed the advantages of existing location privacy protection methods on the head device mobile end. Third parties are often more specialized in payments, they have support resources and are experienced in direct payments. At the same time, direct payment through a third party will ensure the interests of both users here, who are the buyers and sellers of goods and services. It is the convenience of this form that the number of third-party payment users is increasing, but the risks are also increasing. The more modern technology is applied, the more sophisticated methods are available to defraud users to appropriate user assets. Therefore, security is a top priority for these payers. Moreover, customers' requirements for ease of use are also increasing day by day. So the challenge for third party payers is huge.

4. APPLY EXPERIENCES OF CHINA INTO VIETNAM MOBILE PAYMENT DEVELOPMENT

4.1. Vietnam conditions analysis

Vietnam holds great potential for e-payment to flourish. The total transaction value of this segment is projected to reach USD15 billion in 2021 along with an

expected annual growth rate of 15.7% by 2025 (PWC, 2022). With only 30% of Vietnamese adults using digital banking services, there is room for growth. Increasing the utilisation of these services, including digital payments, will help Vietnam realize this potential much quicker. It cannot be denied that China is a model for Vietnam to develop Mobile Payment. However, in order to make effective use of practical lessons from China, it is vital to be aware of the advantageous and challenging conditions of Vietnam's current position.

4.1.1. Advantageous conditions

Similarities between China and Vietnam's economic and political situations

In the 21st century, China and Vietnam are both in the process of formulating policies that will allow them to make the transition to a digital economy as a direct result of the effect of the current technology revolution. 52-NQ/TW of the Central Committee on a number of guidelines and policies to actively participate in the Fourth Industrial Revolution (2019), digital economic transformation is a pillar, a key strategic task in the development of national digital transformation in the coming years. In China, there are also a lot of policies from the government to support the transformation of the digital economy.

Similarities between China and Vietnam user behaviors towards mobile payment adoption

Firstly, there is a large ratio of mobile phone users in both China and Vietnam. According to Statista, 2021, more than 39.5 percent of China's population (around 500 million people) utilize mobile payment methods. Vietnam is in third position with a percentage of 29.1 percent, after South Korea with a percentage of 29.9 percent.

Secondly, since the beginning of the epidemic, there has been a significant increase in the number of people looking to conduct business online using various e-commerce platforms in both countries.

Thirdly, Chinese and Vietnamese are being educated to use mobile payments as a method from not only online payment but also offline payment. In China, people are able to use their mobile phones to pay for anything from little purchases like an apple or a cup of coffee to large purchases like a house or stocks. In Vietnam, due to Visa Consumer Payment Attitudes study (2021), cashless payment development in Vietnam is being driven by the use of digital wallets, contactless payments, and QR codes. For food and eating, contactless cards are leading the way with 67% of consumers expected to use this technique more frequently in 2020.

4.1.2. Challenging conditions

Shortcomings of digital payment system infrastructure

Over the course of the last decade, China's mobile

infrastructure has seen significant development. China presently has 1.42 million 5G base stations in operation, which can accommodate more than 500 million 5G customers across the country. (Bank for International Settlement, 2021). However, in Vietnam, developing 5G is still on progress. Vietnam plans to make 5G commercially available by 2022, increase the usage of smartphones, and cut the percentage of people using 2G phones to less than 5 percent (Luu Quy, 2021). Banks and payment applications do not have a synchronized information relationship. Urban areas and restaurants, hotels, and major retailers are the primary locations where payment acceptance points are located.

Vulnerabilities in Mobile Payment Systems

The mobile payment faces a number of obstacles, as the development of technology during the integration process poses a number of challenges in constructing and perfecting legal regulations for management. In the first half of 2020, the Information Security Administration (Ministry of Information and Communications) registered 2,017 cyber assaults on information systems in Vietnam, including 805 phishing attacks, 705 interface alterations, and 296 malware attacks, according to its figures. Another issue is that criminals take advantage of the convenience of mobile payments and transactions to perform money transfers and engage in illicit activities such as football betting, online gambling, etc.

4.2. Lessons for Mobile Payment Business Models & Activities in Vietnam

Unlike with mobile wallets, which require users to transfer money from a bank account to their wallet, mobile money users only need a mobile account to carry out small-amount payments. Given Vietnam's high mobile penetration rate and large population of unbanked, mobile money could bring basic financial services to those living in remote areas and those with no way to access traditional banking services. According to the government's official data, there are 68.17 million Internet users in Vietnam as of January 2020; Mobile banking has a 200 percent growth rate and around 30 million individuals use the bank payment system every day. PwC's report (2019) indicates that Vietnam is ranked 4th in the region with the rate of using 61% of consumer spending through mobile payment platforms. According to a survey by Quandme, the Momo electronic payment wallet with about 70% of the market share is dominating the market. Vietcombank, Techcombank, and BIDV are the top three banks with the most renowned e-Banking services, in that order.

4.2.1. For the government

Finalize the legal framework

The Law on E-Transactions, which was enacted by the 11th National Assembly at its 8th session and went into effect on March 1, 2006, includes eight chapters and fifty-four articles on the nature of framework law and

principles for technical concerns of transactions in the electronic environment. However, after 16 years of implementation, the Law on E-Transactions has exposed a number of deficiencies that are not fit for development practice. In order to finish the legal framework for Mobile Payments in Vietnam, there are some potential lessons as below:

First, it is crucial to develop a regulatory framework that clearly defines the responsibilities of e-commerce participants across all phases of commercial transactions in which safety and reliability are compromised.

Second, in order to evaluate the trustworthiness of an electronic signature, the law must also establish an intermediate agency with the ability to certify the signature's authenticity.

Third, it is essential to study and apply sanctions for the conduct of "e-commerce fraud" in order to identify the many lines, businesses, and individuals who illegally obtain, purchase, and sell personal data. ASEAN offers initiatives on the development of Information and Communication Technology, Logistics, and customs clearance connection, invoice standardization to complete the infrastructure for the development of e-commerce in the region, such as the ASEAN Master Plan on Information and Communication Technology (AIM) 2015 and AIM 2020, Integration Roadmap A.

Develop and synchronize digital payment infrastructure

a. Enhance mobile payment for public services

Mobile payment for public services such as utility bills, school fees, hospital bills, etc should be promoted by the government. This is one of the ways to radically alter administrative procedures, saving people time and enhancing the transparency of budget income. The government should pay attention to improving business processes, implementing and applying cutting-edge technology solutions, and offering a range of payment products and services that meet the needs of both the government and citizens.

In addition, instructing branches and affiliated units to routinely inspect the conditions of technical infrastructure and software programs for electronic payment, and ensuring the fulfillment of payment instructions for the payment of fees and charges.

b. Develop mobile payment infrastructure synchronously and connectedly

Currently, financial organizations (including banks, payment intermediaries, and e-wallets) have constructed their own payment equipment systems at a payment acceptance point, which they both squander and do not utilize; therefore, the infrastructure is not shared. To tackle the present digital payment infrastructure issues in Vietnam, the "National Digital Payment Infrastructure" must be planned, designed, and

constructed in a synchronized, uniform, and shared manner. This enables local and foreign financial institutions to deliver services to the public at a reasonable cost by using the large network infrastructure of telecommunications units.

c. Develop high quality human resource in the technology

The digital world in general and mobile payment in specific are continually moving, changing, and evolving, thus, IT human resources need to constantly study, update information and knowledge, and be eager to learn in order to stay up with the speed of the evolution.

The Ministry of Education and Training and the Ministry of Information and Communications will finish legal papers on the quality management of IT human resource training, update curriculum, instructional materials, and enhance quality.

Teaching staff, implementing technology transfer between businesses and schools, connecting businesses with schools so that students can practice and practice at enterprises, and building capacity on retraining, continuous training in expertise, etc.

Next, training institutions must extend international collaboration in training, nurturing, and enhancing professional credentials, as well as the selection of competent and qualified personnel and students for study and research.

4.2.2. For mobile network operators

In Service, with the potential for telecommunications waves reaching 99 percent of Vietnam's territory and a service infrastructure system including up to 11,000 wards (Viettel, 2021), mobile money is seen to be a successful concept in a nation with sluggish banking networks in the countryside as Vietnam. However, to develop this service, mobile network operators have to deal with client verification, where "junk" sims provide a severe difficulty. The sale of pre-activated SIM cards to the public still occurs in some regions, and the issue of incorrect SIM information has not been very rectified, which acquires mobile network operators to have a strong strategy to handle it.

In Finance, in order to operate effectively, mobile network operators also need to solve the problem of how to lower the cost of charging money to a Mobile Money account via mobile phones via transaction points.

In Organization, mobile network operators should build a network of payment acceptance units, including Mobile money service, to enable customers to pay with Mobile money service at any time and in any location. For individuals to activate and use Mobile money to pay for goods and services, the network operator must link with products service providers, e-commerce platforms, grocery chains, etc to make sure that customers can use

the service easily and at the most convenience.

In Technology, China poses a great model for developing and using 5G. As 4G adoption has peaked, 5G take-up in China is gaining momentum, supporting positive top-line trends for mobile operators. Strong 5G demand in mainland China means that it represents the single largest 5G market in the world, with 5G connections accounting for over 75% of the global total at the end of 2021 (China Mobile Limited report, 2022). 5G is expected to be widely deployed by Vietnamese telecoms providers in 2021, which will deliver a wide range of new experiences and serve as a platform for the digital transformation of mobile customers as well as enhance the economy of the country.

4.2.3. For banks

In Service, banks should continuously innovate; create products and services, in accordance with the needs of customers. With the establishment of conventional banks, banks are able to offer various advanced mobile payment services in addition to online banking, such as: Cross-border payments with neighboring nations; bilateral payments with commercial banks.

In Technology, in order to be top players in digital transformation in general and in mobile payment in specific, banks should put focus on four technologies: big data, cloud computing, Artificial intelligence

Big data: It enables the extraction of information from enormous, multidimensional datasets that may both generalize and be specific to client preferences and attributes.

Cloud computing (iCloud): It enables the minimization of storage costs, the backup of data with nearly infinite capacity, the reduction of technology conversion costs.

Internet of Things (IoT): It allows the system to connect with the majority of terminals and applications at high speed, enabling the integration and real-time processing of multidimensional data.

Artificial intelligence (AI): It can increase accuracy and productivity in information processing procedures for decision-making or inventive product design that meets consumer needs.

In Finance, it is vital to recognize the value of the economic advantages and thoughtfully allocate resources between the aims of short and long-term gain. Utilizing a new set of software tools will need a substantial amount of resources. Consequently, the selection of appropriate numerical solutions is crucial.

In Organization, banks should comply with State Bank rules and recommendations on guaranteeing the safety and security of online banking transactions. The State Bank of Vietnam issued Circular No. 09/2020/TT-NHNN regulates on information system safety in banking operations in order to update new regulations

of the Law on Cyber information Security and guiding documents.

4.2.4. For trusted- third party

In Service, in order to provide customers with an all-in-one experience, building connectivity services is essential. Instead of providing separate services, an e-wallet can allow users to cover all of the payments in their daily life, which may be used to move, to purchase tickets (transportations, movies), to travel, to shop online, to purchase via QR Code at stores, and pay bills. By using cross-services, user's everyday demands will be met in the most convenient manner with only a few taps on the phone's display.

In Technology, according to market research firm Analytics Insight (2022), due to the rise and popularity of e-wallet applications, trusted third party should use upcoming technology such as:

Biometric Authentication: Biometric authentication consists of fingerprint scanning, facial recognition, and heart rate analysis, among other methods.

Advanced QR codes: It is used for payment, making transactions simpler and less prone to mistake.

Artificial Intelligence and Machine Learning to Prevent Fraud: Digital payments linked with artificial intelligence and machine-learning software can prevent fraud tracking more effectively.

In Finance, the race for incentives, refunds of trusted – third party with the initial purpose of creating a habit for users to access new electronic payment channels, but after acquiring millions of users, the wallets still do not stop discount and give discount code to satisfy customers. This leads to the negative revenues of most of trusted – third parties in Vietnam (Vietdata, 2020).

In Organization, trusted – third party would build partnerships with companies in a variety of industries, including: consumer finance; insurance; money transfer; entertainment; e-commerce; retail; transportation; tourism; and food service. In addition, connecting trusted - third companies with banks would increase the value of digital payment systems and improve the customer experience.

5. CONCLUSION

At the global level, mobile payments is seen as a driver of productivity and growth, if managed well, through cumulative effects such as larger and more efficient labor markets. Lower transaction costs and take advantage of knowledge. Through research in the field of mobile payments, today it is a reality to apply technology to build and deploy investment in payment products. Furthermore, technology adoption and investment requires a huge amount of capital; can push housing prices to levels beyond the tolerance of buyers. Mobile payment leads the international fashion. It makes people's life more convenient and accelerates the

development of society. It will surely play an unparalleled role in the whole world. Therefore, the growth possibility of online transactions and mobile payments in Vietnam still has a lot of potential that has to be explored and utilized during the course of the subsequent era.

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STRATEGIC MARKETING INNOVATION OF SMES IN VIETNAM IN THE DIGITAL AGE: IMPACT OF DYNAMIC CAPABILITIES AND ENVIRONMENTAL DYNAMISM

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Research purpose:

This paper aims to explore the impact of environmental dynamism and dynamic capabilities on the strategic marketing innovation of small and medium-sized enterprises in Vietnam.

Research motivation:

Marketing is becoming more important than ever to the success of business in general, especially in small and medium-sized enterprises in Vietnam. In order to satisfy the needs of customers, businesses must constantly innovate their marketing strategy in parallel with the change and development of society. The research mainly focuses on how the confluence of environmental dynamism and dynamic capabilities have affected the way businesses innovate their marketing strategy.

Research design, approach, and method:

The research applies both qualitative and quantitative research to examine the reliability of the design research model. Survey data were gathered from a sample of 150 respondents.

Main findings:

Findings revealed that in SMEs in Vietnam, environmental dynamism has a huge impact on marketing innovation.

Practical/managerial implication:

The study outlines several measures and managerial implications for SMEs in Vietnam to face constant changes and challenges from a constantly changing environment. In addition, the study also shows that SMEs in Vietnam need to develop marketing knowledge management capability to maximize strategic Marketing innovation.

Keywords: *small and medium-sized enterprises, marketing innovation, environmental dynamism, dynamic capabilities*

1. INTRODUCTION AND BACKGROUND OF RESEARCH

In a business, we can imagine if business is to steer a ship, then the departments in the company such as human resource, sales, ... are the sailors and the Marketing department is the captain, the person who leads, steers the ship to the destination. The above example can show us the importance of Marketing for businesses in general as well as small and medium enterprises in Vietnam in particular in the present and in the future.

Marketing acts as an intermediary bridge between business activities and the market, ensuring that business activities are market-oriented, taking the

market as the target. In other words, Marketing is responsible for creating customers for enterprises.

In parallel with the change and development of society, the needs and desires of customers also continuously show clear differences over time. Therefore, in order for the marketing strategy planning to be effective as desired, businesses must also constantly innovate to satisfy the needs and desires of target customers in different stages. Literature has recognised marketing innovation as a strategic management tool which is used by managers of small, and medium enterprise (SMEs) to distinguish oneself in the dynamic marketplace, enhance competitiveness, and sustain profitability and business growth (Anh N.V.,

2020).

For quite some time, the focus of strategic management literature has shifted from factors that influence firm performance, to factors that underlie superior or innovation-based performance (Trung D.Q. et al., 2019). Marketing innovation is identified as a search for creative and new solutions to problems and needs. For businesses to become more competitive and improving their performance, they must constantly develop new products as well as strategies (Otakar Ungerma et al., 2018). Marketing innovation involves implementing new methods of selling the final product (Simon & Honore Petnji Yaya, 2012). Most of innovative marketing definitions concentrate on new ideas concerning new products or services, improvements in existing products and refining these ideas to a market opportunity to meet the market demand in a new way (Hasan Aksoy&Erol Cengiz, 2016).

From that, it can be seen that marketing innovation is an important key that gives businesses numerous competitive advantages, development opportunities and the existence of small and medium enterprises in the business market. Training programs need to pay attention to how SMEs' owners/managers can sense and evaluate the different environmental dynamism perspectives and how to react (Hazem Ali, Yunhong Hao, & Chen Aijuan, 2020).

Two of the prominent factors that strongly influence strategic marketing innovation in small and medium enterprises in Vietnam are: Dynamic Capabilities and Environmental Dynamism. However, how do these two factors affect strategic innovation in Marketing? That is the significant concern of each member of our research team in particular as well as young people studying business in general.

Therefore, we have built and developed this topic on the basis of previous studies to learn about the influence of dynamics and environmental motivation in marketing innovation on strategy.

2. METHODOLOGY

This research is conducted in two phases. It includes preliminary research by qualitative method and formal research by quantitative method.

2.1. Qualitative method

For this study, qualitative research has the primary goal of adjusting and supplementing the research model and research questionnaire, as well as completing and consolidating them. The qualitative research techniques applied by the team include background theory research and expert interviews. Researchers conducted background theory research based on six research articles that are most closely related to the research topic, and many secondary data sources synthesized and researched by the group. As the result of background

theory research, the group derives related theories including Theory of Resource-Based View (RBV) and Dynamic Capabilities View (DCV). With the stage of expert interviews, researchers contacted one (01) experienced expert in the field of Marketing innovation of SMEs in Vietnam - Assoc. Prof. Tran Mai Dong is currently the Head of the Department of Scientific Management - International Cooperation, working at UEH University (Ho Chi Minh City) to arrange an in-depth interview to draw general conclusions about the research model and research questionnaire. In the interview with the expert, the research team came up with a list of qualitative questions related to the topic as follows: "What does the expert comment on the topic chosen by the group to conduct research?"; "Do you have any advice on how to name the group's topic?"; "What advice does the expert have for the team about the links in the model as well as the hypothetical assumptions?"; "What are the experts' comments and opinions about the questionnaire given to bring about the best effect before sending it to the survey subjects?"; "The team is struggling to get enough people to fill out the form to ensure it is completed on time. Can the experts suggest and help with ways to reach out to businesses?"; "How do experts feel about the group's references and documents?"; "In general, what parts of the research paper need to be added and omitted?". Researching background theory and interviewing experts is an important step in qualitative research design, especially the significance of expert interviews. This interview gave the group a deeper insight into the research topic, not only stopping at the reference to previous research papers to conduct the research but also going deeper into the investigation. Adjust hypotheses, questionnaires, and research models, how to collect and process data for the project in the most effective way. Based on the Resource-Based View (RBV) and Dynamic Capabilities View (DCV) literature, and qualitative research results, the research model of this research is shown in Fig. 1.

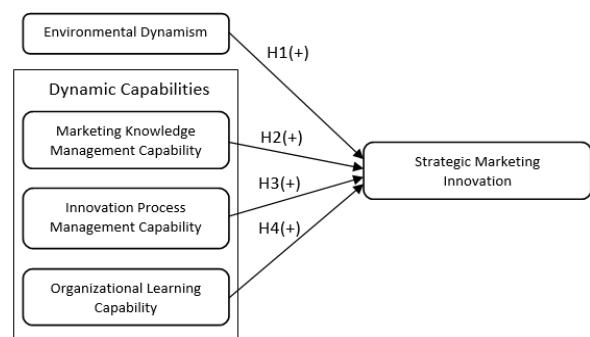


Fig. 1: Research model

The dynamics from the environment always change over time and create many challenges for businesses. It is very important to devise strategies for timely adaptation and response to changes. So we put forward the first hypothesis:

H1: Environmental Dynamism positively influences Strategic Marketing innovation of SMEs in Vietnam.

Marketing knowledge management capacity is analyzed as the ability to accumulate knowledge, the ability to understand the market, and also the ability to explore and exploit the market. From there, better understand how businesses reconfigure their resources and capabilities, contributing to marketing innovation. So we put forward the second hypothesis, which is:

H2: Marketing Knowledge Management Capability positively influences Strategic Marketing innovation of SMEs in Vietnam.

Capacity to manage innovation process: Can be understood as the ability to perceive, quality process innovation and manage innovation projects. Therefore, innovation management competencies are particularly important in helping businesses re-resource and reconfigure capabilities through cross-functional integration, external integration, and tool integration. Therefore, we hypothesize H3:

H3: Innovation Process Management Capability positively influences Strategic Marketing innovation of SMEs in Vietnam.

Institutional learning capacity: Relating to integration and learning capabilities. It involves a commitment to learning management, the cultivation of a systems perspective, openness, and experimentation. A study by Storbacka & Nenonen (2015) positively linked two factors: organizational learning capacity and marketing innovation. And so, our team came up with the final H4 hypothesis:

H4: Organizational Learning Capability positively influences Strategic Marketing innovation of SMEs in Vietnam.

2.2. Quantitative method

Based on theories of quantitative research, the research group decided to design quantitative research according to the following process. Initially, we built a rough questionnaire. After the process of consulting with the expert and conducting a pilot survey of the first group of 10 respondents, it was adjusted and completed into an official questionnaire using the Likert scale.

We calculated the sample size (n) using the following formula:

$$n = 5 \times \text{Number of observed variables} = 5 \times 21 = 105$$

Therefore, n = 105 will be the sample size for the study.

However, we did a sample size survey of 150 participants aged from under 25 to over 35 with a study scope in Viet Nam, particularly Ho Chi Minh city, in order to conduct quantitative research. Surveying objects are those who have ever worked in Marketing or who are currently employed in this area with less than 1

year to more than 5 years' seniority, meaning that people with specialized knowledge as well as in-depth understanding of the field of Marketing of SMEs in Viet Nam. In addition, the research group chose the convenience sampling method which is a method of non-probability sampling. This is the easiest sampling method to conduct since the participants are selected on a basis of willingness to take part.

Table 1: Seniority of respondents

Seniority	Frequency	Percentage (%)
1 - 3 years	39	26.0
3 - 5 years	48	32.0
Less than 1 year	7	4.7
More than 5 years	56	37.3
Total	150	100 %

The approach is indirect over the Internet based on judgment and convenience methods. Through social networks including Facebook (via business and marketing groups), Messenger, and Zalo, the survey link (Google Form) was directly sent to the respondents. As a result, 156 questionnaires were sent and 150 valuable responses were received.

3. RESULTS AND DISCUSSION

This research conducted a survey with 156 managers and adepts in Marketing innovation in small and medium enterprises in Vietnam by conducting an online survey because of the epidemic situation. After collecting and testing, a valid response of 150 questionnaires was achieved, and the data was analyzed using Statistical Package for Social Sciences (SPSS).

*ED - Environmental Dynamism, MKM - Marketing Knowledge Management Capability, IPM - Innovation Process Management Capability, OL - Organizational Learning Capability, MI - Marketing Innovation.

Cronbach's Alpha test

The results suggest that the variables in the model are reliable, with Cronbach's Alphas of 0.731, 0.815, 0.833, 0.776, and 0.751 (5 variables with Cronbach's Alphas > 0.60) for ED, MKM, IPM, OL, and MI, respectively; and the Corrected item-total Correlation of all observed variables is greater than 0.3 (showing that all observed variables have good quality for the next factor analysis)

Exploratory Factoring Analysis – EFA

Table 2: Table of KMO and Bartlett's test

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure Sampling Adequacy.	.765
Bartlett's Test of Sphericity :	634.734
Approx. Chi-Square	66
df	.000
Sig.	

From the result of KMO and Bartlett's test, it can be seen that the coefficient KMO is $0.765 > 0.5$. Therefore, the application of EFA method is suitable for our group's research data set. In addition, the Sig. value of $0 < 0.05$ means that the Bartlett's test is statistically significant, and it also shows that items correlate with each other in the factor.

Table 3: Table of Rotated Component Matrix

Rotated Component Matrix^a

	Component		
	1	2	3
IPM3	.846		
IPM4	.834		
IPM2	.790		
IPM1	.789		
MKM3		.821	
MKM2		.809	
MKM4		.796	
MKM1		.773	
OL2			.814
OL4			.773
OL3			.771
OL1			.729

The results of the rotation matrix show the convergence and discrimination of the factors in a very separate way, 12 observed variables converge and differentiate into 3 factors and all observed variables have factor loading factor "Factor Loading" at ± 0.7 , so there are no bad variables to be removed. Furthermore, this result also shows that the observed variables are all statistically significant and that the correlation between the observed variables and the corresponding factor is very strong.

Correlation analysis

Table 4: Table of Correlations

Correlations					
	ED	MKM	IPM	OL	MI
ED Sig.		.000	.279	.020	.000
MKM Sig.	.000		.019	.783	.000
IPM Sig.	.279	.019		.652	.128
OL Sig.	.020	.783	.652		.257
MI Sig.	.000	.000	.128	.257	

Sig. value of variable MI in column ED and MKM is $0 < 0.05$. In addition, the values of the Pearson correlation coefficient are 0.429 and 0.403 (moving towards 1), respectively. Therefore, the independent variables ED and MKM are positively correlated with the dependent variable MI.

Sig. value of variable MI in column IPM and OL respectively 0.128 and $0.257 > 0.05$, this means there is no linear correlation between the pairs of variables IPM and MI, OL and MI.

Regression analysis

Table 5: Table of Model Summary

Adjusted R Square	
Model	.243

Table of Model Summary gives a corrected R squared value of 0.243. This value shows that the independent variables included in the regression analysis only affect 24.3% of the variation of the dependent variable MI, the remaining 75.7% is due to variables outside the model and random errors. So the model is not really good and has not reached a good fit with the research data.

Table 6: Table of Regression Coefficients

Model	B	Beta	Sig.	VIF
1 (Constant)	1.316		.003	
ED	.327	.321	.000	1.177
MKM	.246	.290	.000	1.167
IPM	.036	.042	.561	1.041
OL	.035	.040	.582	1.048

Table 7: Summary of Hypotheses Testing Results (SPSS)

H1	Environmental Dynamism positively influences Strategic Marketing Innovation of SMEs in Vietnam.	Supported
H2	Marketing Knowledge Management Capability positively influences Strategic Marketing Innovation of SMEs in Vietnam.	Supported
H3	Innovation Process Management Capability positively influences Strategic Marketing Innovation of SMEs in Vietnam.	Unsupported
H4	Organizational Learning Capability positively influences Strategic Marketing Innovation of SMEs in Vietnam.	Unsupported

Observe: From the regression equation, we can see that the variable ED has a stronger impact on the dependent variable MI than the variable MKM. This means that the environmental dynamism factor has a stronger influence on the strategic marketing innovation of SMEs than the Marketing knowledge management capability factor.

Variance inflation factor (VIF) of all independent variables is less than 2. So that the model does not occur multicollinearity between independent variables and vice versa.

Managerial implications for Environmental Dynamism

As expected, the Environmental Dynamism factor has a positive impact on strategic Marketing Innovation in SMEs in Vietnam with Beta = 0.321. This shows managers at SMEs in Vietnam are aware that changes and challenges in the environment are an opportunity to promote strategic Marketing Innovation for their businesses. To face constant changes and challenges from a constantly changing environment, it is recommended that managers in SMEs in Vietnam continue to do things as follows:

- Changing the features of their products/services regularly according to the demand of their customers, diversifying their products, allowing customers to personalize their products, and continuing to market their products. Receiving feedback from customers to plan appropriate strategies to customers' needs through each stage.
- Cultivating and applying technological advances continuously for products/services because technology development is one of the most important factors that makes the desire of customers change constantly. Using digital media and social media will make interacting with customers more diverse and timely.
- They should regularly check the effectiveness of new products/services offered by competitors affecting competition in the market, thereby timely adjusting, and coming up with new marketing strategies to get the attention of customers and create a competitive advantage for their business.
- Learning and updating government regulations regularly that affect company policies in achieving company performance through websites, government reports websites, law libraries... to promptly adjust the Marketing strategy and follow the given regulations.

Managerial implications for Marketing Knowledge Management Capability

As expected, the research results show a significant positive relationship between Marketing Knowledge Management Capability and Marketing Innovation (Beta = 0.290). This shows that SMEs in Vietnam have

the capacity to manage their marketing knowledge and react to the dynamics of the business environment. By applying or transforming their marketing knowledge, they can innovate, leverage available resources, combine, and reconfigure these resources into marketing innovation. Therefore, building Marketing Knowledge Management Capability is important for the strategic Marketing Innovation of SMEs in Vietnam.

To further improve the effectiveness of Marketing Knowledge Management Capability on Marketing Innovation of SMEs in Vietnam, it is recommended that managers in SMEs in Vietnam need to do some of the following:

- Promoting access to marketing-related knowledge sources of the business environment, promoting the spirit of sharing marketing knowledge between managers and employees in the enterprise, and among employees in the same organization.
- It is necessary to coordinate with relevant organizations and units to provide courses and skills training, thereby creating competitive advantages from market understanding and management knowledge capacity through market exploration and exploitation.
- It is necessary to create forums, websites, and internal groups to synthesize, update and exchange marketing knowledge to ensure that all employees can apply this knowledge in the process of operation of the enterprise.

4. CONCLUSION

To overcome limitations in considering the impact of dynamic capabilities and environmental dynamism on the strategic Marketing innovation of small and medium-sized enterprises in Vietnam, this study has been set up to measure and assess the impact of environmental dynamism, dynamic capabilities (including Marketing Knowledge Management Capability, Innovation Process Management Capability, Organizational Learning Capability) to the strategic Marketing innovation of small and medium-sized enterprises in Vietnam based on the four hypotheses given. Before testing the hypotheses, this study experimentally tested the reliability and validity of 06 research instruments (including Frequency Statistical Analysis; Descriptive statistical analysis; Cronbach's Alpha inspection; Analysis of discovery factors; Correlation analysis; Regression analysis) using SPSS software.

As expected, H1 environmental dynamism has a positive impact on strategic Marketing innovation of SMEs in Vietnam. Interestingly, research has shown that there is a correlation between Marketing knowledge management capacity and strategic Marketing innovation of small and medium-sized enterprises in Vietnam (H2). However, H3, H4 showed a direct relationship between the innovation process

management capability, the organizational learning capability and the strategic Marketing innovation of SMEs in Vietnam was rejected.

The findings show that in small and medium-sized enterprises in Vietnam, environmental dynamism has a huge impact on marketing innovation. The study outlines a number of measures and managerial implications for small and medium-sized enterprises in Vietnam to face constant changes and challenges from a constantly changing environment. In addition, the study also shows that small and medium-sized enterprises in Vietnam need to develop marketing knowledge management capability to maximize strategic Marketing innovation.

This research project complements the current research literature, both theoretically and experimentally. However, there are still limitations. Firstly, the model is studied in the context of small and medium enterprises in Vietnam. Second, in qualitative research design, the team performs using background theoretical research techniques and expert interviews, skipping group interviews and case studies, observations. Future studies may apply all of these techniques to strengthen the research, as well as test this research model in an organizational environment or another country to increase generality, consider other aspects of environmental dynamics and dynamics capabilities that influence Marketing innovation in business.

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a lot of new and interesting knowledge. Although the research paper has included all efforts, it is still difficult to avoid shortcomings. We would like to receive suggestions, help as well as sympathy from experts who are interested in the topic so that the group can complete the shortcomings in the article.

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A FRAMEWORK FOR MANAGING ORGANIZATIONAL CHANGE IN THE CONTEXT OF DIGITAL TRANSFORMATION

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Today organizations have confronted a dynamic environment and open-end changes from the VUCA world; they must always competitively struggle to change themselves to increase operational efficiency, finance effectiveness, and strategic capabilities development for survival. Along with changes, they must maintain customer satisfaction and employee engagement in a manner with limited resources. Therefore, understanding the nature of organizational change, and the mechanisms of effective managing change so that organizations can successfully achieve the goals of change is a vital field for management. For the question, the paper adopted the methodology of the exploratory approach; it examined the literature to present the dimensions and characteristics of organizational change and change management. To integrate all findings from the exploratory study into a unified form, the authors propose a system model for managing organizational change, that hopes to help organizations increase their change success ratio when applying to their own contexts, especially in their digital transformation, which is considered the most complex, open-end and holistic change nowadays.

Research purpose:

Understanding the nature of organizational change, and the mechanisms of effective managing change

Research motivation:

VUCA world introduces frequencial dynamic environment and open-end changes

Research design, approach, and method:

Literature review, system theory, qualitative method.

Main findings:

A proposal framework for managing organizational change in the context of digital transformation.

Practical/managerial implications:

Help organizations increase their change success ratio when applying to their own contexts

Keywords: *Organizational Change, Change Management, Critical success factors, digital transformation, digital maturity model, transformation management*

ANTECEDENTS OF BRAND LOYALTY FOR MOBILE DEVICES: A PERSPECTIVE FROM THE CULTURE OF VIETNAM

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Research purpose and Research motivation

This study intends to investigate the links between brand personality, brand identity, perceived brand quality, and brand loyalty, as well as the moderating effect of age on the aforementioned relationships.

Research design, approach, and method

The paper presents its findings by using a survey-based methodology and SEM analysis technique. We collected 180 cases in Vietnam, but after solving the raw data, we only chose 175 examples for the primary analysis.

Main findings

According to our findings, the antecedents of brand personality, brand identification, and perceived quality have favorable effects on brand loyalty. In addition, we discover that age has a negative moderating impact on the link between brand personality and brand loyalty and a positive moderating effect on the relationship between perceived quality and brand loyalty. Age does not moderate the correlations between brand identification and brand loyalty, however.

Academic contributions and managerial implications

Our research demonstrates that brand personality, brand identification, and perceived brand quality are the antecedents of brand loyalty. Age is also demonstrated to be the component that moderates the aforementioned correlations. Our findings on these moderating effects of age are among the first from an academic standpoint, particularly for Vietnam. The research results also offer some implications for branding and marketing-related business management matters. Managers and businesspeople can use our research findings to establish marketing and branding initiatives and target the appropriate age groups for each antecedent depending on the results of the moderating effects. However, our paper contains limitations that are for the culturally linked issue when our study focuses on the Vietnamese market, which has culturally based characteristics that are distinct from those of other countries. This limitation suggests that we perform additional study to address the aforementioned shortcomings in the future.

Keywords: brand loyalty, mobile devices, brand personality, brand identification, perceived quality

INFLUENCE OF INNOVATION ON FIRM PERFORMANCE - EMPIRICAL EVIDENCE FROM PHARMACEUTICAL FIRMS

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Research purpose:

This paper aim to explore relationship between innovation capacity and firm performance in pharmaceutical industry. What innovation capacity aspect affects firm's performance most, and to improve firm performance beyond innovation capacity.

Research motivation:

Pharmaceutical is the industry with the largest proportion of investment in research and development, research wants to find out, besides product innovation, what other innovation factors can also affect the business performance of enterprises.

Research design, approach, and method:

The study begins with the synthesis of previous studies, examining the influencing dimensions and factors of innovation capacity, thereby serving as a basis for proposing a research model. Next, the scale was built for the model's variables, conducted a survey with pharmaceutical enterprises and analyzed the data by linear regression.

Main findings:

The study show that beside product innovation, transformative leadership is the strongest factor affect to the firm performance.

Practical/managerial implications:

Leaders in this field should practice the leadership style to transformative to adapt to uncertainty business environment.

Keywords: *Innovation capacity, firm's performance;*

FDI SATISFACTION IN EMERGING ECONOMIES: EXPLORING THE ROLE OF STATE-LED TRANSBORDER INDUSTRIALIZATION SERVICES

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Research purpose:

Given the growing importance of state-led transborder industrialization services (S-LTIS) for FDI companies, the authors present a systematic framework to examine the mediating roles of macroeconomic environment and incentive policy in the relationship between political stability and investment satisfaction under the boundary effect of S-LTIS.

Research design, approach, and method:

The authors first developed the construct validity by reviewing the major literature to identify principal common threads and then consulted experts in the field. After which, the authors designed a survey to examine the proposed framework using partial least squares technique for data analysis.

Main findings:

An analysis of 285 foreign directors' responses confirms the mediating roles of macroeconomic environment and incentive policy in the relationship between political stability and investment satisfaction. The authors also find that S-LTIS negatively moderate the relationship between incentive policy and investment satisfaction, as it decreases the role of incentive policy in promoting satisfaction.

Practical/managerial implications:

This study is among the first to provide a more complete understanding of how S-LTIS affects investment satisfaction in the context of emerging economies. When S-LTIS are available, FDI companies focus more on market opportunities that are derived from the macroeconomic environment and political situation while reducing attention to incentive policies.

Keywords: *Political stability; Incentive policy; Macroeconomic; State-led transborder industrialization service; Investment satisfaction; Emerging economies*

CORPORATE SOCIAL RESPONSIBILITY PRACTICES IN HOSPITALITY INDUSTRY: CASE STUDY OF FOUR-AND- FIVE-STAR HOTELS IN VIETNAM

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Research purpose:

This paper explores and compares CSR practices that are being implemented in the Vietnamese hospitality industry with empirical evidence from four-and-five-star hotels.

Research motivation:

The hotel ownership is assumed to influence the choice of CSR practices implementation. However, this factor seems to be neglected in previous studies on CSR in Vietnamese context. This present study is among few studies that measures and compares CSR practices being implemented in the Vietnamese hospitality industry between two groups of hotels: foreign versus local hotels.

Research design, approach, and method:

The six CSR measurements were adapted from existing literature to use in our study. A self-administered questionnaire survey was conducted at two chains of four-and-five-star hotels representing the industry (i.e.: Muong Thanh and Accor hotels). After two months, we received 138 valid responses from managers of two hotel chains. The SPSS software was employed to analyze the data.

Main findings:

Research results show that for most CSR issues including CSR to employees, suppliers, customers, community and environment, Accor hotels are outperforming Muong Thanh hotels. However, Muong Thanh hotels are much better than Accor hotels in terms of CSR to the government. Based on the research findings, our study implies that CSR needs to be integrated in core business of companies to grow sustainably if it is to survive global recession or insecurity.

Practical/managerial implications:

The case study of Muong Thanh and Accor hotels in this paper has shown that two hotel groups are integrating CSR practices in their daily operations and seem to have strong commitment to CSR implementation in the long run. It is implied that the long-term success of CSR will be based on its ability to be positioned within the core of business strategy and development, thereby becoming part of “business as usual”. Where CSR is integrated within the core business, it is likely to remain strong, whereas, CSR as a philanthropic add-on is vulnerable to cost cutting.

Keywords: *corporate social responsibility, hospitality industry, ownership, Vietnam*

1. INTRODUCTION

Ample studies on corporate social responsibility (CSR) have been conducted since the early 1950s. Their research results have shown that CSR is seen as one of the leading business strategies of enterprises rather than mandatory regulations or charity. An exemplary implementation of CSR will help companies do good business and support them in solving business strategy

problems and social issues related to the firm’s sustainable development. In the context of globalization and international integration, the requirements are pushed up when the competition becomes fierce. Therefore, society has an increasingly strict viewpoint of enterprises regarding duties and responsibilities. That makes businesses more and more aware that CSR standards are becoming one of the common conditions

in business agreements and are considered the “rule of the game”, forcing companies to comply if they want to go further and integrate with the world market.

Vietnam has integrated into the international community and has developed close trade relationships with the world. An increasing number of companies are aware of the philosophy and rules of CSR in the international community and put more emphasis on CSR issues. Although the concept of CSR in Vietnam has been recognized in these recent decades, the implementation of CSR is still at the embryonic stage (Nguyen & Le, 2008; Pham, 2010). The most common corporate response to CSR issues in Vietnam is still in the form of charitable deeds and donations rather than developing strategies for engaging with different stakeholders (Nguyen, 2008; Pham, 2011). Besides, many companies still neglect their social responsibilities and make a profit for themselves regardless of the benefits of other stakeholders in society. Consequently, problems about environmental pollution, employee working environment, workplace safety, information disclosure, and the like make it questionable to the international reputation of Vietnamese firms. CSR has become a challenge that Vietnamese companies have to face.

In Vietnam, the hospitality industry, the electronics industry, and high-tech agriculture are identified as three key economic sectors in the 2016-2020 period and in the implementation period of the country's development strategy 2021- 2030. Although it is a nascent sector, which has only really developed in the past few decades, Vietnam's hospitality industry has quickly integrated into the development trend of other economic sectors. This sector has increasingly asserted its position and plays a vital role in developing the country's economy. According to a report by the Vietnam National Administration of Tourism in 2019, Vietnam's tourism has continuously grown for many years, with an average rate of over 17% per year from 1990-2017. According to the WTTC Report (2018), during the period from 2011 to 2017, Vietnam ranks number 21 among the top 30 highest-performance countries in the Travel and Tourism sector of the world in terms of absolute growth for four indicators: total Travel & Tourism GDP, foreign visitor spending (visitor exports), domestic spending and Travel & Tourism capital investment. If in 1990, there were only 250,000 international visitors to Vietnam, only 5 years later, this number has increased more than 4 times, reaching over 1.3 million visitors; reached the milestone of 5 million visitors in 2010 and more than 18 million visitors in 2019 (up 72 times compared to 1990). The annual growth rate usually reaches double digits, especially from 2015 to 2019. It achieved a growth rate of 22.7% per year, ranked among the highest in the world by the World Tourism Organization. Accordingly, from 2015 to 2019, the hospitality industry has contributed to GDP of 6.3%, 6.9%, 7.9%, 8.3%, and

9.2%, respectively, of which a significant part belongs to the hotel business and accommodation services. Besides the positive impact of the Travel and Tourism sector on economic growth, the sector's development also significantly influences the natural and social environments. Tourism activities are claimed to break the balance of the ecosystem in destinations if they are not adequately controlled (Budeanu, 2005). However, after more than 30 years of transition to a market economy and international economic integration, the perception of hotels on CSR is still low, even one-sided. Therefore, the implementation of CSR has not yet come out of the passive and coping situation. Facing the challenges for sustainable development, the debate on corporate social responsibility (CSR) in the hospitality industry has been continuing for several decades in both academia and business society. Nevertheless, few studies in Vietnam clarify the actions needed to promote CSR in this hospitality industry.

This study aims to investigate CSR practices in the hospitality industry in Vietnam with a particular focus on the two biggest hotel chains in Vietnam, Accor and Muong Thanh. We compare and discuss the CSR practices implemented by these two chains of hotels and highlight some implications for practitioners and policymakers.

2. LITERATURE REVIEW

The framework of CSR has already been established since the early 1950s. Unfortunately, it is noteworthy that no single conceptualization has dominated past research in an attempt to define the concept of CSR accurately (Maignan & Ferrell, 2004). One of the first ideas of CSR was the concept that managers needed to accept their social responsibility (Clark, 1916). Since that early approach, the term CSR has elaborated a lot. Bowen (1953) defined CSR as “*an obligation to pursue policies to make decisions and to follow lines of action which are compatible with the objectives and values of the society*”.

Moreover, CSR is also defined as “*a process whereby companies integrate social, environmental and ethical issues into their business operations and strategy in close interaction with their stakeholders, going beyond the requirements of applicable legislation and collective agreements*”. This new concept highlights the significance of a strategic approach to CSR in enhancing the competitiveness of enterprises by creating mutual value for owners and stakeholders to win citizens' trust (The European Commission, 2011).

CSR is such a term of broad comprehension that many stakeholders may have different perceptions of the concept. There is, however, an emerging consensus that the scope of CSR is not confined to philanthropic activities. It extends beyond the more prominent legal responsibilities to include labor standards in supply factories, the accessibility by poor people to life-saving

drugs, and the basis and transparency of how management decisions are made. It is impossible to draw up a definitive list of issues and policies which constitute CSR. In reality, CSR activities might vary for different companies and can shift over time as changes in risk and regulations, challenges to reputation, and developments in best practices redefine the boundaries of what is acceptable, possible, and profitable for a company.

CSR practices in many industries have been examined, particularly labor-intensive sectors such as textile, healthcare, construction, and hospitality. Each industry has prominent characteristics that drive how companies implement their CSR practices. For example, hospitality is a service-based and labor-intensive industry. Farrington et al. (2017) highlighted industry-specific characteristics as influencing factors on the CSR orientation of companies in the economically challenging, poorly resourced and vulnerable hospitality sector. Thus, many issues relating to different stakeholders require hotels to take responsibility.

Previous research has investigated the CSR practices implementation in hotels in different national contexts. For example, Miller (2001) interviewed 35 senior representatives in the UK tourism industry and found factors that trigger the change in actions toward CSR of tourism companies in the future. Levy and Park (2011) identified and analyzed current CSR practices and benefits gained from implementing these activities in the United States (US) lodging industry. The two authors found that environmental practices such as energy saving, waste and water management are most popular in US-based hotels. Furthermore, Farmaki (2018) examined the influence of stakeholder interest and influence on CSR implementation in hotels in Cyprus. Farmaki (2018) confirmed that stakeholder influence on CSR in hotels is not corresponding to stakeholders' perceived saliency, indicating that stakeholder analysis needs to move beyond the consideration of salient stakeholders' interests. CSR communication is also an attractive topic for researchers. Coles et al. (2013) posited that environmental CSR is easier to implement than socio-cultural CSR practices. Ettinger et al. (2017) examined how CSR-certified hotels communicate CSR on their websites and how they respond to reviews by the customers. Meanwhile, Kucukusta et al. (2019) investigated how hotels practice CSR communication through social media. Results show that posts on social media encouraging CSR practices show the highest level of engagement. Thus, this study provides insights on how to draft more effective CSR messages.

Another research by Horng et al. (2017) constructed an assessment model of CSR practice in the tourism industry. The model has five dimensions, including Economy, Environment, Society, Culture and Consequence. Horng et al. (2017) concluded that

Environment is the most influential dimension in the model. Rahmawati et al. (2018) conducted a qualitative study to examine the influence of spirituality-inspired CSR on tourism companies in Indonesia. Research findings showed that spirituality plays an important role in three dimensions: (1) a key element of the broader social and cultural context to create a conducive external environment for CSR, (2) as a CSR driver to inspire business leaders, and (3) as a complement to CSR governance. Furthermore, Cherapanukorn and Focken (2014) examined how Asian luxury hotels communicate about their CSR policies, practices and standards. The study concluded that the motivation for CSR is oriented towards sustaining the basis for their operations. Kucukusta et al. (2013) investigated the perceptions of visitors to Hong Kong toward CSR practices of four- and five-star Hong Kong hotels. The results show that respondents identified five CSR factors including community, policy, mission and vision, workforce and environment. Notably, environment and mission and vision had the strongest impact on Hong Kong visitors' preference to stay, willingness to pay, perception of service quality and brand image. Abaeian et al. (2014) explored CSR initiatives undertaken by Malaysian hotels. These authors found that most hotel managers engaged in CSR actions due to both endogenous and exogenous motives.

Although numerous studies have been done to examine hospitality-oriented CSR, there is a lack of research on this topic in Vietnam. Thus, Vietnam hospitality industry is a new context that appeals more investigation.

3. METHODOLOGY

3.1 Research context

In this study, two hotel chains selected for investigation are chains of Accor Hotel Group and Muong Thanh Hotel Group in Vietnam. Hotels that belong to Accor and Muong Thanh are classified as four and five star level according to the Vietnamese standard TCVN4391:2015. The classification criteria are listed in the Appendix.

As the largest private hotel system in Indochina, with the first hotel located in Dien Bien Phu, Vietnam, Muong Thanh is proud to own over 60 hotels with a capacity of more than 10,000 rooms, creating jobs for more than 10,000 employees, annually contributing thousands of billions VND to the national budget. Muong Thanh's international-standard luxury hotel chain, with nearly 60 member hotels, covers all localities in Vietnam and Southeast Asian countries. Muong Thanh hotel system with four segments: Muong Thanh Luxury, Muong Thanh Grand, Muong Thanh Holiday, and Muong Thanh, aims to serve the diverse needs of all domestic and international tourists.

Accor Hotels Group is considered one of the most famous hotel groups in the world. Accor possesses

world-famous hotel chains, including Mercure, Sofitel, Novotel, and Pullman. This hotel group has been doing business in the Vietnamese market for more than 20 years with large-scale projects. The first hotel in the Accor system to appear in Vietnam is the Metropole Hotel, recently changed to Sofitel Legend Metropole Hanoi, also the first hotel to receive the title of 5-star hotel certificate from the Vietnamese National Administration of Tourism. Up to now, there are a total of 28 hotels operated by Accor in Vietnam, spread across provinces from South to North, including Sofitel (3 hotels), Pullman (4 hotels), MGallery (5 hotels), Novotel (6 hotels), Mercure (5 hotels) and other hotels. All hotels have modern and luxurious designs with top international standard service quality.

This study chooses Accor and Muong Thanh hotels to investigate to compare how CSR practices have been implemented for two reasons. Firstly, they are the two biggest hotel chains in Vietnam with their nationwide presence. Secondly, the two chains have different ownership structures and management systems. Muong Thanh belongs to Vietnamese owners, while international partners own Accor. Thus, we assume that the two chains of hotels might have different and unique approaches to CSR implementation.

3.2 Measurements

In this study, we adapted the CSR measurements from previous studies and international CSR standards such as ISO26000. We applied the stakeholder theory and classified CSR measurements into six elements, including CSR to employees (LAB), CSR to customers (CUS), CSR to suppliers (SUP), CSR to the government (GOV), CSR to the community (COM), CSR to the environment (ENV).

LAB measurement (5 items) was adapted from the studies of Aguilera et al. (2007); Turban & Greening (1997); Turker (2009); Bhattacharya et al. (2008), Nguyen Phuong Mai (2015), and the OHSAS18001 and ISO26000.

CUS measurement (4 items) Maignan & Ferrell (2001); Bhattacharya & Sen (2004); and the Vietnamese Green Lotus Standard 2014. Meanwhile, SUP measurement (5 items) ISO 26000; and the study of Zhang et al. (2017). GOV measurement (4 items) was adopted from ISO26000 and Turker (2009).

COM measurement (4 items) was adopted and modified from the studies of Muruthi et al. (2009), Rettab and Brick (2009), and Turker (2009). Finally, ENV measurement (5 items) was collected from some studies, including Vives (2006), Felipe (2002), and the Vietnamese Green Lotus Standard 2014.

3.3 Sampling and data collection

The population of this study is the number of managers working for Accor and Muong Thanh hotels in Vietnam. Therefore, we expect at least one response per hotel in each of the two hotel chains. Furthermore,

we have 27 measurement items, so the minimum sample size must be 135.

The questionnaire was designed using six CSR measurements, as mentioned in section 3.2. Potential respondents were asked to express their opinions of 27 CSR practices. The Likert-five-point scale was used with "1 = No policy to implement", "2 = Has a policy but not yet implement", "3 = Partially implement", "4 = Almost fully implement," and 5 = Fully implement".

We sent the Google Form link of the questionnaire to the hotels' email and followed up with a phone call to encourage the hotel managers to participate in our survey. After two months of the survey, we received 138 valid responses, of which 57 responses from Muong Thanh hotels and 81 were from Accor hotels. All valid responses were treated with complete confidentiality. Thus, the personal information of respondents was not requested.

To analyze the data, we used SPSS software to run the reliability test, exploratory factor analysis, and calculate the mean values of CSR measurements. In addition to primary data about CSR practices of two hotel chains collected from the survey, we also applied the desk-research method to collect secondary data sources. We scanned the websites and publications of the two hotel chains to crawl for more information supporting our survey results.

4. RESULTS AND DISCUSSION

4.1 Preliminary test results

Our preliminary analysis included the tests of reliability and validity of the measurement instruments. The reliability of measurements was checked in SPSS using several criteria, including Cronbach's alpha and corrected item-total correlation. The validity of the measurements was evaluated based on the factor loading in the exploratory factor analysis test. Table 1 showed that all corrected item-total correlations were higher than 0.3. Six measurement scales have Cronbach's alpha values ranging from 0.614 to 0.898, reporting good internal consistency reliability. Furthermore, the factor loadings in EFA were above 0.5, so convergent validity was achieved. Table 1 below shows the details.

Table 1. Reliability and validity test of measurements

Constructs	Items	Corrected Item - Total Correlation	Factor loading	Cronbach's alpha
CSR to employees (LAB)	LAB1	0.401	0.644	0.743
	LAB2	0.594	0.779	
	LAB3	0.638	0.831	
	LAB4	0.434	0.719	
	LAB5	0.457	0.523	
CSR to customers (CUS)	CUS1	0.661	0.900	0.860
	CUS2	0.595	0.873	
	CUS3	0.566	0.787	

Constructs	Items	Corrected Item - Total Correlation	Factor loading	Cronbach's alpha
	CUS4	0.528	0.823	
CSR to suppliers (SUP)	SUP1	0.673	0.783	0.898
	SUP2	0.773	0.864	
	SUP3	0.799	0.881	
	SUP4	0.780	0.865	
	SUP5	0.720	0.822	
CSR to the government (GOV)	GOV1	0.387	0.693	0.624
	GOV2	0.571	0.825	
	GOV3	0.411	0.690	
	GOV4	0.370	0.523	
CSR to the community (COM)	COM1	0.335	0.608	0.614
	COM2	0.319	0.589	
	COM3	0.491	0.772	
	COM4	0.457	0.757	
CSR to	ENV1	0.649	0.785	0.884

Constructs	Items	Corrected Item - Total Correlation	Factor loading	Cronbach's alpha
environment (ENV)	ENV2	0.763	0.900	
	ENV3	0.647	0.787	
	ENV4	0.689	0.817	
	ENV5	0.653	0.841	

To check the potential problem of common method bias, we ran Harman's single factor test. All items were subjected to exploratory factor analysis using principal components with varimax rotation. The result showed that the extraction cannot be done. Thus, it is concluded that common method bias did not appear to be a potential problem in this study.

In addition, to check the nonresponse bias problem, we ran the paired-sample T test in SPSS. We picked up 50 early respondents (those who responded within one month) and 50 late respondents (those who responded after one month) to run the analysis. Results are shown in Table 2 below.

Table 2. Non-response bias test

		Paired Differences					t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair 1	LAB_E - LAB_L	-0.584	1.125	0.159	-0.903	-0.264	-3.669	0.001
Pair 2	CUS_E - CUS_L	-0.597	1.084	0.153	-0.905	-0.289	-3.895	0.000
Pair 3	SUP_E - SUP_L	-0.618	0.961	0.135	-0.891	-0.344	-4.547	0.000
Pair 4	GOV_E - GOV_L	-0.141	1.076	0.152	-0.447	0.164	-0.928	0.038
Pair 5	COM_E - COM_L	-0.742	1.193	0.168	-1.081	-0.403	-4.400	0.000
Pair 6	ENV_E - ENV_L	-0.723	1.063	0.150	-1.025	-0.420	-4.808	0.000

As presented in Table 2, the p-value of all pairs is lower than 0.05, indicating that there is no significant difference between early and late respondents in our survey. Therefore, the non-response bias is not a problem in this study.

4.2 Research results

The survey results of CSR practices at Muong Thanh and Accor hotels were analyzed to find the mean values and standard deviation. Results are shown in Table 3 below.

Table 3. CSR practices at Muong Thanh and Accor hotels

Measurements	Muong Thanh (n = 57)		Accor (n = 81)	
	Mean	Standard Deviation	Mean	Standard Deviation
CSR to employees (LAB)	3.501	0.557	3.800	0.570
CSR to customers (CUS)	3.796	0.616	3.925	0.604
CSR to suppliers (SUP)	3.659	0.690	3.786	0.604

CSR to the government (GOV)	3.731	0.544	3.657	0.654
CSR to the community (COM)	3.719	0.545	3.868	0.498
CSR to environment (ENV)	3.654	0.608	3.750	0.675

As shown in Table 3, all CSR measurements have a mean value higher than 3.5 but less than 4.0. For some CSR practices, Accor hotels were reported to have higher mean values than Muong Thanh hotels. The comparison of CSR practices between these two hotel chains and discussions are presented in the following subsections.

4.2.1. Comparing CSR to employees at Muong Thanh versus Accor

Table 3 shows that the mean values of LAB at Muong Thanh ($\mu_{MT}= 3.501$) is a lower than that at Accor ($\mu_{ACC}= 3.800$). This result indicates that CSR to employees is evaluated better at Accor than at Muong Thanh. To verify this result, we scanned the website and publications of Accor Hotel Group and Muong Thanh Hotel Group to find supporting information.

Regarding CSR to employees, Accor has integrated its CSR practices into its hotels' human resource management (HRM) function. A transparent human resources selection procedure is issued and applied. Staff recruitment is developed based on the hotel's HR plan. A health check for newly recruited employees is applied. All new employees must go through a probationary period and an apprenticeship.

Furthermore, Accor hotels also conducted many activities to train new employees. As a result, they are equipped with new professional skills, English, and directed to develop their career path. On-the-job training is applied to save time for employees. In addition, Accor hotels have a very flexible compensation system with various compensation packages, which include basic pay and other incentives that might be slightly changed to meet the demand of employees. Employees are also motivated by promotion opportunities, working environment, and teamwork spirit.

Meanwhile, CSR to employees at Muong Thanh hotels is not highly appreciated. Muong Thanh hotels have reasonably complied with labor regulations. Fair promotion is also recognized in Muong Thanh Group. However, the compensation system is reported to be not so attractive. Moreover, work safety is not fully implemented.

Remuneration, reward, patronage, and social welfare regimes for employees are self-reported to be quite good. Therefore, the criteria for CSR to employees at Muong Thanh hotels are rated from partially implemented to almost fully implemented.

4.2.2. Comparing CSR to customers at Muong Thanh versus Accor

CSR to customers at Muong Thanh and Accor hotels seems to be highly appreciated, with mean values of 3.796 and 3.925, respectively.

Regarding CSR to customers, Accor Group has also implemented many different programs. In 2016, Accor hotels launched Jo & Joe brand. Moreover, they signed a strategic cooperation agreement with Banyan Tree of Singapore (VTR) to organize activities such as Banyan Tree's Silent World art exhibition, showing us the beauty of the soul and the lovely expression of children with disabilities and intellectual disabilities as a result of Agent Orange in the Vietnamese war against America. Another CSR initiative is golf coaching for the young generation. These activities are not only golf lessons but also a unique opportunity for local youth to experience an actual tournament and feel proud to participate in a golf championship in their hometown. Furthermore, all English-speaking guests are invited to join in exciting 1.5-hour English lessons three times a week held quarterly at local high schools. Hotels that belong to Accor Group convey the kindness of guests to less fortunate children, lonely elderly, and poor households in neighboring communities.

It can be said that the implementation of CSR activities in the chain of hotels under Accor Group is carried out in a very systematic way with transparent processes and regulations. But on the other hand, this implementation is deployed consistently across hotel ratings and levels, evenly deployed across different geographical regions, and this offers one of the significant advantages in the operations of hotels.

As for Muong Thanh Group, the research results show that the implementation of CSR to customers has partially been implemented. Muong Thanh hotels perform best in providing facilities and services for people with disabilities and customers with special needs. Muong Thanh hotels have a synchronous investment and exceptional attention to different customers, bringing the best convenience for all customers to experience the best service at the hotel. Precise and reliable information about hotel services is provided to customers. Customers care services are offered to customers before, during, and after their stay at Muong Thanh hotels, showing that Muong Thanh is also very interested in the entire customer care process to win customers' loyalty.

4.2.3. Comparing CSR to suppliers at Muong Thanh versus Accor

The analysis results show that both Muong Thanh and Accor hotel chains implement CSR to suppliers from a fairly good level, with mean values of 3.659 and 3.786, respectively.

Muong Thanh hotels have established a good communication and cooperation mechanism with partners. However, the Muong Thanh hotels have not been highly appreciated for creating equal conditions for all suppliers to participate in bidding to supply inputs. On the other hand, Muong Thanh hotels have shown a guarantee of compliance with the law for suppliers based on mutual trust and support. The commitment expectations of both parties are openly realized and can be better met daily. They are considered critical factors for substantial and long-term cooperation between hotels and suppliers.

Meanwhile, as an international hotel group, Accor hotels have to comply with both the regulations of the host country and the standards set by the headquarter when selecting suppliers. For example, food suppliers will only be chosen if they pass the hygiene inspection and receive Accor Group's certificate. Therefore, the relationship with the suppliers of the Accor hotels is recognized to meet higher standards than that of Muong Thanh hotels.

4.2.4. Comparing CSR to the government at Muong Thanh versus Accor

The survey results show that both Muong Thanh and Accor hotels are aware of fulfilling obligations to the government, not merely fulfilling tax obligations according to the State's regulations. Mean values of CSR to the government were 3.731 and 3.657 for Muong Thanh and Accor hotels. The fulfillment of this responsibility serves as the foundation for two groups to improve competitiveness and contribute to the international integration of hotel groups.

For Muong Thanh hotels, the strategic goal is to expand the hotel chain to many countries in Southeast Asia. Thus, this hotel group pays much attention to compliance with regulations and laws and active participation in professional associations. In addition, Muong Thanh Hotel Group's viewpoint is to share experiences and consult with state management agencies to create a healthy competitive environment with clear industry policies and mechanisms to improve labor standards suitable for international integration.

Similarly, Accor hotels are showing their compliance with national and international regulations. Interestingly, for this measurement, the mean value of Accor was higher than that of Muong Thanh.

4.2.5 Comparing CSR to the community at Muong Thanh versus Accor

The implementation of CSR to the community is the involvement in the development of the local

community. Some specific CSR activities for both hotel chains in this study are listed. For example, both groups regularly organize charity activities, create many opportunities for local people to use the hotel's services and products through promotions, and support projects and activities of the local government. In addition, two hotel groups prioritize local people applying for jobs at their hotels.

Regarding Accor hotels, they are all proactive in supporting community activities with social and infrastructure development goals such as: contributing to local environmental protection funds; supporting people suffering from natural disasters, orphanages, veterans' associations, and the Red Cross. Since 2007, every year on April 22, "Guest to the Earth" day has become a celebration. Accor's sustainable development symbol the participation of all the group's hotels on all continents.

CSR to the community has been carried out by Muong Thanh hotels from fairly implemented to implement fully. For example, Muong Thanh hotels often organize charity activities. In addition, they have a policy of creating opportunities for local people to use the hotel's services and products through promotions. This practice shows that they are well aware of the significance of developing sustainable economic relations with the local community while maximizing economic and social benefits for the community.

4.2.6. Comparing CSR to the environment at Muong Thanh versus Accor

Carrying out environmentally responsible business has been identified by Muong Thanh and Accor hotels as one of the key CSR practices for their sustainable development. The hotels have developed a management system for sustainable and long-term development. The procurement of inputs is focused on environmentally friendly products.

In terms of management of waste and hazardous chemicals, Accor hotels have done very well. Waste is one of the important issues in environmental protection in the hospitality industry because the daily amount of waste from hotels is considerable, including lodging and services waste, waste generated from maintenance activities, regular and irregular hotel repairs, wet waste, and dry waste.

In addition, Muong Thanh and Accor hotels also pay attention to ventilation issues and air conditioning systems and apply emission management measures. However, measuring noise pollution and emissions in a hotel requires technical support from outside experts because this is a specialized job and requires specialized measuring equipment.

5. CONCLUSION

To do business sustainably, CSR needs to be integrated into the core business of companies if it is to survive global recession or insecurity. However, the

trend of global economic cycles means that this pattern of growth will, at some point, slow down and possibly go into recession (UNIDO, 2002). If any downturn is compounded by global insecurity due to increased political conflict, the further development of CSR may be seriously challenged. Where CSR is integrated within the core business, it is likely to remain strong, whereas CSR, as a philanthropic add-on, is vulnerable to cost-cutting. Ultimately, the long-term success of CSR will be based on its ability to be positioned within the core of business strategy and development, thereby becoming part of “business as usual”.

The case study of Muong Thanh and Accor hotels in this paper has shown that two hotel groups are integrating CSR practices into their daily operations and seem to have a solid commitment to CSR implementation in the long run. We use survey results and secondary data from the websites and publications of the two hotel groups to investigate how CSR practices are implemented. Our study confirmed that good CSR practices are a pragmatic response to the government’s requirements and the internal motivations of the two hotel chains. Some CSR issues are being quite sufficiently managed and implemented. However, some CSR issues are only detected and are considered to be implemented in the future. Current CSR emerging issues cut across most of the core CSR subjects in ISO26000, such as energy sustainable use, anti-corruption policy in the supply chain, transparent promotion policy for labor, compliance with human rights, etc. These issues should be addressed if Muong Thanh and Accor hotels want to achieve sustainable development and a competitive advantage in the global production chain.

This study still has some limitations, such as (1) small sample size; (2) focusing on the managers of hotels which may lead to over-evaluation of actual CSR practices. Thus, there is much more room for further research on this topic to contribute to the area of CSR research in Vietnam.

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APPENDIX

Hotel Classification Criteria (TCVN4391:2015)

No.	Criteria	Sub-criteria	Number of sub-items for evaluation		
			4-star level	5-star level	
1	Location and infrastructure design	Location	2	2	
		Infrastructure design	9	13	
		Room capacity	4	4	
		Parking area	4	4	
		Internal transportation	1	1	
		Reception area	6	7	
		Green area	2	2	
		Room space	3	3	
		Restaurant and bar	6	6	
		Kitchen area	17	17	
		Storage	3	3	
		Conference rooms	6	6	
		Staff area	6	6	
Corridors	1	1			
2	Facilities	Quality of facilities	6	8	
		Furniture	<i>Reception area</i>	<i>13</i>	<i>14</i>
			<i>Restroom in public area</i>	<i>11</i>	<i>11</i>
			<i>Bedroom</i>	<i>57</i>	<i>58</i>
			<i>Restroom in private room</i>	<i>26</i>	<i>31</i>
			<i>Conference rooms</i>	<i>14</i>	<i>15</i>
			<i>Restaurant and bar</i>	<i>22</i>	<i>24</i>
			<i>Laundry</i>	<i>4</i>	<i>4</i>
		Corridors and stairs	7	7	
		Air conditioning	4	4	
		Water cleaning system	-	1	
Lift	3	4			
3	Services	Service quality	7	9	
		Room service	8	10	
		Dining service	9	10	
		Other services	31	33	
4	Manager and staff	Professional and foreign language level	14	14	
		Costume	5	6	
5	Environment protection, food safety and fire safety	Environment protection	11	12	
		Food safety	1	1	
		Fire safety	2	2	

THE IMPACT OF AI CHATBOT ON CUSTOMER TRUST: AN EMPIRICAL INVESTIGATION IN THE HOTEL INDUSTRY

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Research purpose:

This study investigates the impact of AI Chatbot (Artificial Intelligent Chatbot) on customer trust in AI Chatbot of hotel services.

Research design, approach, and method:

The probability sampling method was employed to develop a research sample. The research uses correlation analysis and structural equation modeling (SEM) to analyze the data of 413 valid observations collected in the structured questionnaire survey in Vietnam.

Main findings:

The paper reports that empathy response, anonymity, and customization have a significantly positive impact on interaction. Empathy response is found to be the strongest influence on interaction. Meanwhile, empathy response and anonymity were revealed to have indirect effects on customer trust. This paper also contributes several implications for hotel providers in emerging economies.

Practical/managerial implications:

First, the current study recommends that hotel providers and marketing managers focus more on service quality and information provided by AI Chatbot services. For doing that, they have to choose chatbot providers to be suitable for the characteristics of the hospitality industry. Second, hotel providers should check chatbot service with their software provider to make sure that the chatbot system offers highly reliable and quick information. Thirdly, hotel providers are required to communicate with their customers about using friendly chatbot services and advertise on social media about hotel chatbot services. Next, hotels in emerging economies like Vietnam, should deliver instant service delivery through AI chatbots to meet customer expectations. The application of AI Chatbot in the fan page message platform is a new thing for hotels, which will increase the image and brand of hotels.

Keywords: *Chatbot, Communication quality, WTP, Hospitality industry*

APPLICATION OF GEODEMOGRAPHIC SEGMENTATION MODEL IN BRANCH SELECTION FOR MAJOR BANKS IN HO CHI MINH CITY, VIET NAM

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Research purpose:

In recent years, financial institutions of all kinds have been operating in an increasingly competitive market environment. The rapid development of technology, together with multiple Covid-19 lockdowns, has created a once-in-a-lifetime chance for the rise of the era of electronic generation in Vietnam. Many activities of the Vietnamese are online actions through interactions on devices using wireless networks such as computers, phones, and other types of internet-connected instruments. As online shopping gradually becomes a daily task for every household, demand for better payment methods is higher than ever. The surge of fintech enterprises has levelled up the market's competitiveness, forcing businesses in the financial sector to change their strategies to retain market share and thrive.

To remain competitive in this changing market environment, financial institutions, especially commercial banks, have adapted to the current trend and built digital platforms known as e-banking or mobile banking. The emergence of these digital banking platforms seems to prove that the position of the existing banking transaction offices is likely to be lowered. However, although there have been positive improvements in the situation of non-cash payments in Vietnam, Vietnamese people are still in the habit of making cash transactions. Furthermore, bank branches are still considered irreplaceable in a nation's economy, even in the most developed economies, because the bank branch network, along with the branch density, is the crucial criterion indicating the level of financial access of the population, which shows the level of competition in the financial markets and the financial stability of a country (Nguyen, 2021). Thus, the Vietnamese government has established many policies to encourage banks to focus on retail activities. Accordingly, besides investing in developing digital banking and electronic transactions, banks in Vietnam constantly expand their networks to increase network coverage and approach new customers.

In this research, the authors will attempt to apply a geodemographic segmentation model to locate potential areas for new bank branches/offices in Ho Chi Minh City (HCMC), Vietnam.

Based on the analysis, the authors will make predictions of potential locations that fit the banks' requirements or customers of interest in general. Examples of Techcombank and BIDV will be given to show a clear picture of how major banks allocate the market and reach customers.

Research motivation:

Because the model of market segmentation by geographic location and population is highly applicable to business activities, especially in identifying the right customers, many businesses have conducted research and come up with the geographic models that best fit their strategies. However, these studies are not widely published and cannot be applied to the activities of other businesses. Therefore, with the desire to provide a general, accurate, and detailed analytical model of the market distribution in districts in Ho Chi Minh City, with a focus on the banking sector, our research team decided to choose the topic **Application of Geodemographic segmentation model in branch selection for major banks in Ho Chi Minh City, Viet Nam**. Based on this model, businesses in Vietnam, especially Ho Chi Minh City, and banks can seek new potential markets and suitable areas to help expand their businesses geographically.

Research design, approach and method:

The research analyzes HCMC Census to understand residents' characteristics and behaviours of each group/cluster. Then a list of all bank transaction points in Viet Nam in 2019 is integrated into each cluster to understand the distribution of banks in Vietnam. Then, HCMC's geography coordinates are used to map out the clusters.

To achieve the aims of this research, the authors implement the *PCA technique* to reduce the dimensionality of the dataset and, at the same time, keep the variations in the dataset as much as possible. PCA helps compress the size of the dataset and simplify the structure for more accessible analysis. Then, *k-means* clustering is used to classify the data into a number of clusters that have some similarities in demographic characteristics. This step helps the writer describe the characteristics of HCMC's population based on the homogeneous groups (*clusters*). After that, some psychographic elements are added from the writer's assumption based on the results from the processing to give an in-depth analysis.

The authors utilise Python-3 with various libraries, including Pandas, NumPy, Scikit-learn, Matplotlib, GeoPandas, and Seaborn, for data processing, reading, analysing, and visualising.

Main findings:

Based on the theory of k-means clustering and PCA, this study has completed the data analysis of the HCMC Census. Although the new study has fundamentally applied theories and models to big data analysis at a basic level, leading to some errors in the detailed analysis, some conclusions can still be drawn based on judgments combined with factual descriptions.

First, the coverage of the banking network in Ho Chi Minh City in 2019 is meagre. Only a few in the central area have an average of 15-25 banks/10,000 people. The remaining areas only have about 1-2 banks per commune-level administrative unit.

And second, the geodemographic segmentation model has a powerful effect in determining the geographical area to open more bank branch addresses. Large banks such as Techcombank and BIDV often choose to open branches in areas with medium and high educational attainment, with a large concentration of people of golden working age. With target customers being small and medium-sized enterprises like Techcombank, the critical areas for these banks should be places close to economic zones or near urban areas with large roads passing through. With individual customer profiles, state-owned banks like BIDV can choose locations more flexibly, in small areas, with a high percentage of people attending colleges and universities, and with large roads connecting to the city's major highways.

Practical/managerial implications:

Ho Chi Minh City has an extremely high density of banking networks in the central part of the city. With District 3 as the centre, the administrative units located within a radius of 10 km from District 3 have a medium to a high density of bank transaction points. Outside of this radius, the bank density decreases suddenly and is especially low in suburban and near suburban areas. Commercial banks, especially large banks like BIDV and Techcombank, can rely on the city's demographics to initially locate suitable locations for new branches and transaction points.

In the near future, the potential areas for bank network expansion are the remaining areas of Cluster 1 that are not within the defined radius above. These are all areas with stable development levels with much potential to be explored. The emergence of large state-owned or private banking branches will positively influence the development of neighbouring areas, creating more competition in terms of diversity of financial services, which can bring greater convenience to the residents. This impact is especially powerful in the suburban districts of HCMC, which are remote and isolated areas, thereby promoting economic development.

For development plans in the future, the suitable location is in new urban areas that are being planned, with a convenient traffic network connecting with industrial parks and export processing zones. These are incredibly potential markets for large banks whose customers are mainly businesses like Techcombank or large banks whose customer base includes individuals like BIDV.

Keywords: *Geo-demographic segmentation, K-means clustering, Principal Component Analysis, Location analysis, banking services*

1. INTRODUCTION

1.1. Overview

In recent years, financial institutions of all kinds have been operating in an increasingly competitive market environment. The rapid development of technology, together with multiple Covid-19 lockdowns, has created a once-in-a-lifetime chance for the rise of the era of electronic generation in Vietnam.

Many activities of the Vietnamese are online actions through interactions on devices using wireless networks such as computers, phones, and other types of internet-connected instruments. As online shopping gradually becomes a daily task for every household, demand for better payment methods is higher than ever. The surge of fintech enterprises has levelled up the market's competitiveness, forcing businesses in the financial sector to change their strategies to retain market share

and thrive.

To remain competitive in this changing market environment, financial institutions, especially commercial banks, have adapted to the current trend and built digital platforms known as e-banking or mobile banking. The emergence of these digital banking platforms seems to prove that the position of the existing banking transaction offices is likely to be lowered. However, although there have been positive improvements in the situation of non-cash payments in Vietnam, Vietnamese people are still in the habit of making cash transactions. Furthermore, bank branches are still considered irreplaceable in a nation's economy, even in the most developed economies, because the bank branch network, along with the branch density, is the crucial criteria indicating the level of financial access of the population, which shows the level of competition in the financial markets and the financial stability of a country (Nguyen, 2021). Thus, the Vietnamese government has established many policies to encourage banks to focus on retail activities. Accordingly, besides investing in developing digital banking and electronic transactions, banks in Vietnam constantly expand their networks to increase network coverage and approach new customers.

One thing to note, aggrandizing the bank network is not an easy task. In the Future Banking and Financial Services Forum 2021, Nguyen Tri Hieu stated that the construction and operation of a new bank office/branch would cost a huge budget, and everything must be taken into consideration thoroughly (Nguyen, Financial Monetary Market Review, 2021). Unfortunately, there is no public report on the budget for a bank project in Vietnam. However, according to HTG Architects, the cost for a new bank facility in the US ranges typically from \$1 million to \$4 million, depending on many variables (land, construction, exterior technology, interior design, equipment, security), in which the land factor accounts for one-fourth of the total amount (Raboin, 2020).

It can be seen that choosing a site for the new bank office/branch is the very first step and costs a lot of money. Without detailed research and survey, the budget can go more extensive than expected, and the project can go wrong. To this end, there have been numerous studies and researches on the concept of site selection and the development of site selection models around the world, such as the use of Geographic information system (GIS), Expert System (ES), or Multi-criteria Decision Making technique (MCDM) (Eldin et al., 2003).

In this paper, the authors will propose the site selection method from the market segmentation in geo-marketing.

Geo-marketing is the integration of spatial knowledge into all facets of marketing, including sales and distribution. The geo-marketing analysis uses

geographical locations and demographic data to determine the routing strategy, territorial planning, and site selection.

Site selection is the result drawn from the process of segmenting the market in geo-marketing. Market segmentation is the technique in which data are categorized into distinct homogeneous groups (clusters). There are considerable ways that market segmentation can be practised; some of the most common ones are geographic segmentation, demographic segmentation, psychographic segmentation, benefit segmentation, and usage-rate segmentation (Lamb, Hair and McDaniel, 2013). Geography and demographics are the skeleton of the market segmenting process and are often considered the two fundamental characteristics needed in the location selection process. The combination of the two will create a more accurate and specific profile of the market (Kotler and Keller, 2006), thus helping point out the suitable potential area based on the analyzed profile.

Many businesses, including commercial banks, use geodemographic segmentation to perform a variety of bank tasks, including selecting bank locations. In geodemographic segmentation, data are clustered or categorized according to geographic criteria like regions, cities, districts, or postal codes. This technique analyzes diverse characteristics that essentially describe each market segment, such as age, income, marital status, education, and homeownership. Practitioners of geodemographic segmentation believe that people with comparable socioeconomic class, race, educational level, housing preferences, and other key factors tend to reside in homogeneous neighbourhoods. Combining the elements allows the clustering of households into one segment that shares the highest degree of similarity or dissimilarity (Kaynak and Harcar, 2005).

One popular system developed on geodemographic segmentation theory was created by the US company Claritas Inc. in 2009. This system is called the Potential Ranking Index by Zip Markets (PRIZM). The product maps different areas of the US and classifies the neighbourhoods into one of 68 group profiles based on the household's purchasing preferences (Claritas, 2021). The seven core drivers determining a household PRIZM's segment are age, income, homeownership, presence of children, urbanicity, technology use, and income-product assets. The system provides data beneficial for banks that want to identify target market selections and bank site selections.

Regarding the practicability of geodemographic segmentation, commercial geodemographic classification systems hide information about their methodology and resources. Commercial geodemographic classifications encourage niche market concepts with natural "black box" elements and demonstrate that individuals and families are more beneficial for grading wealth than census factors

characterizing their social standing (Longley, 2012).

In this research, the authors will attempt to apply a geodemographic segmentation model to locate potential areas for new bank branches/offices in Ho Chi Minh City (HCMC), Vietnam.

Based on the analysis, the authors will make predictions of potential locations that fit the banks' requirements or customers of interest in general. Examples of Techcombank and BIDV will be given to show a clear picture of how major banks allocate the market and reach customers.

1.2. Scope of research

(a) The subject of this research is geodemographic segmentation and its use in site selection in the banking sector.

(b) The scope of the research includes HCMC Census demographic data in 2019 ("*HCMC Census*") and the data of bank transaction offices/branches in HCMC in 2019.

The national population census is conducted once every ten years. Therefore, the authors use the data in the year 2019 for the data to be as representative and "fresh" as possible, which allows for a more comprehensive analysis. Also, because of time and budget limitations, the scope of space of the research is limited to HCMC.

1.3. Research data & methodology

1.3.1. Data

The research analyzes HCMC Census to understand residents' characteristics and behaviours of each group/cluster. Then a list of all bank transaction points in Viet Nam in 2019 is integrated into each cluster to understand the distribution of banks in Vietnam. Then, HCMC's geography coordinates are used to map out the clusters.

1.3.2. Methodology

To achieve the aims of this research, the authors implement the *PCA technique* to reduce the dimensionality of the dataset and, at the same time, keep the variations in the dataset as much as possible. PCA helps compress the size of the dataset and simplify the structure for more accessible analysis. Then, *k-means* clustering is used to classify the data into a number of clusters that have some similarities in demographic characteristics. This step helps the writer describe the characteristics of HCMC's population based on the homogeneous groups (*clusters*). After that, some psychographic elements are added from the writer's assumption based on the results from the processing to give an in-depth analysis.

The authors utilize Python-3 with various libraries, including Pandas, NumPy, Scikit-learn, Matplotlib, GeoPandas, and Seaborn, for data processing, reading, analyzing, and visualizing.

2. LITERATURE REVIEW

2.1. Theory of geo-marketing and geodemographic segmentation

2.1.1. Theory of geo-marketing

In simple terms, geo-marketing is integrating geography into marketing. Some authors define geo-marketing as a "specific application of the spatial economy" (Latour and Le Floch, 2001). Others provide more specific definitions of geo-marketing as "a set of approaches for manipulating geo-coded data, which can be useful for analyzing more than for formulating strategy or making decisions" (Cliquet, 2006) or as "a technique based on the assumption that individuals living in the same geographical area have comparable socio-demographic, economic, and even cultural qualities" (Lehu, 2004). Additionally, geo-marketing is described as a potent marketing tool that assists decision-makers in resolving critical market analysis issues (geo-segmentation or geo-positioning) (Yrigoyen, 2003).

In essence, geo-marketing is incorporating geographical intelligence with software (i.e., GIS) into numerous aspects of marketing. This technique uses geographic data parameters in marketing research methodologies such as sampling, data collection, analysis, and presentation. It also requires a comprehensive examination of a particular field and the study of specific trends or characteristics in order to integrate findings into the design and execution of marketing activities or campaigns.

Geo-marketing plays an essential role in business development since linking location with information has been a popular approach to problem-solving in the decision-making of many businesses. Choosing a site, targeting the audience, scheduling distribution networks, allocating resources, and similar involve questions of geography. Moreover, the use of geo-marketing enables enterprises to precisely discover and decide which products and promotions correspond with the lifestyles and purchasing habits of the customers from a geographical perspective by determining retail locations, analyzing trade areas, conducting spatial competition analysis, forecasting sales, designing sales segments, and planning advertising campaigns (Battista, 1995).

Regarding selecting locations, numerous organizations in every city, country, and region target customers in a specific geographic area. As a result of local expansion planning, many managers, CEOs, and entrepreneurs are targeting a market location or potential market segments. Minai and Lucky (2011) proved that "location could effectively and positively influence business growth and firm performance". Therefore, enterprises must incorporate several tools developed by a variety of scholars not only to create or assess a market selection framework but also to plan

geographical expansion. Some of these instruments are market demand-driven models (Teoh, Welch, and Wong, 1998) or long-term market potential evaluations (Arnold and Quelch, 1998). Others are cultural dimensions for measuring cultural distance (Morosini, Shane, and Singh, 1998) or competitive analysis of a business sector (Porter, 1990). Besides those tools, geo-marketing is developed as a multifaceted approach that produces both a comprehensive overview of market and company data as well as detailed micro-geographic analyses. It allows managers to incorporate all relevant factors on a map and pinpoint the ideal and potential areas matching their requirements in the new locations.

2.1.2. Theory of geodemographic segmentation

Geodemographic segmentation is nothing but using demographic data of the population and dividing the population into groups of similar traits residing in the same geographical area.

Geodemographic data is a relatively new concept and is derived from the combination of both geographic and demographic information on the population. In marketing, geodemographics can be used as a tool in order to build a detailed profile of an area and target the population (Petersen et al., 2010). Besides marketing, geodemographic information is also particularly important for the retail industry because decisions are capital intensive, and locations themselves are fixed in the short term. Therefore, retailers have to observe their trade areas, evaluate the influence of competition and choose locations strategically (Belyaeva, Krivorotov and Yerypalov, 2016) to select the optimal solution to problems and yield good results and profit.

Specifically, geodemographic segmentation makes use of geodemographic data to “classify” the chosen population or certain areas based on identifying demographically similar variables like postcodes or smaller census collector districts. Vendors of popular systems such as GIS or SDSS expect the results of the country/geographic area divided into segments of areas for target marketing and answer other relevant questions like: “Which should the target market be?”, “Where are they located?” and “How to reach them?”. In addition, integrating census data with other information like socioeconomic data can lead to an abundant combination of answers to questions such as “what kind of consumers live in a specific area?”, “what they are alike?” and “how business activities can be tailored according to these characteristics?”.

The basis of geodemographic segmentation is the differentiation of residential areas based on the residents' demographic, socioeconomic, or even psychographic characteristics. Because residential areas tend to be “internally homogeneous”, the profile of its residents is not considerably different from the mean one or the average characteristics of all; thus, people with comparable characteristics are more clustered together.

The potential value of geodemographic segmentation has led to the commercialization of a number of standard geodemographic classifications that embrace nearly the entire urban geography of developed nations. Widely known examples are ACORN from CACI in Spain, MOSAIC from CCN Systems in the UK, and PRIZM from Claritas Inc in the USA.

In the field of academic studies and research, geodemographic classification has been dealt with and attempted to apply by many scholars around the world, especially in the retail industry. The majority have highlighted the selection of geographic markets and the placement of the outlets as particularly relevant applications. The general conclusion was that geodemographic segmentation enabled retailers to assess the spatial heterogeneity of the market by identifying the zones that are more desirable for each type of business outlet.

The utility of geodemographic segmentation as an analytic tool in site selection depends on its ability to differentiate regional markets based on the population's characteristics and qualities. The idea is to recognize and pinpoint potential locations to reach the right target customers while also ensuring a good match between these consumers and the projected facility. The target market should be areas populated by consumers whose shopping needs and habits align with the companies' products and services.

Therefore, it is evident that site selection based on the characteristics of market areas derives necessarily from a significant correlation between geodemographic profiles and retail formats and chains. As a result, geodemographic segmentation may facilitate site assessment in regard to the location relating to competitors. Additionally, each residential zone formed by the geodemographic segmentation model differs in terms of land value, logistic facilities, or requisites for spatial accessibility such as transport, parking, safety, etc., and is related to the profile of the residents. Consequently, the relationship between geodemographic segmentation and the cost involved in opening and maintaining the facility will become a crucial factor that should be considered thoroughly in decision-making. Thus, implementing geodemographic segmentation during the site selection process helps managers and relevant stakeholders produce the desired results and prevents organizations from losing money due to unnecessary costs.

2.2. Models used in building geodemographic segmentation

The core of any geodemographic analysis is the clustering process, which is the process that segments human-related and spatially referenced socioeconomic data into homogeneous clusters (Grekousis, 2020). The clustering approaches used in geodemographic segmentation can be categorized into two main groups: a) hard clustering and b) fuzzy clustering (Han, Jan and

Jan, 2011). The result obtained from hard clustering is the groups of particular items that each item belongs exclusively to one group. Unlike hard clustering, in fuzzy or soft clustering, objects can belong to more than one cluster with varying membership values (Grekousis and Hatzichristos, 2013). Because of the complexity of the algorithm, fuzzy clustering is much less prevalent in geodemographic segmentation than hard clustering.

Some of the most used clustering algorithms are the k-means algorithm, the Agglomerative Hierarchical algorithm (hard clustering), and the Fuzzy C-means algorithm (soft clustering).

This article will utilize k-means clustering due to its flexibility and ease of use. The k-means clustering algorithm and its implementation will be described in detail in the following section.

2.3. Review of previous studies on geodemographic segmentation

Since geodemographic segmentation is one of the most popular methods of segmenting customers in geomarketing, various researchers have attempted to study its application in practice and build segmentation models based on different types of clustering.

In terms of geodemographics in customer segmentation, Debenham (2002) applied a postal-code-based geodemographic classification in Yorkshire, England. By analyzing 51 variables using PCA and k-means clustering, Debenham defined and mapped out eight clusters with distinct characteristics. The author concluded that the static demand classification looked reasonable, and all unique features of each region of Yorkshire were well preserved in the eight clusters. Harris and Longley (2002) studied the deprivation index of Bristol, England, based on Breadline Britain scores. The index was calculated using socioeconomic and environmental data, through which low-income families were mapped using the hunger threshold score. They verified a reasonable correlation between the Breadline Britain poverty score and the measure of low income taken from the lifestyle-survey data after comparing clusters formed from those two variables. The concentration of low-income households, according to the lifestyle survey and according to Breadline Britain, scores shared similarities among clusters.

Regarding the use of geodemographics in determining location, with the aid of technology and software systems, in the later years, studies on the application of geodemographic segmentation became more specific and more related to the site selection aspect. For example, Kaynak and Harcar (2005) examined the perspectives of US consumers on commercial banks by comparing local and national bank customers through geodemographic classification. The authors, by employing descriptive analysis and employing t-test, gained some critical insight into the customers' profiles of national and local banks.

Specifically, local bank customers were "predominantly female, younger, college graduates, high-income earners, and holders of professional jobs." Local banks were then suggested to design their portfolio of products and services in consideration of these distinct customer characteristics.

Allo (2012) demonstrated the viability of geodemographic segmentation in developing nations using the Shomolu region of Nigeria and obtained socioeconomic maps of the region using the dasymetric mapping principles.

Fisher and Tate (2015) compared the effectiveness of c-means and fuzzy c-means clustering in the demographic classification study based on the 2001 population data from the UK Office for National Statistics (ONS). They proved that both clustering algorithms enhanced the significance of location-based segmentation results. Furthermore, Fisher and Tate concluded that with both c-means and fuzzy c-means, they could produce the same results in seven supergroups. In addition, Ergun, Uyguçgil and Atalik (2020) improved the method of processing data by applying PCA to each of the 29 data groups separately. This method helped them analyze data better through Hierarchical Cluster Analysis - a tree structure representing a nested cluster array that allows clusters to be built through multiple segmentation.

In academia, geodemographic segmentation systems have been created on a region-by-region basis. Data have been evaluated, and clusters have been formed based on the region's cultural characteristics. There are some studies on market segmentation in Vietnam, and there may be some works on geodemographic classification for site selection. However, most of the research is confidential and done internally by enterprises. The authors can only find one published detailed study on geodemographic segmentation in Viet Nam. Hang et al. (2021) constructed a geodemographic segmentation model using PCA and k-means clustering and applied it to analyze the population of Hanoi. They segmented Hanoi's population into four different clusters with basic demographics, including age, education, and marital status.

3. RESEARCH DATA AND METHODOLOGY

3.1. Data

For this study to be as representative as possible, the author uses data from January 2019 to December 2019 to avoid a lack of socioeconomic information due to the COVID-19 pandemic. As this research aims to examine the effectiveness of using the geodemographic model in locating new points of sales for financial institutions, the data is regarded as reasonable and acceptable. In Section 4, the authors discuss the application of the model in the current time.

In order to analyse and map out the clusters, this

study employs three datasets: (1) HCMC 2019 Population Census Data; (2) Bank transaction points in HCMC in 2019; and (3) Geographical coordinates of HCMC.

The population and demographic data were collected in 2019 and were obtained from the General Statistics Office (GSO) of Vietnam. The list of bank branches and transaction offices in HCMC in 2019 was gathered from the State Bank of Vietnam. In addition, the geographical coordinates of 322 administrative units (at the grassroots level) within HCMC, which is the study area, were taken from the geographic database of HCMC (HCMGIS, n.d.).

The geographical dataset of HCMC includes 259 wards, 58 communes, and 05 towns in 19 urban districts and 05 suburban districts.

This research employs 70 variables from seven data group classifications to cluster the population. The seven data group classifications are (1) Area, (2) Population density, (3) Number of households by household size, (4) Number of households by house ownership, (5) Age group and gender, (6) Education, and (7) Marital status.

3.2. Research methodology

3.2.1. Selected geodemographic segmentation model

In this study, k-means clustering is implemented because of simplicity, high speed, and adaptability in processing sparse data (Dhillon and Modha, 2001).

K-means clustering is used to partition large amounts of data into sensible groupings. This method originated in signal processing and then expanded to other applications such as statistics, machine learning in computer sciences, and market segmentation analysis (Kuo, Ho and Hu, 2002; Jain, 2010). It is the backbone of classification methods used in other commercial geodemographic classifications.

Before applying k-means clustering, the input data were normalized and standardized by transforming each variable into z-scores; the variables were converted into an index with a mean value of zero. Then, the data's dimensionality is reduced by PCA for better analysis. These two steps are essential to allow meaningful comparison of postcodes within the study region for a further clustering process by the k-mean method.

The order of the methodology used in this study is as follows:

1. Obtaining data from relevant institutions, including census data, banking data, and geographical coordinates of administrative units.
2. Cleaning raw demographic data and transforming raw data into the proportion of the total population (percentage) for data processing in Python-3.
3. Check the suitability of data for PCA.

4. Reducing the dimensionality of the data by using PCA. As a result, new components (n_components) are obtained.

5. Applying the Elbow Curve method and Silhouette analysis to get the optimal number of clusters (k_clusters).

6. Implementing k-means clustering analysis to the components for groupings.

7. Assigning wards, communes, and towns into the clusters and mapping out clusters using geographical coordinates.

8. Integrating the list of bank transaction offices/branches with clusters and checking covariance and correlation among bank transaction points and other demographic variables to figure out the characteristics of neighbourhoods that have the most bank transaction offices/branches.

9. Analyzing a particular district for in-depth analysis of the distribution of bank transaction points.

3.2.2. Principal Component Analysis (PCA)

PCA is a statistical analysis method for variance-based and multivariate problems. The main purpose of PCA is to minimize the dimensionality of a dataset of multiple interrelated variables while preserving as much variance of the dataset as possible (Ergun, Uygucgil, and Atalik, 2020). This process is accomplished by converting the original variables into a smaller number of new variables (principal components), which retain some of the variations present in all actual variables (Jolliffe, 1972). PCA aims to find and retain the most crucial information from the data table and compress the size of the dataset.

However, not all types of data are fit for PCA. Thus, the first important step before doing PCA is to check the suitability of the data for PCA (Abdi and Williams, 2010).

Appropriateness of data

When investigating the appropriateness of the data to be used in the analysis, it is necessary to evaluate whether there is a significant and sufficient correlation between the variables. Correlation indicates redundancy in the data, which allows PCA to reduce the dimensions of the data. Kaiser–Mayer–Olkin (KMO) and Barlett tests (Snedecor and Cochran, 1967) were used to determine the suitability of the data for PCA.

Bartlett's test is used to test the assumption that variances are equal across groups. Equal variances across samples are called homogeneity of variances. For the result of Bartlett's test to be valid, the data points within groups should be randomly sampled from a normal distribution. Because Bartlett's test is sensitive to departures from normality and because the dataset used in this study is not normally distributed, the authors will not apply the test in this case. Instead, the KMO test will be used.

KMO test is an approach for measuring the proportion of variance that may represent a shared variance among variables. More significant proportions are expected as they indicate a higher degree of correlation between the variables, allowing the application of dimensionality reduction techniques such as PCA. In simple terms, the KMO test is a measure of how suited the data is for PCA.

KMO score always ranges between 0 and 1. The obtained value should be at least 50% for the analysis to be applicable.

Picture 3.1 shows the KMO test output returned from Python-3. This test analyzes whether the responses given are adequate with the sample or not. As shown in Picture 3.1, a value of 0.775 was obtained and is an acceptable value. This means that the sum of partial correlations is not significant in comparison to the sum of correlations. The sum of analysis variables is 77.5%. This number indicates there is no diffusion in the correlation pattern. Hence, the PCA is appropriate in this case. Therefore, reliable and distinct components would be obtained from the PCA.

```
In [68]: from factor_analyzer.factor_analyzer import calculate_kmo
kmo_var, kmo_model = calculate_kmo(hcmc_features)
print('KMO Measure of Sampling Adequacy: ', kmo_model)
KMO Measure of Sampling Adequacy: 0.7746569602874437
```

Picture 0.1. KMO test value for demographic data

3.2.3. K-means Clustering Analysis

Algorithm of K-means clustering

The algorithm of k-means clustering starts by randomly finding initial cluster centers. Next, for each one of the iterations, an object or instance is assigned to the nearest cluster center based on Euclidean distance. Then, cluster centers are recalculated until the coordinates are constant. Finally, the center of each cluster is calculated as the mean of all instances belonging to that cluster (Hartigan and Wong, 1979):

$$\mu_k = \frac{1}{N_k} \sum_{q=1}^{N_k} X_q$$

where:

- μ_k is the mean of the cluster k
- N_k is the number of instances belonging to cluster k
- X_q is the Euclidean distance between an object and the centroid of cluster k

According to Umargono, Suseno and Gunawan (2020), the weaknesses of the k-means algorithm include the assumption-based determination of the number of clusters (k) and its heavy reliance on the initial selection of cluster center (centroid). These weaknesses make the clustering process time-consuming and sometimes even prevent the k-means algorithm from getting the best number of clusters. To overcome the weaknesses, the authors determine the

optimal number of k clusters using the elbow and silhouette methods.

Elbow method

The Elbow method is one of the popular cluster optimization methods, which helps determine what number of clusters should be chosen. It uses the visual technique to “test the consistency of the best number of clusters by comparing the difference of the sum of square error (SSE) of each cluster” (Umargono, Suseno and Gunawan, 2020). The number of clusters was determined by looking at the point position on the “elbow” arm, which is formed by the most extreme difference in SSE.

Silhouette method

The Silhouette method was first introduced by Belgian statistician Peter Rousseeuw in 1987. It was defined as a technique of interpretation and validation of consistency within clusters of data. In other words, the Silhouette score or Silhouette coefficient is a standard metric to evaluate the goodness of a clustering technique by measuring how similar a data point is within a cluster compared to other clusters.

The Silhouette score (S) is always between -1 and 1. S is equal to 1 means that clusters are well apart and distinguished. S is equal to 0 means that the clusters are indifferent; there is little to no distance between clusters. S being equal to -1 means that clusters are wrongly assigned.

4. KEY FINDINGS

4.1. Overview of the banking sector in Viet Nam and the distribution of bank outlets in HCMC from 2019 to 2020

4.1.1. Vietnam’s banking system

In general, Vietnam has a total of 49 banks, and the number has not changed since 2018. The banks are divided into seven group types, including State-owned commercial banks (SOCBs), Social Policy Bank, Viet Nam Development Bank (VDB), Joint-stock commercial banks (JSCBs), Joint-ventured banks, 100% foreign-owned banks, and Cooperative Bank.

The number of SOCBs has remained relatively stable, from the four SOCBs initially established to seven in 2015, and the number has been the same till now.

In terms of the number of credit institutions, JSBCs ranked the highest, accounting for more than 57% of the total number of banks in Vietnam. 100% foreign-owned banks and SOCBs followed next with 18% and 14%, respectively.

Top 10 major banks

The top 10 banks owning the highest asset value, largest chartered capital and highest profit in 2019 are illustrated in Figures 4.3, 4.4 and 4.5.

In terms of *total assets*, by the end of 2019, four state-owned banks ranked first in the market. BIDV was the largest bank by assets with VND 1,490 thousand billion of asset value, followed by Agribank, VietinBank, and Vietcombank. Comparing BIDV with its closest peers, Agribank's assets amounted to VND 1,451 thousand billion, VietinBank operated with VND 1,241 thousand billion assets, and VCB had total assets of VND 1,223 thousand billion. Sacombank was the fifth ranker and the leading bank in the group of private banks, assets of which reached VND 454 thousand billion. In addition to the names mentioned above, the top 10 banks with the largest assets also included MB, Techcombank, ACB, VPBank, and SHB.

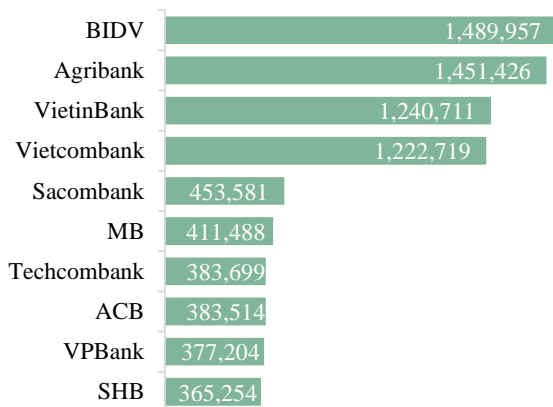


Figure 4.3. Top 10 largest banks by total assets in 2019
Unit: VND billion

Source: Huy, 2021

In terms of *pre-tax income*, Vietcombank held the highest position in profit with VND 23,123 billion, 1.8 times higher than the second-ranked bank Techcombank (profit of VND 12,838 billion) (**Figure 4.5**). Besides Vietcombank and Techcombank, there were five other banks that recorded pre-tax profits exceeding VND 10,000 billion.

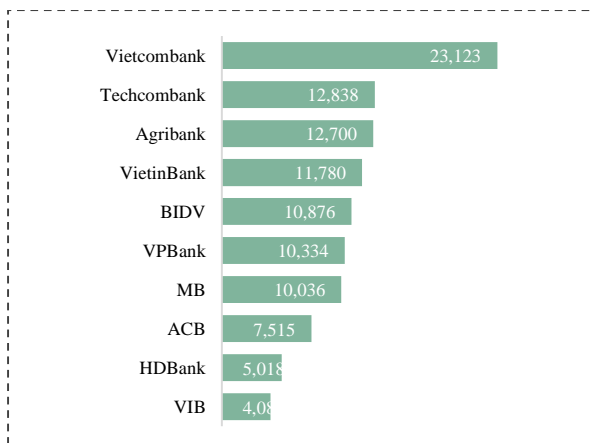


Figure 4.5. Top 10 largest banks by pre-tax profit as of September 2019 Unit: VND billion

Source: Thuy, 2020

In the following parts, the writer will use BIDV and Techcombank as case examples to analyze the distribution of major bank branches and transaction offices in HCMC for several reasons. First, BIDV had shown a prominent position in 2019 as a leader of the largest banks by both total assets and chartered capital. Since BIDV is a state-owned bank, the authors want to examine whether the distribution of BIDV's offices in HCMC would be similar to that of all banks in general at the time. Second, Techcombank had a remarkable presence as a private commercial bank when joining the Big4 and being in the Top 5 largest chartered capital, even though its assets' value was not so high in 2019.

4.1.2. Distribution of bank branches and transaction offices in HCMC in 2019

In 2019, Ho Chi Minh City had an entire presence of 49 credit institutions in the banking system, with 1,953 branches and transaction offices spread across the city. However, there were only seven banks that owned more than 100 branches and transaction points, accounting for nearly 49% of the total number of transaction points in the whole system. Agribank ranked highest with 173 transaction points, followed by Sacombank with 150 transaction offices. VietinBank and ACB were only 1 unit apart, owning 141 and 140 transaction points. The remaining three banks having more than 100 transaction offices were BIDV, SCB, and Techcombank. Notably, in the top 10 most profitable banks (analyzed in section 4.1.2), Techcombank ranked second but opened only 101 branches and transaction offices, equivalent to around three-fifths of Agribank's transaction outlets.

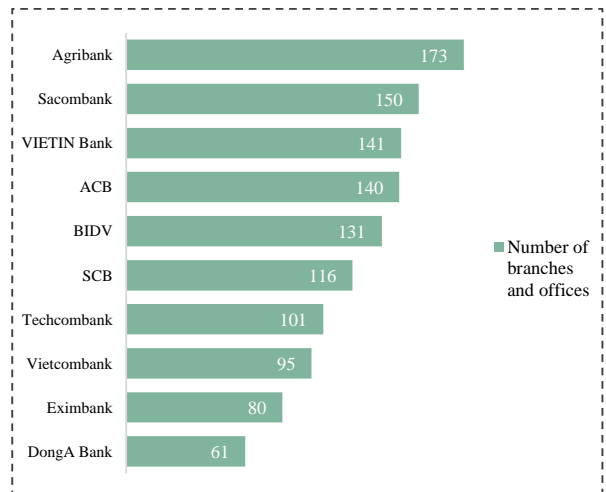


Figure 4.6. Top 10 banks with the most branches and offices in Vietnam in 2019

Source: Authors' compilation

4.2. Overview of HCMC demographic characteristics

Different demographic variables are important in economic studies, where the role of the households is critical to the research problem under study. The descriptions of important population and household variables are presented in the following parts.

In general, the population of HCMC is unevenly distributed. The standard deviations of all variables are large relative to their respective means, which indicates a high variability among people living in HCMC with different demographics. Furthermore, because the means of the majority of variables are larger than their respective medians, the demographic data used in this study are not normally distributed but skewed to the right.

4.2.1. Area and population density

A grassroots-level unit in HCMC covered 5.4 km² on average, with an average population density of about 33,995 residents per km². The average area of the districts ranged from 0.23 to 84.02 km².

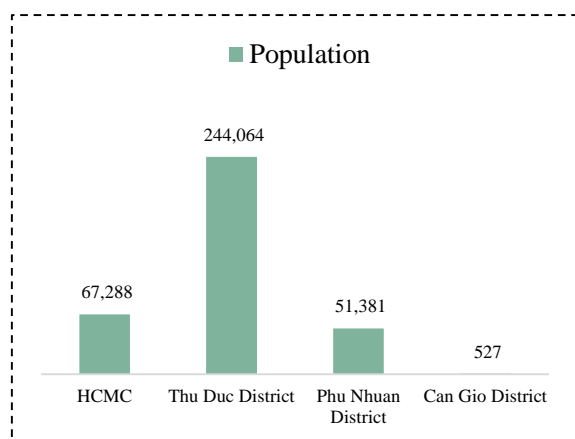


Figure 4.7. The average population of HCMC and other districts, Unit: people Source: Author's compilation

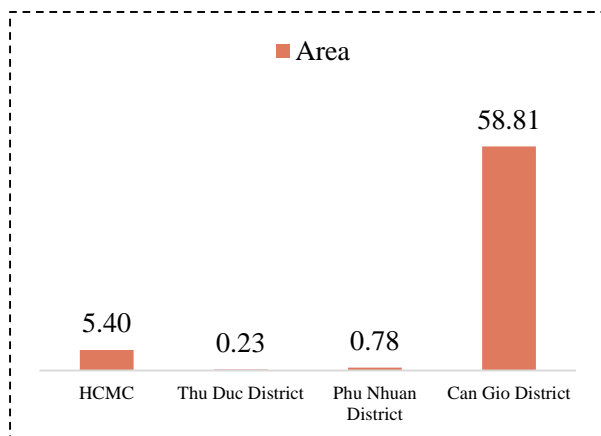


Figure 4.8. The average area of HCMC and other districts, Unit: km²

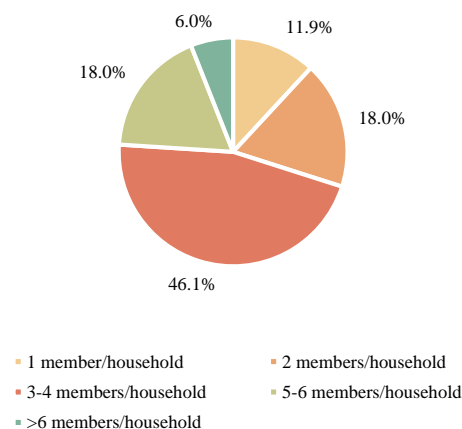
Source: Authors' compilation

The district with the highest average area was Can Gio District, with 84.02 km², ten times the area of the whole city, but it has the lowest average population density (189 people/km²). On the other hand, District 4 had the smallest average area with 0.23 km², equivalent to only 1/23 of the average area of Ho Chi Minh City. The highest average population density was recognized

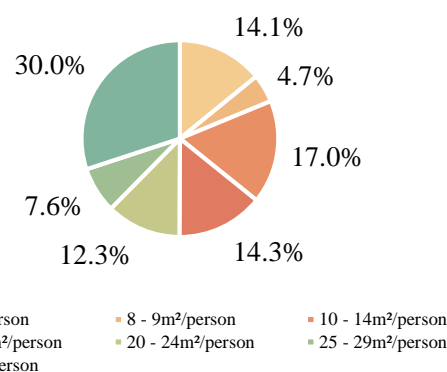
in District 10 (approximately 70,900 people/km²) (Figure 4.7).

4.2.2. Households by size

There was an average of 7.947 households per grassroots-level unit. The average household size ratio of each district was similar to the general ratio of the whole city: the household size of three to four people had the highest percentage (46%), followed by the household size of two people or five to six people and the household size of one person or of over six people (depending on each district) (Figure 4.9).



By household size



By housing area

Figure 4.9. Households structure of HCMC by mean

Source: Author's compilation

There were 11 districts in the city where the proportion of households with only two members was higher than that of households with five to six members. Binh Tan district had the largest number of households (22,700).

4.2.3. Household by area per person

There were 99,85% of households dwelling in a house, one-third of which owned a house with an average area per member of more than 30km². The average number of households dwelling in a house was 7935, accounting for 99.85% of the total number of

households in Ho Chi Minh City. On average, the percentage of households owning a house with an area of over 30m² per person was the highest. Conversely, the number of households with an average house area of 8-9 m² per person was the lowest (**Figure 4.9**). This index was similar in every district except for Binh Tan District.

4.2.4. Age group and gender

The proportion of males was slightly greater than females. More than 70% of the population in HCMC were of the working-age – the “golden age” of Vietnam. All districts in HCMC followed this pattern.

4.2.5. Education

The number of people currently studying at all educational levels in HCM was 1,876,315 residents, accounting for 20.86% of the total population of HCMC. The average rate of children of preschool age (aged five and under) in HCMC was 25.6%. The percentage of children of primary school age was 32.5%. The proportion of secondary and high school children was 22.5% and 14.10%, respectively. On average, only 3.91% of the population attending school chose pre-intermediate, intermediate, and college. 18.66% reached the current education level of the university. The rate of master’s and doctoral students accounted for 0.53%.

4.2.6. Marital status

The mean percentage of single people aged 15 and over in HCMC was 34.63%. The average ratio of married people in each HCMC district was 58.14%. The widowhood, divorce, and separation ratios in the grass-roots administrative unit were 4.57%, 2.37%, and 0.29% on average, respectively.

4.3. Implementation and the results of PCA and K-means clustering analysis

4.3.1. Implementation of principal component analysis

In this research, PCA is implemented in four steps as follows.

Step 1: Perform PCA with n components ranging from 1 to 70 (number of variables used in this study).

Step 2: Try the threshold of variance explained approach.

As mentioned above, the selected principal components should have a cumulative explained variance ratio of over 80%. In this case, the authors holds onto principal components that explain at least 90% of the variance cumulatively. With the seventeenth principal component, the cumulative proportion of the variance explained surpasses 90%.

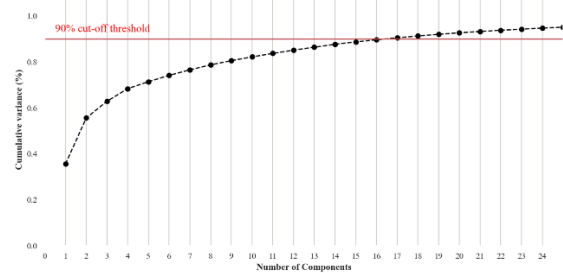


Figure 4.12. Number of components needed to explain 90% variance

Source: Visualized by the authors

Step 3: Examine the eigenvalues and sort out ones that are smaller than 1

The eigenvalues of the correlation matrix are given in the second column in **Table 4.1** below. In addition, the proportion of variation explained by each of the principal components, as well as the cumulative proportion of the variation explained, are also provided.

Table 4.1. Eigenvalues and variance explained by 17 components

n	Eigen value	Explained variance	Cumulative explained variance
1	24.949	0.355	0.355
2	14.069	0.200	0.556
3	5.119	0.073	0.629
4	3.867	0.055	0.684
5	2.130	0.030	0.714
6	1.931	0.028	0.741
7	1.696	0.024	0.766
8	1.520	0.022	0.787
9	1.295	0.018	0.806

Source: Calculated by the authors

n	Eigen value	Explained variance	Cumulative explained variance
10	1.147	0.016	0.822
11	1.068	0.015	0.837
12	0.985	0.014	0.851
13	0.917	0.013	0.864
14	0.894	0.013	0.877
15	0.722	0.010	0.887
16	0.657	0.009	0.897
17	0.598	0.009	0.905

The first principal component can explain 35.5% of the initial data's variation. The second and the third components account only for 20.0% and 7.3% of the initial data's variation, respectively, and so on. It takes in a total of 17 components to fully explain 90% of the variation of the original data.

However, only the first eleven eigenvalues are above one; therefore, the last six principal components will be dropped. Thus, the number of principal components used in this study is 11.

Step 4: Perform PCA with 11 principal components and visualization

About 83% of the variation is explained by the eleven eigenvalues together. The first three principal components are plotted in Figure 4.13 below to visualize the distribution of new variables.

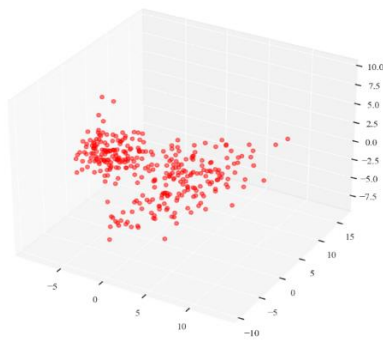


Figure 4.13. Scatter plot of the data with 11 principal components

Source: Visualized by the authors

4.3.2. Implementation of K-means clustering

With 11 principal components obtained from PCA, the authors performed k-means clustering with selected k values ranging from 1 to 11. Next, the Elbow method and Silhouette method were employed to find the most optimal number of clustering groups.

Elbow method

From Figure 4.14, it was noticeable that Cluster 1 and Cluster 2 had larger value differences and similarly occurred in Cluster 2 and Cluster 3 or Cluster 3 and Cluster 4. On the point of Cluster 4 and so forth, small value differences were obtained, developing a mild plateau-like shape.

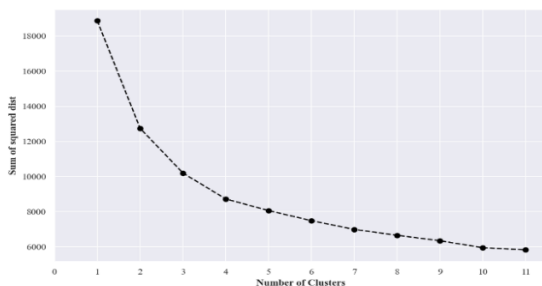


Figure 4.14. Elbow curve with a number of clusters ranging from 1 to 11

Source: Visualized by the authors

However, it can be seen that the visual curve is not clearly bent but fairly smooth with an ambiguous elbow point. Therefore, for better accuracy in deciding the best clusters, the points at 3, 4, and 5 will be checked and compared through their Silhouette scores.

Silhouette method

The Silhouette method is run with the values of k of 3, 4 and 5. The result is as follows:

Table 0.1. Silhouette score results with $k = 3, 4, 5$

Number of clusters	Average silhouette score
$k = 3$	0.6833
$k = 4$	0.6043
$k = 5$	0.5969

Source: Author's calculation

The average silhouette scores in the three cases are above 50%, indicating that the obtained clusters are fairly apart from each other.

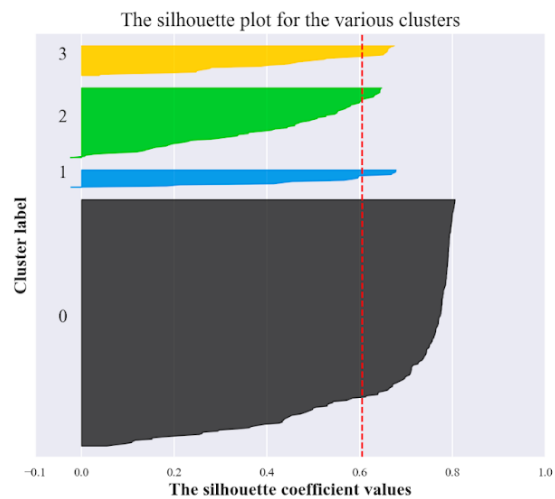


Figure 4.16. Silhouette analysis for K-means clustering with $k = 4$

Source: Visualized by authors

After processing the variables with k-mean clustering, four geodemographic cluster groups of the postcodes are formed.

4.4. HCMC's geodemographic segmentation results

In this study, geo-segmentation was applied in 322 wards, communes and towns of HCMC. Geographical coordinates were used to map each geographical unit in each polygon. Each polygon was then assigned the color of its corresponding clusters (**Figure 4.18**). The study tried to determine the general characteristics of each cluster based on their descriptive result. Each cluster was described with six data classifications: area, population density, household (by household size and housing area), education, and marital status.

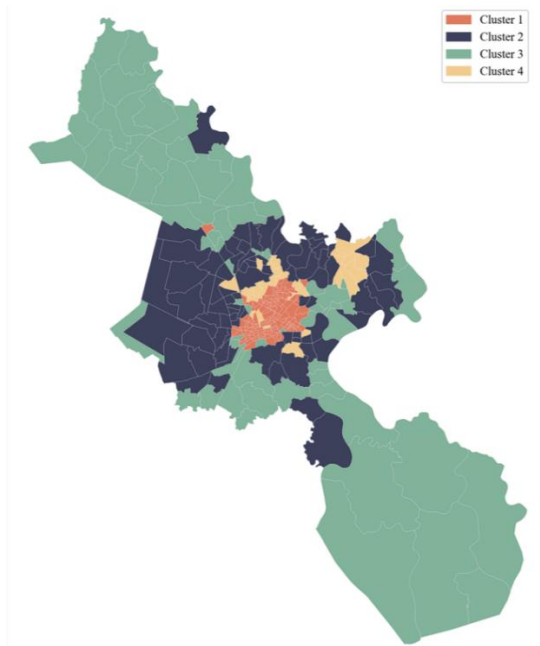


Figure 4.18. Geodemographic segmentation of HCMC with four clusters

Source: Visualized by authors

Cluster 1 (146 wards, communes, and towns): On average, Cluster 1 has the smallest average area but the highest population density. The district in Cluster 1 is divided into small regions for better management. Unlike Hanoi, where there is a huge separation between political districts and economic districts, the political and economic centers of HCMC all concentrate in this cluster. These places have convenient transportation networks, connecting with many other city areas. There is a high concentration of high-rise buildings, complexes, businesses, schools, and universities. The average education and intellectual level of residents belonging to Cluster 1 are high. Hence, a lot of people there are white-collar workers. They have a solid financial capacity and good earning ability. However, the areas in Cluster 1 also show a clear gap between the rich and the poor. The proportion of single or married people is equal.

Cluster 2 (80 wards, communes, and towns): The administrative units in Cluster 2 cover an average area with an average population density. These areas are adjacent to the central area of HCMC. The proportion of the elderly in this cluster is the highest among the four groups. There is a high proportion of people of working age. The residents have an average level of education and financial capability. Cluster 2's districts may be ideal sites for export processing and industrial zones. People primarily work in these industrial parks or they do cottage work.

Cluster 3 (67 wards, communes, and towns): Cluster 3 has the largest average area with the lowest average population density. Most of the districts classified into Cluster 3 are suburban areas adjacent to neighbouring

provinces. The citizens in Cluster 3 have low levels of education, mainly working in agriculture or cottage industry. The financial capacity of the residents is not high. Wards, communes, and towns that belong to Cluster 3 have a shortage of facilities, especially education-related facilities. Most of the people are married and have small children. There is a high proportion of children of primary and preschool age in these areas.

Cluster 4 (29 wards, communes, and towns): Cluster 4 has a relatively small area with a medium-high population density. There is a high concentration of young people from 18 to 30 years old. There are also a lot of elderly people in Cluster 2; nearly one-third of the population is in middle age. This cluster has the highest percentage of people of working age. There are not many children. The number of students at the university level accounts for more than 40% of all people at all education levels. The proportion of students attaining higher education is also high. 48.2% of the population are single, and 46.9% are married. However, most of them are late-married families with young children (children studying in primary school) or children of early working age (from 15-22 years old).

4.4. Distribution of bank outlets and prediction of locations

4.4.1. General description of HCMC's bank distribution

The density of bank branches and offices in each geodemographic cluster is presented in Table 4.3.

Table 0.2. Descriptive statistics of the number of bank branches and offices by clusters

	mean	std	min	25%	50%	75%	max
Number of bank branches and offices (unit: offices)							
1	6.836	7.616	0	2.25	5	8.75	47
2	5.188	5.320	0	1	3	8	24
3	2.716	4.007	0	0	1	3	16
4	12.345	7.884	2	6	11	18	34
Bank network coverage by population (unit: offices/10,000 adults)							
1	6.692	9.383	0	1.9	4.25	8.1	69.9
2	1.511	1.892	0	0.3	0.9	2.3	11.9
3	1.607	3.541	0	0	0.5	1.65	26
4	4.717	3.691	0.4	2.1	3.8	6.7	14.3
Bank network coverage by geographical area (unit: offices/km²)							
1	23.645	20.880	0	7.8	18.55	33.9	109.4
2	2.989	4.271	0	0.175	0.7	4.65	17.1
3	1.404	3.052	0	0	0.1	0.85	16.1
4	13.755	13.385	0.3	4.5	9.3	17.3	57.6

Source: Authors' compilation

Table 4.3 shows that Cluster 4 has the highest average number of bank points per administrative unit. While some areas in other clusters do not have any branches and bank transaction offices (min = 0), the minimum number of offices in Cluster 4 is two (min = 2). Districts in Clusters 1 and 2 have an average number of transaction offices of 6.84 and 5.19, respectively. The areas divided into Cluster 3 have the least mean number of banks (2.72). The highest number of branches in an area in Cluster 3 is only 16 transaction points.

The choropleth map of bank network coverage in Figure 4.19 below was obtained by assigning each polygon (each district in HCMC) with its corresponding bank coverage index colour.

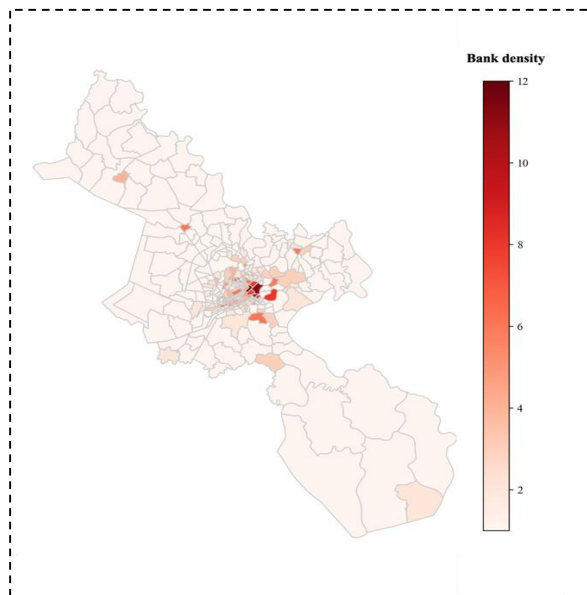


Figure 4.19. Bank coverage in HCMC in 2019 by population

Source: Visualized by the authors

The distribution of bank branches and offices in HCMC is not even. The authors suggest removing some offices in the dark red areas and building new ones in the medium-colour area. The need for banking services in suburban districts may not be high enough to build an entire bank office. This can cost more loss to the bank than profit and may be harmful to their operational activities. Instead, commercial banks can open new offices near the region so that people can still get access to the service. The presence of commercial banks will create more competition in terms of the diversity of financial services, which can bring higher convenience to people, especially in remote and isolated areas, thereby promoting economic growth in these regions.

In the following sections, the authors chose Tan Binh District as a sample area for a deeper analysis of geodemographic segmentation. The reason for this choice is that Tan Binh District has a large area and consists of units belonging to at least three different clusters. Moreover, the characteristics of each ward/

commune/ town are distinct and diverse enough so that the analysis can be representative and unbiased, not being limited to only one cluster type. Additionally, Techcombank and BIDV are chosen as sample commercial banks for a specific analysis of bank distribution and prediction of new locations for banking outlets. BIDV and Techcombank are two outstanding banks of their own type, which are state-owned banks and private banks. These banks always stay in the Top 5 of the largest banks no matter what criteria are used for evaluation.

4.4.2. Case study analysis of Tan Binh District

Tan Binh District is an urban district located to the northwest of HCMC and is surrounded on four sides by neighbouring districts. The district's area is 22.43km², with a population in 2019 of 474,792 people and 133,745 households (General Statistics Office, 2019). Tan Binh District has 15 wards belonging to four clusters (*Figure 4.21*):

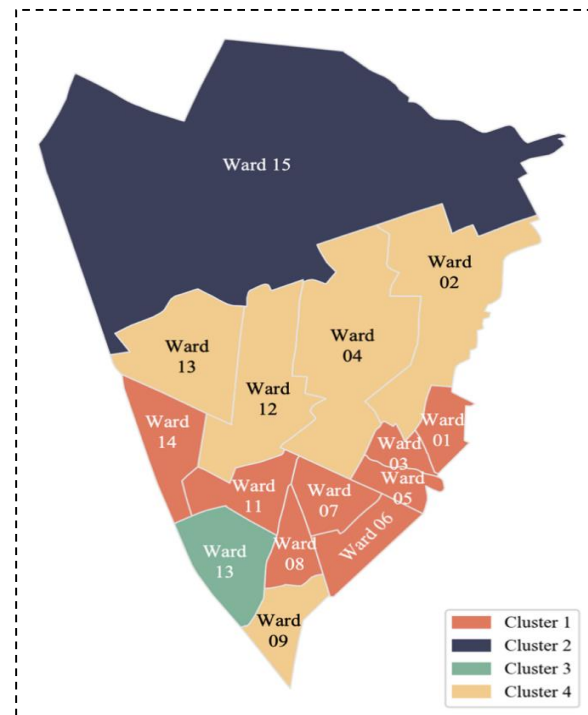


Figure 4.21. Clustering results of Tan Binh District

Source: Visualized by the authors

Cluster 1 of the district is an area that is not too large, has a medium-high population density, and has many households with more than three people. The residents are mainly labourers with average education and low financial capacity. Cluster 1 consists of four wards considered key areas of Tan Binh District for socio-economic development, including Ward 01, Ward 07, Ward 08, and Ward 14. The economic structure of the area. The economic structure of the areas mainly includes trade and services businesses and cottage businesses. There are a number of major roads passing through these wards. Especially in Ward 1, there is the

gateway to Tan Son Nhat airport, and other major roads connect with urban areas such as the center of District 1 in HCMC. Banking coverage in these wards is average, with about 8-10 transaction points serving 10,000 adults.

In addition, Cluster 1 also includes some other wards of Tan Binh District, which are Ward 03, Ward 11, Ward 05, and Ward 6. These areas have relatively high population density; people living there mainly do small businesses and have unstable incomes. As a result, these wards have low banking density by population, and average bank density by geographical area, except for Ward 11. Density indicators for Ward 11 are particularly low, despite the area's high concentration of business operations.

Ward 15 in *Cluster 2* is the largest area of all wards of Tan Binh District and the ward with the lowest population density (7825 people/km²). Because the ward is an agricultural area, most people live by farming. However, Ward 15 has focused more on industrial production, handicrafts, trade, and services for socio-economic development. Financial services are relatively low; there are not many banks located in Ward 15.

Ward 10, belonging to *Cluster 3*, has a large population compared to neighboring wards, with an exceptionally high percentage of households of three or more people (accounting for 77.33% of the total number of households). In addition, a lot of children are in their teenage years. The traffic system in Ward 10 is considered stable, but not many major roads pass through. Therefore, there are very few bank outlets concentrated in this area.

Wards in *Cluster 4* have a high proportion of high school and university students. The wards are large but sparsely populated. Most of them are households of two to four people. An area that shows more development than the same wards is Ward 2 - where Tan Son Nhat International Airport is built. The construction of this airport has spurred economic development in this area and surrounding areas. In addition, the major routes from the Central Districts have indirectly increased the number of bank outlets there. However, due to the relatively large area, the density of banks in these areas is not too high, just average. Therefore, there is still considerable potential to grow the network here.

There are two other special cases of cluster 4 in Tan Binh District, namely Ward 12 and Ward 09. Banking and financial services in these two wards are not so developed. The reason is that although it has similar characteristics to the wards in the same cluster, ward 09 is separated and surrounded by other administrative units in Cluster 1, where many banks are concentrated. People in Ward 09 can quickly go to neighboring areas for banking transactions, so Ward 09 is not the focus of banks' investments. Like Ward 09, Ward 12 is surrounded by areas with a high level of financial

service outlets, so it is considered an area with no potential for new banks' offices.

Regarding the distribution of Techcombank and BIDV outlets in Tan Binh District, Tan Binh District is not a concentrated market for these two banks. While the total number of branches and transaction offices in the district is 171, BIDV has only four transaction points distributed in Ward 04, Ward 13 (Cluster 4), Ward 06, and Ward 08 (Cluster 1). At the same time, Techcombank does not build any transaction offices (General Statistics Office, 2019). The main reason is that Techcombank mainly serves large customers, including small and medium-sized enterprises. However, the citizens living in Tan Binh District are mainly self-employed and do small businesses at home or handicraft work. Therefore, it can be seen that people in this District are not part of Techcombank's key target customers. As for BIDV, BIDV chose to open transaction offices at points where many other banks are concentrated. The reason is that these areas belong to clusters 1 and 4 - which are areas with high population density, stable infrastructure development, and many major roads passing through connecting with other central areas of the city. Therefore, these wards attract an abundance of commuters every day, creating opportunities for easy access to individual customers.

For Techcombank, the potential area for network expansion in Tan Binh District will be the wards that are near Tan Son Nhat airport, including Ward 2 and Ward 4. Besides, wards in Tan Binh district have roads connecting with the center of District 1 - the political-economic center of Ho Chi Minh City, which will also be a great choice to approach corporate customers in Tan Binh district.

For BIDV, the bank can open one to two more transaction points in such wards with average bank density as Ward 01 and Ward 07. This is because these two wards have a high proportion of people of working age, especially the prime working age, and the number of college and university students is huge. The students can be considered a set of potential customers for BIDV. The construction of BIDV in these areas will increase competition in the financial services market, thereby indirectly improving the economic situation by attracting small companies to the places and promoting the development of business in these wards.

5. IMPLICATIONS AND CONCLUSION

5.1. Implications for potential locations to open new branches for major banks in HCMC and in Vietnam

Ho Chi Minh City has an extremely high density of banking networks in the central part of the city. With District 3 as the center, the administrative units located within a radius of 10 km from District 3 have a medium to a high density of bank transaction points. Outside of this radius, the bank density decreases suddenly and is especially low in suburban and near suburban areas.

Commercial banks, especially large banks like BIDV and Techcombank, can rely on the city's demographics to initially locate suitable locations for new branches and transaction points.

In the near future, the potential areas for bank network expansion are the remaining areas of Cluster 1 that are not within the defined radius above. These are all areas with stable development levels with much potential to be explored. The emergence of large state-owned or private banking branches will positively influence the development of neighboring areas, creating more competition in terms of diversity of financial services, which can bring greater convenience to the residents. This impact is especially powerful in the suburban districts of HCMC, which are remote and isolated areas, thereby promoting economic development.

For development plans in the future, the suitable location is in new urban areas that are being planned, with a convenient traffic network connecting with industrial parks and export processing zones. These are incredibly potential markets for large banks whose customers are mainly businesses like Techcombank or large banks whose customer base includes individuals like BIDV.

5.2. Limitations of the research

One of the limitations of this research is that there are not enough variables to have a more in-depth analysis of the market, making the inferences closely related to the banking sector. For example, in the case of the banking industry, essential variables such as average household income, level of access to and knowledge of financial services, level of access to and knowledge of credit, and the status of credit used in the area have not been incorporated into the model. Therefore, this thesis is analyzed according to the general characteristics of the market, not taking into account target customers and complex needs and requirements for new branches and transaction points of each major bank.

In addition, the thesis uses the k-means clustering model because of its ease of understanding and application. However, since k-means is a centroid-based clustering approach, the clusters generated by this method are usually located in a circle (in the 2D dimension). The circle radius is from the cluster center to the points in the cluster. Thus, centroid-based algorithms are efficient but sensitive to initial conditions and outliers. Population characteristics variables have many outliers due to the uneven distribution across geographical areas. Therefore, using k-means in this article still generates an accurate general description but will also bear certain errors. Due to time limitations, the author could not test and try different models to choose the most suitable model.

5.3. Further research direction

As mentioned in part 4.2 - limitations of the research, if there are enough variables related to the financial situation of households and individuals, the judgments made during the research process will be closer to reality and more accurate.

Due to the vulnerability to outliers of the k-means clustering method, future studies on geodemographic segmentation models can employ other approaches for better clustering. The techniques include but are not limited to hierarchy clustering, c-means clustering, fuzzy c-means clustering, or a combination of clustering algorithms like the integration of k-means and hierarchy. The application of two techniques will help minimize the weaknesses of each algorithm, hence producing better clustering results.

Currently, the graduation thesis is only the first step to applying k-means clustering to the data of a Vietnamese city and a specific industry. Future research and development directions may expand geographically and in other fields, such as retail, real estate, hotels, and service industries.

5.4. Conclusion

Based on the theory of k-means clustering and PCA, this study has completed the data analysis of the HCMC Census. Although the new study has fundamentally applied theories and models to big data analysis at a basic level, leading to some errors in the detailed analysis, some conclusions can still be drawn based on judgments combined with factual descriptions.

First, the coverage of the banking network in Ho Chi Minh City in 2019 is meagre. Only a few in the central area have an average of 15-25 banks/10,000 people. The remaining areas only have about 1-2 banks per commune-level administrative unit.

And second, the geodemographic segmentation model has a powerful effect in determining the geographical area to open more bank branch addresses. Large banks such as Techcombank and BIDV often choose to open branches in areas with medium and high educational attainment, with a large concentration of people of golden working age. With target customers being small and medium-sized enterprises like Techcombank, the critical areas for these banks should be places close to economic zones or near urban areas, with large roads passing through. With individual customer profiles, state-owned banks like BIDV can choose locations more flexibly, in small areas, with a high percentage of people attending colleges and universities, and with large roads connecting to the city's major highways.

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TIMETABLING MODEL FOR THE INTERNATIONAL TRAINING PROGRAMS, HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

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Research purpose:

This research aims to facilitate the scheduling process at HUST international training programs to save human and physical resources, improve the timetabling quality and flexibility.

Research motivation:

The current practice requires a staff to prepare the timetable for each semester which has been done manually. This process usually takes several days to complete after many adjustments whenever there is a small change in the course, student number or classroom. There are also some complaints from students that someday they have to wait few hours between classes or only have one short class for another day. This timetabling process needs to be optimized so as to improve the student service and save the staff time and classroom use, and increase the timetable flexibility.

Research design, approach, and method:

An optimization model was developed using data from the Academic Affairs Office with objective of minimizing number of classrooms needed. Input data in Excel format include: courses that will open during the semester, classes to take a course, number of students in a class, list of classrooms available for scheduling, together with other requirements of the timetabling process.

Based on the developed mathematical model, a heuristic algorithm to arrange the course into classrooms was built and programmed with Python as a software application. The output will be an organized timetable of courses, in Excel format, arranged in timeslots of weekdays and locations.

Main findings:

Integer programming model is suitable for the timetabling problem. The proposed algorithm helps solving the mentioned timetabling problem conveniently, greatly reducing scheduling time from days down to minutes. The quality of solution is also significantly improved, with less classrooms needed than the manual method.

Practical/managerial implications:

This model and algorithm can be modified to apply for similar problems of timetabling in other contexts, and with other optimization objectives. Since the algorithm is a heuristic, it can be used to solve large scale problems of thousands of courses and classrooms, not only for HUST but other schools/universities as well.

Keywords: *Timetabling problem, Course scheduling, Classroom allocation, Integer programming*

1. INTRODUCTION

Hanoi University of Science and Technology (HUST) was among the first universities in Vietnam to pilot international training cooperation in higher education in the early 2000s.

Several joint training programs with prestigious universities from Germany, the United States, Japan,

France, Russia, New Zealand, Australia, Czech Republic have been established and in operation, providing opportunities for students to obtain undergraduate and postgraduate twinning degrees in mechatronics, electronics and telecommunications, computer science, information technology, business administration, etc.

Since 2002, there have been around 4,000 students

studying at HUST international programs, including:

- Nearly 300 students transferred to partner universities;
- Nearly 1,500 bachelors and 300 masters conferred degrees from HUST.

Students at the international training programs (a.k.a. SIE) study in English and Vietnamese, with intensive courses on the partner's language (Japanese, German, French, Russian), therefore their classes are managed separately from the traditional HUST undergraduate classes that are conducted purely in Vietnamese. Timetabling for SIE classes are carried out separately from traditional HUST classes, too.

A quite stable list of subjects will be offered each semester following the approved training pathway of each international program. A course opened for each intake usually forms a class. Classes belonging to different training programs but sharing the same course code may be merged into a larger class to reduce the number of classes opened. Placing such combined classes will take priority to placing single classes.

Each semester a student may register up to 24 credits or around 10 subjects out of hundreds of subjects offered, but a normal student will take about 7 to 8 credited courses. Students register subjects to study by intakes, therefore the class size is known.

A subject course can be arranged in 16 week long (full semester) or be intensified in 8 week long (half semester A or B). From Monday to Friday, every morning or afternoon is split into 6 timeslots of 45 minutes each. A lecture typically covers from 2 to 4 consecutive timeslots depending on the number of credits of the course. A lecture is assigned in either morning or afternoon session, without crossing from one session to another. Classes for an international program are preferably assigned in one session as much as possible.

Classrooms in the five-storey building (D7) are allocated exclusively for SIE classes with 33 classrooms. Additional classrooms from the adjacent building (D9) can be utilized if needed. Classrooms have similar equipment but are of different capacities that can accommodate a specified maximum number of students (class size). It is preferable, but not compulsory, to have a fixed classroom assigned to classes of a particular international program.

Given the current number of students, number of training programs and intakes under each program, number of subjects offered and number of classrooms, the class placement for each semester is quite a hard job, time-consuming and requires several revisions to complete. There are hard conditions that must be met, including no overlapping of classes for students, no double use of a classroom at any moment, etc. The good-to-have soft conditions include less waiting time

between classes, less movement of students during a session, less number of class days for students, etc.

Currently class timetabling and classroom allocating is carried out manually by a staff in charge, following certain procedures. The common practice is that the schedule officer uses the standard frameworks of programs, the list of classes opened in previous semesters to produce a list of tentative classes to be opened in the coming semester. This list will then be sent to the training institutes for comments and correction, be adjusted and finalized to have the official list of open classes. In this list, the key information includes course ID, course name, number of lecture timeslot per week, student class name, and number of students.

After the official list of open classes is confirmed, the schedule officer combines with the existing list of classrooms to arrange the tentative timetable for classes. This is the most time-consuming operation. A timetable includes information on course ID, class name, classroom ID, starting-finish timeslots and sessions, and course length (A, B or AB). The tentative timetable is posted on the training portal for students to register and comments if any, then finalized as the official timetable after around two weeks.

This timetabling process requires several days to complete to reduce the classroom use, and everytime a change occurs the whole process should be repeated. Thus, it is of urgent need to improve the process quality and efficiency. This paper presents a mathematical model and solving algorithm to handle this issue.

2. LITERATURE REVIEW

The first scheduling problem appeared since the 1950s, and has received much attention from researchers. The main goal of scheduling is to allocate shared resources in the most efficient way to concurrent tasks for the entire processing time.

Arratia-Martinez et al (2021) explain the integer linear programming paradigm that was suggested to resolve the situation under study. By using the traditional branch-and-bound approach, the best result was attained with little computational cost. To demonstrate the model's efficacy, they provide a detailed timetable. Solvers are created to derive solutions to the problem.

The scheduling problem is NP-complete, so the optimal solution cannot be found in a closed-form. Therefore, people often resort to heuristics to obtain solutions for scheduling problems.

Babaei et al (2021) examine the various approaches that have been used to study university course scheduling issues, including operational research, metaheuristic methods, and intelligent novel approaches. Additionally, the distributed multi-agent systems-based approach (Cooperative Search method)

is investigated due to its scalability, which enables the scheduling of shared events between departments. A thorough introduction of trustworthy datasets has been provided in this work for testing and evaluating the design of the algorithms under consideration.

Ribic and Konjicija (2010) propose one model for high school timetable generation, which uses two-phase linear integer programming to solve the problem. This reduces the required computation time, by decomposing the problem to determine the day and then, in the second phase, to generate a daily schedule. The approach was demonstrated on a test problem, and the results for various settings of the model parameters are presented.

De Vos (2014) concentrates on the timetabling issue facing in Dutch secondary schools. The author proposes to solve the problem by bringing back the linear programming problem. The Dutch instances and some other instances were given to software packages CPLEX and Gurobi to solve, using six distinct decompositions in order to come up with better solutions faster. The MILP solvers CPLEX and Gurobi typically were not able to solve the instances in the latter stages of the decompositions within eight hours, even when utilizing mixed integer linear optimization in various decompositions for which the programs were smaller. Clustering might be taken into consideration.

Herath (2017) from the University of Mississippi suggested using a genetic algorithm (GA) for the problem of scheduling credit classes for the university. In his article, the author has proposed coding for input data such as class list, room list, etc. As a result, the author gives the data of the program runs to see the effectiveness of the GA.

Rezaeiapanah et al (2015) assign specific timeslots and rooms to the events while considering a number of hard and soft constraints. The hybrid algorithm, which seeks to automate the timetabling design process so that it would be able to function with various instances of problem domains, is one of the most cutting-edge approaches for solving university course timetabling problem. In that research, they provide a hybrid approach to the course scheduling problem based on the Improved Parallel Genetic Algorithm and Local Search (IPGALS). The GA is strengthened by the Local Search (LS) method. GAIPGALS implemented a timeline representation to guarantee that the strict limits would never be broken. The Distance to Feasibility (DF) criterion is used to quantify hard restrictions.

Perzina (2006) aims to propose a GA encoding for self-adaptation that is useful for scheduling issues. Unlike other methods, the encoding for self-adaptation was created of not just one parameter, but simultaneously for every potential GA parameter. The real university scheduling problem is then solved using the suggested self-adaptive genetic algorithm, and its performance is compared to that of a self-adaptive genetic algorithm. This technique was used to resolve a

real scheduling issue at Silesian University.

Chen et al (2021) use meta-heuristic methods as hyper-heuristics can result in successful outcomes. The methods are separated into categories. Additionally, they are organized chronologically by year of publication to provide a snapshot of the current state of this field. In tabular form, the characteristics of benchmark datasets are described. For each dataset, the origin, relevant relationships, and cutting-edge approaches are described. The limitations of each category of techniques are also provided. Also covered are possible lines of inquiry into the scheduling issue for university courses. Another finding is that, maybe because of their limited flexibility, the state-of-the-art procedures described in the scientific literature are not fully used in a real-world setting.

In Vietnam, many research on scheduling problem with GA have been published. One of them is the master's thesis of Tuan (2012), the thesis shows how to represent the population and detailed steps to solve it. Another algorithm applied in the problem is to color the graph presented in a scientific paper by Dinh and Hai (2016) at Can Tho University. They suggest a method for conducting the final exam at Can Tho University and then develop an information system to support it. By using the suggested procedure, it is possible to get around the drawbacks of scheduling "private" tests for one week and "common" exams for another. They create a database that enables teachers to register for the exams they desire. To ensure that no student has two tests in the same session, the system will automatically produce the timetable for "common" exams.

To fit the circumstances suggested, they have reinstalled the timing algorithm expressions. Initial findings revealed that the scheduling method satisfies the two requirements they have put out. Instead of verifying manually as they do now, they will in the future propose more detailed evaluation criteria to be able to measure the efficiency of the computerized exam scheduling system.

In summary there are several papers on timetabling and algorithms to use (mostly GA related), each study focuses on a specific scheduling problem. The timetabling problem at HUST international training programs may also be dealt with conveniently using a similar approach, as presented in the following section.

3. MODEL FORMULATION AND ALGORITHM

3.1. Objective and approach

- Objective: To schedule courses to classrooms and timeslots of the semester weeks to minimize the number of rooms to be used.
- Solving approach: From the input datasets, determine the set of options and sort to find the optimal alternative (each option is a schedule arrangement).

3.2 Requirements

Mandatory requirements:

- Class times of each student do not conflict (ie a student attending no more than one course in any timeslot).
- The use of each classroom cannot be overlapped (i.e. not more than one class can be assigned to a classroom for any timeslot).
- All classes in the official open class list should be arranged.
- A class is to be assigned either in the morning or the afternoon session.
- Priority is given to the use of classrooms on the list of classrooms in D7 building (input files), in case of shortage, classrooms outside the list can be utilized.

Preferable requirements:

- The class schedule is neatly arranged for students, i.e. least waiting between classes in the same session.
- Each class has priority to study in the same room during a semester.

3.3 Input Data

There are two datasets that are used. The first is the list of classrooms that can be used, the second is the list of courses to be opened in the semester. Data stored in *.xlsx files that organize data in cells within worksheets, which are in turn stored in workbooks (files may contain multiple worksheets).

Classroom data contain two pieces of information: Classroom ID and Classroom capacity (maximum number of seats). There are 33 classrooms and 10 capacity values.

Table 1. Classrooms dataset

No	Classroom ID	Capacity
1	D7-102	32
2	D7-205	32
3	D7-303	14
...
Count	33	10

Course data contains multiple information related to each course to be taught in a semester, as in Table 2:

Table 2. Course dataset

STT theo số thứ tự	Tên lớp tiếng anh	SALA BP	TÊN BP	ĐƠN LUYỆN	Lớp	Học kỳ	Ngày học	Thời gian học	Giáo sư	Tổng số lớp học / số tiết
1	Internet và ứng dụng	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 2	8h00 - 9h30	Nguyễn Văn A	1
2	Trình bày - phần 1	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 3	8h00 - 9h30	Nguyễn Văn B	1
3	Trình bày - phần 2	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 4	8h00 - 9h30	Nguyễn Văn C	1
4	Trình bày - phần 3	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 5	8h00 - 9h30	Nguyễn Văn D	1
5	Trình bày - phần 4	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 6	8h00 - 9h30	Nguyễn Văn E	1
6	Trình bày - phần 5	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 7	8h00 - 9h30	Nguyễn Văn F	1
7	Trình bày - phần 6	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 2	10h00 - 11h30	Nguyễn Văn G	1
8	Trình bày - phần 7	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 3	10h00 - 11h30	Nguyễn Văn H	1
9	Trình bày - phần 8	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 4	10h00 - 11h30	Nguyễn Văn I	1
10	Trình bày - phần 9	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 5	10h00 - 11h30	Nguyễn Văn J	1
11	Trình bày - phần 10	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 6	10h00 - 11h30	Nguyễn Văn K	1
12	Trình bày - phần 11	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 7	10h00 - 11h30	Nguyễn Văn L	1
13	Trình bày - phần 12	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 2	12h00 - 13h30	Nguyễn Văn M	1
14	Trình bày - phần 13	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 3	12h00 - 13h30	Nguyễn Văn N	1
15	Trình bày - phần 14	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 4	12h00 - 13h30	Nguyễn Văn O	1
16	Trình bày - phần 15	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 5	12h00 - 13h30	Nguyễn Văn P	1
17	Trình bày - phần 16	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 6	12h00 - 13h30	Nguyễn Văn Q	1
18	Trình bày - phần 17	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 7	12h00 - 13h30	Nguyễn Văn R	1
19	Trình bày - phần 18	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 2	14h00 - 15h30	Nguyễn Văn S	1
20	Trình bày - phần 19	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 3	14h00 - 15h30	Nguyễn Văn T	1
21	Trình bày - phần 20	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 4	14h00 - 15h30	Nguyễn Văn U	1
22	Trình bày - phần 21	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 5	14h00 - 15h30	Nguyễn Văn V	1
23	Trình bày - phần 22	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 6	14h00 - 15h30	Nguyễn Văn W	1
24	Trình bày - phần 23	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 7	14h00 - 15h30	Nguyễn Văn X	1
25	Trình bày - phần 24	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 2	16h00 - 17h30	Nguyễn Văn Y	1
26	Trình bày - phần 25	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 3	16h00 - 17h30	Nguyễn Văn Z	1
27	Trình bày - phần 26	32	Đ7-102	Đ7-102	Đ7-102	1	Thứ 4	16h00 - 17h30	Nguyễn Văn AA	1

- The first data field is the school or institute delivering the course. At HUST, there are 11 schools and institutes.
- The second data field is course code. Which contain 6-7 characters. Each course in the school has a unique code taught by the school or institute. This dataset contains 226 course codes.
- Third data field is course name.
- The most important data field is the number of credits, corresponding with the number of timeslots per week to be used by the course.
- Then comes the classes that should take that course.
- The next is the number of students in that class. This data will screen suitable classrooms for the course (a suitable classroom having capacity not less than the number of students in the class).
- The language of delivery
- The term length for the course: A - first half of the semester (8 weeks), B - second half (8 weeks), and AB - full semester (16 weeks).

3.4 Mathematical model formulation

Notations are defined as follows:

- Set:
 - $A = \{a_1, a_2, \dots, a_n\}$ The set of n course codes in the semester
 - $H = \{h_1, h_2, \dots, h_n\}$ is the set of the duration of a course
 - $B = \{b_1, b_2, \dots, b_m\}$ is the set of m classrooms
 - $C = \{c_1, c_2, \dots, c_p\}$ is the set of p groups of students who participates in the semester
 - C_p is the set of big-sized groups of students who participates in the semester
 - C_s is the set of small-sized groups of students who participate in the semester.
 - A_p : Set of course codes that a group of students will study in the semester.
 - T: Set of weekdays (Mon Morning, Mon Afternoon, Tue Morning, Tue Afternoon, Wed Morning, Wed Afternoon, Thu Morning, Thu Afternoon, Fri Morning, Fri Afternoon), totally 10.
 - I: Set of 6 timeslots in a morning or an afternoon, each lasts 45 minutes. So a week consists of 60 timeslots.
- Decision variables:
 - $v_{nmpt} = 1$ if the course code n is joined by the group of students p, scheduled for timeslot i of day t in the classroom m, and = 0 otherwise; for all $n \in A, m \in B, p \in C, t \in T, i \in I$
 - $a_{mt} = 1$ if the classroom m is used for the day t, = 0 otherwise; for all $m \in B, t \in T$

- Parameters:
 - f_n : number of students at a course, $n \in A$.
 - e_m : capacity of a classroom, $m \in B$.
 - h_n : number of timeslots for course code n in a week.

Now, we can write our mathematical model as:

$$\text{Minimize } \sum_{m,t} a_{mt} \quad (1)$$

Subject to:

$$\sum_{n \in A_p} \sum_{m \in B} v_{nmpti} \leq 1 (p \in C, t \in T, i \in (1; 6)) \quad (2)$$

$$\sum_{p \in C} \sum_{n \in A_p} v_{nmpti} \leq 1 (m \in B, t \in T, i \in (1; 6)) \quad (3)$$

$$f_n \times v_{nmpti} \leq e_m \times a_{mt} \quad (4)$$

$$\forall k \in 1, h_n - 1, n \in A_p, m \in B, t \in T$$

$$v_{nmpt1} \leq v_{nmpt(k+1)} \quad (5.1)$$

$$\forall k \in 2, h_n, n \in A_p, m \in B, t \in T, i + k \leq 6$$

$$v_{nmpt(i+6)} \leq v_{nmpti} + v_{nmpt(i+k)} \quad (5.2)$$

$$\sum_{m \in B} \sum_{t \in T} \sum_{i \in (1; 6)} v_{nmpti} = h_n (p \in C, n \in A_p) \quad (6)$$

$$C_b = \{b_1, b_2, \dots\}; C_c = \{s_1, s_2, \dots\};$$

$$C_{in} = \{s_j: b_i | s_j \in b_i\}$$

$$\sum_{n_{s_j} \in C_{s_j}} \sum_{m \in B} v_{nmpti} + \sum_{b \in C_{ins_j}} \sum_{n_{b_i} \in A_{ins_j}} \sum_{m \in B} v_{nmpti} \leq 1$$

$$(t \in T, i \in (1; 6), s_j \in C_s) \quad (7)$$

$$a_{mt} \leq \sum_{n,m,p} v_{nmpti} \leq 60 \times a_{mt} \quad (8)$$

Objective function (1) minimizes the total number of classrooms which are used in a whole week.

Constraint (2) requires that each group of students at a time shall join in no more than one course code and in no more than one classroom.

Constraint (3) assures that at a time, each classroom shall be assigned to at most one course code.

Constraint (4) requires suitability of student quantity joining in a course and capacity of a classroom. This means that a classroom shall be assigned to a course code which has the number of students less than the classroom capacity.

Constraints (5.1) and (5.2) require a course code to be arranged in consecutive timeslots in the same day and

the same classroom.

Constraint (6) ensures that each course code has enough number of timeslots in a week.

Constraint (7) initializes that each unique group of students at any time participating in not more than one course code in one classroom.

The last constraint (8) enforces the condition of the decision variable a_{mt} .

3.5 Solving algorithm

In solving this model, we propose a heuristic algorithm that will generate a schedule arrangement that satisfies the constraints of the model. The algorithm will be executed for each room capacity in turn.

The algorithm consists of 5 modules:

1. Group the class codes into sets that satisfy the number of periods (timeslots) of a session. Ensure that the total duration of classes in a session does not exceed 6 (which is number of timeslots in a session).
2. Reposition class codes by swapping them so that each set includes only the set codes learned by a single class.
3. Once the set codes are in place, put them into smallest classroom that matches, each with a maximum of 10 sets (corresponding to 10 sessions per week).
4. Arrange and sort group of classes to timeslots, largest group first.
5. Arrange and sort single classes to timeslots.
6. The algorithm procedure can be depicted in Figure 1.

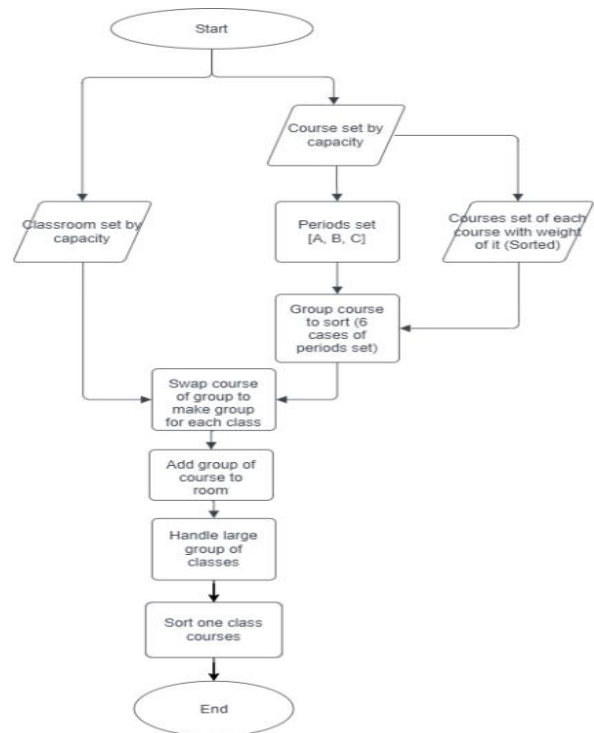


Fig 1. General flowchart of algorithm

Through input data processing, we obtain the necessary sets for the algorithm implementation:

- Set of possible capacities of classrooms (capacity_set).
- Set of course codes associated with its number of timeslots per week. All are arranged in ascending order of number of classes. (course_code_set).
- Set of course codes grouped by classroom capacity that fit numbers of students studied this course. (course_code_set_by_capacity).
- Set of rooms grouped by capacity. (classroom_set_by_capacity).

4. RESULT AND DISCUSSION

4.1 Result

Running the algorithm with Python for the dataset of 239 courses and 33 classrooms, we get the results after an average of 1-2 minutes. The specific results are as in Table 3.

4.2. Comparison with manual scheduling

4.2.1. Room Use

Table 4 represents classroom use for all morning and afternoon timeslots in a week (with 1 being in used and

0 being vacant).

Using the proposed algorithm to run in Python, the number of classrooms to be used in the morning is only 13 (Table 4), instead of 20 if arranged manually; in the afternoon it uses only 9 classrooms, against 16 if scheduled manually.

4.2.2. Waiting time between consecutive classes

In the same session, the classrooms are to be used consecutively. In the current arrangement, sometimes there is still a break of 1 or 2 timeslots between two classes, which will disrupt students' study time and make it difficult for students to manage their time. And the proposed algorithm has solved this.

4.2.3. Number of move to another room in a day

It is not necessary for any class to move between rooms during a study session unless in urgent situation. The algorithm achieves that by combining courses studied by the same class into one well-suited group before sorting and matching with a classroom.

It is clear that the proposed algorithm has produced superior results to the current practice in every aspect, and in considerably shorter time.

Table 3. Output timetable

Trường	Mã HP	Tên HP	Khối lượng	Ghi chú	Thứ	Thời gian	BD	KT	Kíp	Phòng	Sức chứa	SL_Max	Trạng thái	Loại lớp
Viện Sư phạm Kỹ thuật	ED3220Q	Kỹ năng mềm	2(1-2-0-2)	[SIE-001-T. Việt]-ME-LUH-K64	2	6h45-8h15	1	2	Sáng	D7-301	45	39	Đang xếp	LT+BT
Trường Điện - Điện tử	ET3180Q	Thông tin vô tuyến	3(3-0-1-6)	[SIE-040-T.Đức]-ET-LUH-K64	4	15h05-17h30	4	6	Chiều	D7-504	36	30	Đang xếp	LT+BT
Trường Điện - Điện tử	ET3220Q	Điện tử số	3(3-0-1-6)	[SIE-041-T. Việt]-ET-LUH-K65	2	6h45-9h10	1	3	Sáng	D7-302	45	40	Đang xếp	LT+BT
Trường Điện - Điện tử	ET3230Q	Điện tử tương tự I	3(3-0-1-6)	[SIE-042-T. Việt]-ET-LUH-K65	2	9h20-11h45	4	6	Sáng	D7-302	45	40	Đang xếp	LT+BT
Trường Điện - Điện tử	ET3260Q	Kỹ thuật phần mềm ứng dụng	2(2-1-0-4)	[SIE-043-T. Việt]-ET-LUH-K65	3	14h10-15h50	3	4	Chiều	D7-301	45	40	Đang xếp	LT+BT
Trường Điện - Điện tử	ET3280Q	Anten và truyền sóng	2(2-1-0-4)	[SIE-044-T. Việt]-ET-LUH-K65	3	16h00-17h30	5	6	Chiều	D7-301	45	40	Đang xếp	LT+BT
Trường Điện - Điện tử	ET3310Q	Cơ sở điện tử viễn thông	3(3-1-0-6)	[SIE-045-T.Đức]-ET-LUH-K65	2	12h30-14h55	1	3	Chiều	D7-302	45	40	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4010Q	Đồ án thiết kế II	2(0-0-4-4)	[SIE-046-T. Việt]-ET-LUH-K64	2	6h45-8h15	1	2	Sáng	D7-504	36	30	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4070Q	Cơ sở truyền số liệu	3(3-0-1-6)	[SIE-047-T. Việt]-ET-LUH-K64	5	6h45-9h10	1	3	Sáng	D7-504	36	30	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4080Q	Mạng thông tin	3(3-0-1-6)	[SIE-048-T. Việt]-ET-LUH-K64	5	9h20-11h45	4	6	Sáng	D7-504	36	30	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4250Q	Hệ thống viễn thông	3(3-1-0-6)	[SIE-049-T. Việt]-ET-LUH-K64	5	12h30-14h55	1	3	Chiều	D7-504	36	30	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4260Q	Đa phương tiện	2(2-1-0-4)	[SIE-050-T. Việt]-ET-LUH-K64	2	12h30-14h00	1	2	Chiều	D7-504	36	30	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4280Q	Kỹ thuật mạng nâng cao	2(2-1-0-4)	[SIE-051-T. Việt]-ET-LUH17	4	6h45-8h15	1	2	Sáng	D7-301	45	37	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4330Q	Thông tin di động	2(2-1-0-4)	[SIE-052-T. Việt]-ET-LUH17	4	8h25-10h05	3	4	Sáng	D7-301	45	37	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4380Q	Thông tin vệ tinh	2(2-1-0-4)	[SIE-053-T. Việt]-ET-LUH17	4	10h15-11h45	5	6	Sáng	D7-301	45	37	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4400Q	Đo lường tự động	2(2-1-0-4)	[SIE-054-T. Việt]-ET-LUH17	4	12h30-14h00	1	2	Chiều	D7-301	45	37	Đang xếp	LT+BT
Trường Điện - Điện tử	ET4600Q	Công nghệ Nanô	2(2-1-0-4)	[SIE-055-T. Việt]-ET-LUH17	4	14h10-15h50	3	4	Chiều	D7-301	45	37	Đang xếp	LT+BT
Trường Điện - Điện tử	ET5020Q	Đồ án thiết kế III	3(0-0-6-6)	[SIE-056-T. Việt]-ET-LUH17	2	15h05-17h30	4	6	Chiều	D7-302	45	37	Đang xếp	LT+BT
Trường Cơ Khí	HE2010Q	Kỹ thuật nhiệt	2(2-0-0-4)	[SIE-057-T. Việt]-ME-LUH-K65	2	14h10-15h50	3	4	Chiều	D7-504	36	32	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT1110Q	Tin học đại cương	4(3-1-1-8)	[SIE-058-T. Anh]-ME-GU-K67	2	6h45-10h05	1	4	Sáng	D7-402	45	40	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT1110Q	Tin học đại cương	4(3-1-1-8)	[SIE-059-T. Việt]-ME-NUT-K66+ET	4	6h45-10h05	1	4	Sáng	D7-202	120	91	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT1110Q	Tin học đại cương	4(3-1-1-8)	[SIE-060-T. Việt]-ME-NUT-K66+ET	4	12h30-15h50	1	4	Chiều	D7-202	120	91	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3011Q	Cấu trúc dữ liệu và thuật toán	2(2-1-0-4)	[SIE-061-T. Việt]-ME-LUH-K65	2	16h00-17h30	5	6	Chiều	D7-504	36	32	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3050	Tiếng Anh chuyên ngành	2(2-1-0-4)	[SIE-062-T. Việt]-IT-LTU-K64	2	12h30-14h00	1	2	Chiều	D7-201	120	76	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3070Q	Hệ điều hành	3(3-1-0-6)	[SIE-063-T. Anh]-IT-LTU-K65	4	6h45-9h10	1	3	Sáng	D7-105	84	58	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3080Q	Mạng máy tính	3(3-1-0-6)	[SIE-064-T. Anh]-IT-LTU-K65	4	12h30-14h55	1	3	Chiều	D7-105	84	58	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3080Q	Mạng máy tính	3(3-1-0-6)	[SIE-065-T. Anh]-IT-VUW-K65	4	15h05-17h30	4	6	Chiều	D7-105	84	58	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3090Q	Cơ sở dữ liệu	3(3-1-0-6)	[SIE-066-T. Việt]-IT-LTU-K65	5	6h45-9h10	1	3	Sáng	D7-105	84	58	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3100Q	Lập trình hướng đối tượng	2(2-1-0-4)	[SIE-067-T. Anh]-IT-LTU-K65	2	12h30-14h00	1	2	Chiều	D7-105	84	58	Đang xếp	LT+BT
Trường Công nghệ Thôn	IT3110Q	LINUX và phần mềm nguồn mở	2(2-1-0-4)	[SIE-068-T. Anh]-IT-LTU-K65	2	14h10-15h50	3	4	Chiều	D7-105	84	58	Đang xếp	LT+BT

Table 4. Use of classrooms

5. CONCLUSIONS

This paper presents the timetabling process for HUST international training program in common practice and the needs to improve that process.

Timetabling for university typically includes the combination of courses, classes, classrooms, teachers, time frames, and an order to arrange those elements in an optimal way. As an NP-complete problem, heuristic methods are recommended by researchers.

The authors formulate the problem with a mathematical integer programming model. A heuristic algorithm was proposed for grouping classes into groups, then assign class groups to classrooms, and then allocate those to timeslots over the week. To improve the solution quality, a swapping operation is utilized. Python programming language was used to implement the algorithm with the actual dataset from HUST.

The algorithm is effective and efficient so that obtained results are superior to the current manual solution in all aspects considered, such as less number of classrooms needed, less void timeslots in-between classes, less student movement between consecutive classes... Moreover, the solving time is much shorter than the current practice.

There is a limitation that this proposed algorithm is

a heuristic, that means it does not guarantee optimal except a good solution.

6. ACKNOWLEDGMENT

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DETERMINANTS OF E-ENTREPRENEURIAL INTENTION: AN EMPIRICAL STUDY IN VIETNAM

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Research purpose:

We have carried out this study to discover and measure the factors affecting the E-entrepreneurial intention as well as delving into the influence of those studies on the intention of starting an e-business of young people, especially students who are still sitting in university lecture halls are based on background theories and synthesis of domestic and international research.

Research motivation:

We conducted the study to recommend that individuals, schools and social organisations support start-ups to create favourable conditions for them to start an e-business.

Research design, approach, and method:

The official data source used in this study was collected based on survey questionnaires from 288 students at universities in Ho Chi Minh City. The research team used data analysis methods including reliability analysis - Cronbach's Alpha and Composite reliability, average extracted variance (AVE), discriminant value - Heterotrait-Monotrait (HTMT) ratio, evaluate the structural model through the coefficients VIF, R^2 , f^2 , use regression to test the model and hypotheses.

Main findings:

The research proposes and analyses the impact of some factors: (1) Digital Capability, (2) University Environment, (3) Attitude toward E-entrepreneurship, (4) Perceived Behavioral Control, and (5) Need for Achievement to E-entrepreneurial intention. Findings show that Digital Capability, Attitude toward E-entrepreneurship and Perceived Behavioral Control influence E-entrepreneurial intention.

Practical/managerial implications:

Based on the research results, some implications are given to help young start-ups have the right business strategies in the context of a rapidly developing new technological society.

Keywords: *Digital Capability, University Environment, Attitude toward E-entrepreneurship, Perceived Behavioral Control, Need for Achievement, E-entrepreneurial intention.*

IMPACT OF CORPORATE CULTURE ON EMPLOYEES' COMMITMENT TO THE ORGANIZATION IN SOME COMPANIES IN THE FIELD OF LOGISTICS - SURVEY IN HANOI CITY

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Research purpose:

The research studied the relationship between corporate culture and employees' commitment, thereby proposing appropriate solutions for companies in the field of Logistics in Hanoi.

Research motivation:

It is necessary to identify, evaluate, and properly measure the corporate culture factors and their influence on employee commitment to know how to attract and retain talented people in the business. In addition, the strong development of Logistic enterprises motivated the author to conduct this research.

Research design, approach, and method:

The hypothetical model is set up with 6 factors of corporate culture affecting employee commitment. The study was carried out from August 2021 to November 2021 and only focused on companies operating in the field of Logistics in Hanoi, using a combination of qualitative and quantitative research methods.

Main findings:

The research has determined and clarified the factors that influence an employee's commitment to an organization while also evaluating the impact of these factors through regression analysis. The research was completed with the support of 197 employees currently working at Logistics companies in Hanoi. The results show that all 6 corporate culture factors have a positive impact on "Employee's commitment".

Practical/managerial implications:

The research enables logistics firms in Hanoi to examine each factor and its impact on employee commitment. Based on findings, the study suggests solutions to develop corporate cultures that help increase employee commitment and enables managers to focus more effectively on managing human resources, and implementing strategies to achieve the organization's objectives.

Keywords: *employees, commitment, corporate culture, logistics, Hanoi*

1. INTRODUCTION

Logistics is a service sector that plays an important role in the socio-economic development of Vietnam, especially in the era of global integration. The reason for this point of view lies in its function as the transshipment chain between the domestic market and the international one. To keep their position in today's fiercely competitive market and foster the current trend of extensive integration, enterprises not only desire favourable factors from the external environment but they also need to work out a sound orientation in the process of investing in production and business. Furthermore, they should constantly strengthen their position in different ways, in which good management of human resources is an extremely important factor to

maintain market share and create a difference compared to their competitors. Additionally, many businesses are facing the problem of brain drain as they can not keep well-qualified employees to consistently work for the company even though the recruitment and training process takes a lot of time and costs. Therefore, employees' commitment to an organization is very essential to enterprises in the process of building and implementing policies to gain efficiency improvement in managing employees.

In recent years, corporate culture has been considered a big topic in corporate and management research. On the other hand, according to modern management perspectives, humans create the core values of the enterprise and managers need to "build and

maintain a positive corporate culture that forms a comfortable working environment and creates motivation to help employees reach their full potential at work", which will raise employees' engagement and dedication to the business. This research was conducted to show the relationship between corporate culture and employees' commitment in the field of Logistics surveyed in Hanoi city– quite a new field in Vietnam.

The study mainly focused on the assessment of employees of corporate culture's factors and their commitment to the organization to help managers to raise employees' commitment. Due to limited resources including humans, finances and time, the authors can only survey with a certain number of observations and cannot survey all companies in the field of Logistics throughout Vietnam. The authors have selected companies in the Hanoi area as the research target, with a certain number of observations. The survey was conducted from September to October 2021.

The quantitative method is implemented through the process of determining the research sample by the convenience sample method. Data was collected through direct surveys and online data collection tools (Google Docs). Based on the primary data gathered, data analysis is conducted to identify the link between corporate culture and employee commitment. The first objective of the study is to identify corporate culture factors that affect employees' commitment. Secondly, the research measures the impact of corporate culture factors on employees' commitment or the relationship between cultural components and employees' commitment to the organization. Finally, based on the results of the research, the authors propose several solutions to develop corporate culture and increase employees' commitment to the organization, thereby building relevant policies related to human resources and raising competitive capabilities for companies in the field of Logistics.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Corporate culture

Corporate culture is a distinctive feature of an organization that distinguishes it from other organizations in the same industry, representing a system of values and behaviours that are common in an organization, and tend to be self-transmitted and maintained over a long period (Kotter et al., 1992).

Besides, corporate culture is described as the set of beliefs, values, and norms, along with symbols such as events and individuals that represent the unique characteristics of an enterprise, and provide context for action within that organization (Morgan, 1983). At the end of the twentieth century, Recardo and Jolly (1997) introduced a concept similar to Morgan when asserting that corporate culture is a system of specific values and beliefs that are understood and shared by members of an

organization, which helps to shape the attitudes and behaviours of members as well as regulations in the organization. On the other hand, Saeed and Hassan (2000) claim that: "Corporate culture is recognized as a persuasive concept that describes different aspects of a working environment" (p. 54-59).

Another study considered corporate culture as a system of general rules accepted and followed by members of an organization, making the difference between one organization and others (Robbins, 2001). However, Bergman and Stagg (2004) defined corporate culture as a set of common expressive meanings covering the entire enterprise and it has an impact on the behaviours and activities of all members in that enterprise.

Thus, it can be easily seen that the common feature in the above-mentioned definitions is the belief that corporate culture is "a set of meanings, values, concepts, goals and behavioural principles" shared by members of an organization and they have a strong impact on the behaviour and acts of the members of an organization". In other words, organizational culture is considered as the common way of life and way of thinking of people in the organization, which is recognized by every member of that organization. Corporate culture creates unity in the pursuit and achievement of mutual goals of the organization, thereby, corporate culture makes a difference among organizations.

2.2 Employees' commitment to the organization

Kanter (1968) stated: "Employees' commitment to an organization is the voluntary dedication of competence and loyalty of employees to that organization" (p. 499-517). Or employee's commitment to an organization is a psychological attachment to an organization expressed through the degree to which an individual absorbs and agrees with the characteristics, values, and goals of an organization (O'Reilly and Chatman, 1986).

Employees' commitment is reflected in the belief and loyalty of employees to the organization (Northcraft and Neale, 2003). Employees' commitment is reflected in the degree to which they accept the values, perspectives and goals of the organization (Ruokolainen, 2011).

In the study of Allen and Meyer (1990), organizational commitment is defined as a psychological state expressing the relationship between employees and the company when employees have a strong belief in and the willingness to give their best effort for the organization as well as decide to continue sticking with the organization for a long time.

Meanwhile, employees' commitment is considered the extent to which employees are willing to accompany and desire to contribute to the organization towards the future development of the organization, which can be expressed through employees' belief in the

organization's goals and mission and their constant efforts to achieve those goals (Newstrom and Davies, 2002). With a similar perspective, employees' commitment is defined as the willingness to do their best for the development of the entire enterprise and consistency with the goals of the company, creating homogeneity between individual goals and common goals (Ilies and Judge, 2003).

After taking the similarities in these above statements into consideration as well as synthesizing related concepts, it can be concluded that the employees' commitment to the organization can be expressed through different aspects such as employees' pride in work, love for work, loyalty, high responsibility, belief and desire to contribute to the common goal of the organization.

2.3 Impact of corporate culture on the employee's commitment and relevant studies

Corporate culture creates a common centripetal force, helping the company attract talent and voluntary commitment to the organization. A positive corporate culture will increase employee commitment and cooperation, resulting in improved business efficiency, high consensus on strategic directions, better decision making, higher engagement at all levels of employees (Thompson and Luthans, 1990) and create a competitive advantage for the organization (Saeed and Hassan, 2000). The relationship between corporate culture and employees' commitment to the organization has been proven through numerous domestic and international studies over the past two decades.

In the study of the influence of corporate culture on employees' commitment to the organization in a Malaysian listing company (Zain et al., 2009), the authors surveyed 190 employees in 11 different departments conducted at Malaysia Airports Holdings Berhad, a Malaysian-airline management company. The study concludes that there are four factors of corporate culture that affect employees' commitment to different degrees, and "Communication" is the factor that has the greatest influence on "Employees' commitment to the organization".

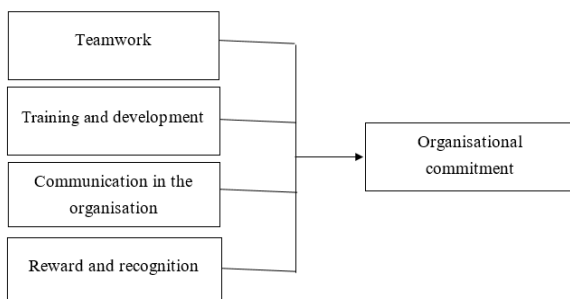


Figure 1. Research model of Zain et al. (2009)

The relationship between different factors of corporate culture and employee commitment is also shown through the analysis of the impact of Corporate

Culture and Organizational Commitment on the efficiency at South Konawe District Hospital, Southeast Sulawesi (Hakim, 2015) was conducted to analyze and determine whether there is a link between 7 corporate culture factors including "Innovation and risk assessment", "Meticulousness", "Results-oriented", "Human Orientation", "Team Orientation", "Enthusiasm" and "Stability" and organizational commitment and employees' efficiency, as well as the relationship between employees' commitment to organization and effectiveness in employees' performance (Figure 2).

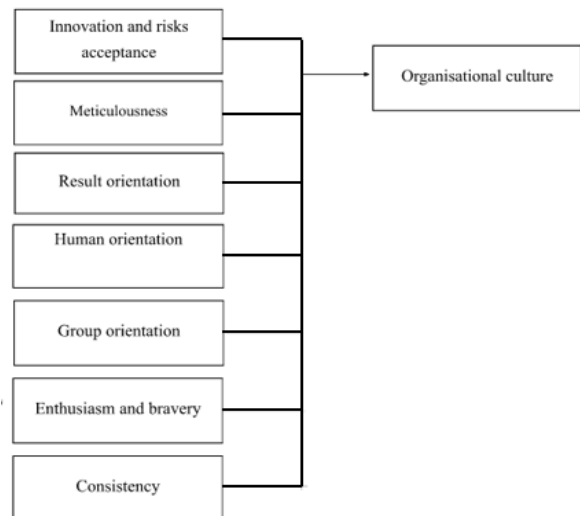


Figure 2. Research model of Hakim (2015)

Structural Equation Modeling (SEM) was used to analyze survey results from 115 staff members working at a hospital in Indonesia. The result shows that corporate culture has a positive influence on "Employees' Commitment". It also points out that "Organizational commitment" has a positive impact on employee performance, playing an important role as a mediator between organizational culture and employees.

In Vietnam, two prominent studies can be mentioned when it comes to the relationship between employees and the organization. The first one is the Analysis of the influence of corporate culture on the organizational commitment of employees at commercial banks in Soc Trang province (Ngo et al., 2019). SPSS software is used to analyze the influence of corporate culture on employees' commitment to the organization, using 8 factors developed by Recardo and Jolly (1997) and one factor named "Empowerment". The authors conducted a survey of 180 employees working at commercial banks in Soc Trang province. The research result identifies 8 factors affecting the "Employees' commitment" of commercial banks, including "Training and development", "Reward and recognition", "Risk acceptance", "Empowerment", "Communication", "Teamwork", "Decision-making" and "Management

Policy”, and denies the influence of “Planning Orientation” because there is not enough evidence about the influence of this factor on the employees’ commitment at commercial banks in the study.

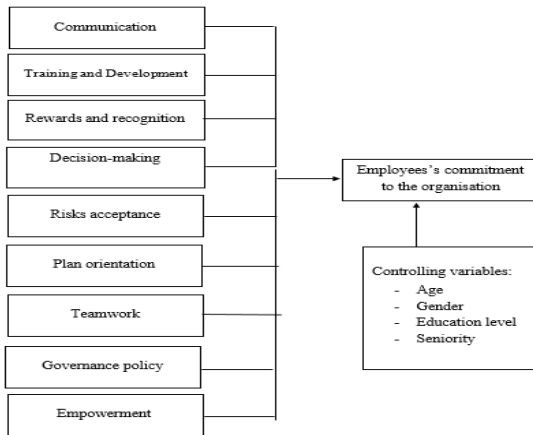


Figure 3. Research model of Ngo et al. (2019)

The second one is the analysis of the impact of corporate culture on employees’ commitment at Saigon Thuong Tin Commercial Joint Stock Bank in An Giang province (Huynh et al., 2021). The study uses scales of measurement including 8 factors by Recardo and Jolly (1997) to measure the impact of corporate culture on employees’ commitment at Saigon Thuong Tin An Giang Bank (Sacombank An Giang). The authors analyzed 154 valid questionnaires by using SPSS software to analyze and evaluate the factors of corporate culture that affect employees’ commitment. The results show that 6 factors including "Communication", "Teamwork", "Risk acceptance through innovation and creativity", "Fairness and consistency in governance policy", "Reward and recognition" and “Training and Development” affect the “Employees’ Commitment” at Sacombank An Giang. This is the basis for the bank to work out the factors affecting employees’ commitment, thereby making plans to improve employees’ engagement.

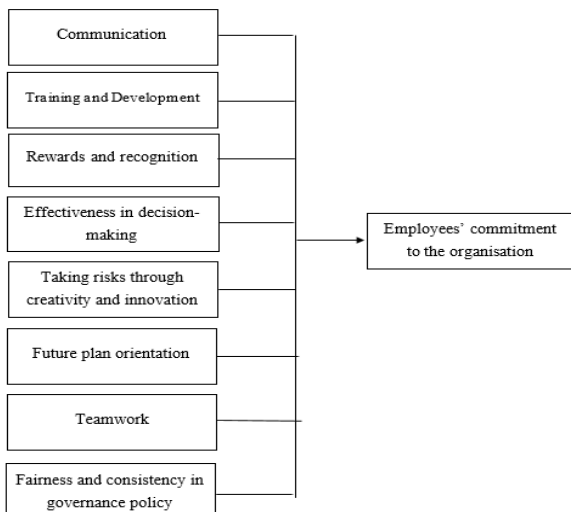


Figure 4. Research model of Huynh et al. (2021)

A similar study named "The influence of organizational culture on employee commitment at Saigontourist Travel Agency" investigates the impact of 5 organizational culture factors including: "Training and development", "Reward and recognition", "Communication within the organization", "Teamwork" and "Fairness and consistency in governance policies" to “Commitment to the organization” of 286 employees of Saigontourist travel service provider in Nha Trang city, and used SPSS software to analyze data (Tran and Nguyen, 2015). The results show that all 5 factors have a positive and statistically significant impact on employee commitment, and the factor "Communication within the organization" has the greatest impact on the commitment of Saigontourist travel agency's employees.

From the above studies, it can be seen that the factors of corporate culture have a strong influence on employee commitment. The professions, industries and fields of study are diverse, and the factors of corporate culture also vary between studies, but the general conclusion is that there is a correlation between corporate culture and employee commitment in the studies given were unchanged.

2.4 Hypothesis development

To determine the influence of organizational culture factors on employees’ commitment to companies in the field of Logistics, the authors refer to the study of Recardo and Jolly (1997) along with related studies by other authors, simultaneously adjusting some factors to suit the characteristics of the work of employees in the field of Logistics. The proposed research model is determined to include 6 corporate cultural factors: "Communication in the organization", "Training and development", "Rewards and recognition", "Teamwork", "Fairness and consistency in governance policy" and “Take risks through creativity and innovation”. These factors are used in many studies and have been shown to have a positive impact on “Employees’ Commitment”.

The first factor is “Communication in the organization”, which is related to exchanging, collecting and disseminating information about work, organizational policies, and operating procedures, as well as effective communication among colleagues, between employers and employees, and between members and the organization. “Communication within the organization” is proven to have a positive effect on “Employees’ commitment” (Zain et al., 2009; Ngo et al., 2019)

The second factor is “Training and development”, which is related to the opportunity to learn and apply new skills and knowledge to the job. This factor includes training programs for the current and future personal and professional development needs of employees to meet job requirements as well as increase the chance of promotion in the organization. “Training

and Development” has been shown to have a positive effect on “Employees’ Commitment” (Zain et al., 2009; Ngo et al., 2019)

The third factor is “Rewards and recognition”, which is related to rewards, nominations and promotions as well as the criteria for assessing the level of work completion and recognition of employees' contributions. “Rewards and recognition” is proven to have a positive effect on “Employees’ commitment” (Zain et al., 2009; Ngo et al., 2019, Huynh et al., 2021)

The fourth factor is “Teamwork”, which is related to coordination, support as well as interaction among employees in the same group or groups in the same department, between departments in the company. Teamwork helps people become closer as they work and focus on solving common problems together in the organization. “Teamwork” is proven to have a positive effect on “Employee Commitment” (Zain et al., 2009; Ngo et al., 2019)

The fifth factor is “Fairness and consistency in governance policy”, which is related to the system of policies and regulations applied to manage and operate activities in the organization. Fairness is reflected in the management of resources necessary to achieve goals, helping to create an equal working environment, while consistency creates a synchronous and transparent development direction for the common goals of the organization. “Fairness and consistency in governance policy” is proven to have a positive effect on “Employees’ commitment” (Ngo et al., 2019, Huynh et al., 2021)

The sixth factor is “Take risks through creativity and innovation”, which involves the support and encouragement of the organization for proposing new ideas, testing and applying quality improvement methods to daily work. . “Take risks through creativity and innovation” is proven to have a positive effect on “Employees’ commitment” (Hakim, 2015, Ngo et al., 2019, Huynh et al., 2021)

Finally, “Employees’ commitment to the organization” is the affected factor that is considered as the commitment stems from the employee's emotional attachment and positive attitude toward the organization. For example, employees are proud to be a part of the organization, voluntarily consistent with the organization and dedicate themselves to the common goals. This commitment represents job satisfaction when the organization meets the needs of its employees, helping to increase work efficiency and thereby improve organizational performance (Boon and Arumugam, 2006, Ngo et al., 2019, Huynh et al., 2021). This is an important factor to help retain and encourage employees to participate in organizational development activities in a stable and long-term way.

Hypothesis on the relationship between corporate culture factors and employees’ commitment to the

organization:

H1: “Communication within the organization” has a positive effect on “Employees’ commitment to the organization”.

H2: “Training and development” has a positive effect on “Employees’ commitment to the organization”.

H3: “Rewards and recognition” has a positive effect on “Employees’ commitment to the organization”.

H4: “Teamwork” has a positive effect on “Employees’ commitment to the organization”.

H5: “Fairness and consistency in governance policy” has a positive effect on “Employees’ commitment to the organization”.

H6: “Take risks through creativity and innovation” has a positive effect on “Employee commitment to the organization”.

These hypotheses are illustrated in Figure 5.

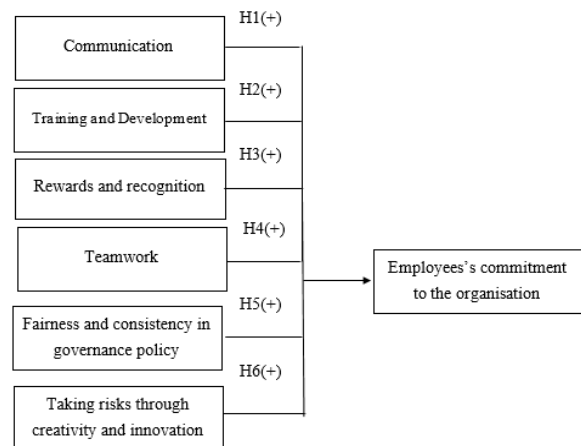


Figure 5. Recommended research model

3. METHODOLOGY

3.1. Sampling method

3.1.1. Sample selection method

The participant in the study is the employees who are working at companies in the field of Logistics in Hanoi city. The sample in the study was selected by using the convenience sampling method with people working at Logistics companies in Hanoi city due to time constraints. The survey is presented in the Appendix.

3.1.2. The sample size

In this study, the authors used both the regression analysis method and exploratory factor analysis method EFA. For EFA exploratory factor analysis, it is suggested that the minimum sample size is 50, preferably 100, and the observations/measures ratio is 5/1, or in other words, the number of observations (sample size) must be at least 5 times the number of variables in the factor analysis (Hoang and Chu, 2008 and Nguyen, 2011). For multiple regression analysis, to

achieve the best results, the sample size needs to satisfy $n \geq 50 + 8p$ where n is the "required minimum sample size" and p is the "number of independent variables in the model". To ensure the reliability and significance of the analytical results, the initially expected sample size for this study was set between 180 and 200 observations (Nguyen, 2011).

3.2 Methods of data collection and analysis

3.2.1 Research process

Stemming from the urgency and practical requirements of the topic, the research objectives were determined, as the foundation for the whole thesis. On that basis, the authors synthesize and systematize related theories through secondary sources (scientific journals, published studies, etc.). Before researching, the authors propose the research model of the thesis, and then consult and adjust to design the survey scale and questionnaire. Next, the process of collecting primary data is done through the form of a survey, and the results are processed and analyzed using SPSS 20.0 software. Finally, the authors analyze the results obtained to clarify the problem to be researched, thereby making recommendations for administrators. The steps in the research process are summarized and presented in Figure 6.



Figure 6. Research process

3.2.2. Data collection method

The data is collected by conducting surveys. The authors surveyed two forms: offline and online through the online survey tool (Google Forms). These forms were sent to employees currently working at Logistics companies in Hanoi city after they agreed to take the survey. People who received the surveys at different ages, with different levels of education and seniority at different companies.

Survey time: September and October 2021.

3.2.3. Data processing and analysis method

After collecting the estimated number of surveys, the questionnaires will be compiled, selected, coded and entered (removing invalid questionnaires, and wrong research subjects) to be statistically analyzed. Survey data is processed and analyzed with the support of SPSS

20.0 software for the Windows operating system.

4. RESULTS AND DISCUSSION

4.1 Sample Descriptive Statistics

Regarding gender, out of 197 survey participants, 106 were male, accounting for 53.81%, and 91 were female, accounting for 46.19%. It can be seen that there is no big difference between the ratio of men and women.

In terms of age, it can be seen that the majority of survey participants belong to two age groups, under 25 years old and from 25 to 30 years old, with a total number of 152 people, accounting for 77.6% of the survey sample. In which, there are 83 people under 25 years old, accounting for 42.13%; 69 people belong to the group of 25 to 30 years old, accounting for 35.03%. The next most popular age group is the one from 31 to 40 years old with 33 people, accounting for 16.75%, while the age group over 40 years old accounts for the least with 12 people, accounting for 6.09%.

Regarding education level, results from survey respondents show that the number of university graduates accounts for the highest proportion with 143 people, accounting for 72.59%, followed by Postgraduate (14.21%), followed by college, Intermediate level (10.15%) and General Labour (3.05%).

Regarding seniority, the criterion considered is the number of years working at the current company. 80 people have worked at the company for 2 years or less, equivalent to 40.61%, 32.99% of those surveyed have been with the company for more than 2 to 5 years, 36 people or 18, 27% have worked for their companies for more than 5 to 10 years and 16 people, account for 8.12%, have worked at the current company for more than 10 years. The results show that the number of years working at the current company seems to correspond with the results obtained in terms of the age of the employees participating in the survey. Those under 25 years old often choose time working at their current companies of 2 years or less, 25- to 30-year-olds often choose from over 2 to 5 years, and the same goes for the other two age groups.

In conclusion, the survey sample is relatively representative of the population, with random characteristics: gender, age, education level and seniority among the target groups, which is reasonable and suitable for the study.

Table 1. Survey results

Criteria	Characteristics	Number of people	Percentage (%)
Gender	Male	106	53,81
	Female	91	46,19
Age	Under 25 years old	83	42,13

	25- 30 years old	69	35,03
	31- 40 years old	33	16,75
	More than 40 years old	12	6,09
Education level	General Labor	6	3,05
	College and Intermediate	20	10,15
	University graduate	143	72,59
	Postgraduate	28	14,21
Seniority	Below 2 years	80	40,61
	From 2 to 5 years	65	32,99
	From 5 to 10 years	36	18,27
	Above 10 years	16	8,12
Total		197	100

4.2 Test the scale reliability

The results of the reliability analysis of the scales using Cronbach's Alpha coefficient are shown in Table 2.

Table 2. Test the scale reliability

	Scale	Number of observed variables	Cronbach's Alpha coefficient	Conclusion
1	Communication within the organization	4	0,809	The scale fits 4 variables
2	Training and development	4	0,836	The scale fits 4 variables
3	Rewards and recognition	4	0,907	The scale fits 4 variables
4	Teamwork	4	0,805	The scale fits 4 variables
5	Fairness and consistency in governance policy	4	0,831	The scale fits 4 variables
6	Take risks through creativity and innovation	4	0,850	The scale fits 4 variables
7	Commitment to the organization	3	0,864	The scale fits 3 variables

It can be seen that all scales have Cronbach's Alpha coefficients greater than 0.6 and less than 0.95. Therefore, no scale is excluded.

4.3 Exploratory factor analysis (EFA)

4.3.1. Results of EFA factor analysis for independent variables - Corporate culture factors

The results show that the scale is valid, has high reliability and no variables are excluded. Therefore, all

24 observed variables were included in the exploratory factor analysis to test the value of the scale.

First of all, the KMO and Bartlett tests are carried out. The purpose of the KMO test is to evaluate the appropriateness of using factor analysis on the data, while the Bartlett test is to test the hypothesis that the original correlation matrices are a unit matrix

Table 3. KMO and Bartlett tests for independent variables

Factor		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,899
Bartlett's test	Chi-square value	2557,911
	Degree of freedom	276
	Significance	0,000

The value of the KMO coefficient is $0.899 > 0.5$ ($0.5 \leq \text{KMO} \leq 1$), so factor analysis is considered appropriate. Bartlett's test results with a Sig value of 0.000 (< 0.05) show that 24 variables of the corporate culture scale are correlated with each other and factor analysis is appropriate for the data.

Next, the authors perform an Eigenvalues analysis and the factor extraction method used is the Principal components method with Varimax rotation to ensure the minimum number of factors. The results of the factor analysis process based on the Eigenvalue value obtained 6 factors from 24 observed variables, with the total variance explained reaching 69,824% ($> 50\%$), that is, 6 extracted factors could explain 69,824 % variability of the data, which is a good level of interpretation.

The rotated component matrix table in Table 4 shows that the observed variables have factor loading greater than 0.5 and are distributed into 6 defined groups; the groups of variables have no disturbance or change. 24 observed variables are divided into 6 groups of factors, corresponding to 6 independent variables, which are 6 factors of corporate culture that affect "Commitment to the organization" in the theoretical research model:

Group "Rewards and recognition" (PT) with 4 observed variables: PT1, PT2, PT3, PT4;

Group "Take risk through creativity and innovation" (RR) with 4 observed variables: RR1, RR2, RR3, RR4;

Group "Training and development" (DT) with 4 observed variables: DT1, DT2, DT3, DT4;

Group "Fairness and consistency in governance policy" (CB) with 4 observed variables: CB1, CB2, CB3, CB4;

Group "Teamwork" (LN) with 4 observed variables: LN1, LN2, LN3, LN4;

Group "Communication within the organization" with 4 observed variables: GT1, GT2, GT3, GT4

Table 4. Rotation matrix for independent variables

Rotated Component Matrix						
	Component					
	1	2	3	4	5	6
PT1	.822					
PT3	.811					
PT2	.798					
PT4	.754					
RR4		.789				
RR3		.784				
RR2		.776				
RR1		.720				
DT2			.818			
DT3			.808			
DT4			.729			
DT1			.673			
CB3				.775		
CB4				.772		
CB2				.743		
CB1				.720		
LN2					.751	
LN1					.748	
LN4					.681	
LN3					.678	
GT4						.817
GT2						.709
GT3						.616
GT1						.602
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 6 iterations.						

4.3.2. Analysis of EFA for dependent variables - Employee commitment to the organization

Analysis of EFA for the dependent variables was performed in the same way as for the independent variables. The process includes (1) KMO and Bartlett's tests, (2) using Eigenvalues and a sum of variance extracted, and (3) using a rotation matrix.

Table 5. KMO and Bartlett tests for dependent variables

Factor		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,736
Bartlett's test	Chi-square value	276,302
	Degree of freedom	3
	Significance	0,000

The value of the KMO coefficient is $0.736 > 0.5$ ($0.5 \leq KMO \leq 1$), so factor analysis is considered appropriate. Bartlett's test results with a Sig value of 0.000 (< 0.05) show that 3 variables of the scale "Commitment to the organization" are correlated with each other and factor analysis is appropriate for the data.

The results of the factor analysis process based on the Eigenvalues value obtained 1 factor from 3 observed variables, with the total variance extracted reaching 78,636% ($> 50\%$) at the Eigenvalues of 2,359, that is, the extracted factor found to explain 78.636% of the data variability, which is a good level of explanation.

The factor extraction method with Varimax rotation can only extract a single factor, proving that the observed variables belonging to this factor in the theoretical model converge into a single factor. It can be seen that the scale "Employee's commitment to the organization" is a unidirectional scale; the 3 observed variables on the scale will not change after exploratory factor analysis.

Table 6. Rotation matrix of dependent variables

Observed variables	Factors
	1
CK1	0,895
CK3	0,888
CK2	0,877

Thus, after performing Cronbach's Alpha reliability test and EFA exploratory factor analysis, the observed variables are proved suitable, which can be used in the analysis. It can be seen that there is no disturbance or change when the observed variables all converge to the same factors as the original scale. The research model still includes 6 independent variables corresponding to 24 observed variables and 1 dependent variable corresponding to 3 observed variables. There is no omitted variable.

4.4 Test the model and research hypotheses

The model and initial hypotheses will be tested by regression analysis and correlation analysis, based on the representative variable being the mean value (Mean) of each group of factors.

Table 7. Constructing representative variables for factor groups

	Group of factors	Representative Variables	Value
1	Rewards and recognition	F_PT	MEAN(PT1,PT2,PT3,PT4)
2	Take risks through creativity and innovation	F_RR	MEAN(RR1,RR2,RR3,RR4)
3	Training and development	F_DT	MEAN(DT1,DT2,DT3,DT4)

4	Fairness and consistency in government policy	F_CB	MEAN(CB1,CB2,CB3,CB4)
5	Teamwork	F_LN	MEAN(LN1, LN2, LN3, LN4)
6	Communication within the organization	F_GT	MEAN(GT1,GT2,GT3,GT4)
7	Commitment to the organization	F_CK	MEAN(CK1,CK2,CK3)

4.4.1. Pearson's correlation analysis

Pearson correlation coefficient is used to quantify the correlation relationship between two quantitative variables, which is the linear relationship between the dependent variable and each independent variable and between the independent variables. In Pearson correlation analysis, all variables are considered equally. There is no distinction between independent and dependent variables.

Table 8. Correlation matrix between variables

		Correlations						
		F_CK	F_GT	F_DT	F_PT	F_LN	F_CB	F_RR
F_CK	Pearson Correlation	1	.720 ^{**}	.562 ^{**}	.696 ^{**}	.736 ^{**}	.542 ^{**}	.570 ^{**}
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	197	197	197	197	197	197	197
F_GT	Pearson Correlation	.720 ^{**}	1	.439 ^{**}	.579 ^{**}	.570 ^{**}	.342 ^{**}	.448 ^{**}
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	197	197	197	197	197	197	197
F_DT	Pearson Correlation	.562 ^{**}	.439 ^{**}	1	.385 ^{**}	.428 ^{**}	.476 ^{**}	.372 ^{**}
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	197	197	197	197	197	197	197
F_PT	Pearson Correlation	.696 ^{**}	.579 ^{**}	.385 ^{**}	1	.527 ^{**}	.441 ^{**}	.485 ^{**}
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	197	197	197	197	197	197	197
F_LN	Pearson Correlation	.736 ^{**}	.570 ^{**}	.428 ^{**}	.527 ^{**}	1	.365 ^{**}	.458 ^{**}
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	197	197	197	197	197	197	197
F_CB	Pearson Correlation	.542 ^{**}	.342 ^{**}	.476 ^{**}	.441 ^{**}	.365 ^{**}	1	.434 ^{**}
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	197	197	197	197	197	197	197
F_RR	Pearson Correlation	.570 ^{**}	.448 ^{**}	.372 ^{**}	.485 ^{**}	.458 ^{**}	.434 ^{**}	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	197	197	197	197	197	197	197

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

The analysis results show that the independent variables F_GT, F_DT, F_PT, F_LN, F_CB, and F_RR all have a linear correlation with the dependent variable F_CK when the sig value of each correlation is less than 0.05, showing that the analysis was statistically significant. Besides, the Pearson coefficients have relatively high values, all greater than 0.5 (ranging from -1 to 1), indicating a positive correlation.

Therefore, it is possible to draw preliminary conclusions about the independent variables that can be included in the regression analysis to explain the dependent variable "Employee's commitment to the

organization". In addition, the sig value of the correlation between the pairs of independent variables is less than 0.05 and the correlation coefficient ranging from 0.372 to 0.579 is also at a level of correlation that is relatively weak - average. Thus, there is temporarily no conclusion about multicollinearity.

4.4.2. Multivariate regression analysis

The regression analysis was performed using the Enter method using 6 independent variables which are F_PT, F_RR, F_DT, F_CB, F_LN, F_GT and 1 dependent variable included at the same time.

Adjusted R² is considered an optimistic estimator to evaluate the fit of the model to the data in case there is more than one explanatory variable as the model often does not fit the actual data as shown by the R² value (Hoang and Chu, 2008).

Table 9. Model's coefficient of determination

Model	R	R ²	Adjusted R ²	Standard error of estimation	Durbin-Watson coefficient
1	0,883 ^a	0,779	0,772	0,40522	1,701
a. Independent variable (constant): F_RR, F_DT, F_PT, F_CB, F_LN, F_GT					
b. Dependent variable: F_CK					

The adjusted R² value obtained from the analysis results is 0.772, that is, 77.2% of the linear regression model fits the data set. In other words, 6 independent variables which are factors of corporate culture included in the regression have an impact level of up to 77.2% on the variation of the dependent variable "Employees' commitment to the organization". To examine the fit of the overall regression model, we use F-test in an analysis of variance ANOVA.

Table 10. Analysis of Variance ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	109.918	6	18.320	111.568	.000 ^b
	Residuals	31.198	190	.164		
	Total	141.117	196			
a. Dependent variable: F_CK						
b. Independent variable (constant): F_RR, F_DT, F_PT, F_CB, F_LN, F_GT						

The Sig value of the F-test is 0.000, less than 0.05 (<5%), showing that the combination of independent variables in the model can explain the change of the dependent variable. Thus, the multiple linear regression model fits the collected data and can be used. To conclude that all the independent variables have an impact on the dependent variable, the T-test was conducted, as shown in Table 11.

Table 11. Results of regression analysis of independent variables

Model	Unstandardized coefficients		Standardized coefficients	T	Significant level Sig.	Multicollinearity		
	B	Standard deviation	Beta			Tolerance	VIF	
1	(Constant)	0,187	0,150		1,248	0,214		
	F_GT	0,251	0,044	0,267	5,742	0,000	0,536	1,864
	F_DT	0,112	0,038	0,123	2,929	0,004	0,663	1,508
	F_PT	0,182	0,039	0,218	4,714	0,000	0,543	1,840
	F_LN	0,337	0,047	0,325	7,204	0,000	0,573	1,746
	F_CB	0,140	0,042	0,139	3,303	0,001	0,661	1,512
	F_RR	0,079	0,037	0,090	2,124	0,035	0,650	1,539

a. Dependent variable: F_CK

According to table 11, the variance exaggeration coefficient VIF of the independent variables in the model is less than 2, proving that the correlation between the independent variables is not significant and multicollinearity does not occur.

In addition, the Sig. value in the t-test of the variables F_GT, F_DT, F_PT, F_LN, F_CB, and F_RR is less than 0.05, showing that the independent variables are all significant in explaining the variation of the dependent variable “Employees' commitment to the organization” and are acceptable in the research model. The regression coefficients (standardized Beta coefficients) of the independent variables have a positive sign, indicating that the factors in the regression model positively affect employee commitment. Based on the magnitude of the standardized regression coefficient Beta, the impact of the independent variables on the dependent variable F_CK is arranged in order from strongest to weakest, respectively: F_LN (0.325); F_GT (0.267), F_PT (0.218), F_CB (0.139), F_DT (0.123), F_RR (0.090).

Based on the standardized regression coefficient Beta, the regression model showing the influence of corporate culture factors on "Employee's commitment to the organization" is built as follows:

$$F_CK = 0.325 * F_LN + 0.267 * F_GT + 0.218 * F_PT + 0.139 * F_CB + 0.123 * F_DT + 0.090 * F_RR, \text{ with:}$$

F_CK: Employee's commitment to the organization

F_PT: Rewards and Recognition

F_RR: Taking risks through creativity and innovation

F_DT: Training and Development

F_CB: Fairness and consistency in governance policy

F_LN: Teamwork

F_GT: Communication within the organization

According to the model's hypotheses test, quantitative research results accept all initial hypotheses

including H1, H2, H3, H4, H5 and H6.

Table 12. Summary of hypothesis testing results

Hypothesis	Content	Conclusion
H1	Communication in the organization has a positive impact on employee's commitment to the organization	Accepted
H2	Training and development have a positive impact on employee's commitment to the organization	Accepted
H3	Reward and recognition have a positive impact on employee's commitment to the organization	Accepted
H4	Teamwork has a positive impact on employee's commitment to the organization	Accepted
H5	Fairness and consistency in management policy have a positive impact on employee's commitment to the organization	Accepted
H6	Risk acceptance of creativity and innovation in the organization has a positive impact on employee's commitment to the organization	Accepted

4.5 Discussion of the results of the study

On analyzing the data using SPSS 20.0 software, the results of testing the reliability of Cronbach's Alpha scale and the results of EFA factor analysis determined that the scales were satisfactory, and the groups of factors and observed variables do not change. The 6 factors also stay the same compared to the originally proposed model. The regression model shows that all 6 groups of factors have a linear correlation with "Employee's commitment to the organization", the proposed research model is consistent with the collected survey data.

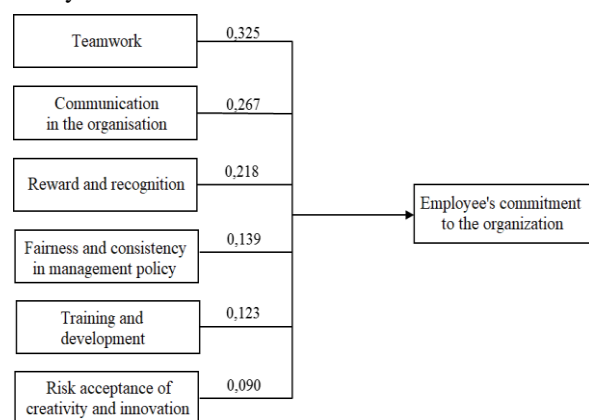


Figure 7. Results of regression analysis of components in the research model

5. RECOMMENDATION

The research results show that factors belonging to corporate culture have a positive influence on "Employee's commitment to the organization", with a relatively high level. On that basis and the human resource characteristics of the industry, the authors propose some solutions for managers of Logistics companies in Hanoi in building corporate culture, contributing to promoting positive behaviours from employees, increasing work efficiency, creating competitive advantages for the organization, and supporting activities to attract human resources, especially talented employees, creating high-quality human resources for the company.

Firstly, the authors suggest three methods to improve the factor "Teamwork" including strengthening the cohesion between departments; actively encouraging teamwork within the company and building teams effectively

Secondly, the authors suggest three methods to improve the factor "Communication in the organization" including ensuring information transparency throughout the organization; creating a friendly and open work environment, enhancing two-way communication and building internal communication channels.

Thirdly, the authors suggest three methods to improve the factor "Reward and recognition" including organizing periodic and timely rewards, focusing on regular recognition and feedback and flexibility in salary and bonus policy.

Fourthly, the authors suggest two methods to improve the factor "Fairness and consistency in management policy" including strictly handling violations internally and continuously updating policies and orientations with employees.

Fifthly, the authors suggest three methods to improve the factor "Training and development" including developing training programs and periodic evaluation and developing suitable training programs for each group of employees and diversifying training methods.

Finally, the authors suggest two methods to improve the factor "Risks acceptance of creativity and innovation" including organizing internal contests and encouraging a culture of innovation at the company.

6. CONCLUSION

The results of the study are shown as follows:

Theoretically, the study has generalized the theoretical basis through related studies, thereby building a proposed research model consisting of 6 hypotheses with quantitative scales to identify corporate culture factors affecting "Employee commitment to the organization" at Logistics companies in Hanoi city.

Practically, the research has collected, synthesized and analyzed data based on the collected survey results to test the research model and hypothesis. The quantitative analysis method is used to measure the relationship and influence of corporate culture factors on "Employee commitment" at Logistics companies in Hanoi city. The analysis results show that all the initial hypotheses are accepted, and all 6 corporate culture factors have a positive impact on "Employee's commitment to the organization", with the level of impact expressed by the regression model:

$$F_CK = 0,325 * F_LN + 0,267 * F_GT + 0,218 * F_PT + 0,139 * F_CB + 0,123 * F_DT + 0,090 * F_RR$$

The study has determined and clarified the factors that influence an employee's commitment to an organization while also evaluating the impact of these factors through regression analysis. This will enable logistics firms in Hanoi to examine each factor in greater detail and more accurately gauge its impact on employee commitment to the organization.

Based on research findings, the study suggests groups of solutions to help develop a corporate culture that is related to each of the following elements: "Teamwork", "Communication within the organization", "Rewards and recognition", "Risk acceptance through creativity and innovation", "Training and development", and "Fairness and consistency in management policy" to help increase employee commitment to the company.

This is crucial for business operations because, thanks to specific recommendations, managers will be able to focus more effectively on attracting and retaining personnel, managing human resources, as well as implementing strategies to achieve the organization's essential future objectives given their limited resources.

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8. APPENDIX

Survey form

Hello Sir/Madam,

My name is Nguyen Nhat Linh, a student at Foreign Trade University. I am currently doing my research on the topic: "The influence of corporate culture on employee commitment to the organization at some companies in the field of Logistics - Survey in Hanoi city". The research results will help the thesis analyze the factors of corporate culture that affect employees' commitment to the organization, thereby drawing suggestions to improve and enhance employee engagement with the organization.

Your participation will be an extremely valuable contribution to this topic. I hereby declare that this information is only used for research purposes, all information is encrypted, confidential and presented in aggregate form. Therefore, I look forward to receiving your most sincere cooperation.

Thank you very much for your help!

PART 1: SELECTION PART

To ensure the relevance of the results to the object and content of the study, please answer the following questions:

1. Are you working for is in the field of Logistics? (including companies specializing in specific sectors such as transportation, forwarding, distribution, warehousing, port operations, providing 3rd party services or providing related services, to the extent of Vietnam domestic or international).

Yes No

2. Whether your company has its head office/branch in Hanoi?

Yes No

3. Are you working in Hanoi?

Yes No

If the answer to all 3 questions above is Yes, please continue to complete Part 2 and Part 3 of this survey.

PART 2: RESEARCH CONTENT:

Please indicate your level of agreement with the statements below by ticking the appropriate boxes corresponding to the scale levels.

1	2	3	4	5
Totally disagree	Disagree	Have no ideas	Agree	Totally agree

I, QUESTIONS ABOUT CORPORATE CULTURE

No.	Questions	Approval level				
1 Communication within the organization						
1.1	You have received enough information to do the job	1	2	3	4	5
1.2	You receive guidance from your superiors when you have difficulty solving work	1	2	3	4	5
1.3	The company always encourages communication and information exchange between departments and departments	1	2	3	4	5
1.4	Changes in policies and procedures related to employees in the company are fully and clearly communicated	1	2	3	4	5
2 Training and development						
2.1	You have many opportunities for career development while working at the company	1	2	3	4	5
2.2	You are encouraged by the company to support and facilitate participation in courses and training programs to help improve professional skills and develop yourself.	1	2	3	4	5
2.3	You are trained in the necessary skills to do the job well	1	2	3	4	5
2.4	The training policy, as well as the necessary conditions for promotion in the company, are clearly and publicly announced	1	2	3	4	5
3 Rewards and Recognition						
3.1	Do you receive feedback and suggestions from your superiors about your job completion?	1	2	3	4	5
3.2	You receive praise and recognition from your superiors when you do a good job	1	2	3	4	5

3.3	You receive bonuses and recognition commensurate with the results you contribute to the company	1	2	3	4	5
3.4	Salary, bonus, allowance and welfare policies are clearly communicated and communicated to you	1	2	3	4	5
4 Teamwork						
4.1	You always receive the cooperation of departments and divisions in the company when you need support	1	2	3	4	5
4.2	Do you enjoy working with people in your department?	1	2	3	4	5
4.3	Colleagues in the same department are clearly assigned tasks and cooperate effectively when working in groups.	1	2	3	4	5
4.4	Teamwork is encouraged and implemented in your company	1	2	3	4	5
5 Fairness and consistency in governance policy						
5.1	The reward and discipline policies in your company are transparent and clear	1	2	3	4	5
5.2	Your management level is always consistent in the implementation of administrative policies for employees	1	2	3	4	5
5.3	There is no bias in the process of salary raises or promotion	1	2	3	4	5
5.4	Wages and income distribution within the company are fair	1	2	3	4	5
6 Take risks through creativity and innovation						
6.1	You are encouraged to learn from your mistakes when you make changes without being reprimanded	1	2	3	4	5
6.2	You are encouraged to be creative in your work and innovate your working methods	1	2	3	4	5
6.3	The company always appreciates new ideas proposed by employees	1	2	3	4	5
6.4	Effective innovations and creative ideas are rewarded in many different ways	1	2	3	4	5

II, QUESTIONS ABOUT ORGANIZATIONAL COMMITMENT

No.	Commitment to the organization	Approval level				
		1	2	3	4	5
1	You feel proud to be a part of the company					
2	You want to stay with the company for a long time and will stay in the organization even if you receive a better job offer from another place.					
3	You are willing to try and do your best to help the company succeed					

PART 3: GENERAL INFORMATION QUESTIONS

Please choose the most appropriate answer to each of the following questions:

Question 1. Please indicate your gender:

1. Male
2. Female

Question 2. Please indicate which age group you belong

to below:

1. Under 25 years old
2. 25- 30 years old
3. 31- 40 years old
4. More than 40 years old

Question 3. Please indicate your highest level of education:

1. General Labor
2. College, Intermediate
3. University graduate
4. Postgraduate

Question 4. Please indicate your working time at your current company

1. Below 2 years
2. From 2 to 5 years
3. From 5 to 10 years
4. Above 10 years

Thank you very much for your help in completing this survey. Once again, I hereby declare that the information provided by you is purely for research purposes only.

Wish you always healthy, and successful in work and life!

Best regards!

THE INFLUENCE OF CULTURE ON THE RELATIONSHIP BETWEEN THE INCENTIVE SYSTEM AND EMPLOYEE'S SATISFACTION IN VIETNAMESE ENTERPRISES

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Research purpose:

This study helps answer questions in research on the relationship between culture, various aspects of the incentive system and employees' job satisfaction. The research results in the paper help bring deeper understanding of the role of culture in influencing on the relationship between incentive system and employees' job satisfaction.

Research motivation:

The study tries to explore that when employees have cultural values with high need for safety, are they more satisfied when the enterprise mainly uses fixed compensation than when the enterprise mainly uses performance-based incentives? Or when enterprises apply incentives based on group results and apply the principle of parity distribution compared to incentives based on individual results and apply the principle of equity distribution?

Research design, approach, and method:

The study uses both qualitative and quantitative research methods. Accordingly, in the qualitative research phase, the study used the case study method at an enterprise. The research also uses data collected from surveys through the use of questionnaires. The sample size was 150 enterprises. Each enterprise, the author sent 2 questionnaires.

Main findings:

Employees' cultural value of security need moderates the relationship between the incentive system and their job satisfaction. In particular, for employees who have the cultural value of higher security need, the enterprise applies the principle of equity or incentive based on individual results or higher incentive percentage or incentive frequency, they are less satisfied

Practical/managerial implications:

The research results help managers understand more and make the suitable adjustments to increase the effectiveness of incentives by designing and implementing incentive systems in accordance with the cultural values of the employees.

Keywords: *Job satisfaction, incentive system, cultural values*

1. INTRODUCTION

Satisfaction of employees will contribute to improving the results and efficiency of enterprises (Pothukuchi et al., 2002). Therefore, it is very important to increase employee satisfaction with work in particular and with business management in general. Many studies have been conducted to investigate different aspects of the incentive system in relation to culture (Przysada-Sukiennik, 2019) or employee preferences (Rehu et al., 2005; Goktan and Saatcioglu, 2011). Based on these research results, managers can design incentive plans that match employee preferences to enhance the effectiveness of motivation. However, studies of this preference for compensation have been

conducted in different countries where the five cultural values found by Hofstede (1984) were applied including risk avoidance value, power distance, masculinity or feminine, individualism or collectivism, and long-term or short-term orientation. Accordingly, the above authors found that workers in different countries with quite clear differences in the five cultural values mentioned above showed significant differences in their preferences for different mechanisms and methods in which incentives were designed and implemented. For example, Goktan and Saatcioglu (2011) found that workers with high risk avoidance values preferred fixed wages over performance-based incentive and workers who were more collectivist might prefer team results-

based compensation and seniority-based compensation. Researches by Reru et al (2005) and Segalla et al (2006) also showed that workers and managers with differently cultural values would have preferences and choices that varied with respect to the level of incentive, the allocation principle, or the basis for the allocation of incentives.

However, according to Hofstede et al. (1990), the above individual cultural values differed only significantly across countries. Members of the same country only show significant differences in the value of the security need, need for power, and the appreciation of work. Therefore, unlike previous studies, this study investigates individual cultural value differences within a country, Vietnam, using three cultural value variables of Hofstede et al (1990). In addition, the study provides a supplement to previous researches by clarifying whether the incentives are given suitable with their cultural values, how employees will be satisfied. Because their satisfactions will contribute to increase productivities and firm performances, they are interested by managers and scientists. However, there is no study that has answered this specific question. Therefore, this research tries to seek the answers. After that, from the findings of the study, the paper will suggest for managers to design a incentive system that is suitable for employees' culture in order to increase their satisfaction.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Culture

Hofstede's research paper (1984) classified countries based on differences in several values, including risk avoidance, power distance, masculinity/femininity, and individualism or collectivism and it is still widely used in many studies (Chiang and Birtch, 2007). This author then introduces the fifth national culture variable, which is long-term orientation or short-term orientation (Hofstede and Soeters, 2002). These cultural variables have been used in many studies, including studies on the influence of culture on the compensation system in general and the incentive system in particular. However, these values differ significantly among countries. Members of the same country differ only in their values of security needs (or risk aversion), need for power (closer to the power distance variable) and job esteem (Hofstede, 1990). Risk avoidance can be identified when members of a culture feel threatened, and try to avoid situations that are unknown or unclear. Those with high scores in this variable have a need for predictability (Goktan and Saatcioglu, 2011). Power distance is "a measure of power or mutual influence between superiors and subordinates as perceived by subordinates" (Goktan and Saatcioglu, 2011). It can be defined as "the extent to which less powerful members of an organization within a country expect and accept that power is not distributed equitably" (Chiang and

Birtch, 2007). According to Hofstede (1984), the long-term orientation variable reflects the presence of future-oriented values, such as frugality, patience, respect for tradition, and fulfillment of social responsibilities (Hofstede and Soeters, 2002).

2.2 Incentive systems

Many compensation researchers have agreed that employee compensation packages often include salaries, benefits and bonuses, and stock options (Mahoney and Thorn, 2006). According to these authors, salaries are a fixed part of compensation. Types of benefits include medical care, retirement or other benefits. Incentives including bonuses and stock options, are an important tool for motivating employees to achieve organizational goals. Compensation plans consist of two parts: short-term incentive plans and long-term incentive plans (Anthony and Govindarajan, 2003). Short-term incentive plans based on the current year's results. Long-term plans, on the other hand, attach incentives to long-term mission performance and are related to the company's common stock price. An employee can be rewarded under both plans. The incentive in the short-term plan is usually paid in cash, and the incentive in the long-term plan is usually the right to buy the company's common stock. The incentive system refers to the mechanisms and methods by which incentives are determined and implemented. Incentives can be determined based on group results or individual results. The distribution of incentives can be done on a equity or parity basis. With the principle of parity, the incentive is divided equally among all members. In contrast, the principle of equity, incentives depends only on the results of each member.

2.3 Relationship between culture, incentive system and satisfaction

Researching job satisfaction is important to businesses. One of the main reasons is that job satisfaction is closely related to work performance. People who are satisfied with their jobs tend to get their jobs done better. How employees feel about the work they are doing and the results they get from their work directly affects the results and subsequently the stability of the business. Better work results will contribute to firm performance, thereby making the business more efficient and profitable. Raime et al (2018) found that three variables: incentive compensation, teamwork and employee participation had an impact on job satisfaction. Khairunnisa et al. (2020) also confirmed that financial and non-financial incentives had a relationship with job satisfaction of workers in South Sulawesi province, Indonesia. In agreement with the above authors, Arokiasamy and Penglok (2014) also concluded that there was a positive relationship between compensation, promotion and benefits with job satisfaction of lecturers in some universities. Willis et al. (2018) also argued that both the design and implementation of incentives were important in

promoting faculty satisfaction in terms of compensation, motivation and engagement. In addition, Oah et al. (2019) further investigated the impact of incentive distribution on performance and satisfaction in small groups. Three incentive plans are compared: individual incentives, evenly split group incentives, and differentially split team incentives. The research results showed that the results of working in groups with differentially distributed incentive were higher than the results of working in groups with equally divided incentives and individual incentives. However, the team with equally distributed incentives and the individual incentives yielded the same results. Highest satisfaction was with individual incentives.

Supporting these findings, Chen (2020) showed that worker satisfaction acted as a mediator between incentive compensation and commercial bank performance. Incentives could improve the performance of commercial banks by improving employee satisfactions. In addition, Fong and Shaffer (2003) confirmed, satisfaction with group incentive plans was found to be a differential dimension in compensation satisfaction, while process fairness and performance-based pay were found to be decisive factors. Comparisons of different cultures were made using data collected from employees of a multinational company in the US and Hong Kong. These two authors found that national cultures had direct and moderate effects on income satisfaction.

Furthermore, because culture encompasses people's values, beliefs, and social interactions, incentives are one of the management practices that can be most strongly influenced by cultural differences among country (Jansen et al., 2009). These authors explained that several aspects of national culture, particularly those between the US and the Netherlands, were responsible for differences in the use of incentives in firms in the two countries. For example, according to Hofstede and Soeter (2002), the United States and most other Western countries score relatively low on the long-run oriented cultural variable. However, the Dutch score is much higher. Jansen et al. (2009) found that this cultural variable also had a direct impact on the use of incentive systems. In the country with high scores in the long-term orientation, businesses prefer to use stably fixed income over rewards. Segalla et al. (2006) found that the long-term orientation of the sales force has an influence on incentive compensation preference. Specifically, managers who emphasize the long-term orientation of the sales force are less likely to choose incentive plans than fixed compensation plans. In addition, the long-term or short-term orientation of managers will affect the choice of incentive allocation principles. According to these authors, managers who prefer the long-term approach tend to prefer fixed compensation, typically done with fixed wages, because it allows managers to control behavior better. Therefore, managers who valued the long-term orientation of the

sales force tend to be less inclined to choose the principle of equity in the allocation of incentives than the principle of equity. Goktan and Saatcioglu (2011) examined the relationship between risk avoiding value and preference for fixed wages and asserted that in societies with high standards of risk avoidance, individuals prefer fixed compensation. Furthermore, there was also evidence that under higher risk conditions, organizations used a larger proportion of variable compensation (Nazir et al., 2012). Goktan and Saatcioglu (2011) also found a positive relationship between risk aversion values and seniority-based pay preference. Segalla et al. (2006) examined the influence of risk-avoiding cultural values on incentive compensation preferences in six European countries and found that managers belonged to risk avoiding cultures tended to prefer compensation plans reducing uncertainty and therefore choosed fixed compensation plans.

* Power distance

Goktan and Saatcioglu (2011) were also interested in another cultural variable, power distance, in relation to salary preference based on seniority and found that there was a positive relationship between values associated with high power distance and preference for wages based on seniority.

In Vietnam, there have been many studies on the influence of salary and bonus policies on employee satisfaction. For example, Pham Hong Manh and Tran Thu Huong (2019) found that there were 4 factors affecting the job satisfaction of employees at enterprises in Suoi Dau industrial park, in which, salaries, bonuses were the most influential factors. Two authors Vu Viet Hang and Nguyen Van Thong (2018) also found that there were 6 factors affecting job satisfaction, in decreasing order of magnitude, including: Payment and welfare, training and promotion, working stress, working conditions, nature of work and the support from superiors. In addition, Phan Thanh Hai (2018) found 5 factors positively affecting employee satisfaction including salary policies in addition to other factors such as working relationships with colleagues and leaders, the nature of the work, benefits, rewards, recognition, and business management, opportunities for advancement and career development. Obviously, studies on the relationship between culture and incentive have only focused on clarifying how cultural values affect the preference for different incentive practices and have not shown that when incentives are awarded in line with or not with their cultural values, how it affects employee satisfaction. Meanwhile, there are many studies on the influence of the incentive system on employee satisfaction, but have not considered the influence of employees' cultural values on this relationship. So this is the gap that this research will seek to answer. The following is the theoretical model based on the literature review.

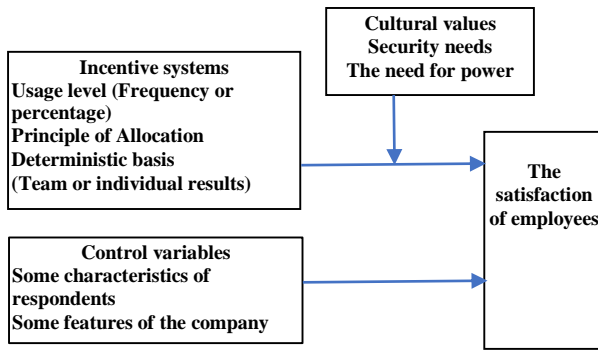


Figure 1: Research model

Cheng and Kao (2022) confirmed a significant negative relationship between the perceived threat (COVID-19) and job satisfaction. Employees with high security need often feel threat by even the small changes. As a result, they are likely less satisfied with changes while change is an important feature of today's business environment (Buntak et al., 2017). Therefore, security need have a significantly negative relationship with job satisfaction

Equity (distributing to each person according to contribution) and equality or parity (dividing on average) are the two main principles of allocation. When equity is pursued, incentives are distributed differently according to results and contributions. Equity standards are generally favored for results-based pay. When rewards are distributed averagely, regardless of individual contributions, equalization is the norm (Goktan and Saatcioglu, 2011). According to these authors, risk averse people prefer the parity principle and they prefer fixed compensation. Therefore,

H1: If employees have a higher security need, the enterprise applies the principle of equity in the allocation of incentive, their satisfaction is more likely to decrease more sharply.

The results-based incentive system considers how well employees perform while the skills-based incentive system emphasizes the skills they use on the job. Results-based systems reward employees according to their performance and contribution to organizational success. If the employees achieve the outcome goals, they receive a corresponding reward. This visible relationship between compensation and outcomes serves as a powerful motivator. In addition, team-based compensation systems measure the performance of the group and reward individuals based on how well the team has performed. In group-based compensation systems, standards of equality dominate, and individuals are rewarded based on group achievement rather than their individual performance. Group-based pay systems are appropriate when there is an emphasis on results produced through group coordination and when collaborative work efforts are required. On the other hand, in individual-based pay systems, individuals are rewarded for their own personal results, and there is a direct relationship between individual efforts and

outcomes (Barner-Rasmussen et al., 2009). In this system, performance and rewards are tied to individual contributions. Merit-based compensation is expected to attract risk-loving individuals who are entrepreneurial and innovative (Barner-Rasmussen et al., 2009). Entrepreneurial individuals look for opportunities and look for possibilities. The potential for greater results in merit-based systems is expected to be more attractive to them. However, this system may not appeal to risk-averse individuals. The more individual performance-based incentive, the higher the job satisfaction, but the cultural value of security need affect this relationship.

H2: Employees with a higher security need are likely less satisfied when incentive based on individual results

The results of previous studies showed that collective culture had a positive relationship with group performance-based compensation and individual culture had a positive relationship with individual outcome-based compensation (Goktan and Saatcioglu, 2011). Furthermore, Bento and Ferreira (1990) found that in organizations where individualism was stronger, compensation based on individual performance was more common. In contrast, in more collectivist organizations, incentives based on team results were used more. Meanwhile, salary satisfaction had a great influence on job satisfaction (Nguyen Van Diem and Nguyen Ngoc Quan, 2004). Because base preference determining incentives based on personal value, if the incentive systems adopted in a person's unit is consistent with his or her personal cultural values, he or she will be more satisfied. Moreover, the incentive percentage is higher, many employees are more satisfied. But larger incentives are often associated with higher risk taking, therefore,

H3: Employees with the cultural value of higher security need likely to have lower satisfaction when the incentive percentage is higher.

H4: Employees with the cultural value of higher security need likely to have lower satisfaction when the incentive frequency is higher.

In a seniority-based compensation structure, benefits accrue according to loyalty and stability. Under a seniority-based compensation system, an individual's compensation are determined based on length of service and continue to increase with annual increments given automatically for each year of service. Seniority-based compensation rewards firm loyalty and experience within the firm. Loyalty is important to the organization because it enhances stability and reduces uncertainty. Similarly, experience adds value to the firm (Chiang and Birtch, 2007), therefore:

H5: Employees with a higher power need are more likely satisfied when incentive based on seniority

With the work appreciation variable according to Hofstede et al. (1990), the results of previous studies did not show any clear relationship between this variable

and different aspects of the incentive system in businesses. Therefore, this study does not investigate this value.

3. METHODOLOGY

3.1 Research methods

The study combines both qualitative and quantitative research methods. Accordingly, in the qualitative research phase, the study used the case study method at an enterprise and found that a number of people with different cultural values and incentives, having different job satisfactions. Then in-depth interviews were conducted to clarify whether their differently cultural values were the causes affecting the relationship between incentive systems and job satisfactions. Because the qualitative research results supported the hypotheses made based on the literature review, the quantitative research method was conducted to investigate at a larger sample size to test the hypotheses.

3.2 Data

In addition to the information and data obtained from the qualitative research, the study also uses data collected from surveys through the use of questionnaires. The research sample was selected from enterprises of all economic sectors in Hanoi and neighboring provinces. By surveying based on questionnaires, the study conducted data analysis, examined the influence of culture on the relationship between different aspects of the incentive system such as the level of incentive use, the selection of principles and bases for incentive allocation in Vietnamese enterprises. The sample size was 150 enterprises. Each enterprise, the author sent 2 questionnaires to two people, one of them works in sales department and the other works in other departments such as the board of directors, accounting department, the technical department or the human resources department... The reason for the choice to send two questionnaires for each enterprise is because of the qualitative study results that the incentive systems in the sales departments and other departments in many Vietnamese enterprises have significant differences. The questionnaires were sent directly or through a person from the same company who received them. This person continued sending to the other person who the research wants to investigate in the enterprise. If they work in the sales department, they send to a qualified person in another department to fill out the questionnaire and vice versa.

150 enterprises were selected according to the criteria to ensure the level of representation. Specifically, in terms of scale, the research investigated large-scale, medium-sized and small-scale enterprises. The study selected businesses from all legal forms and industry factors were also taken into account. The sample included manufacturing enterprises, commerce and service businesses. The research was predicted to

collect 300 answer sheets. However, in reality, only 230 answer sheets were collected. After eliminating answer sheets that lack important information, 216 of them were used for analysis because they were filled quite sufficiently, so suitable to data analysis.

The measures of the individual cultural value variable were borrowed from the study of Hofstede et al. (1990), specifically 28 questions assessing the personal cultural value of the respondents. Respondents' value measures use a 5-point Likert scale with 1 being strongly disagree to 5 being strongly agree. These 28 items measure the need for security, power and the appreciation of work of the respondents. In addition, the measures of the employees' job satisfaction were borrowed from the study of Pothukuchi et al (2002). The measures of the principle of equity or parity allocation were based on the study of Segalla et al. (2006). The measures of compensation based on group or individual results were developed from the study of Goktan and Saatcioglu (2011). And the measures of incentive usage are based on research by Mahoney and Thorn (2006). SPSS software was used to analyze data. Three-step regression analysis technique was used to clarify whether culture plays a role in moderating the relationship between incentive systems and employees' job satisfaction.

4. RESULTS AND DISCUSSION

4.1 The reliability of the scale

With personal values, 28 questions were designed to measure two dimensions of cultural values, including the security need and the power need. However, the results of factor analysis showed that the questions did not load as expected. In the first factor, 5 out of 14 items asking about the security needs were loaded. The reliability of the scale with Cronbach alpha = 0.73. The results of the statistical analysis of item to total showed that if the question "most people are not trustworthy" was removed, the Cronbach alpha would reach 0.75, meaning the reliability increases. Therefore, the author decided to keep the name of this factor as the cultural value "security need" and used only four items to measure this variable: "Serving the country is not important", "The opportunities for promotion don't matter", "Training opportunities don't matter" and "Being guided by superiors doesn't matter".

The higher the scores on these items, the greater the need for security. The theoretically incorrect factor analysis results can be explained as Hofstede also emphasized that his scales were based on 20 organizational units in the Netherlands and Denmark, so it may not represent other countries

4.2 The regression analysis results

To test the hypotheses, it should be noted that the incentive usage level variable is measured by incentive frequency, which is the number of incentives in a year,

or the incentive percentage, which is calculated as the incentives to total compensation ratio. To test the hypotheses, 3-step regression was used. Firstly, 11 control variables were included, then security need and equity or individual-based incentive or incentive percentage or incentive frequency variables were included. Finally, in step 3, the interactive variable was entered. The results of the regression analysis were as follows:

H1: In full model 2, both security need (-.682, $p < .01$) and interactive (.562, $p < .05$) variables have significant relationships with the satisfaction variable. This means that the cultural value of security need moderated the relationship between equity allocation rule and employee satisfaction. This is consistent with hypothesis H1.

H2: In full model 2, both individual incentive (.554, $p < .01$) and interactive (-.476, $p < .1$) variables have significant relationships with satisfaction variable. This means that the cultural value of security need moderated the relationship between the individual incentive and the employee satisfaction. This is consistent with hypothesis H2.

H3: In full model 2, both security need (-.212, $p < .1$) and interactive (-.628, $p < .1$) variables have significant relationships with satisfaction variable. This means that the cultural value of security need moderated the relationship between the incentive percentage and the employee satisfaction. This is consistent with hypothesis H3

H4: In full model 2, the interactive variable, computed as the security need variable multiplied by the incentive frequency, had a negative relationship with the satisfaction variable (-.438, $p < .1$). This means that the cultural value of security need moderated the relationship between incentive frequency and employee satisfaction. This is consistent with hypothesis H4.

Hypothesis H5 were not tested because the result of scale reliability analysis to the cultural value of power need dimension was too low.

Table 1.1: Summary of regression analysis results

Variables	Satisfaction			
	Full Model 2	Full Model 2	Full Model 2	Full Model 2
Control variables				
Job title	.005	-.023	.080	-.059
Age	-.068	.015	-.056	.023
Sex	-.047	-.007	-.034	-.001
Number of years working for current company	.207 ⁺	.136	.180	.107
Education level	-.051	-.050	.041	.082

Working units	-.037	-.019	-.223*	-.060
Main business sector	.049	.060	.023	.053
Legal form	-.093	-.060	-.209*	-.121
Company size	-.064	-.110	-.128	-.091
Company age	.130	.100	.083	.048
Ownership	-.021	-.026	.010	.027
Independent variables				
Safety needs				-.206
Incentive frequency				.386
Safetyneeds*Incentivefrequency				-.438 ⁺
Safety needs			-.212 ⁺	
Incentive percentage			.409	
Safetyneeds*Incentivepercentage			-.628 ⁺	
Safety needs	-.682**			
Equity allocation rule	-.174			
Safetyneeds*Equityallocationrule	.562*			
Safety needs		-.013		
Individual incentive		.554**		
Safetyneeds*Individualincentive		-.476 ⁺		
F	2.963***	3.991***	2.051*	2.722**
Adjusted R ²	.139	.202	.121	.145
Số quan sát	171	166	108	143

(Standardized coefficients are shown
Significance levels: + $p < .1$. * $p < .05$. ** $p < .01$ *** $p < .001$)

5. CONCLUSION

Unlike many previous studies on the relationship between culture and compensation that have studied the compensation preferences of individuals or the compensation system in different organizations in different countries, this study investigated differences in cultural values of employees and incentive systems within one country, Vietnam. Previous studies often investigated the impact of culture on compensation in different countries because most researchers agree that culture at both the national and organizational levels refers to values, beliefs that differ only significantly among countries. The results show that employees in Vietnam show significant differences in the cultural value "security need". This helps to reinforce the view

of some previous researchers to negate homogeneity within a culture (Chiang and Birtch, 2007)

This study has some limitations. Firstly, most of the measures are borrowed from previous studies, so when applied in the Vietnamese context, certain differences have been revealed. Specifically, only one of the three cultural value variables is reliable enough. Even with sufficiently reliable measures, the items on each measure did not "load" as expected. A second limitation of this study is that it uses several measures of one indicator, or only one question to investigate some aspects of the incentive system. Although this is common in compensation studies (Barner-Rasmussen et al, 2009), Chiang and Birtch (2007), their reliability may be of concern. The third limitation concerns the study sample. The research wanted to investigate more Vietnamese enterprises. But due to resource limitations, the research sample is only taken from enterprises in Hanoi and neighboring provinces. Therefore, this is also a limitation of the research, although many previous studies on the relationship between culture and compensation performed by other authors also share the same limitations (Ling Li and Roloff, 2007; Bento and Ferreira 1990; Goktan and Saatcioglu, 2011 and Papamarcos et al., 2007).

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APPLICATION OF SHIFT-SHARE ANALYSIS TO STUDY THE CONTAINER MARKET CONCENTRATION IN SOUTHSIDE OF VIETNAM

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Research purpose:

The purpose of this study is to investigate the development of container ports in Southside Vietnam between 2000 to 2021.

Research motivation:

As Vietnam become one of the manufacturing hubs for global value chains such as textile, garments, footwear, and mobile phones and electronic devices, etc., many ports are seen as bottlenecks of the international material and finished products flows of transport. 17 Southside ports in Ho Chi Minh City (HCMC) and Cai Mep ports account for 62% of total country container throughput. However, academic researches about seaports is very limited. hence, port policy makers are struggling to propose policy for port planning and future development.

Research design, approach, and method:

Section 1 is introduction of the topic. Section 2 provides a review of the literature. Section 3 describes the methodology. Section 4 provides the discussion about results of calculation. Section 5 summarizes the findings.

By using the data of port throughput in TEU to compute the concentration ratios, and shift and share effect analysis is deployed to find out winners and losers.

Main findings:

Findings will provide port authorities, policy makers, and port operators with updated container port system in the Southside.

Practical/managerial implications:

In the future more container volume will be diverted from HCMC Ports towards the deep-draft ports in Cai Mep as the port-hinterland connectivity infrastructure is improving. New port entrants recently have posed a big threat to. As there are new entrants, the Vietnam-based shippers enjoy the benefit of improved in port service quality and cost control which will enhance the efficiency of their supply chain.

Keywords: container port, Southside Vietnam, shift-share analysis, HHI, policy review, sea trans portation

1. INTRODUCTION

While The world are undergoing a lot of changes Vietnam international trading activities have been benefited from nearly twenty free trade agreements, recently included EVFTA, TPP-11, UK-Vietnam FTA, the setting up of new manufacturing hubs moving from China, and the economic recovery of the post-covid 19 epidemics, etc., Vietnamese government sets out its goal that “by 2035, Vietnam will be a modern and industrialized nation moving towards a prosperous, creative, equitable, and democratic society”.

In order to realize the above goal, Vietnam needs to progress in economic development, human capacity,

and transport connectivity, in particular the maritime transport infrastructure. As seaports are gateways for freight movement to and from a country and the world, and they play a vital role in the global supply chains. However, comprehensive and academic researches about port development in Southside is very limited, hence, port policy makers are struggling to propose policy for port planning and future development.

The purpose of this study is to investigate the concentration of container ports in Southside Vietnam between 2000 to 2021 by using Concentration Ratio, the Hirschman-Herfindahl Index (HHI), Gini coefficient, and the shift-share analysis technique. By using updated

data as of 2021 and port policy review, this paper aim to bring out current market analysis and updated port strategies for Southside ports.

The rest of the paper is structured as follows. Section 2 provides a review of the literature on port development phases, papers used concentration index and shift share analysis related to ports and summary about port policies and main container port operators. Section 3 describes the methodology, where some indexes are used to calculate the market concentration level. Section 4 provides the discussion about results of the market concentration analysis and the shift-share analysis. Section 5 summarizes the findings of the research.

2. LITERATURE REVIEW

2.1 Port development studies

Taffe et al (1963), observed the port systems in Ghana and Nigeria, he suggested that there is “an ideal type sequence of transport development” which consists of six phases: penetration lines, concentration, development feeders, the beginnings of interconnection, complete interconnection, and the emergence of high-priority “main streets”. In 1990, Slack proposed a seventh phase to Taffe’s model, the fully-developed intermodal system, in which the redundant ports of “high priority linkages” would be deleted.

Another typical model of the container port system development was Hayuth’s port model in 1981 based on the American container ports. The process consisted of five phases: initial container port development, diffusion, consolidated and port concentration, the load center, and the challenge of the peripheral ports. Hayuth (1981) argued that the growing port concentration has been inevitable as some dominant container terminals have gained comparative advantages arising from their location and financial capacity. However, later on, the diseconomies of scale, congestion, and certain problems of larger ports adversely affect the centralization of ports.

In 2005, Notteboom and Rodrigue added a new phase of port development regionalization thanks to stronger connections with the hinterland, the transshipment ports, and the foreland. This final phase reduces the logistics cost by implementing information technology and intermodal transport.

Many authors also argue that a common model for the development of the container terminal system was unfeasible because the process would vary according to the economics of the region (Wang, 1998).

2.2 Review about shift-share analysis method

Studies focusing on the concentration and shift-share analysis of seaports in a region are important to better understand how a port system develops and evolves (see Woo et al, 2011). There are numerous studies evaluating market concentration levels of the container port. Concentration and de-concentration

process of port-systems have been widely studied in the European regions (Notteboom, 1997, 2010 Hanafy and Labib (2017), in the Asian (Tongzon, 1994, Yap et al, 2006, Yeo, 2006, Kim, 2015 Liu et al, 2016, Dang and Yeo, 2017), and in the United States (Hayuth, 1988)

In detail, Hayuth (1988) used the Lorenz curve and Gini coefficient methods to analyze the concentration of the container port system in the U.S. In the paper, he developed a five-phase model: the pre-container era, the introduction of containers, worldwide boost for containerization, concentration tendency, and load centers.

It is observed that the container port system was first decentralized in the US between 1970 and 1985 (Hayuth, 1988) and in China from 1998 to 2010 (Pan et al., 2014; Zhang et al., 2015) with the development of a mature container transportation system. These studies analyze the factors causing port concentration or de-concentration such as containerization, technological changes, and trade patterns (Woo et al., 2012).

Notteboom (1997) investigated the concentration and de-concentration level in the European continental container port system from 1980 to 1994. The study was then updated for the period 1985-2008 by applying the normalized HHI and Lorenze curve.

De Oliveira and Cariou (2015) studied the efficiency of 200 container ports in terms of competition on three different scales (local, regional and global scale). The results indicate that the level of competition does not significantly affect the efficiency of the port when it is calculated on a global scale (over 800km) while inter-port competition lowers efficiency of ports at the regional level.

For Vietnamese port competition studies, Pham et al (2016) used the same approach to testify the deconcentrating trend and shifting among container terminals on Northern Vietnam. They mentioned that newly built closer to the mouth river and the island-based port have attracted more cargo over the period. Recently, Phan and Yeo (2020) observed that ten Inland Container Depots (ICDs) in Southside have deconcentrated since 2010 by using similar techniques.

Southside containers ports with larger scale but currently there has been no research about the port concentration and shift-share analysis for the Southside. Hence, to improve the logistics efficiency of Vietnam, we need to provide more studies about gateway ports in the Southside.

2.3 Vietnamese Port Policy Review

Like other socialist regimes such as China, Vietnam commercial ports was planned and developed by government. Before 1999, there had been no official master plans for ports in Vietnam. Decision No 202/1999QĐ-TTg, the first Port Development Master Plan-vision 2010, is a turning point for systematic port infrastructure planning for facilitating the high growth

rate of the international trade activities. Ministry of Transport (MoT) is the government body responsible for master infrastructure development plan of port regions nationwide. Every five year MoT will publish a port Master Plan. Below, we summarized some main points of the Southside port development status and the Master Plan information:

From year 2001 to year 2005: there were three major economic regions in Vietnam, therefore, port systems were clustered into North, Central and South Areas. Most ports in Southside ports were controlled by State-owned Enterprises (SOEs), such as Vinalines (VNL) and Sai Gon New Port (SNP). Yet, VNL was controlled by MoT and SNP was under the Navy Department.

From year 2006 to year 2010: Owing to the Agenda for Vietnam WTO Accession in 2007, government restructured state owned enterprises through equitizing process. SOEs in port sector such as VNL and SNP were restructured to the Parent-subsidiaries business model. Noticeably, a private-owned company, Gemadep, joins the container operation market, which had been long occupied by SOEs. Besides that, joint venture ports with foreign operators, Singapore Port Authority (SP-PSA) and DP World (SPCT)

From year 2011 to year 2015: Ports were planned to support the development of three Special Economic Zones Plan (SEZs). Hai Phong City, and Baria Vung Tau Province (BRVT) were funded to build up the national hub ports. BRVT port, also called Cai Mep, infrastructure construction, received a loan of 36.4 billion yen from Japan Bank of International Cooperation (JICA, 203). Since 2012, two deep draft ports, TCIT and CMIT in BRVT started operation to receive direct vessels calling EU and US ports with an aim to replace ports locating in the city center of HCMC. (Blancas et al 2013, VNS 2013).

From year 2015 to 2020: Hai Phong and Baria-Vung Ports continue to be international hub ports in the North and South part of the country, while Ho Chi Minh City (HCMC) Ports act as regional port for Southside. Government call for port investment from public private partnership (PPP) funding source. In HCMC, Cat Lai and Hiep Phuoc port range take place Sai Gon Port range due to the Relocation Port Master Plan in HCMC.

From year 2021 to current: Ports are re-arranged into five groups, and seaports should be prioritized for social infrastructure investment, especially gateway ports in Lach Huyen (Hai Phong) and Cai Mep (BR-VT) ports. Government allow HCMC to developing a new port range nearby the sea, namely Can Gio.

2.4 A brief introduction of container ports and operators in the Southside

Southside Vietnam ports contain seventeen major container ports locating in three major ranges namely Sai Gon River, Dong Nai River, Cai Mep-Thi Vai River, and Hiep Phuoc on Soai Rap River. According to data

from VPA (2022), in the last two decades, Southside as the economic center and industrial manufacturing hubs, accounts for more than 70 percent of total country container throughput. Tran and Takebayashi (2015) project that this growth trend will continue in the next five years. Figure 1 presents the annual total throughput of 17 ports, which has been growing continuously from 0.883 million TEUs (2000) to 13.1 million TEUs (2021). As time went by, we find more market entrants with different investor background, for example CMIT in 2007 by APM Terminal and VNL, TCIT in 2011 by shipping lines and SNP, Gemalink by CMA-CGM and Gemadep in 2021, etc.

When author aggregated the data into four groups basing on their operators' name, Saigon New Port (SNP), Vinalines (VNL), Gemadep (GEM), and Other medium-sized operators (OTHER). Interestingly, SNP alone accounts for more than 60% of the market share over the period (see Fig.2).

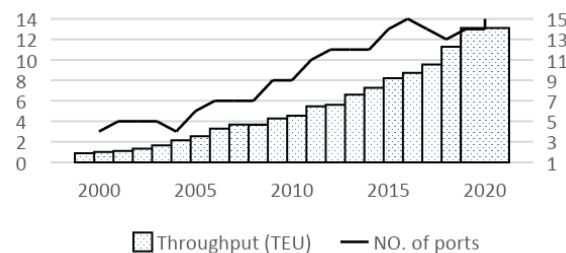


Figure 1: Vietnam Container Port Throughput 2000-2021 (Source: Authors compile from VPA website)

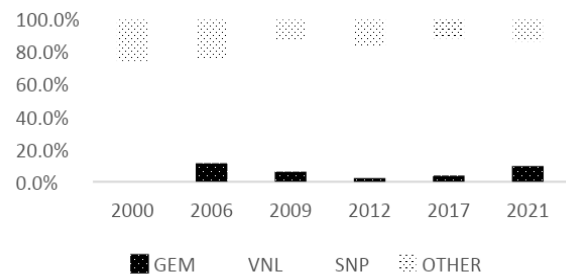


Figure 2: Cumulative market share of four main port operators in Southside (Source: Authors compile from VPA website)

Saigon New Port Coporation (SNP)

SNP was founded by the Navy in 1989, over 30 years of developments, SNP is engaged in port operation, logistics services and marine economic sectors. Figure 2 shows that SNP is the biggest player in the last two decade. SNP currently are operating three container river-based terminals based in Ho Chi Minh City (Cat Lai, Phu Huu and Hiep Phuoc) and two deep sea terminals in Baria Vung Tau (TCIT, TCTT, TCCT). The total port facility area of SNP is 245 hectare and 4.5 kilometers berth length. Ports in HCMC can accommodate vessel size from 1000 to 3000 TEU, while

ports in BRVT can accommodate the latest generation container vessel up to 20,000 TEU ships.

Vinalines (VNL)

Vinalines, which are operating the most berths in Vietnam since 1995, currently are known as VIMC. Due to the relocation plan of Sai Gon Port in Ho Chi Minh City center, total facility area of VNL in the Southside reduced from 187 hectare to 162 hectare. Fig 2 shows that since 2000 ports operated by VNL continuously lost the market share from 27% to 14% of the total Southside share. From 2018, VNL completed their restructuring plan by privatizing and listing in the stock market.

Gemadept

Gemadept started their container handling activity in a river-based port, namely Phuoc Long by using mid-stream container handling technology since 2005. Four year later, they lost the share quickly due to the low productivity of the mid-stream crane. Recently, in 2020, the newly opened container terminal was opened to receive biggest vessels in Cai Mep (BRVT) which are located very close to the international navigation channel.

Other port operators

For the rest six ports, we classify them into other medium-sized operators, because there were established by various organizations, such as Dong Nai port by Sonadezi, ITC port by ITC Corporation, Ben Nghe port by Samco, VICT by Sowatco Joint Venture, SCPT by DP World JV, and Lotus by Vietrans.

3. METHODOLOGY

3.1 Data

By using the data of port throughput in TEU (Twenty Equivalent Unit) from Vietnam Port Association website, author studied seventeen container seaports locating in the Southside of Vietnam, in Ho Chi Minh City and Baria Vung Tau Province during 2000- 2021.

3.2 Concentration ratio (CR_k)

Concentration ratios are measured by the market share of k, which represents the biggest container ports in volume throughput (TEU). The formula is expressed:

$$CR_k = \frac{\sum_{i=1}^k TEU_i}{\sum_{i=1}^n TEU_j}$$

Where

CR_k: is the concentration ratio of k, which represents the biggest container ports the Southside

K: is the number of biggest container ports chosen for computation

TEU_i: represents the number of container ports in the system

In this paper, CR₁ and CR₃ are selected to assess the degree of concentration of biggest ports in the Southside Vietnam ports.

3.3 Herfindahl-Hirschman Index (HHI)

The HHI is commonly applied to identify the level of concentration in a specific industry. If the port system includes only one container port, the HHI attains maximum value of 1. On the other hand, if the container throughput of each of the container ports in a given system is the same, the HHI equals its minimum value of 1/n.

Hirschman-Herfindahl Index (HHI) is used to quantify the concentrating trend for port system. indexed is expressed as H:

$$H = \frac{\sum_{i=1}^n TEU_i^2}{(\sum_{i=1}^n TEU_i)^2} \text{ and } \frac{1}{n} < H < 1$$

H: is the concentration index for the system

n: is the number of ports in the Southside

3.4 Lorenze curve and Gini coefficient

These indexes are useful in measuring concentration levels in a system. The Lorenz curve represent variations in the container throughput of all container ports, while the Gini coefficient is the ratio of the area between the Lorenz curve and a diagonal line. The Gini coefficient is measured as follows:

$$G = \frac{n+1}{n} - \frac{2 \sum_{i=1}^n (n+1-i)x_i}{n \sum_{i=1}^n x_i}$$

Where

n: denoted the number of container ports in the system

x_i: is the cumulative market share for the throughput of container ports from the lowest to the highest

3.5 Shift-share effect analysis

The shift-share analysis is commonly used to analyze regional economic growth, but Lombaerde and Verbeke (1989) applied it, for the first time, to the development of port systems. The shift-share analysis divides the change in container throughputs in a port into two components: shift effect and share effect.

The “share effect” reflects the expected growth of container traffic in each seaport calculated based on the growth rate of the seaport system (Notteboom, 1997). The difference between the performance of a port and a port of the total change in the port cluster is referred to as the “shift effect”.

$$SHARE_i = \left(\frac{\sum_{i=1}^n TEU_{it1}}{\sum_{i=1}^n TEU_{it0}} - 1 \right) * TEU_{it0}$$

$$SHFT_i = TEU_{it1} - \frac{\sum_{i=1}^n TEU_{it1}}{\sum_{i=1}^n TEU_{it0}} * TEU_{it0}$$

Where

SHARE_i: is the share effect in TEU of the ith container port for the period t₁-t₀

SHFT_i: represents the shift effect in TEU of the ith container port for the period t₁-t₀

TEU_i: refers to the throughput volume of the ith container port

n: denotes the number of container ports in the port system

4. RESULTS DISCUSSION

4.1 Results

In this section author summarize the results of calculation and analyze them. First step is to calculate the concentration ratio, CR1, CR3, which is the accumulated market share for top 1 and top 3 ports in Southside, then the result is shown in Table 1 below.

Table 1: High ranking container ports in Southside 2000-2021

Year	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
1st	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
2nd	SG	SG	SG	VI	VI	VI	VI	VI	VI	SG	SG	VI	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC
3rd	VI	VI	VI	SG	SG	SG	PL	SG	SG	VI	VI	SG	VI	VI	VI	VI	CM	CM	CM	CM	CM	GE
CR1	0.47	0.4	0.42	0.52	0.53	0.49	0.55	0.55	0.55	0.67	0.67	0.67	0.64	0.57	0.55	0.53	0.49	0.51	0.5	0.47	0.46	0.41
CR3	0.88	0.87	0.92	0.93	0.92	0.79	0.82	0.83	0.83	0.86	0.82	0.82	0.78	0.76	0.78	0.75	0.71	0.75	0.75	0.72	0.71	0.63

CL: Cat Lai, SG: Sai Gon, VI: VICT, PL: Phuoc Long, TC: TCIT, CM: CMIT, GE: Gemalink; CR: concentration ratio; Source: authors compose from collected data

Table 1 expresses the concentration ratios of the three most throughput ports in Southside from 2000 to 2021. The market share is most concentrated in 2008 at 0.93 and gradually becomes less concentrated annually, to 0.63 in 2021. Cat Lai port still dominates the market in the whole period (see row CR1 of the Table), from 41 up to 67% of the total share. CR3 in the whole period is higher than 0.7 means the port system is “highly concentrated” (Notteboom, 1997). It implies that the market power is in than hand of big ports for a long time, and the inter-port competition is weak.

Moreover, the regional port competition between some port ranges can be noticed, namely HCMC and Cai Mep range mentioned in Tran and Takebayashi’s papers (2017). Three big ports in HCMC, namely Cat Lai, Sai Gon and VICT maintained in the top 3 quite long time from 2000 to 2011. However, since 2012, when Cai Mep ports started operation, then VICT lost the 2nd rank to TCIT in Cai Mep. And four years later, another port in Cai Mep, namely CMIT, took the 3rd place of VICT. Until recently, in 2021, when super port Gemalink started operation, and it took the 2nd rank from CMIT.

Then, the positioning matrix (Fig.3) consisting of 17 selected ports is illustrated into two periods 2009-2012, when Cai Mep port-range had not been operated, and the 2017-2021. Author observes that there have been more market entrants over time, 9 ports in 2009, 12 ports in 2012, and 15 ports in 2021. Cat Lai still accounts for the largest share of total system, 65% in 2012 and 41% in 2021, but both indicators, the share and growth rate has reduced dramatically.

Results from concentration ratio (Table 1) and Positioning maps (Fig 3) shows that Southside container port system has been continuously dominated by Cat Lai port (SNP operator) based in HCMC. New entrants into

Cai Mep range started to threaten the market share and growth rate of Cat Lai is gradually decreasing.

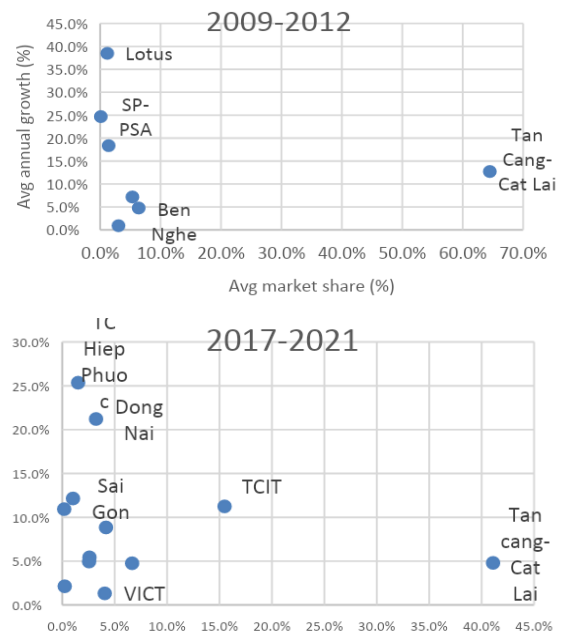


Figure 3. Southside ports positioning 2012 and 2021
(Source: authors computation)

Then, Figure 4 and Table 2 demonstrate more detail about Southside market defragmentation trend. For example, HHI value over six points of time shows a common trend that is during 2000- 2012, HHI increased from 0.321 to 0.432, but from 2012, HHI decreased gradually to 0.213 in 2021 (see Table 2). When comparing our HHI score is HHI result of the port system in the Northside by Phamet al (2016), we find that concentration ratio of Southside ports is still higher than Northside

Table 2. HHI score

Year	2000	2006	2009	2012	2017	2021
HHI	0.32	0.35	0.474	0.432	0.301	0.213

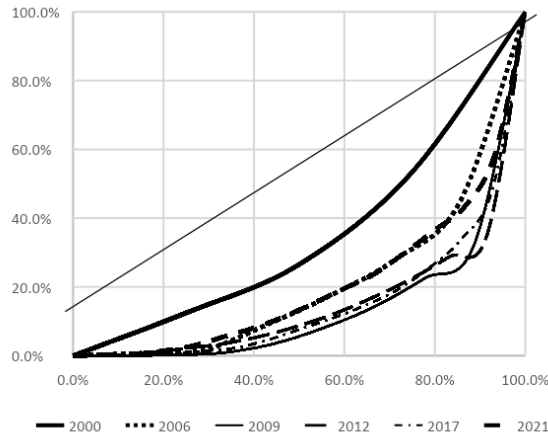


Figure 4. Lorenz curves for Southside ports

Table 3. Southside inter-ports shift and share effect

	Shift Effect					Share Effect				
	00-06	06-09	09-12	12-17	17-21	00-06	06-09	09-12	12-17	17-21
Cat Lai	211,314	498,985	8,155	-148,371	-124,054	777,059	55,501	1,052,416	2,512,221	2,278,937
Sai Gon	-464,790	70,215	-249,536	-178,304	-347,298	448,028	87,442	162,205	207,932	160,783
Ben Nghe	-126,607	-96,684	-77,607	-7,427	-79,638	207,655	75,739	72,950	118,261	138,590
VICT	74,584	-30,227	-84,348	-34,751	-311,941	234,281	171,646	129,662	248,505	281,619
Binh Duong	20,852	-29,059	45,673	196,780	-73,197			26	32,709	138,072
Lotus	17,583	-363	29,683	-76,626	-19,783			10,374	45,925	16,828
PIP	267,064	-148,822	-243,600	-81,407	-50,798			96,114	54,776	25,081
SPCT		8,000	243,729	-406,917	-45,998			3,431	182,389	15,366
Dong Nai			117,851	-6,563	128,057				84,240	98,082
TCIT			145,000	1,075,702	39,629				103,646	664,331
CMIT			65,000	613,341	-215,457				46,462	363,582
SP-PSA				465	-698					233
TCTT				389,419	-38,188					195,344
SSIT					798,187					
ITC					557,221					
Gemalink					900,000					

Table 4. Southside port-operator shift and share effect

	Shift Effect					Share Effect				
	00-06	06-09	09-12	12-17	17-21	00-06	06-09	09-12	12-17	17-21
Gemadep	287,916	-188,719	-211,701	129,309	776,004		124,980	109,914	73,549	163,154
Vinalines	-464,790	157,911	-205,970	244,087	234,734	448,028	96,746	232,514	300,934	524,598
SNP	211,314	446,281	219,370	50,680	-123,910	777,059	607,719	1,203,201	2,329,595	3,138,611
Other	-34,440	-415,473	198,301	-424,076	228,368	441,936	278,509	247,424	571,112	550,485

Lorenz curve (Fig 4) is a graph on which the cumulative percentage of total port throughput is plotted against the cumulative percentage of the corresponding port (ranked in port throughput share). The extent to which the curve sags below a straight diagonal line indicates the degree of inequality distribution. The total volume in 2000 is most equally divided, then 2009 and 2012, 2017 curve bend furthest from perfectly equality line. This can be interpreted that port volume had been unequally distributed from 2000 to 2017 towards Cat Lai in HCMC range, but recently, the market volume has been redistributed towards ports locating in the Cai Mep range. When we compare with results from Phan and Yeo's paper (2020), Southside port competition is fiercer than among ICDs', as there has been more new entrants for the former. And the later ports possess more advantages such as the accommodation of bigger vessels for direct service, more modern handling system and IT platforms.

Table 3 presents the result of shift-share analysis for Southside port system between 2000 and 2021. Sai Gon, VICT, Ben Nghe are oldest established ports in the Southside, but they are the biggest loser with continuous shifts to the system (see grey colored cells of the Table 3. Cat Lai Port absolute throughput still grows annually, but the shift effect was only positive until 2012. After that Cat Lai cargo volume has been shifted towards newly operated ports in Cai Mep region, namely TCIT, CMIT, and Gemalink etc.

TCIT is the only winner as of 2021, since they are the later generation port with deeper draft. This advantage enables them to accommodate the 20,000 TEUs container vessels. TCIT also focus on improving the port capacity and productivity and number of direct services to different market.

Furthermore, author aggregates the dataset basing on their port operators, namely Saigon New Port (SNP), Gemadept (GMD), Vinalines (VNL), Others in Table 4. Result shows that, interestingly, without the threat of super port Gemalink of Gemadept, SNP would be the biggest winner over time. In the first 11 years, SNP, no ports could compete with SNP, in terms of throughput. But since 2012, after deep draft ports opening in Cai Mep, they gained more share from SNP. This port development is similar to port decentralization due to "peripheral ports" explained for American container ports in Hayuth (1981).

5. CONCLUSION

To conclude, this paper adopts the market concentration index approach to evaluate the concentration trend of Southside seaports in HCMC and BRVT of Vietnam. Southside Vietnam regarded is the economic, finance and cultural center of the country, therefore, understanding the container port market behavior will help the policy makers, the investors and the firm manager make better decisions. Our findings

can be summarized in three main points:

First, Southside port system is "highly concentrated", and SNP is the biggest port operator and its Cat Lai port in HCMC attracts the most volume of container over the period.

Second, since 2012, deep draft ports built in Baria Vung Tau Province entered the market, they posed a big threat to long-term established ports in HCMC. While the inter-ports competition is quite weak between SNP and other medium-sized ports, the regional port competition between HCMC and BR-VT is very intensive.

Third, as the hinterland infrastructure from Cai Mep ports are improved over time, government successfully diverted more cargo away from HCMC ports to Cai Mep ports. The current container market behavior in Southside is coherent with the National port master plan.

In the future research, we are going to conduct further analysis about the shift-share analysis results to propose more port policy implications for port system, and to enhance the Southside port development.

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EVALUATING THE EFFECT OF TRAINING ON PERFORMANCE OF TOP MANAGEMENT TRAINING COURSE – THE CASE OF KEIEIJUKU BUSINESS TRAINING COURSE

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Research purpose:

The research proposes a model for senior management training evaluation; namely reaction after the course, knowledge, and skills learned in professional work and social behavior, and outcomes for the organization and society when they participate in the Keiejuku business training course.

Research motivation:

The research and development of a set of criteria to evaluate the effectiveness of training activities for the Keiejuku senior administrator course brings great benefits to not only the educational institution but also to the participants. This expects to bring great benefits to not only the educational institution but also to the participants.

Research design, approach, and method:

The research database was obtained from 220 trainees participating in this course. The factor analysis method was employed to test the reliability of the proposed scale associated with the set of criteria. After that, author assessed the effect of training to some results on individual and organizational and social outcomes of training activities by calculated the interrelationship of all evaluation levels.

Main findings:

The results show considerable reliability and consistency in evaluating training effectiveness based on the proposed model and criteria. Research result proved that the course content and knowledge learned can improve individual, organizational and social development. This set of criteria and scales can be used in training organizations and businesses to evaluate the effectiveness of training participants who are senior administrators.

Practical/managerial implications:

This research creates a training evaluation model and process to successfully conduct the measurement process in evaluating training effectiveness.

Keywords: *Training evaluations, effectiveness, Keiejuku*

DO LEARNING CLIMATE AND SELF-AWARENESS FACILITATE KNOWLEDGE SHARING BEHAVIOR AMONG ACADEMICS IN UNIVERSITY? A PERSPECTIVE OF CONSERVATION OF RESOURCES THEORY

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Research purpose:

The purpose of this paper is to investigate the relationship between learning climate, self-awareness and knowledge sharing behavior (KSB) in universities of Ho Chi Minh, Viet Nam.

Research motivation:

In the context of university, Academics are recognized as intellectual leaders for the development of society and own the specific knowledge. If knowledge is power, people ought to accumulate knowledge than sharing. So to enhance the knowledge sharing in university actively and positively is significant.

Research design, approach, and method:

The study used a quantitative research methodology. The empirical data consisted of 530 responses from the academic staff of 17 universities of Ho Chi Minh, Viet Nam.

Main findings:

The findings revealed a significant impact of facilitation learning climate, appreciation learning climate, error-avoidance climate and self-awareness on knowledge sharing behavior (KSB). This is the first study in universities to explain knowledge sharing behavior through the COR theory.

Practical/managerial implications:

Based on the COR theory, this is the first study in universities to argue that knowledge sharing behavior could be considered as an active activity and that individuals could be positive to perform knowledge sharing. And, knowledge management based on knowledge sharing should be used as a key function in development planning of universities in order to maintain or gain a sustainable competitive advantage

Keywords: *Knowledge sharing behavior, learning climate, facilitation learning climate, appreciation learning climate, error-avoidance climate and self-awareness.*

1. INTRODUCTION

In recent years, retaining, developing, going to global market and increasing competitive advantages of enterprises is a challenge for any managers and organizations. In order to achieve these goals, managers need to know not only how to effectively exploit existing tangible resources of organization, but also to develop intangible resources to meet organization of development needs. One of the resources that this paper wants to emphasize is knowledge.

Knowledge is the most valuable asset and the foundation of an organization's competitive advantage (Bock et al., 2005) and is a type of resource that support business growth and gain competitive advantage in the business environment (Drucker, 1993). This knowledge asset is formed through the creation and transfer through organizational members, to be integrated and linked together by the organization's knowledge management system (Nonaka and Von Krogh, 2009). Kimiz (2005) argued that knowledge can not only promote and create value for an organization, but also enhance the

sustainable competitive advantage of an organization. And, knowledge is considered like one of the key strategic resources that can produce a sustained competitive advantage (Grant, 1996).

The power of knowledge is enhanced when knowledge is shared (Nonaka & Takeuchi, 1995), and knowledge sharing (KS) has been arguably the foundation of many knowledge management programs (Hislop, 2013). Knowledge management (KM) programs have been gaining more importance as an essential topic for research, particularly in the academic field (Al-Kurdi, El-Haddadeh, & Eldabi, 2018; Fauzi, Tan, Thurasamy, & Ojo, 2019; Sunalai & Beyerlein, 2015). The potential role of KM in contributing to the success of organizations in general and universities, in particular, should not be overlooked. KM enhances the decision-making process by making it faster and efficient to find relevant information and resources (Beadles, Aston, Lowery, & Johns, 2005; Lopez-Nicolas & Soto-Acost, 2010).

A large number of studies have examined the factors that influence KS in various settings (Bock, Zmud, Kim, & Lee, 2005; Hislop, 2013; Jiacheng, Lu, & Francesco, 2010; Qureshi & Evans, 2015). Few studies addressed knowledge sharing in universities and particularly among academics. Although academics play a crucial role as expert knowledge workers engaged in knowledge activities through teaching and research (Fullwood & Rowley, 2017; Kim & Ju, 2008). Thus, managing KS in academia is now an emerging research agenda. When employees disseminate their knowledge, skills and expertise among organizational members, the performance of employees improves, and organizations become more innovative.

Universities are knowledge-intensive organizations that create and disseminate knowledge to students and society. Thus, knowledge management and sharing in universities are emerging issues. Significant benefits in terms of competitive advantage for universities can come from harnessing knowledge within universities (Mahdi & Almsafir, 2014). Academics are recognized as intellectual leaders for the development of society. Their primary tasks are considered teaching, learning, and publication. However, prior studies suggests that academics are idiosyncratic, reluctant to share knowledge, and attentive to their individual attainment instead of achieving universities' goals (Al-Kurdi et al., 2018; Charband & Jafari Navimipour, 2018; Fullwood & Rowley, 2017; Fullwood, Rowley, & Delbridge, 2013; Othman & Skaik, 2014; Tan, 2016).

In fact, knowledge is similar to other resources owned by individuals such as land, labor and capital etc, there is the possibility of becoming universal and spreading the community. Thus, If it was transferred or shared to others, It lead to individuals to be fear losing strengths and power to others in organization (Davenport 1997). Especially, working in a team

environment, cognitive diversity may result in the threat of losing valuable resources Nguyen et al., (2022). This creates a knowledge sharing barrier among individuals (Ruggles 1998).

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Significance of knowledge management and sharing in HEIs

The university, naturally, is considered a knowledge creation organization. Therefore, it could be considered as a place for acquiring, creating new knowledge, maintaining and preserving, assessing knowledge and sharing knowledge (Mehrizi and Bontis, 2009). As a result, knowledge management is considered as the main mission of universities and effectively tactical strategy for universities to maintain or gain sustainable competitive advantage (Sharimllah et al., 2009).

A university is seen as a platform for academics to share ideas and insights (Martin & Marion, 2005). Jones and Sallis (2013) argued that academics are expert knowledge workers engaged in university-related knowledge activities like teaching and research. Saad and Haron (2013) listed three categories of knowledge that academics could exchange: coded, social, and institutional knowledge. Institutional knowledge refers to university key activities such as research, expertise, and policies. Social knowledge is related to shared culture, beliefs, values, ethics, and norms. The third type of knowledge is coded knowledge; this type includes knowledge shared among academics in electronic or written format. Each of these types of information may be shared in a variety of ways that can range from sharing among colleagues in a formal setting to sharing among a wide variety of individuals in a social setting (Talja, 2015).

Their engagement in KS activities is critical for the success of KM efforts, teaching and research output (Kim & Ju, 2008; Fullwood, Rowley, & McLean, 2018). From the perspective of academics, sharing knowledge takes place during normal job activities with students and other academics (Sohail & Daud, 2009). And knowledge sharing plays a critical role in professional development and education reforms (Zhang, Long & Bowers, 2022). The problem arises when some academics do not contribute or share knowledge. Reluctance to share knowledge by academics would undermine the institution's efforts to achieve its objectives, enhance research collaboration, and enhance innovation in society at large. Despite the importance of KS among academics, a small number of studies have taken place in universities (Feiz, Dehghani Soltani, & Farsizadeh, 2017; Fullwood et al., 2018; Howell & Annansingh, 2013). In addition, although there have been many studies on the topic of knowledge management related to business organizations, even at some universities in Ho Chi Minh City, but most of them

have stopped at the level of individual universities or a small group of public universities.

In this study, we consider knowledge sharing from a different angle. If knowledge is power, then this means that knowledge is an important resource. Therefore, people ought to be keen to accumulate knowledge (Wu and Lee, 2016). In fact, knowledge sharing is one means of accumulating knowledge; during the process of knowledge sharing, individuals have the chance to engage in mutual learning (Liu and Defrank, 2013) and thereby gain more knowledge. As a result, this study posits that knowledge sharing can also be considered an active action and a means of gaining resources. More specifically, individuals might be intrinsically motivated to actively engage in knowledge sharing to accumulate an important resource, namely knowledge. However, we know little about the process and determinants that cause individuals to actively pursue knowledge sharing. This study applies the conservation of resources (COR) theory to discuss why individuals actively perform knowledge sharing.

2.2 Climate learning and self-awareness

Most prior research have focused for the most part on individual, technological and some aspects of organizational factors (Daud et al., 2015; Goh & Sandhu, 2013; Kim & Ju, 2008; Tan, 2016), and do not go in depth to understand the primary organizational predictors such as climate learning and self-awareness.

Learning climate

Learning is an important process of human adaptation and it happens to everyone, every personal relationship from school to workplace at all times throughout the life (Thorpe et al., 1993). Therefore It can be said that learning is formed and rooted in experiences, so it happens only if the learner is committed to participating in the experience (Boud et al., 1993). According to Chance (2014), learning is a change in behavior due to experience or environmental change. Therefore, learning is seen as a function of shaping experience on behavior. Based on previous researches, Jan, Dermot and Agnes (2013) suggested that learning is a function of shaping experience on behavior and has defined learning clearly through three components of learning: learning is (1) changes in an individual's behavior, (2) frequently occurring (regularity) in the environment of the existing individual, and (3) the relationship between the continuity of the individual and the individual's behavioral changes are causal.

In previous studies, learning facilitating has been concerned and addressed in various ways: the learning climate (Batram, Foster, Lindley, Brown, and Nixon, 1993), learning culture (Egan, Yang, and Barlett, 2004), and learning opportunities (Billett, 2004). However, the two concepts of culture and climate are often misunderstood and are also a trigger for a series of

discussions over the past decade (Arnold et al., 2005; Bates and Khasawneh, 2005; Schneider, Ehrhart, and Macey, 2013). According to Schein (1990) and Schneider, Brief and Guzzo (1996), the difference between climate and culture is that the climate is outside visible, easy to see and feel, while culture is what is shown directly outside but invisible.

Based on the climate definition of Schenider et al., (1996; 2013), Nikolova, Van Ruysseveldt, De Witte, and Van Dam (2014) clearly defined that learning climate is the perception of employees about organizational policies and practices that support, encourage and facilitate employee learning behavior to achieve the desired future. And this is the definition to be used in this study.

Self-awareness

Self-awareness is a core competency in the emotional intelligence framework discovered by Goleman (1995) which is the ability to read and understand emotions, strengths, weaknesses, and motives hidden insight behaviors, values and goals. And these competencies can all be developed through learning and being able to become more and more proficient (Goleman, 1995). Mayer and Salovey (1997) that self-awareness is developed a good development will give the owner a reliable basis to perceive, understand and facilitate proper thinking, emotion and action. In this view, Bar-on (1997) defines self-awareness as the ability to accurately perceive, understand and accept oneself. So one individual with a high self-awareness is neither too important nor unrealistic about the problems facing them (Goleman, Boyatzis and McKee, 2006) instead, they are honest with yourself and others, and understand the values and goals of others.

Singh (2010) said that self-awareness is conscious and can connect with one's emotions, thoughts and actions. Therefore, this helps individuals to have a better awareness of what they want to achieve in life and what can be done based on their abilities. It implied that the ability to evaluate other people's assessments about themselves and combine these assessments into self-assessment of another will depend on self-awareness (Atwater and Yammarino 1992, p. 143) and involves being able to accurately reference your inner feelings (Bagshaw 2000). As a results, self-awareness play a key personal resource and this study uses self-awareness definitions of (Goleman, 1995)

2.3. The underpinning knowledge sharing behavioural theories

2.3.1. Knowledge sharing behavior

There are many researches and definitions related to knowledge, Nonaka and Takeuchi (1995) defined knowledge as a regular human process in justifying individual's belief in truth, it is explained such as a flow

of information and data. And knowledge to be generated when this flow to be interacted with individual beliefs and to be committed by individual. According to Davenport and Prusak (1998), knowledge is a collection of experiences, values, information and acknowledge that can help assess and gain new experiences and information. Knowledge is created and applied in the minds of its owners, in the organization, knowledge is not only contained in documents and papers but also in procedures, processes, practices, and principles.

In an organizational context, the knowledge is described is all what an individual acquires and the skills necessary to perform tasks (Ozlati, 2012). Polanyi (1966) has classified knowledge into two categories: (1) tacit knowledge in the human head, elusive, and (2) explicit knowledge can be performed and handled easily. In addition, Nonaka and Takeuchi (1995) clearly defined that explicit knowledge is now easily transferred by language, document procedures, system and to be stored for later using. In contrast, tacit knowledge is acknowledge inside the mind that is not easy to convey. It is strongly established in actions and involved in a specific context, in addition, it is acquired through working experience or know-how, professional training and connection or who knows and knows in where (Nonaka and Takeuchi, 1995; Reyhav and Weisberg, 2010).

Evans & Alleyne (2009) based on activity theory holds that knowledge is the potential of an activity, located within a socially constructed domain and limited by the developmental capacity of an individual. Based on those, it can be seen that there are many definitions of knowledge. However, in general, each definition will have a diferent relevance. This study is based on the knowledge definition of Evans and Alleyne (2009).

Davenport and Prusak (1998) define sharing as a willing action and it is different from a report, because the report involves information exchange based on established procedures or plans. On the other hand, sharing implies a conscious act of participates in the knowledge exchange although there is no obligation, so sharing provides a link between individual and individual, and transfers the knowledge owned by individuals to the organization, bring economic value and competition to the organization (Hendriks, 1999).

Knowledge sharing is the core component of knowledge management (Gupta et al., 2000), to be a process of at least two individuals, without being able to recognize where is beginning or the end (Boer, van Baalen, and Kumar, 2002) and create new knowledge together (Van den Hooff and De Ridder, 2004). The knowledge owner begins the process of knowledge sharing through an outside activity, this outside activity is manifested in various forms, which it may or may not be a conscious activity, then the knowledge recipient performs an act of subjective acquisition, absorb new things (Hendricks, 1999). The recipient of knowledge

can then demonstrate the refactoring of knowledge through action (Duguid, 2005). So, without the commitment of knowledge recipients in behaviors, it is really difficult to determine whether the knowledge has been shared in spite of the behaviors can also be difficult to explain or describe clearly Boisot (2002)

Boisot (2002) pointed out that when knowledge sharing occurs, the “resonance” will be formed between the statements of knowledge of two or more individuals who are involved and followed by shared data. Boisot (2002) noted that besides resonance, to share knowledge succesfully, a knowledge restructuring activity is needed. In addition, knowledge can also be restructured through practice and observation (Hendricks, 1999). As a reultly, it can be seen that the success of the restructuring of knowledge in the recipient's mind can be quantified from the organization's activities, usually in two ways. The first way, through the practice of using shared knowledge in performing the task together, the second way, is the outcome implementation from the shared knowledge.

Knowledge sharing behavior is described as a process of exchanging knowledge through communication and discussion of the members of group or the organization by playing the both role of giving and receiving knowledge (Davenport and Prusak, 1998; Van Den. Hooff and De Ridder, 2004). Therefore, in order to effectively co-create new knowledge among members of an organization or group, individuals are required to perform both knowledge giver and user roles in the process of interacting each other to complete the assigned task.

In this study, an individual's knowledge sharing behavior is defined as a set of interacting actions between individuals together about knowledge and professional work-related skills that must be addressed to accomplish the assigned task (Van Den Hooff and De Ridder, 2004; Reyhav and Weisberg, 2010) and the involved individuals takeing the both role of giving and receiving knowledge.

2.3.2. Conservation of resources theory (COR)

The conservation of resources (COR) theory is a motivational theory according to which individuals strive to obtain, retain, foster, and protect valued resources (Hobfoll, 1989). The conservation of resources theory has been used to discuss resource loss over a long period of time (Hobfoll, 2011). Researchers in recent years have begun to consider it as an important perspective for understanding how people gain resources (Hobfoll et al., 2018). There are three reasons why the COR theory is used as the primary theoretical lens in this study. First, knowledge is a valuable resource, and the COR theory is the primary theory used to discuss how people manage resources. Second, the COR theory proposes the “gain spiral of resources” concept (Hobfoll, 2011; Halbesleben et al., 2014),

which is appropriate for discussing how people use current resources to promote knowledge sharing. Third, the COR theory is a well-developed theory (Hobfoll et al., 2018; Halbesleben et al., 2014). This study is able to obtain a new and insightful perspective on exploring the important determinants of knowledge sharing by applying this theoretical lens to knowledge sharing research (Lee, Kim and Yun, 2018).

According to the COR theory, people will invest resources to acquire more resources. People who have abundant resources are usually in a better position to garner more resources (Hobfoll, 1998; Hobfoll, 2001; Halbesleben et al., 2014). Knowledge is an important resource and knowledge sharing is an important way of obtaining resources. Therefore, when employees have more resources, it is easier for them to become involved in knowledge sharing.

Self-awareness is the ability to read and understand emotions, strengths, weaknesses, and motives hidden insight behaviors, values and goals (Goleman, 1995). Individual focus on self-awareness are full energy and have abundant resources and individual with high self-awareness highly value and love their work (Goleman, Boyatzis and McKee, 2006). In addition, self-awareness is an important personal resource (Mayer and Salovey, 1997) that personal resources pertain to different positive personal characteristics that can provide the individual with a sense of general resiliency and empowerment for dealing with challenges (Hobfoll, 2011; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). When individual have a higher level of personal characteristics, it leads to a higher level of knowledge sharing. They therefore tend to be intrinsically motivated to perform knowledge sharing.

According to the COR theory, the organizational environment is a powerful source of influence on employees and their personal resources, and external resources are an important source for people (Ten Brummelhuis and Bakker, 2012). Knowledge sharing usually occurs in a group context (Davenport and Prusak, 1998; Van Den. Hooff and De Ridder, 2004) and learning climate is considered as employees' perceptions of the extent to which their motivation to acquire and develop knowledge relevant to their jobs is expected and rewarded by their organization (Klein and Sorra, 1996). Providing such an environment aids employees in meeting the organization's strategic goals and helps the organization in modifying its behavior to tackle new challenges (Pedler, Burgoyne & Boydell, 1997; Schein, 1993; Watkins & Marsick, 1997). Thus, this study also considers the influences of individual's external resources on their knowledge sharing and individual' external resources are represented by learning climate. Within a group, learning climate has a significant impact on personal resources (Nikolova, Van Ruysseveldt, De Witte, and Van Dam, 2014)

2.4. Research model and hypothesis development

2.4.1. The relationship of learning climate and knowledge sharing behavior

Learning climate is the perception of employees about organizational policies and practices that support, encourage and facilitate employee learning behavior to achieve the desired future (Nikolova, Van Ruysseveldt, De Witte, and Van Dam, 2014). According to the COR theory, learning climate is a important external resource (Nikolova, Van Ruysseveldt, De Witte, and Van Dam, 2014) and learning climate is composed of three dimensions: facilitation learning climate, appreciation learning climate and error-avoidance climate. In this study, learning climate represents an external resource for individuals.

Previous studies have shown that learning climate is considered as the most important source of input into effective knowledge management because effectively knowledge management involves creating an environment that allows individuals create, acquire, share and retain knowledge to improve productivity and performance of themselves or organization (Mikkelsen and Grønhaug, 1999). In addition, the learning climate refers to employees' perceptions of formal and informal learning-related activities as well as encourages and supports individuals in acquiring and developing knowledge (Wang, 2012). As a result, the organization aims to use a variety of structures to facilitate the acquisition and development of knowledge through the promotion of learning climate (Liu and Liu, 2008).

Tynjala (2008) shown that workplace learning occurs through interpersonal social interactions and workplace experiences. So it can be said that learning comes from complex contributions and negotiations of within society (Billet, 2004) and related to environment, experience and interactive feedback practices of individuals in the organization. According to Hendriks (1999) knowledge sharing occurred by people keeping knowledge to take an action based on their knowledge into conversation, training, or encode hidden knowledge into existing knowledge. Therefore, in the working environment, knowledge sharing can indirectly exist through learning activities among members.

Ndlela and Toit (2001) point out that the learning climate contributes to determine the level of organization to promotes a learning environment and a spirit of continuous learning. And, the organization facilitates continuous learning, many members of the organization try to accumulate professional work-related knowledge and understand how to adapt to changing environments (Hult et al., 2002). This enables members of the organization to create positive working results such as innovation and competitive advantage (Pham and Swierczek, 2006). And, Wang (2012) found that employees within a higher level of learning climate displayed more adaptive behaviors when responding to changing colleagues needs and academic situations. As

results, when a individual perceive a higher level of learning climate, they are more willing to display behaviors to serve and delight colleagues

Because as mentioned, learning facilitates behavior change and learning will lead to knowledge sharing. Therefore, it is very important to understand that changing personal behavior through learning to encourage knowledge sharing (Zhang and Ng, 2012). Based on the scale of learning climate by (Nikolova, Van Ruyseveldt, De Witte, & Van Dam, 2014), the author hypothesis can be:

H1: facilitation learning climate positively impact knowledge sharing behavior

H2: appreciation learning climate positively impact knowledge sharing behavior

H3: error-avoidance climate positively impact knowledge sharing behavior

2.4.2. The relationship of Self-awareness and knowledge sharing behavior

Knowledge sharing is a very important part of knowledge management (Gupta et al., 2000). In the process of knowledge sharing, knowledge donation and collection occur (Van Den Hooff and De Ridder, 2004; Reinholt, Pedersen and Foss, 2011). So individuals are required to perform both knowledge giver and user roles in the process of interacting each other to complete the assigned task. According to the COR theory, because knowledge is an important resource, individuals should have higher levels of motivation to accumulate knowledge. As a result, knowledge sharing provides a way for employees to teach and learn, and benefits individuals by increasing their personal knowledge. And, knowledge sharing is not just about sharing resources, but also about gaining resources.

Self-awareness refers to the ability to read and understand emotions, strengths, weaknesses, and motives hidden insight behaviors, values and goals (Goleman, 1998) and is a core competency in the emotional intelligence framework discovered by Goleman (1995). Individual owning emotional intelligent, are capable regulating and managing emotions of themselves and the others (Goleman, 1998), facilitates sharing behavior during interaction process (Mossholder et al., 1981; Wong and Law, 2002).

The research of Clarke (2010) shows that self-awareness and emotional awareness about others help individuals recognize each other's needs, therefore it is more likely to participate in the process of sharing knowledge to solve common problems together. Besides, favorable conditions for increased work performance, positive emotional individuals tend to influence the behavior of others through the message they share, which is likely creating potential for knowledge sharing activities during interaction time (Keltner and Haidt, 1999; Parkinson, 1996; Van Kleef, 2009).

According to COR, individuals with more resources are more likely to invest in future resources (Hobfoll, 2001). In other words, individuals with high more self-awareness are more likely to share their knowledge. So, this study infers that self-awareness positively influences knowledge sharing behavior. The author hypothesizes:

H4: Self-awareness positively impact knowledge sharing behavior

3. METHODOLOGY

3.1 Research sampling

These concepts are quite new in Vietnam. Referring to previous studies, this study conducted a group interview involved in lecturers and working at the University. There were 10 lecturers working at Banking University, Ho Chi Minh City University of Industry, Hoa Sen University, Nguyen Tat Thanh University, HCMC University of Food Industry, Van Hien University were selected and forced to group discussion. The discussion was conducted in January 2022 with the purpose of checking the homogeneity, comprehensiveness, and appropriateness when translating in the scale items when measuring the concept of study, also for suitable to the context of research in educational environment. In addition, it aimed to help the paper to explore potential variables that the authors might be inevitable to lack in the process of building the research model.

The last questionnaire form is used for research, in which lecturers are working at universities in Ho Chi Minh City to answer questions about the facilitation learning climate, the appreciation learning climate, the error-avoidance climate, self-awareness and knowledge sharing behaviors. There were 2 ways of data collection: paper sheet (face-to-face) and Google Form tool (online) or Email. The method of sampling was snowball. It meant that a person was surveyed after that they would recommend it to another lecturer in their faculty.

3.2 Measure

The original scales are carefully selected and translated from previous studies: the learning climate scales from (Nikolova, Van Ruyseveldt, De Witte, and Van Dam, 2014) with 3 components: facilitation learning climate (3 observed items), appreciation learning climate (5 observed items) and error-avoidance climate (6 observed items). Self-awareness scales from (Boyatzis & Goleman, 2007) with 6 observed items. The Knowledge Sharing Behavior scale is from (Evans, Frissen and Wensley, 2018) is combined through three components: willing to share knowledge (Holste, 2003) with 5 observed items, willing to use shared knowledge (Holste (2003) with 5 observed items, Perceived usefulness shared knowledge (Levin and Cross, 2004)

with observed items. All scales using the Likert 7 points scale are applied for recording the evaluation of the research object on each observed items.

4. RESULTS AND DISCUSSION

4.1 Results

Based on the collected data, reliability test is important to ensure the consistency and accuracy of

measurement scales. A standard of reliability test is Cronbach Alpha value and it must be greater than 0.7 (Fornell et al., 1981). Cronbach's Alpha results (Table 1) show that the scale of the concepts in this study is highly reliable. All Cronbach's Alpha are greater than 0.8 and clearly the scale of the variables in the study were highly consistent.

Table 1: Number of variables and Cronbach Alpha

Factors	items	Cronbach alpha
Knowledge sharing behavior	22	0.870
Learning climate	14	0.844
Self-awareness	6	0.819

Cronbach's Alpha is a reliable basis for exploratory factor analysis (EFA). EFA is applied to measure aspects of the scale and reduce the structural complexity of these scales. EFA is often used to accurately represent a large set of variables and to verify whether the scales represent an underlying structure (Hair et al. 2010). The ideal result is that the pattern matrix exhibits a simple structure, meaning that the items only load significantly

on one of column and has a load of almost zero of factor loading for all other elements (Swisher, Beckstead and Bebeau 2004, p.787). In this study, the data are appropriate for factor analysis when the Kaiser-Meyer-Olkin coefficient (KMO) is 0.893 and the Bartlett Sphericity test is significant ($P < 0.05$). In this exploratory factor analysis, factor loading is all greater than 0.5 to show the practical significance of the scale.

Table 2: Factors analysis

	Pattern Matrix							
	Factor							
	1	2	3	4	5	6	7	8
WillToShare1		0.622						
WillToShare2		0.935						
WillToShare5		0.549						
WillToShare4		0.727						
WillToShare3		0.638						
WillToUse1						0.711		
WillToUse2						1.013		
WillToUse4						0.59		
WillToUse3						0.636		
PerceivedUseful1	0.587							
PerceivedUseful2	0.694							
PerceivedUseful3	0.781							
PerceivedUseful4	0.697							
PerceivedUseful5	0.681							
PerceivedUseful6	0.599							
FacilitationClimate1								.612
FacilitationClimate2								.809
FacilitationClimate3								.545
Appreciation Climate1					.633			
Appreciation Climate2					.688			
Appreciation Climate3					.672			

Pattern Matrix

	Factor							
	1	2	3	4	5	6	7	8
Appreciation Climate4					.750			
Appreciation Climate5					.567			
ErrorAvoidClimate2			.629					
ErrorAvoidClimate3			.621					
ErrorAvoidClimate4			.709					
ErrorAvoidClimate5			.674					
ErrorAvoidClimate6			.689					
SelfAwareness1		.549						
SelfAwareness2		.713						
SelfAwareness3		.547						
SelfAwareness4		.705						
SelfAwareness5		.646						
SelfAwareness6		.695						

Confirmatory factor analysis (CFA) allows to test the theoretical structure of scales as the relationship between one research concept and the other without being biased by measurement errors. The results of CFA analysis shown that this model has a statistical value of chi-square 1046,351 with 696 degrees of freedom (df), $p = 0.00$, adjusted in degrees of freedom with $CMIN / df = 1,503 < 2$, satisfy compatibility in CFA analysis. The various criteria for the model's suitability include $GFI = 0.914$, $TLI = 0.951$, $CFI = 0.956$, $RMSEA = 0.031 < 0.80$, both qualify the standard requirements of CFA

analysis and previous studies.

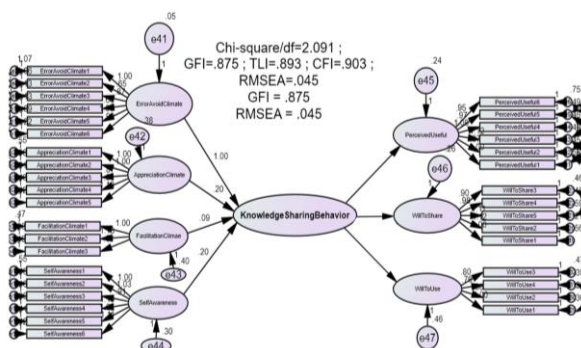
The convergent validity of the variables has an AVE less than 0.5 (Table 2) but we can accept 0.4. Because Fornell and Larcker have stated that if AVE is less than 0.5, but the composite reliability (CR) is higher than 0.6, the convergence validity of the structure is still sufficient (Fornell and Larcker, 1981). According to Table 1, all composite reliability (CR) is greater than 0.7. Therefore, CFA analysis shows that the research model has a high degree of relevance in the relationship of research variables and data collected.

Table 3: Convergent validity and discriminant validity

Factors	CR	AVE	MSV	MaxR(H)
Knowledge sharing behavior	0.946	0.473	0.321	0.890
Learning climate	0.920	0.452	0.334	0.955
Self-awareness	0.816	0.462	0.508	0.973

The discriminant validity of factors is determined through the criteria $AVE > r^2$, Maximum Shared Variance (MSV) $< AVE$. Table 2 shows that the discriminant values of all factors meet the value criteria when analyzing discriminant values.

Table 4: SEM model



The results of tested research model by SEM (Structural equation modeling) show that this model has a statistical value with chi-squared of 1478.073 with 707 degrees of freedom, p -value = 0.00., adjusted by degrees of freedom with $CMIN / df = 2.091 > 2$, requirements are not met. Different indicators such as $GFI = 0.875$, $TLI = 0.893$, $CFI = 0.903$, $RMSEA = 0.045 < 0.08$. Some of the standards are not satisfactory (except for RMSEA and CFI). Therefore, it can be concluded that this model is relatively accurate and acceptable

4.2 Discussion

This study uses the COR theory to examine the influences of employees' personal resources (self-awareness) and external resources (learning climate) on knowledge sharing behavior in the educational environment. The study contributes to the knowledge-sharing literature by highlighting that knowledge

sharing could be one kind of active behavior when individuals possess abundant resources. For the personal resources, this study finds that both self-awareness influence knowledge sharing behavior. For the external resources, the results show that learning climate positively influence knowledge sharing behavior.

5. CONCLUSION

Based on the summary of the fundamental theories of knowledge sharing, knowledge management researches, knowledge sharing behaviors and the characteristics of the higher education environment, the author proposes a research model of factors affecting knowledge sharing behavior among individuals to solve common problems together in universities. Based on the COR theory, this is the first study in universities to argue that knowledge sharing behavior could be considered as an active activity and that individuals could be positive to perform knowledge sharing when they possess significant personal and external resources. Specifically, the survey objects are lecturers and researchers in universities. Three components of knowledge sharing behavior scale were found, facilitation learning climate, appreciation learning climate, error-avoidance climate, and self-awareness. The results of SEM analysis from a sample of 530 lecturers of 17 universities in Ho Chi Minh City shows that 4 factors influence knowledge sharing behavior significantly.

From the research results, besides the importance of lecturers' perception of the learning environment at university, the ability to read and understand emotions, strengths, weaknesses, and motives hidden insight behaviors, values and goals impacts on knowledge sharing behaviors. It proves that the policies and investment strategies of universities should focus on the factors that inspire the internal motivation of the lecturers to perform sharing behaviors by themselves.

6. ACKNOWLEDGMENTS

Based on these, the author draws a number of implications:

Firstly, right now, knowledge management based on knowledge sharing should be used as a key function in development planning of universities in order to maintain or gain a sustainable competitive advantage (Sharimllah et al. 2009). In addition, strategies and policies promoting the knowledge sharing behavior of lecturers each others need to consider the impact of an individual's learning experience at the organization.

Secondly, the universities needs to reinforce the conditions to support the stimulation of knowledge sharing among lecturers towards increasing flourish and positive development through perceived autonomy of lecturers and researchers in working. Because it is clear that when individuals are autonomic they feel wellbeing

and then do action under willingness action.

Thirdly, the universities need to create a learning environment that individuals perceive to be supported and appreciated in working, and the errors in working are perceived as learning opportunities to develop better. Because individuals will recognize and gain the value of knowledge through errors learning experiences, and sharing knowledge commitment to learn more knowledge efficiently as well as contributing to success of teams, company and career themselves.

This study has some limitations as follows:

and humanities, economics and health sciences. - The first, the research model only tests data with representative universities in HCMC (Vietnam), therefore, need to test more universities in others provinces or cities such as: TP. Hanoi, Da Nang and Can Tho to increase the overall feature of the research results.

- The second, the research subjects have not been clearly differentiated in the fields: natural sciences, social sciences

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TIKTOK ADVERTISING: UNRAVELING THE DYNAMIC NEXUS BETWEEN VIRTUAL EXPERIENCE AND ADVERTISING EVALUATION FROM A HUMAN-COMPUTER INTERACTION PERSPECTIVE

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Research purpose:

This study investigates the dynamic nexuses between three psychological states, including immersion, perceptual realism and entertainment, typically experienced in the virtual environment and advertising evaluation in the context of TikTok app under a human-computer interaction perspective. The mediating role of advertising engagement on the impacts of TikTok immersion, perceptual realism and entertainment on advertising evaluation is specifically and explicitly considered.

Research motivation:

The study fills a gap in considering the specific and dynamic effects of virtual experiences with TikTok on the evaluation of advertising content on this medium as well as examining impacts of specific experiences on this platform that stimulated ad engagement and received positive feedback.

Research design, approach, and method:

Based on a dataset obtained from a survey of 300 customers who have used TikTok and regularly encountered TikTok advertising, the proposed research model is tested.

Main findings:

The results showed that the three types of virtual experience significantly contribute to the positive advertising evaluation via fostering customers' engagement in the short-form advertising videos displayed in the TikTok app. Specifically, the virtual experience of entertainment has strongest effect on advertising engagement, followed by perceptual realism while immersion has the weakest impact.

Practical/managerial implications:

The findings not only confirm the application of HCI theory to an important area of explosive short-form video platform promotion, but also contribute to a deeper understanding of the process of creating engaging and effective advertising. As customers become more engaged in TikTok advertising, their favourable evaluation is enhanced. As customers become more engaged in TikTok advertising, their favourable evaluation is enhanced.

Keywords: *immersion, perceptual realism, entertainment, human-computer interaction perspective, TikTok advertising engagement, TikTok advertising evaluation*

FINANCIAL DISTRESS, REAL EARNINGS MANAGEMENT, AND ACCRUAL EARNINGS MANAGEMENT ON ESG DISCLOSURE: CONSTRUCTION COMPANIES IN INDONESIA IN 2018-2021

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Research purpose:

This study aims to analyze the effect of financial distress, real and accrual earnings management on ESG disclosure.

Research motivation:

This research is motivated by the trend of investors starting to consider ESG factors in their investment analysis and the increasing number of public companies implementing sustainability strategies.

Research design, approach, and method:

The object of this research is construction company from Indonesia and Singapore which are listed on Indonesia Stock Exchange (www.idx.co.id) from 2018-2021. There are 52 sample data and this research is quantitative descriptive research that tests certain theories with a descriptive approach and using multiple linear regression test.

Main findings:

The results of the multiple linear regression test show that financial distress has a negative effect on ESG disclosure, real earnings management have no effect on ESG disclosure, and accrual earnings management have no effect on ESG disclosure. Firm size has no effect on ESG Disclosure and audit firm size has an effect on ESG Disclosure in Indonesia.

Practical/managerial implications:

Providing information for investors and potential investors in observing the quality of ESG disclosure as one of the tools for investors to invest properly so that they are not limited to monetary measures only, but also consider the non-monetary side of companies that will be and have been funded by investors.

The results of this study can also provide a signal for the government to be able to take part in seeking a minimum number of companies experiencing financial difficulties in order to improve the quality of ESG disclosure through regulatory reforms or other policies related to ESG disclosure when companies experience financial difficulties.

Keywords: *ESG Disclosure, Financial Distress, Real Earnings Management, and Accrual Earnings Management*

1. INTRODUCTION

The need for research and disclosure of ESG (Environmental, Social, and Governance Disclosure) in Asian countries is currently very important. This is because in addition to the increasing number of public companies in Asia that are implementing sustainability strategies, there is also an increase in the number of investors in Asia who consider ESG factors in their investment analysis (Alsayegh et al., 2020). Previous research has shown that ESG disclosure or ESG Disclosure attracts investors' attention through environmental, social, and governance activities

(Friedman & Heinle, 2016).

In practice, companies certainly need sufficient funds and resources to be able to carry out these activities which will improve the quality of ESG disclosure. However, the Covid-19 pandemic that occurred in early 2020 caused a financial decline in almost all business sectors in various countries. One sector that has been quite impacted by the Covid-19 pandemic is the construction sector. According to Harymawan et al. (2021), companies that are in an unfavorable financial position have lower quality ESG disclosures than companies that are in a fit financial

position.

A declining financial condition (financial distress) will affect shareholders to replace managers in the company. This is a threat to managers who ultimately encourage managers to make engineering or changes to accounting profit reports (Suwasono & Anggraini, 2021). Managers will take advantage of this condition as an opportunity to hide the company's deteriorating performance by covering losses and increasing revenue through the application of different accounting methods (Habib et al., 2013). Managers can also benefit from this situation by influencing the accounting numbers reported in the annual report through earnings management or known as earnings management (Adryanti, 2019). Engineering or earnings management is an action option taken by managers to determine certain accounting methods in order to achieve a goal. In this case, the goal to be achieved by the company when experiencing financial difficulties is to provide better non-financial disclosures to cover the decline in the company's financial side. According to Nagar & Sen (2016), in the early stages of financial difficulties, managers will be involved in real earnings management by reducing spending on sales, general and administrative costs, and reclassifying to increase profitability and liquidity. When the condition of financial difficulties is getting worse, managers will be involved in accrual management which increases their income and increases their expenses to show an increase in company performance.

The existence of earnings management that disguises the company's operating performance and reduces the reliability and accuracy of reported earnings information can cause problems for policy makers and regulators because biased information provided to investors will have a negative impact on their decision making which will ultimately have a negative impact on the smooth functioning of the market. finance (Ghazali et al., 2015). This opportunistic action of management in the long term will affect the disclosure of ESG both in the annual report and sustainability report used by stakeholders, especially investors in decision making. According to Murni & Ayem (2021), in the long term, the more the company equalizes reported profits, the better the sustainability report that will be produced. This has an impact on the ESG information contained in the sustainability report to be unreliable and can mislead investors who will place their funds by making economic decisions based on the value of the company using the sustainability report.

Based on the description of the problems above, researchers are interested in conducting research related to ESG disclosure when companies experience financial difficulties which encourage earnings management practices

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Effect Of Financial Distress On Esg Disclosure

Financial distress is a condition where the company is in an unhealthy situation and is a gradual condition leading to bankruptcy. Companies that are experiencing difficult financial conditions are caused by various kinds of problems that occur. In practice, companies certainly need funds to realize ESG activities which will affect the quality and completeness of ESG disclosures. Therefore, one of the factors that influence ESG disclosure is from the financial side or financial distress. Research conducted by Harymawan et al. (2021) revealed that when a company is categorized as distress, it will result in a lower quality of ESG disclosure compared to non-distressed companies. This research is in line with research conducted by Suwasono (2019) where there is a decrease in voluntary disclosure provided by financially depressed companies than companies with good news. It is also supported by the research of Suwasono & Anggraini (2021) which explains that when experiencing financial difficulties, companies will provide less information than non-distressed companies.

H1: Financial Distress affects ESG Disclosure

2.2 Effect of Real Earnings Management on ESG Disclosure

Real earnings management is a method that involves direct cash flow which has the advantage for managers that it is more difficult to detect by regulators and auditors (Sari, 2015). Although real earnings management has a tendency to be difficult to detect, when this behavior is known by the public, it will cause the destruction of the company's reputation as a result of these actions being unavoidable and having a negative impact on stakeholders. To cover up these actions, the company feels the need to provide better ESG disclosures so that the company's legitimacy in the eyes of the public can still be maintained. This is because ESG is able to display the company's social image so as to provide a sense of confidence for stakeholders. This is supported by research by Setyastrini & Wirajaya (2017) where real earnings management has a positive effect on the intensity of CSR disclosure and Sofwan's research (2019) which states that real earnings management with errors (residues) from abnormal cash flows from operating regression has a positive effect on disclosure. CSR. On the other hand, real earnings management with abnormal operating cash flow proxies and abnormal discretionary costs proxies have no effect on the level of CSR disclosure compliance, while abnormal production costs proxies have a positive effect on the level of CSR disclosure compliance (Lasdi, 2017).

H2: Real Earnings Management has an effect on ESG Disclosure

2.3 Effect of Accrual Earnings Management on ESG Disclosure

The change of managers by shareholders when the company experiences a significant decline in financial condition encourages managers to regulate accrual earnings reporting at the end of the period. The accrual earnings management is carried out by engineering the accrual components contained in the financial statements. This is done because the numbers contained in the accrual component can be played in accordance with the wishes of the parties who prepare financial statements through the use of certain accounting policies (Asni & Mayasari, 2018). The company will try to choose a certain strategy so that its existence still gets legitimacy so that the attention of stakeholders on earnings management is diverted. One way to gain legitimacy is to disclose information related to environmental, social, and governance that is published through a sustainability report. There are many positive impacts that can be felt by companies that disclose ESG activities, such as increasing the company's positive image. This is used by the company as a strategy to cover up the earnings management activities carried out by the company. This explanation is supported by the results of research conducted by Murni & Ayem (2020) where the more managers perform earnings management on the company, the company will provide good profits on sustainable reports for the long term. Managers in companies that carry out earnings management tend to be more active in improving their image and attracting support from the public and stakeholders through CSR policies (Zulaikha & Mahesti, 2019). High earnings management practices will increase companies in CSR disclosure to make it easier for management to gain stakeholder trust (Kusumawati & Nurharjanti, 2019).

H3: Accrual Earnings Management has an effect on ESG Disclosure

3. METHODOLOGY

3.1 Research Design

This research is a descriptive quantitative type that tests certain theories with a descriptive approach. According to Sugiyono (2012) the method of quantitative research is a method based on the philosophy of positivism, which is used in observing certain samples and populations through statistical/quantitative analysis to test hypotheses that have been formulated previously.

3.2 Population, Sample and Sampling Method

The selected population is the annual report and sustainability report of construction companies listed on www.idx.co.id (Indonesian Stock Exchange) for the period 2018-2021. Sampling is done by means of

purposive sampling, namely intentional sampling with certain predetermined criteria.

Table 1. Criteria of Purposive Sampling

No	Criteria	Indonesia
1	Construction sector companies listed on the Indonesia Stock Exchanges in 2018-2021	108
2	Construction sector companies that publish annual reports and sustainability reports on the Indonesia Stock Exchanges for 2018-2021	-56
3	Construction sector companies that have complete financial data needed for variable measurement in 2018-2021	0
	Total selected observation data	52

3.3 ESG disclosure

ESG disclosure is obtained by using the ESG index. The ESG index is calculated by the formula:

$$\text{Indeks ESG} = \frac{\text{Nilai Pengungkapan ESG}}{\text{Total Pengungkapan Maksimal}} \times 100\%$$

Based on the GRI Standard Guidelines, there are 81 ESG (Environment, Social, Governance) disclosure criteria as follows:

Table 2. Indicator of ESG disclosure

Faktor	Environment (E)	Social (S)	Governance (G)
Indikator	Materials, Energy, Water & Effluents, Biodiversity, Emission, Waste, Environmental, Supplier Environmental Assessment	Employment, Labor Management, Occupational Health and Safety, Training and Education, Diversity and Equal Opportunity, Non-Discrimination, Freedom of Association, Child Labor, Forced and Compulsory Labor, Security Practices, Right of Indigenous People, Human Right Assessment, Local Communities, Supplier Social Assessment, Public Policy, Customer Health and Safety, Marketing and Labeling, Customer Privacy, Socioeconomic Compliance	Procurement Practice, Anti-Corruption, Anti-Competitive Behavior, Tax
Jumlah	32	40	9
Total Indikator Pengungkapan ESG	81		

3.4 Financial Distress

To assess the bankruptcy of non-manufacturing companies, the Altman Z "Score formula is calculated as follows:

$$Z''\text{score} = 6,56 X1 + 3,26 X2 + 6,72 X3 + 1,05 X4$$

3.5 Real Earnings Management

Referring to the calculation of Roychowdhury (2006), the regression model for real earnings management is formulated as follows:

$$CFOt/At-1 = \alpha_0 + \alpha_1(1/A t-1) + \beta_1(St/At-1) + \beta_2(\Delta st/At-1) + \epsilon t$$

3.6 Accrual Earnings Management

Accrual earnings management is detected by proxy of discretionary accruals which are measured using the calculation of The Jones Modified Model as follows:

$$\begin{aligned} \text{TACit} &= \text{Nlit} - \text{CFOit} \\ \text{TACit/Ait-1} &= \beta_1(1 / \text{Ait-1}) + \beta_2(\Delta\text{REVit} / \text{Ait-1}) + \beta_3(\text{PPEit} / \text{Ait-1}) + \epsilon_{it} \\ \text{NDAit} &= \beta_1(1 / \text{Ait-1}) + \beta_2(\Delta\text{REVit} / \text{Ait-1} - \Delta\text{rect} / \text{Ait-1}) + \beta_3(\text{PPEit} / \text{Ait-1}) \\ \text{DACCit} &= \text{TACit/Ait-1} - \text{NDACCit} \end{aligned}$$

3.7 Firm Size

$$\text{Firm Size} = \ln(\text{Total Aset})$$

3.8 Audit Firm Size

The size of the size of the public accounting firm as measured by a dummy variable with the criteria, namely, if the sample company uses audit services from a public accounting firm affiliated with the Big 4, it will be given a value of 1 and if it is audited by a non-Big 4 public accounting firm, it will assigned a value of 0.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics Test Results

Table 3 shows the results of descriptive statistics for each variable in Indonesia with a number of valid research samples of 52 as follows:

- ESG disclosure has the lowest (minimum) value of 0.0864 and the (maximum) value of 0.5309.
- Financial Distress has the lowest (minimum) value of -5.9400, the highest (maximum) value of 9.0700.
- Real Earnings Management has the lowest (minimum) value of 0.0185, the highest (maximum) value of 0.0826.
- Accrual Earnings Management has the lowest (minimum) value of -0.2933, the highest (maximum) value of 0.2598.
- Firm Size has the lowest (minimum) value of 27.2227, the highest (maximum) value of 32.4545.
- Audit Firm Size has the lowest (minimum) value of 0, the highest (maximum) value of 1.

Table 3. Descriptive Statistics Test Results

	Min	Max	Mean	Std. Deviation
ESG Disclosure	0.0864	0.5309	0.271130	0.1097157
Financial Distress	-5.9400	9.0700	2.861154	2.5590873
Manajemen Laba Riil	0.0185	0.0826	0.039890	0.0126557
Manajemen Laba Akruaal	-0.2933	0.2598	0.002300	0.0902658
Firm Size	27.2227	32.4545	29.535533	1.6339358
Audit Firm Size	0	1	0.15	0.364

4.2 Normality test

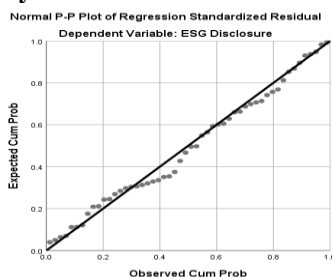


Fig. 1. Probability Plot Normal Result

Figure 1 shows that the research data detected through the points spread along the diagonal axis line. Although there is little data that spreads not following the direction of the diagonal axis, it can be concluded that the regression model in this study meets the normal requirements.

4.3 Multicollinearity Test

Table 4. Multicollinearity Result

	Collinearity Statistics	
	Tolerance	VIF
Financial Distress	0.513	1.947
Manajemen Laba Riil	0.762	1.313
Manajemen Laba Akruaal	0.745	1.343
Firm Size	0.651	1.537
Audit Firm Size	0.707	1.414

Based on table 4, all variables in this study have a value of VIF 10 or tolerance ≥ 0.10 , it can be concluded that the regression model does not experience multicollinearity.

4.4 Autocorrelation Test

Table 5. Durbin-Watson Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.565 ^a	0.320	0.246	0.0952796	2.027

The research sample data in Indonesia amounted to 52 data with 5 independent variables, so the results obtained were dU 1,771. So if it is formulated using the Durbin Watson-test statistical value, which is $1.771 < 2.027 < 2.229$, it indicates that the data studied do not have autocorrelation.

4.5 Heteroscedasticity Test

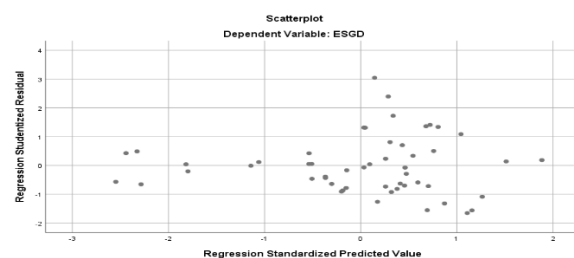


Fig. 2. Scatterplot Test

Based on the picture above, it can be concluded that the series of points representing research data in Indonesia spread below and above the number 0 on the Y axis and there is also no clear pattern. So, in this study there was no heteroscedasticity.

4.6 Coefficient of Determination (R²)

Table 6. Coefficient of Determination Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.565 ^a	0.320	0.246	0.0952796

Based on the results of data processing listed in the table above, the R Square value of Indonesian research data is 0.320 or 32%. This figure explains that Financial Distress, Real Earnings Management, and Accrual Earnings Management can explain ESG disclosure by 32%, the remaining 68% is explained by other variables not included in this study.

4.7 F Test

Table 7. F Test Result

	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.196	5	0.039	4.325	0.003
Residual	0.418	46	0.009		
Total	0.614	51			

Based on the table, it can be judged that the Fstatistics number <0.05 is 0.003, then H_0 is rejected which means in other words the regression model is feasible and can be used to predict the influence of the independent variables Financial Distress, Real Earnings Management, and Earnings Accrual Management can explain the dependent variable ESG disclosure.

4.8 T Test

Table 8. T Test Result

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
	0.084	0.323		0.261	0.795
Financial Distress	-0.015	0.007	-0.344	-2.024	0.049
Manajemen Laba Rill	-0.992	1.208	-0.114	-0.821	0.416
Manajemen Laba Akreal	0.207	0.171	0.170	1.206	0.234
Firm Size	0.010	0.010	0.143	0.950	0.347
Audit Firm Size	-0.104	0.044	-0.346	-2.396	0.021

The results of hypothesis testing are as follows.

a. The financial distress variable has a regression coefficient of -0.344 with a significance value of 0.049 <0.05 , where H_1 is accepted or H_0 is rejected. It can be concluded that financial distress has a negative effect on ESG disclosure.

b. The real earnings management variable has a regression coefficient of 0.144 with a significance value of 0.416 > 0.05 , where H_1 is rejected or H_0 is accepted. It can be concluded that real earnings management has no effect on ESG disclosure.

c. The accrual earnings management variable has a regression coefficient of 0.170 with a significance value of 0.234 > 0.05 , where H_1 is rejected or H_0 is accepted. It can be concluded that accrual earnings management has no effect on ESG disclosure.

d. Firm size control variable has a regression coefficient of -0.346 with a significance value of 0.347 > 0.05 , where H_1 is rejected or H_0 is accepted. It can be concluded that firm size has no effect on ESG disclosure.

e. The audit firm size control variable has a regression coefficient of 0.143 with a significance value of 0.021 <0.05 , where H_1 is accepted or H_0 is rejected. It can be concluded that audit firm size has a negative

effect on ESG disclosure.

4.9 Discussion

a. Financial Distress to ESG Disclosure

Based on hypothesis testing conducted on Indonesian research data, the results show that financial distress has a negative effect on ESG disclosure. This explains that financially, companies with strong financial conditions tend to disclose more complete and better information when compared to companies with weak or weak financial conditions. When companies in Indonesia experience financial difficulties, the funds needed to carry out environmental, social and governance activities will decrease, so companies will readjust and reduce ESG activities in the current year. The reduced ESG activity will affect the amount of disclosure information that will be submitted to the public through sustainability reports. The existence of a negative relationship between financial distress and ESG disclosure can be shown through the data obtained, namely PT. Nusa Konstruksi Enjiniring Tbk in 2018, 2019, and 2020 had a Z'score and total ESG disclosures of 0.369 and 24 (2018), 1.753 and 25 (2019), and 1.811 and 27 (2020). Financial condition of PT. Nusa Konstruksi Enjiniring Tbk in 2018 was considered less good when compared to 2020. This condition was also followed by the least amount of ESG information disclosed in 2018, which only revealed 24 indicators when compared to 2020 which revealed 27 indicators.

b. Real Earnings Management to ESG Disclosure

Based on hypothesis testing conducted on Indonesian research data, the results show that real earnings management has no effect on ESG disclosure. This shows that the activities of a company's Cash Flow Operation (CFO) such as repayment of short-term loans, cash receipts from customers, dividend payments, and other income-outcomes related to operational activities have no impact on the amount of ESG information published by the company. Companies that are suspected of engineering profits through real activities during the current period tend not to be followed by adding activities in terms of environmental, social, and governance aspects.

c. Accrual Earnings Management to ESG Disclosure

Based on hypothesis testing conducted on Indonesian research data, the results show that accrual earnings management has no effect on ESG disclosure. This shows that the high accrual earnings management practice carried out by the company is not able to provide more maximum ESG information in the sustainability report. Based on the value of Discretionary Accruals obtained, all sample companies both in Indonesia are indicated to be trying to carry out accrual earnings management. As many as 57.7% of companies prefer to perform accrual earnings

management by lowering the profit rate (income minimization) rather than increasing the profit rate (income maximization). The number of companies that carry out income minimization compared to income maximization is because of the entire sample studied both in Indonesia and Singapore, many companies fall into the non-distress category, which is 46% in Indonesia. Accrual earnings management that is carried out in both ways does not encourage managers to use ESG disclosures to hide their earnings management practices.

5. CONCLUSION

Based on the analysis that has been carried out, the conclusions are as follows.

1. financial distress has a negative effect on ESG disclosure.
2. Real earnings management has no effect on ESG disclosure.
3. Accrual earnings management has no effect on ESG disclosure.

For further research, the researcher has several suggestions that can be applied by further researchers, namely:

1. Adding independent variables as other factors that have the possibility of influencing ESG disclosure such as ownership structure, CEO characteristics, board age, and board meeting attendance.
2. Adding measurements for real earnings management such as abnormal Discretionary Expenses (abnormal discretionary costs) and abnormal Production Costs (abnormal production costs), in addition to CFO abnormal proxies.

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THE EFFECT OF CORPORATE SOCIAL RESPONSIBILITY ON RISK-TAKING AND FIRM VALUE OF INDONESIAN MINING FIRMS FOR THE PERIOD 2018 – 2020

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Research purpose:

This study aims to test the influence of Corporate Social Responsibility (CSR) on the risk-taking and firm value.

Research motivation:

To conceive the influence of Corporate Social Responsibility (CSR) on the risk-taking and firm value, also to participate in international conference.

Research design, approach, and method:

The number of samples used in this study was 66 samples, including 33 financial reports (FR) and 33 sustainability reports (SR) for 3 years, namely 2018 – 2020. These FR and SR researchers got from the websites of 11 mining industry firms listed on the Indonesia Stock Exchange (IDX). This research was conducted using the SEM (Structural Equation Modeling) method.

Main findings:

The results showed that CSR performance negatively affects risk-taking but positively affects the firms' value of mining firms.

Practical/managerial implications:

Firstly, if mining firms pay special attention to the fulfillment of their CSR activities, the risks taken will tend to prioritize stakeholders in utilizing the firm's resources. Secondly, the more the firm promotes its CSR practices, the more the firm's value increases.

Keywords: *Corporate Social Responsibility, Risk-taking, Firm Value, SE*

1. INTRODUCTION

The concept of Corporate Social Responsibility (CSR) is often still classified as an ambiguous and broad concept. Closely related to Jie's statement (2019) that in its application, CSR requires qualified skills, systems, and resources. Not many firms in Indonesia have these three things because of social and legal problems, such as social inequality and assertiveness that are not real in law enforcement actions. These two problems hinder the implementation of CSR in Indonesia. Raharjo (2014) stated that although CSR is quite costly, this program is an investment for firms to growth and maintain its existence (sustainability), as means of obtaining profits so that it will be great if firms are able to implement CSR

that is useful for improving the firm's reputation and image, is known by the wider community, and is able to get high-quality applicants.

According to Stacia (2015), the mining sector is one of the main sectors driving the wheels of the Indonesian economy, as well as being the most highlighted when discussing CSR. This happens because its operational activities are closely related to the exploitation of natural resources (Fibrianti and Wisada, 2015) which are difficult to renew, such as coal, petroleum, gold, and so on (Atmaja, 2014). Wahana Lingkungan Hidup Indonesia (WALHI) also assessed and stated that mining firms contribute the most to the destruction of Indonesia's nature and have not been able to meet the

rules of environmental safety. Because it is considered to have the greatest risk in damaging the environment, Fibrianti and Wisada (2015) added a high urgency regarding the existence of CSR and its reporting for firms struggling in the mining sector. As a tangible form of awareness of this urgency, the government issued Law No. 40 of 2007 Article 74 concerning Social and Environmental Responsibility of Limited Liability Companies. The regulation contains the obligation to carry out Social and Environmental Responsibility for firms that carry out business activities that intersect with Natural Resources.

In this study, researchers analyzed whether to overcome their social problems, firms were able to use resources well and reduce risk-taking activities and firm value. Ayadi et al. (2014) suggest that firms with high CSR performance tend to have a high level of risk-taking than those with low CSR performance. If the firm decides to implement a CSR program, the manager's focus will certainly be divided into two in the context of taking and avoiding operational risks and risks of the CSR program. In addition, Harjoto (2016) also argues that CSR functions as a control mechanism that balances the interests of stakeholders who invest and the interests of non-investment stakeholders. Researchers examine the indirect impact of CSR on firm value. Based on study, researchers expect a negative relationship between CSR and deviations in the optimal level of risk-taking. In addition, researchers also expect a positive relationship between CSR and firm value.

Despite many studies on CSR, this study is the first in Indonesia to examine the influence of CSR on two dependent variables at once, namely risk-taking and firm value. This study also used the latest data starting from the range before and during the pandemic, namely in 2018 - 2020. This shows that in addition to discussing influences, this study also seeks to show whether there are differences in the results of previous studies and the results of researchers' study.

In measuring CSR, researchers use the Global Reporting Initiative (GRI) index in three performance categories, namely economy, environment, and social. Meanwhile, the firm value is measured using the Tobin's Q ratio, which is a measurement of the market value of the firms' assets using the market value of the number of shares outstanding and the debt (enterprise value) to the replacement cost of the firms' assets. Furthermore, the risk-taking variable is measured using three ratios, namely CAPEX (the firms' capital expenditure), STDROA (accounting return volatility), and STDROE (stock return volatility).

This research journal is prepared with an introductory structure as an opening, theoretical studies as a support for the development of hypotheses, research methods, research results and discussions, and ends with a conclusion, namely conclusions and suggestions.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Freeman (1984) reveals that stakeholder means "any group or individual may influence or be influenced by the achievement of organizational goals". Stakeholder management is necessary to manage groups and relationships in them, design strategic methods for the benefit of the organization, as well as determine the competitive advantages of the firm (Verbeke, 2012). From this understanding, it was revealed that stakeholder theory shows that every decision taken by managers must be in maximum effort to satisfy all parties involved in the organization's business. Over time, this theory has become more detailed and is used to serve parties with different business purposes (Miles 2015; Zobel 2014).

In Harjoto (2016) it is stated that CSR serves to control the deviation of optimal risk-taking so that the two variables have a negative relationship. This optimal risk-taking deviation can be categorized into two parts, namely excessive risk-taking and inadequate risk-taking. Excessive risk-taking will ignore the interests of non-investment stakeholders which can lead them to restrict access to the firms' resources they control in the future. Meanwhile, excessive risk aversion will limit the availability of funds for the firms' future growth so that it is less attractive in the eyes of shareholders and potential investors. Thus, organizations can focus on projects that serve the common interests and benefit each stakeholder. As for, researchers expect the first hypothesis:

H1: CSR performance is negatively associated with deviations from the optimal level of risk-taking.

Resource Dependence Theory explains that the survival of the firm is very dependent on external resources (Pfeffer & Salancik, 1978). Therefore, stakeholders, as the main key, must have the ability to minimize this dependence by using their influence in firm decision making related to specific strategies to control external resources in order to ensure the survival of the firm (Daromes & Jao, 2020). This is also supported by Frooman (1999) who combines Stakeholder Theory with Resource Dependence Theory. The decision to use these resources is expected to overcome problems that hinder the sustainability of the firms' survival, one of which is social problems that have an impact on firm value (Harjoto, 2016). This can be seen through the manager's decision in the involvement of Corporate Social Responsibility related to the use of firm resources used for investment which leads to an increase in the firm value. As previously mentioned, managers need to be careful in taking or avoiding excessive risks because it can threaten the survival of the firm. Based on this discussion and previous research (Harjoto, 2016) it can be concluded that CSR has a positive impact on firm value indirectly through its impact on firm risk-taking. Therefore, researchers also expect the same as previous studies so

here is a second hypothetical statement:

H2: CSR performance is positively related to the firm value.

3. METHODOLOGY

This research is quantitative research using the SEM (Structural Equation Modeling) method. According to Jonathan (2014), SEM is a statistical modeling technique that is very cross-sectional, linear, and general and includes factor analysis, path analysis, and regression. Researchers use SEM compared to multiple regression for some of the reasons below (Kasanah, 2015):

- Allows more flexible assumptions.
- The use of confirmatory factor analysis to reduce measurement errors by having multiple indicators in one latent variable.
- The attractiveness of the graphical modeling interface to make it easier for users to read the output of the analysis results.
- The possibility of testing the model as a whole rather than the coefficients individually.
- The ability to test models by using multiple bound (dependent) variables.
- The ability to create models against intermediate variables.
- Ability to create error term models.
- The ability to test outside coefficients between several groups of subjects.
- Ability to cope with difficult data, such as time series data.

According to Ghozali (2011), SEM is carried out by developing theory-based models, developing path diagrams, converting diagrams into a series of structural equations and measurement model specifications, and interpreting and modifying the model.

The independent variable (X) in this study is CSR. The measurement used for the variable is the CSR index that can be obtained from the firms' SR. Meanwhile, the dependent variables chosen by the researcher are risk-taking (Y1) and firm value (Y2). The firm value variable is measured using the Tobin's Q ratio which is the market value of the firms' assets as measured by the market value of the number of shares outstanding and debt to the replacement cost of the firms' assets. Then for the measurement of the risk-taking variable using the following variables:

- CAPEX (Capital Expenditure)
- STDROA (Standard Deviation Return on Assets)
- STDROE (Standard Deviation Return on Equity)

The population in this study was FR and SR 47 Indonesian mining firms listed on the Indonesian Stock

Exchange (IDX) during the period 2018 - 2020.

The sampling method that the researchers used was non-probability sampling, especially in the purposive sampling technique. The following are the sampling criteria that the researchers set:

- Mining firm listed on the IDX during the period 2018 - 2020.
- Issued FR during the period 2018 - 2020.
- Issued SR during the period 2018 - 2020.

The source of the researcher's data comes from FR and SR obtained from the firms' website and the official website of the IDX. The method of data collection carried out is a documentation method by collecting FR and SR documents of the firm concerned.

4. RESULTS AND DISCUSSION

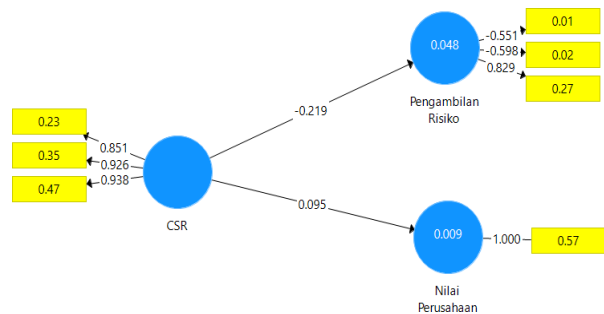


Fig. 1. SEM Analysis Results

After being tested using SEM, it was found that CSR had a negative effect on risk-taking with a significance value of -21.9%. The most influencing CSR indicator is the environment indicator at 47%, followed by social at 35%, and economy at 23%. CSR performance negatively affects risk-taking in terms of capital expenditure (CAPEX) of 27%, followed by volatility of return on equity (standard deviation ROE/STDROE) of 2% and volatility of return on assets (standard deviation ROA/STDROA) of 1%. This shows that if mining firms increasingly focus their responsibilities in paying attention to the environment, namely related to materials, energy, water, biodiversity, emissions, wastewater and its waste, environmental compliance, and environmental assessment of suppliers, then the risks taken will prioritize stakeholders. In utilizing the firms' resources for the future growth of the firm, especially in terms of capital expenditures related to the firms' fixed assets. Therefore, hypothesis one that states CSR performance is negatively related to deviations from the optimal level of risk-taking is acceptable.

It is known that CSR has a positive effect on the firm value by being influenced by the CSR indicators in the economy by 23%, social by 35%, and the environment by 47%. CSR performance positively affects the firm value in terms of Tobin's Q worth 57%. This shows that the more active the firm is in carrying out its CSR practices, the more it will increase the firm value. Closely related to stakeholder theory, it is necessary to

keep in mind the fact that the firm operates to benefit all stakeholders, not for the benefit of individual owners. So, the greater the benefits for stakeholders, the greater their satisfaction, and the more the firm value increases. Therefore, the second hypothesis that states CSR performance is positively related to the firm value is acceptable.

5. CONCLUSION

Based on the analysis that the researcher has done, it can be concluded that the two hypotheses that have been formulated previously are acceptable because of the match between the results of the researcher's analysis and the results of the previous research analysis. The first hypothesis that states CSR performance is negatively related to deviations from the optimal level of risk-taking, is acceptable. If mining firms pay special attention to the fulfillment of their CSR activities, the risks taken will tend to prioritize stakeholders in utilizing the firms' resources. All this is done for the sake of the future growth of the firm. Even more so in terms of capital expenditures related to fixed assets of the enterprise. Not only that, the second hypothesis that reads CSR performance is positively related to firm value is also acceptable. It can be concluded that the more the firm promotes its CSR practices, the more the firm value increases. In accordance with stakeholder theory, that the firm operates to benefit stakeholders, not for the benefit of individual owners, so it is very important to prioritize their satisfaction.

Researchers realize that this scientific paper is far from perfect and has the potential to be further developed. Its development can be carried out from various aspects, such as the time span of research, the firm that is the object of research, data sources, and other aspects. Therefore, this research is expected to be able to broaden readers' horizons and become a reference for further research.

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FINANCE AND BANKING

THE PROSPECT THEORY AND THE IDIOSYNCRATIC RISK-RETURN LINKAGE: A QUANTILE REGRESSION APPROACH FOR VIETNAM'S STOCK MARKET

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Research purpose:

The objective of this paper is scrutinizing the relationship between idiosyncratic risks and stock returns at different quantiles, especially the extremely low and high ones, to explore the applicability of the Prospect Theory's rationale in Vietnam's stock market.

Research motivation:

Similar to other emerging stock markets, only a few studies have examined the linkage between idiosyncratic risks and stock returns in Vietnam. The authors suspect that the deficiency of support for the Prospect Theory's explaining power in Vietnam's stock market results from the conditional-mean regression methods applied by the existing studies which cannot differentiate the connection between idiosyncratic risks and stock returns at distinctive quantiles.

Research design, approach and method:

The Prospect Theory demonstrates that investors' attitudes towards risks can change from risk-seeking in the loss domain to risk-averse in the profit domain. This can be observed by the negative connection between idiosyncratic risks and returns for the losing stocks, and the positive one for the winning stocks. To explore if the aforesaid patterns occur in Vietnam's stock market, this paper employs the quantile regression method which is very suitable for inspecting the relationship at the high and low tails of the stock returns. Besides, this paper uses the data from 2015M12 to 2020M12 collected from DataStream, containing 10,980 firm-month observations.

Main findings:

The estimation results acknowledge the changes in attitudes towards risks as mentioned by the Prospect Theory.

Practical/managerial implications:

The Prospect Theory can be applicable in explaining the relationship between idiosyncratic risks and stock returns in Vietnam's stock market. In addition, the rationale of Merton (1987) is also supported.

Keywords: *Idiosyncratic risks, Prospect Theory, Quantile regression, Stock returns, Vietnam.*

THE EFFICIENCY OF TAX AND CUSTOMS MANAGEMENT IN CROSS-BORDER E-COMMERCE IN VIETNAM

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Research purpose:

With the rapid development of information technology and the globalization trend, there is an immense increase in cross-border E-commerce activities. With the complex characteristics and differences from traditional business models, cross-border E-commerce is posing both improvements and challenges in tax and customs management, especially in developing countries. Thus, this paper focuses on studying the current tax and customs management in cross-border E-commerce in Vietnam. By combining and analyzing recent Vietnam tax and customs practices, academic research, and experiences from other countries, the authors propose solutions to enhance the efficiency of Vietnam's tax and customs management in cross-border E-commerce activities. Studying current changes and remaining challenges of Vietnam tax and customs management in cross-border E-commerce, and proposing solutions to improve the efficiency of Vietnam's tax and customs management.

Research motivation:

Analyzing the untimely adaptation of Vietnam tax and customs managements in response to the explosive growth of E-commerce to propose efficiency solutions to Vietnam's tax and customs management.

Research design, approach and method:

Qualitative research with phenomenological method by combing practices, experiences and researches.

Main findings:

Vietnam begins promulgating legal regulations in cross-border E-commerce tax and customs duty, promoting tax and customs declarations and payments. However, there are still some challenges in information sharing systems, technological application, and legal consistency.

Practical/managerial implications:

Therefore, the authors recommended six groups of solutions related to these challenges, to enhance the tax and customs management in cross-border E-commerce activities in Vietnam.

Keywords: *tax management, customs management, cross-border, E-commerce, management system, public management.*

1. INTRODUCTION

There are many studies and policy concerns about cross-border E-commerce in recent years. Along with the explosion of the industrial revolution 4.0, cross-border E-commerce is growing significantly (Ding, Huo, & Campos, 2017; Samiee, 1998; Sui & Rejeski, 2002). In particular, the emergence of the Covid-19 pandemic has accelerated the development of E-commerce activities, shifting the traditional business models to e-business with new distribution channels and expanding domestic markets (Bhatti et al., 2020; Dinesh & MuniRaju, 2021; Galhotra & Dewan, 2020; Khan, Shams-E-Mofiz, & Sharmin, 2020; Susmitha, 2021).

This is not surprising given that Vietnam is one of the countries having the highest E-commerce growth rates in Asia with an average growth rate of about 29% per year (Google & Temasek, 2020). In 2020, according to the report of the Vietnam E-commerce White Paper, the growth rate of Vietnam E-commerce will reach 11.8 billion USD (IDEA, 2020). The impressive growth of E-commerce partially stemmed from cross-border activities. Cross-border E-commerce facilitates consumers to shop in many different international markets just with a click of a mouse. At the same time, in international trade, firms easily export and import products over the world, thus pulsing economic growth.

However, with the operating characteristics without the physical presence of a permanent establishment and the presence of a legal entity (the concept of a "virtual permanent establishment"), cross-border E-commerce caused many difficulties in tax and customs administration. According to the statistics of the General Department of Taxation of Vietnam, there are currently 8 websites with cross-border E-commerce business activities in Vietnam that have fulfilled the tax declaration and payment obligations. Specifically, in 2021, the amount of tax collected through their deduction and payment, instead of tax revenue, reached more than 5.000 billion VND, of which the most were Facebook and Google with 1.600 billion VND each (Huong Thuy, 2022). In fact, the tax amount is still very modest compared to actual operations on digital platforms. In addition, tax management is more challenging when businesses and individuals also use cross-border E-commerce exchanges to conduct cross-border goods transactions in the form of not signing contracts. Similarly, despite no complete data, statistics from the customs office in 2021 show that the volume of goods transacted via E-commerce through customs clearance procedures at the Express Customs Sub-Department, under the Ho Chi Minh City and Hanoi Customs Departments, has an estimated turnover of more than 1 billion USD. However, these cross-border activities are mainly operated by unofficial groups, who collect a large number of small orders from foreign online websites to "import" to Vietnam markets, which make difficulties in customs management as well (Bang, 2021). In general, the tax and customs authorities have made some efforts, but there are still incomplete legal systems and a lack of uniformity. Adjustments in tax policies as well as customs management have not yet shown effectiveness in the face of the continuous development of cross-border E-commerce.

Thus, the study focuses on analyzing the current situation of tax and customs management in cross-border E-commerce in Vietnam. Then, the author draws on the achievements as well as the outstanding difficulties in these. Besides, tax and customs management experience from many countries around the world is also analyzed. From there, the authors propose solutions to improve the efficiency of tax and customs management for cross-border E-commerce, in line with the current development of E-commerce in Vietnam.

2. LITERATURE REVIEW

2.1. Tax management in cross-border E-commerce

The problems in tax management in cross-border E-commerce gradually become challenging in developing countries. Some researchers studied the differences between the E-commerce and traditional business model, which hamper identifying transactions and transaction values, as the basis of regulatory compliance management. One of the reasons is the digital factor,

which increases the complexity of tax compliance and tax management activities (Lucas-Mas & Junquera-Varela, 2021). Digital refers to the technology of encrypting data to transmit information through an online platform. The digital factor may hinder tax authorities to authenticate, control, and monitor how transactions are done. Therefore, it is difficult for tax authorities to levy taxes in the traditional way.

The development of digital platforms not only changes business models but also facilitates the emergence of new digital business models (Lucas-Mas & Junquera-Varela, 2021). These models pose many challenges to traditional tax administration methods such as cross-border E-commerce. This new business model contains digital elements that can disrupt the tax base in the traditional way. Internationally, the growth of digital business models has generally resulted in non-residents being able to operate in a country's market (OECD, 2015). Accordingly, a country will have difficulty taxing income of these subjects because of their lack of tangible presence in its territory (Moreno & Brauner, 2019). Furthermore, the determination of which country is entitled to levy tax is controversial because it is fundamentally different from the designed international tax rules.

On the other side, some studies have shown the need for an effective coordination mechanism between tax authorities and other authorities in managing cross-border E-commerce activities. Research by Chuge (2020) shows that the problem of tax loss of cross-border E-commerce is a key step to minimizing the potential risks to the economy. Notably, with the new tax policy for China's cross-border E-commerce activities since 2016, Shi et al (2019) and Yu (2018) all point to the need to improve coordination and management between tax authorities and relevant government agencies, especially with customs authorities, to promote the construction of a single window customs mechanism.

Meanwhile, domestic studies show that the tax administration for E-commerce, in general, has been facing many difficulties in controlling actual payment of an order, leading to tax losses (Tran Trung Kien, 2020; Hoang Thuy Linh, 2019), or a sense of limited compliance with the law on contractor tax - the obligation to withhold tax on behalf of a foreign party (Nguyen Thi Thom & Tran Thi May, 2021). However, taxation from cross-border activities has not been comprehensively and consistently mentioned in an international legal document. This has led to many strains in tax management as well as increased tax avoidance and tax evasion in cross-border activities (Tran Thi Van Anh, 2022).

2.2. Customs management for cross-border E-commerce

The rapid growth of cross-border E-commerce has posed both opportunities and challenges for customs

management. It encourages governments to fulfill the inter-organizational information system to further the efficiency of overall customs management (Ratnasingam, 2003). However, the booming growth of cross-border E-commerce activities raises administration costs, technical problems, and risk of smuggling (Yu, 2018). Ruiz (2018) also found that only when the negative impact of cross-border E-commerce on tariff and transaction costs is offset, the cross-border E-commerce may promote international trade. Thus, the difficulties in customs management in cross-border E-commerce activities, such as tax evasion and customs fraud, may diminish international trade. Some research presented that the weak customs management hinder the development of cross-border E-commerce as well. Grainger et. al (2018) showed difficulties in categorizing and allocating costs of customs across the supply chain, related to intermediaries, such as E-commerce exchange or shipping companies, in some countries. The lack of harmonizing international customs regulations may place e-commerce shipments at a competitive disadvantage relative to traditional truckload sized shipments, leading to hindering a development of international trade (Boyd et.al, 2003, Grainger et.al, 2018).

These challenges highlighted the importance of big data management and e-government in customs management (Rukanova et.al, 2019; Hu et.al, 2016). Recent years, there have been several papers using big data and technical applications to improve customs management. Typically, it is necessary to create an information platform that integrates the transaction, declaration, logistics and financial services of E-commerce activities to support customs management (Hu, 2015; Sung & Choi, 2015). Bowering (2018) demonstrated that the growth of E-commerce based on trade data may remove the need for an import declaration due to an effective Authorized Economic Operator (AEO) program combined with separately sourced data. Similarly, research by Li and Li (2019) proposed the application of text-image adaptive convolutional neural networks may assist cross-border E-commerce sellers to classify goods efficiently. Besides, the cooperation among government agencies, corporations, E-commerce exchanges, and Internet service providers also plays an important role in promoting efficient customs management (Ratnasingam, 2003; Ruiz, 2018).

However, customs management for E-commerce in Vietnam is not paid enough attention in research. Most of the studies mainly presented the incomplete legal documents related to E-commerce transactions and electronic payment, which discourage the customs management for cross-border E-commerce (Quang, 2014; Đỗ, 2017).

It can be said that there have been a number of studies on this topic, but the above studies have a wide

research scope (E-commerce in general or in developed countries context), or a research scope is too narrow (only about services or legal scope). Therefore, to the knowledge of the authors, there has been no official research focusing on assessing the current situation and proposing process solutions to improve the efficiency of tax and customs management in cross-border E-commerce in Vietnam.

3. TAX AND CUSTOMS MANAGEMENT FOR CROSS-BORDER E-COMMERCE IN VIETNAM

3.1. The process of cross-border E-commerce activities

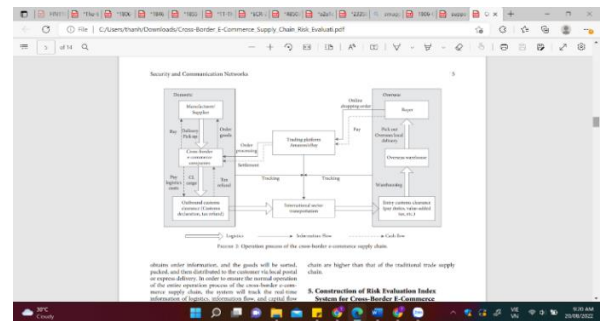


Fig. 1: Operation process of the cross-border E-commerce supply chain (Fang & Wang, 2021)

In the above diagram, the cross-border supply chain is the core supporting process for cross-border E-commerce transactions. The main stages can be summarized as follows:

- (1) Businesses post information about products (made by themselves or from other manufacturers/distributors) on cross-border E-commerce platform. When receiving the order, businesses will confirm the goods. Next, the goods are put into the warehouse, they will be sorted and packed.
- (2) Goods will be transported to the port of exit through logistics services under the contract, and at the same time carry out procedures such as customs declaration, customs inspection, tax payment, ...
- (3) Goods will be shipped to the destination country by international shipping methods. After arriving in the destination country, the consignee/customs declaration entrustment company will submit an application to the customs for customs clearance and payment of taxes.
- (4) Goods will be delivered to the warehouse, transported and delivered to the customer.

In addition, for small value orders, buyers in destination countries can place orders online through cross-border E-commerce exchanges. Warehouse management systems in the receiving country automatically retrieve order information. Goods will be sorted, packed, and then distributed to customers by post or express delivery. It can be said that this is a modern form of cross-border supply chain through E-commerce. In which, all transactions are in online form, online

payments, cross-border distribution and transportation. However, along with convenience and technological application, this type of business has many potential risks of tax evasion and customs fraud.

3.2. Tax management for cross-border E-commerce in Vietnam

3.2.1. Consolidation and promulgation of legal documents

Recent years, the government has made efforts to adjust policies to improve the tax collection regime, keeping up with the development trend of E-commerce. In 2019, the National Assembly promulgated the Tax Administration Law 2019, which contains new regulations on tax administration for business activities on cross-border digital platforms. The Tax Administration Law 2019 also specifies the principles of tax declaration and tax calculation for E-commerce.

With the goal of providing detailed guidance on the Tax Administration Law 2019 and aiming for stricter control of tax sources from cross-border E-commerce, Decree 126/2020/ND-CP was issued and took effect from December 5, 2020. According to the above decree, foreign legal entities operating cross-border E-commerce must go through commercial banks or financial intermediaries. These intermediaries are responsible for withholding and are obliged to guarantee and represent tax payment on behalf of overseas suppliers who do not have a permanent establishment and have operations in Vietnam. However, the above regulation poses a problem for the responsibility of banks because calculating the amount of tax withheld and paid on behalf of foreign suppliers is still a big challenge for commercial banks and other credit institutions.

To guide the implementation of a number of additional and revised points in the Law on Tax Administration 2019 and Decree 126/2020/ND-CP, the Ministry of Finance issued Circular No. 80/2021/TT - BTC, taking effect on September 29, 2021. Accordingly, foreign legal entities can directly or authorize organizations or tax agents in Vietnam to carry out tax registration, tax declaration and tax payment.

In addition, for cross-border small-value goods transactions, according to current regulations, imported goods sent via postal services or express delivery services, with customs value of less than 1 million VND or the total tax of 100.000 VND or less will be exempt from tax. However, at present, there is no specific regulation on the number of times or the specific shipment is exempt from tax. This leads to a loss of revenue because the customs declarant can take advantage of this policy to split the shipment with a large value below the amount to pay taxes and send it through the courier service to enjoy the tax-free quota. For goods below the norm of 1 million VND or through

gifts of less than 2 million VND/time (4 times/year).

Therefore, the coordination mechanism between the tax authorities and the customs authorities is very necessary, both to ensure the budget revenue and fairness of tax obligations.

3.2.2. Manage tax registration, tax declaration and tax payment

Over the past years, the tax management has been continuously developed, synchronously and professionally in risk management control and promoted the integration of modern information technology application in tax registration, tax return and tax payment. According to Decision No. 508/QĐ-TT, the central content in tax management must be based on the E-commerce platform and be one of the three main pillars that the Government wants to aim for by 2030.

Through technology applications, this will facilitate cross-border taxpayers and tax authorities can control cross-border E-commerce more effectively such as tax registration, tax return and tax payment. Currently, the tax industry has deployed an electronic portal for foreign suppliers (Etaxvn.gdt.gov.vn) and integrated for mobile systems with the Etax Mobile with 4 functions, including tax registration, tax declaration, tax payment information search, tax declaration information search (Hoang Lam, 2020). With the support of commercial banks, the form of tax declaration and electronic tax payment is becoming more and more popular.

Mr. Jonathan Leigh Pemberton, Representative of the World Bank, said: "In principle, the end user pays value added tax, but we must create a mechanism for suppliers to declare and pay tax to users." (Xuan Dung, 2020). Therefore, cross-border foreign suppliers are obliged to register tax with Vietnamese tax authorities through an electronic platform in order to be granted a payable identification number, which is directly managed by the tax authority. Tax codes shall comply with Circular No. 105/2020/TT-BTC (Dinh Truong, 2020).

In addition, foreign suppliers must use a bank account registered with the tax authority to pay tax to the government budget account according to the instructions at the platform of the General Department of Taxation. Based on the percentage of revenue received by foreign suppliers, they are responsible for paying the corresponding tax amount including VAT and CIT. In particular, the General Department of Taxation is studying the regulation of tax brackets for cross-border transactions without a permanent establishment in accordance with the development of E-commerce.

To ensure ease in tax management for cross-border transactions in Vietnam, tax authorities accept tax declarations in 14 common foreign currencies. From this foundation, the General Department of Taxation of Vietnam (2021) expects to soon build a database of

taxes and electronic invoices that will be officially applied nationwide (General Department of Taxation of Vietnam, 2019).

3.2.3. Inspection, examination, and exchange of information

To eliminate tax evasion from cross-border activities, tax authorities have implemented inspection and examination to analyze risk promptly from individuals and organizations participating in cross-border activities. There are at least 64 foreign cross-border E-commerce service providers in Vietnam. Giant cross-border platforms such as Facebook, Google have been taxed \$218.5 million in the period 2019-2021 (Samuel, 2022).

3.2.4. Evaluation

The improvement in legal regulations and the e-portal has supported tax declaration and willingness to pay tax from businesses. Besides, flexibility in foreign currency conversion and simplifying administrative procedures in tax registration and payment also create convenience for foreign suppliers in E-commerce activities. However, there are some challenges in tax management:

Firstly, the collection of contractor tax for social networks providing cross-border services is limited due to the expansion of multi-party business forms and many payment methods (VCCIA, 2021). In particular, subjects participating in E-commerce are increasingly diverse (individuals, business households ...) and are no longer suitable in the way of managing contractor tax for businesses as before.

Secondly, relevant specialized agencies face many difficulties in controlling the flow of information about goods on E-commerce exchanges and the reality of shipping goods, which hinder the cross-border tax payment process. For instance, the goods are brought to Vietnam in the form of gifts, hand-carried goods in large quantities, leading to a disordered tax declaration process, which easily leads to tax loss.

Third, the issue of controlling cash flow in cross-border E-commerce through banking transactions has not been completed. The database to determine revenue, expenses, business results, and taxable income of taxpayers related to cross-border transactions is still limited, leading to not enough tax collection.

Fourth, tax registration for foreign service providers is still a problem. According to the General Department of Taxation of Vietnam, there are still many cross-border E-commerce activities that have not been included in the list of business lines in Vietnam because of their intangible, diverse and elusive nature. Therefore, most of these types are still not subject to the scope of regulation of the VAT and CIT laws. This makes it difficult for tax management, inspection, and examination in Vietnam.

Fifth, there is a lack of a legal basis and formity of tax bases on VAT for cross-border goods and services supplied from foreign individuals and legal entities into Vietnam. This shows that the tax management mechanism still cannot keep up with the rapid development of cross-border business from foreign suppliers.

Sixth, limitations in the self-declaration and self-pay tax mechanism in Vietnam. In this mechanism, foreign suppliers can provide complete or incomplete information related to taxpayers, payment sources, transactions, etc., which causes difficulties in tax collection unless they do transactions on the E-commerce exchanges registered in Vietnam.

3.3. Customs management for E-commerce in Vietnam

Until now, Vietnam has not had specific customs regulations for goods imported or exported via E-commerce. This leads to several problems in customs obligations and in customs management, due to differences between traditional business and e-business. Typically, because of the high volume of small transactions, customs declaration and screening control processes in E-commerce are extremely time-consuming. According to the recent regulation, each product in an order, regardless of value or size, must make a declaration first. Thus, even for orders that customers place dozens of different low-value products, the exporter or importer has to make dozens of customs declarations for these products. According to the General Director of Than Toc Technology Joint Stock Company - a unit specializing in forwarding and customs clearance for E-commerce exchanges, the number of daily declarations for E-commerce transactions can be up to 10,000 or even more (General Department of Vietnam Customs, 2022). Similarly, all goods in cross-border E-commerce must be screened without any exemption. On average, it takes customs authorities 4 hours to scan one E-commerce shipment. Thus, it is clear that the customs clearance process is very slow and inefficient at the moment.

Thus, Vietnamese government has issued Decision No. 431/QD-TTg approving the Scheme on management of E-commerce activities for exported and imported goods in March 2020 and The Draft Decree on management of import and export goods transacted via E-commerce on August 16, 2021, which facilitate and simplify customs management for cross-border E-commerce. These policies, which are expected to improve the recent customs process, highlight regulations on:

3.3.1. Building a particular customs system for E-commerce goods

With the aim to separate the ecommerce and traditional business, there will be a "system" exclusively for goods via E-commerce. In this system, online

exchange owners or online sellers, customs clearance agents, freight forwarders, bonded warehouses, financial institutions and the Customs Portal, will be connected and granted to access to provide information to serve customs clearance and management.

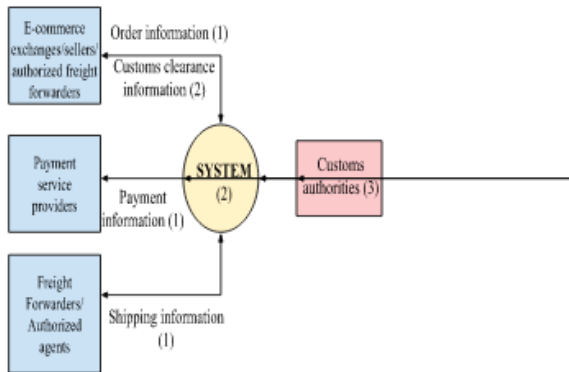


Fig. 2: The general structure of the custom System in Vietnam

Figure 2 illustrates the general structure of the “System” in customs management in Vietnam, based on the Draft Decree 2021 on management of import and export goods transacted via E-commerce. In detail, before making a customs declaration, E-commerce exchanges, E-commerce website owners or legally authorized freight forwarders are responsible for sending order information to the system. Likewise, the payment service providers (such as commercial banks) are required to provide payment information. The freight forwarders or their agents in Vietnam provide shipping information to the System. Then, the system will automatically check and compare the information on the customs declaration with the provided order, payment, and shipping information. The results of the system will be the basis for customs authorities to manage and supervise customs clearance such as identification of goods, customs duty, inspection, and risk assessment. If there is any detection, the authorities will request a subject to supplement information through the system. It is clear that all customs information and procedures occur through the system, which may save time and convenience, leading to an e-government system.

3.3.2. Adding customs declaration subjects and simplifying customs valuation

In addition to the subjects of customs declaration specified in the Customs Law, the Draft Decree 2021 includes E-commerce exchanges or E-commerce website owners as declaration subjects. If they are foreign traders who have no commercial presence in Vietnam, customs procedures shall be carried out through a customs clearance agent or a legal representative in Vietnam. This showed stricter regulation on the E-commerce activities of foreign sellers and the role of E-commerce exchanges.

For normal import and export goods, customs

valuation needs to consider many factors, such as methods of determining export selling prices, the cost of international insurance and international transportation, incoterms, ... However, for the E-commerce goods, the customs value as the selling price (for exports) or purchase price (for imported goods) stated on the order or payment documents or other equivalent documents, which may include the cost of insurance and transport (for imports) or not (for exports). This provision is essential in clarifying customs value calculation and reducing customs fraud.

3.3.3. Broadening examination exemption

In addition to import and export goods exempt from specialized examination and inspection as prescribed by law, import and export goods transacted via E-commerce have the customs value of each item in the order of 1 million VND or less or less than 5 million VND with single imported goods (except for quarantine goods, goods under the management of the Ministry of Culture, Sports and Tourism) are exempt from examination. This exemption is limited to 1 order per day and no more than 4 orders per month. Besides, the information on the customs declaration for this group is simpler, exempted from record inspection and physical inspection of goods. The customs declarants can make one declaration form for many orders as well. With this change, the Draft Decree aims to reduce the burdens in the customs clearance process for small-value shipments, smoothing the cross-border E-commerce supply chain.

3.3.4. Evaluation

Apart from the efforts in consolidating customs regulation and management through the Draft Decree, there are still some concerns about these changes that government authorities should consider and make appropriate adjustments:

Firstly, the examination exemption regulations apply to single goods whose value is not over 5 million VND, does not seem to be reasonable. The reason for the specialized examination exemption for E-commerce goods is because the value of the goods is too small compared to the inspection cost. Therefore, it is not reasonable to be exempt when the inspection cost is lower than the value of goods. For example, gadgets or electronics, whose inspection cost is smaller than its value; thus, the exemption for these goods may lead to customs fraud.

Secondly, the Draft Decree sets limits on exemption from specialized inspection for import and export goods in units of days and months that are difficult to apply and not feasible. According to the provisions of Article 37 of Decree 52/2013/ND-CP, the E-commerce exchange is responsible for providing information about whether an order is exempt from specialized inspection or not to buyers before purchasing. This will require a system to communicate information between all

exchanges, which may be very complicated as consumers often use multiple E-commerce exchanges and place many orders in a very short time (especially in super promotions). Thus, this requires the System updated constantly to have accurate results, which may not be feasible.

Thirdly, all the customs management relied on the System; however, there is no regulation or back-up plan in the case that the System crashes. For instance, the customs subject could not apply for customs clearance or upload documents; therefore, in this case, whether paper documents and traditional clearance could be replaced or not. Besides, due to the grant to access to provide information in the System, issues of information security and access rights should be considered. Last but not least, there is vagueness in the conditions about the corporate responsibility for fully equipping technical infrastructure in electronic transactions to ensure the declaration, transmission, receipt and storage of information when accessing and exchanging information in the System. In fact, several companies do not clearly understand these requirements, especially in the case that they hired third parties to implement the customs clearance process (VCCIb, 2021).

4. LESSONS LEARNED FROM COUNTRIES AROUND THE WORLD

4.1 Set tax threshold

Many countries that regulate taxable revenue thresholds for cross-border E-commerce activities, such as Indonesia, Singapore, Thailand. Specifically, the Tax Authority in Singapore stipulates two tax thresholds for foreign digital vendors as follows: having annual global sales exceeding \$1 million SGD and providing B2C services in excess of \$100,000 SGD.

Many countries are strengthening strict controls on tax collection from cross-border activities, focusing on individuals with income sources from trading products and services on E-commerce platforms abroad. According to US tax law, digital platforms such as Google, Facebook ... are responsible for collecting tax information of entities operating on the platform regardless of individuals or organizations to make deductions and report to the tax agency. If individuals and organizations do not properly declare their obligations, they will be deducted from their total income worldwide at the rate of 24%, applied by Google. This is considered an effective method in collecting taxes from individuals earning income from activities on foreign E-commerce platforms.

In March 2019, the OECD also issued a document "The role of digital platform creators in the collection of VAT/sales tax on online business activities", which recommends that countries require E-commerce platforms to have full and sole responsibility for determining the payable tax amount of orders, collecting and paying tax on behalf of the tax authorities. This has

been successfully applied in developed countries such as the UK, the US, Germany, and Australia.

4.2. Applying big data management

The authentication of taxpayer data in some countries through E-commerce platforms is being effectively controlled with many different methods. In Japan, the tax authority requires banks to provide account numbers used to pay for transactions or conduct trial shopping to receive emails from sellers to identify E-commerce suppliers. In addition, some OECD countries are now expanding multi-step authentication, which uses taxpayers' biometric information for identification, authentication, and security.

Moreover, in order to select the offending websites that do not declare and pay taxes as prescribed, tax authorities of intra-EU countries perform comparisons between information from Internet sources and internal transactions. The set includes VAT declarations, CIT declarations, etc. for tax authorities to establish risk profiles of taxpayers. Specifically, Germany, France and the Netherlands have built a database of organizations and individuals doing business on the Internet through a smart search engine on the internet like the Xpider, which discovers E-commerce operators residing in Germany having E-commerce transactions outside the scope of control in accordance with the law in Germany. This supports information collection in tax inspection and examination.

External database sources play an important role in the modern risk assessment model for cross-border activity. Within the EU, the member states have built and unified the eDIAS system into the common legal framework, so digital signatures have legal validity throughout Europe to facilitate tax information between members are easily shared. This will improve cross-border customs and tax information management in EU countries and facilitate easier data sharing.

5. CONCLUSION AND POLICY IMPLICATIONS

In summary, besides efforts to innovate tax and customs administration for cross-border E-commerce, Vietnam tax and customs management still faces many challenges. With the theoretical basis and analysis of the situation as well as lessons learned from countries around the world, the authors propose 06 main groups of solutions, as follows:

Firstly, the Government needs to legislate specifically that E-commerce exchanges require organizations and individuals selling goods and services on the exchange to issue invoices when making transactions. At the same time, tax authorities should stipulate mandatory obligations and responsibilities for E-commerce exchanges to report a list of entities who do not comply with this provision, to the tax authorities. Exchange owners will report the information one per quarter for tax supervision and management.

Secondly, tax authorities need to strengthen inspection and examination of tax declaration and payment from foreign sellers or their agents conducting cross-border business activities in the Vietnam market. In addition, the Government continues to implement the legal framework on contractor tax law and the mechanism for collecting VAT and CIT for E-commerce exchange transactions.

Thirdly, the Ministry of Finance needs to establish a coordination mechanism between tax authorities and customs authorities, first of which is an effective information sharing mechanism. It is feasible to add the roles of tax authorities to the customs System that the Draft Decree 2021 has established. The customs office is considered as the front-end to control cross-border E-commerce goods entering Vietnam. However, in order to have a basis to determine which goods are customs and tax exempt, it is necessary to have instant information sharing from tax authorities. Conversely, goods are cleared only after customs declarants fulfill their tax obligations.

Fourth, tax authorities and customs authorities may find it beneficial to develop an integrated risk management database for various types of cross-border activities. The criteria for risk classification include assessment of compliance; rating the level of risk for individuals and organizations paying tax on behalf of; selection of tax registration cases... Therefore, the government may be able to integrate appropriate risk management methods in both tax and customs examination.

Fifth, before completing the "System", it is necessary to have timely sharing of inter-organization information between parties in the cross-border E-commerce supply chain, such as financial institutions and freight forwarders. In detail, the tax authorities may require all commercial banks and forwarding businesses across the country to provide full information such as name, address, tax code, etc. of all organizations and individuals with income generated from cross-border E-commerce activities. In other words, data needs to be collected on a national scale to avoid inadequacies, disparities, lack of synchronization as well as take advantage of scale. From there, the General Department of Taxation will transfer it to local tax authorities to exploit, handle and promptly share information with customs authorities to build an effective risk management mechanism and prevent fraud. The recommended report time is one quarter per time.

Sixth, annual IT training for tax authorities and customs authorities is essential when customs and tax information has been integrated in the "system" or electronic portal. For example, tax authorities can apply programs to automatically calculate and pay taxes online; and customs authorities may implement AI technology in data analysis to detect and control risks.

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THE EFFECTS OF FIRMS' FUNDAMENTAL FACTORS ON STOCK PRICES: EVIDENCE FROM VIETNAM

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Research purpose:

This study identifies firms' fundamental factors affecting stock prices in the case of listed companies in Vietnam. Seven factors, which include debt to equity ratio, earnings per share, current ratio, dividend payout ratio, return on assets, growth rate and dividend per share, are examined

Research motivation:

The stock market plays a very important role in the financial system in every country. For individual investors, the stock market is a very potential investment channel. However, all investment will involve risks and stocks are not an exception. Stock prices are fluctuated all the times and finding the intrinsic value of stocks is complicated procedure for investors. Among studies about factors affecting to stock prices, there are few recent studies that examine the possible effects of firms' fundamental factors on stock prices in the developing market. The research is motivated by the question of which firms' fundamental affecting to stock prices specially in Vietnam.

Research design, approach and method:

Data of 780 listed firms on Hanoi and Ho Chi Minh Stock Exchange from 2019 to 2021 is extracted from Finnpro platform, resulting in 2340 firm-year observations. Panel data is processed using regression model with Stata program.

Main findings:

The results show that five firms' fundamental factors including earnings per share, current ratio, dividend per share, return on asset and growth rate have positive effects on stock prices. In contrast, debt to equity ratio is negatively related to stock prices, while dividend payout ratio shows no statistically relationship to stock prices.

Practical/managerial implications:

This study provides more evidence about stock prices evaluation and proposes some recommendations for investors and listed firms to better understand stock prices and firms' performance as well as implications for Government agency for regarding market regulation. For example, investors should focus on fundamental of companies when evaluating its stock price in the long term; firms should enhance their internal factors to maintain their stock prices sustainably and Government regulators have to strictly follow and timely correct the market.

Keywords: *stock prices, earnings per share, current ratio, dividend per share, return on assets, debt to equity*

1. INTRODUCTION

The stock market plays a very important role in the financial system in every country. For developed countries, the capital stock market together with the banking system as well as the debt securities market plays a decisive role in providing and flowing capital for the financial system in general and enterprise in particular. Meanwhile, in Vietnam, the capital fundraising still depends a lot on the banking system. For individual investors, the stock market is a very

potential investment channel. Instead of depositing in banks with low interest rates as at present, investors can choose to participate in the stock market to make profit. However, all investments will involve risks and stocks are not an exception. Therefore, investors must have a strict management method, learn carefully before participating. In the market, stock prices are a factor that investors pay special attention to when making investment decisions. Stock prices have fluctuated at times. This variation is impacted by a variety of reasons, including both external and internal factors affecting the

business. External elements include the economy's status, government policies, and inflation rate, while internal aspects include the company's fundamental state, board of directors' policies, and so on (Usman, 1990; Jones, 1998). Because stock prices frequently reflect the company's value, stakeholders frequently compare the stock market price to the genuine stock prices when deciding whether to buy or sell stocks.

There is no guarantee that investors will retain their capital, as they may also suffer a loss of capital. As a result, they should use greater caution when allocating shares. They must do a stock valuation in order to ascertain which stocks are the most profitable in the present and future. Given the importance of stock valuation to investors, this paper examines the effects of firms' fundamental factors on stock prices. Then, individual and institutional investors will gain a better understanding of how to value stocks and make investment decisions as a result of this study. Additionally, many recommendations are provided in light of the analysis and results of the fundamental factors affecting the firms' share price.

There has been studies around the world about firms' fundamental factors affecting stock prices. Riska (2002) examined the relationship between earnings per share, price earnings ratio, and return on equity and the property industry's stock prices on the Jakarta Stock Exchange. According to the study, none of the independent factors have a substantial effect on stock prices when they are simultaneous or partial. Putranto et al. (2019), Mansyur et al. (2020), and Sholichah et al. (2021) stated that there is a positive relationship between capital structure and stock prices because high debt to equity ratio indicates growing companies. Enggarini (2006) examined the impact of fundamental and technical variables on the stock prices of issuers formed between 2002 and 2004. His research focuses on the relationship between fundamental variables (EPS, ROA, and ROE) and the stock prices. The results indicated that the influence of partial EPS on stock prices was significant. In a study of Safitri (2013), the solvency ratio to stock prices shows no influence, whereas studies by Tan et al. (2014) and Sondakh et al. (2015) show that influence exists. Hashemi and Rasaeyan (2009), Sakia (2019), Mansyur et al. (2020), and Prayogiyanto et al. (2020) proved that dividend policy has a positive effect on stock prices.

Most of previous studies have emphasized on the developed market while Vietnam is a developing countries and its stock market is classified as emerging market. This is a research gap and a motivation to search for the effect of firms's fundamental factors affecting stock prices in the context of Vietnam. The purpose of this research is to determine the fundamental factors that affect the stock prices of publicly traded companies; consequently, to conduct a theoretical test of stock prices in the context of Vietnam and to make some

recommendations to help investors better understand the stock assessment process. Additionally, several recommendations are made for listed firms and regulators to improve firms's performance and better regulate the stock market. This study includes 5 sections: (1) Introduction, (2) Literature review on stock prices and the effect of firms' fundamental factors on stock prices, (3) Research methodology, (4) Findings and results, (5) Conclusions and recommendations.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Stock prices concepts

Stock or equity in a firm represents an ownership share in the corporation (Bodie et al. 2003). The stockholder is entitled to a part of the company's assets and income based on the amount of stock they own. The term "shares" refers to the stock unit. The price at which one share of a corporation can be purchased is known as a stock price or a share price. A stock's price is not set in stone; rather, it varies in response to changes in the market. In any case, it will rise or fall depending on how well the company is seen to be performing.

Stocks can be priced based on dividend discount model, free cash flow or market- based valuation. However, expectations about the firms' and the economy's future are typically thought to influence securities prices (Elton et al, 1981). It demonstrates that simply being aware of analyst estimates of earnings per share is not enough to generate above-average results. It is already incorporated in the share price if there is any information in the consensus estimate of earnings per share. An excess return should not be earned by investors or managers who acquire high-growth stocks based on consensus opinions. Because of the excess return, this isn't because earnings have no effect on the share price. In order to maximize returns, one must be able to identify which stocks experts undervalue the most. Finally, knowing which stocks analysts are most likely to revise their forecasts might yield the best results. Expectations for earnings per share appear to influence the price of a company's stock, as evidenced by this pattern of results. Any level of predicting ability allows managers to take advantage of the gaps between their forecasts and the consensus forecasts in order to maximize their performance.

2.3 Fundamental factors affecting stock prices

2.3.1. Capital structure

The structure of a company's financial liabilities is referred to as its capital structure (Kochhar, 1997). Long-term sources of funds and equity, such as the company's reserves and surpluses, are included in this term (Pratheepkparth, 2011). Capital structure is defined by Chou & Lee (2010) as a combination of debt and equity financing. One of the most important and difficult questions in corporate finance is whether or not an

optimal capital structure exists. Debt and equity are the two financing options available to financial managers. By increasing shareholders' or creditors' claims on a company's assets, the financial manager has more power. Creditor claims rise when a company takes out short-term or long-term loans, whereas shareholders' claims rise when shares are made available for public subscription. Financial structure refers to the various ways in which a company's operations are funded. Firms are shown on their balance sheets as the sum of their liabilities and their equity

The debt-to-equity ratio measures a company's ability to meet its financial obligations by comparing its available capital to its outstanding debt. The greater the DE ratio, the greater the risk that a stock's price will fall, and the converse is also true. This indicates that the company's finances will be drained by financial burdens/debt interest expenses, making it vulnerable to changes in macroeconomics, such as changes in interest rates. Since stock prices fall when the DE ratio is high, it can be said that this is true (Liembono, 2013). However, recent studies found the positive relationship between capital structure and stock prices. For example, Putranto et al. (2019), Mansyur et al. (2020), and Sholichah et al. (2021) stated that a high percentage of capital structure will be able to increase stock prices because high debt to equity ratio indicates growing companies. Hence, we propose the following hypothesis:

H1: Debt to equity ratio of the firms has a positive effect on their stock prices.

2.3.2. Earnings per share (EPS)

Earnings are the most important performance measure for financial executives to report to outsiders according to the results of a survey conducted by the authors Graham, Harvey and Rajgopal (2004). Share valuation, management performance incentives, and merger and acquisition negotiations all rely on EPS to guide strategic decision-making. If an organization's earnings per share (EPS) increase, the company's executives are lauded for their efforts. Managers' interest in EPS is understandable given that their pay is tied to the company's EPS performance. EPS and EPS growth are still relevant in today's share valuation methodology, according to authors such as Chen, Jorgensen and Yoo (2004), Ohlson and Juettner-Nauroth (2005) and Taboga (2011). Studies of Adkins et al. (2010) concluded that investors and management alike are obsessed with EPS because it provides an easy way to summarize earnings generated for shareholders. If a company's earnings per share (EPS) increase is better than expected, the stock prices may fall as a result. Furthermore, a lower EPS figure could lead to a price increase if analysts were expecting a worse outcome. Then, the second hypothesis is suggested as follows:

H2: Earnings per share of the firms has a positive effect on their stock prices.

2.3.3. Current ratio (CR)

According to Kasmir (2016), "Current Ratio is a ratio to measure the company's ability to pay short-term obligations or debts that are due immediately when they are collected as a whole." To put it another way, how many current assets are available to cover liabilities due in the near future. The current ratio can also be used as a measure of a company's financial security. According to Ade, Hadison, and Yoyok (2021), the current ratio has a considerable impact on stock prices to the extent that it partially affects the value of the ratio. A corporation with a higher current ratio value can be deemed to have strong financial standing, which opens the door to greater revenue. The stock prices of a corporation can be influenced by well-funded companies on the capital market.

H3: Current ratio of the firms has a positive effect on their stock prices.

2.3.4. Dividend payout ratio

It is widely accepted that Lintner (1956) was the first person to study dividend policy. According to his findings, the earnings distribution of Swiss enterprises is inversely proportional to the size of the company and the options for investment. Studying the relationship between investment possibilities, indebtedness, and dividend policy in Korean corporations was the focus of Jaggi & Gul (1999). They found that the quantity of debt and dividend policy had a wide range of relationships with investment prospects. With addition, free cash flow and debt were found to be highly associated in companies with poor investment opportunities. Free cash flow, dividends, and excess investment all have a strong direct correlation, according to Adam and Goyal (2008), who performed research on the subject.

Studies undertaken by Fama and French (2002) in the United States between 1926 and 1999 are considered landmarks in the field. There has been a huge fall in the number of companies that pay dividends since 1978, according to the researchers. Small businesses with strong investment potential but low profitability seldom shared their profits, according to the findings of this study. Differences between the proposal to purchase and sell stock, corporate governance standards, firm size, profitability and growth possibility, as well as dividend policy as a dependent variable were explored by Hashemi and Rasaeyan (2009). Other findings support the results that dividend policy has a positive effect on stock prices such as Sakia (2019), Mansyur et al. (2020), and Prayogiyanto et al. (2020). Then, the fourth hypothesis is proposed:

H4: Dividend payout ratio of the firms has a positive effect on their stock prices.

2.3.5. Return on assets (ROA)

Investors place a high value on a company's ability to turn its assets' resources into earnings, which has led to a spike in interest. Investors will expect a higher degree of stock return if the company generates more profit. Furthermore, these companies' stock will likely be purchased by investors. The stock market will see an increase in demand as a result of this. The stock's price will almost certainly rise if the number of outstanding shares remains constant. In principle, Ang (1997) stated that the higher the ROA, the better the asset management, and the more efficient the assets, the higher the level of investor confidence in the organization. This assertion is supported by a study undertaken by Abigael and Ika (2008), Zuliarni (2012), Idawati & Wahyudi (2015) and Badruzaman (2020) who concluded that ROA had a favorable effect on stock prices. The findings of Indahsafitri et al. (2018), Saprudin (2019), Sholichah et al. (2021) also proved that firms with high profitability lead to the increase in stock prices. Then, the next hypothesis as follows:

H5: Return on asset of the firms has a positive effect on their stock prices.

2.3.6. Growth rate

A rise in the number of sales from one year to the next, or from one period to the next, is referred to as sales growth (Kennedy and Anisa, 2013). It is believed that the higher the level of sales implies that the company's financial condition is strong. A company's growth rate as measured by sales growth, according to Kusumajaya (2011), influences the company's stock prices since the company's growth is an indication of outstanding corporate development, which leads to a positive response from investors. Investors' interest in the company's stock may rise as a result of the good trend in sales growth; consequently, the stock price will continue to rise. In agreement with Clarensia et al. (2011), the stock price is influenced by liquidity, profitability, sales growth, and dividend policy at the same time.

H6: Growth rate of the firms has a positive effect on their stock prices

2.3.7. Dividend per share

Dividend per share is defined as a gross dividend divided by the number of ordinary shares. It is vital for investors to evaluate dividends as a source of income, as well as a tool to assess a company's ability to generate revenue and whether or not it has enough finances to invest in future projects. This is why dividend per share is significant, according to Khan (2012). A firms' dividend declaration is also of importance to lenders because a higher dividend payment means that a lower amount is available to the corporation for servicing and redeeming its claim liabilities. Theoretically, if a corporation cuts dividends paid on its shares, the stock becomes less attractive to investors and the stock's price

falls (Muigai, 2012; Kenyuru et al., 2013; Irman et al., 2020). Share prices can fall or rise depending on whether or not the market is aware of any change in dividend payments. Therefore, we make the last hypothesis:

H7: Dividend per share of the firms has a positive effect on their stock prices

3. RESEARCH METHODOLOGY

3.1 Research model

Based on previous study of fundamental factors affecting to stock prices of Atika (2009) and applying to the context of Vietnamese stock market, the author proposes that hypotheses are tested by using model:

$$\text{PRICE} = \beta_0 + \beta_1\text{DE} + \beta_2\text{EPS} + \beta_3\text{CR} + \beta_4\text{DPR} + \beta_5\text{ROA} + \beta_6\text{GR} + \beta_7\text{DPS} + \epsilon$$

Summary of variables in the model are presented as follows:

Table 1. Summary of variables in the model

Name of variables	Type of variables	Code	Measurement
Market stock prices	Dependent	PRICE	The price of listed stocks on the stock exchange
Debt to equity ratio	Independent	DE	Total debt / Equity
Earnings per share	Independent	EPS	Net income / Total share outstanding
Current ratio	Independent	CR	Current assets / Current Liabilities
Dividend payout ratio	Independent	DPR	Dividend paid / Net income
Return on assets	Independent	ROA	Net income / Total assets
Growth rate	Independent	GR	(Revenue year t / revenue year t-1) - 1
Dividend per share	Independent	DPS	Dividend paid / Total share outstanding

3.2. Research sample

The research sample is the collection of 780 non-financial listed companies on Hanoi Stock Exchange (HNX) and Ho Chi Minh Stock Exchange (HOSE). All of the financial information and market stock prices of these companies were mostly obtained from FiinPro Platform - the most popular financial data platform in Vietnam. In addition, the research was conducted in the period of 2019- 2021.

4. FINDINGS AND RESULTS

4.1 Descriptive statistics

Descriptive statistics in research covers issues ranging from data collection, summarization, statistics, description and presentation as well as calculations to be

able to reflect the data and subjects in general. research done. Table 2 provide the results describing specific variables including: Total number of observations, Data variable name, Mean value, Standard deviation, Minimum and maximum value of the variables

Table 2. Descriptive statistics of variables

Variable	Obs	Mean	Std. Dev.	Min	Max
PRICE	2,233	23394.2	24929.44	400	277000
DE	2,340	1.807303	3.653572	0.0002	122.1246
EPS	2,339	2070.3	2841.707	-12238.22	32971.02
CR	2,340	3.078272	7.463177	.033829	141.2632
DPR	1,594	1.0114	4.753005	-2.666504	131.1684
ROA	2,338	.0490782	.068061	-.4672669	.4678961
GR	2,338	.3162334	2.977816	-3.236254	77.45563
DPS	1,597	1407.933	2325.011	0	51600

(Source: Stata 16)

Table 3. Correlation matrix

	PRICE	DE	EPS	CR	DPR	ROA	GR	DPS
PRICE	1.0000							
DE	-0.0734	1.0000						
EPS	0.6093	-0.0729	1.0000					
CR	0.0483	-0.1604	0.0116	1.0000				
DPR	-0.0508	-0.0265	-0.0892	0.1485	1.0000			
ROA	0.4445	-0.3043	0.6577	0.1503	-0.0820	1.0000		
GR	0.0768	0.0516	0.0944	-0.0612	-0.0641	0.0690	1.0000	
DPS	0.4496	-0.1151	0.5864	0.0704	0.0324	0.4467	-0.0308	1.0000

(Source: Stata 16)

Table 4. OLS, FEM, REM and FGLS regression model

PRICE	OLS	FEM	REM	FGLS
DE	-34.9816 (-0.14)	-119.2977 (-0.16)	-274.5637 (-0.88)	-132.0208** (-2.09)
EPS	4.2162*** (16.01)	2.5975*** (6.13)	3.9566*** (13.21)	4.5629*** (36.28)
CR	218.9921 (1.33)	19.1432 (0.08)	175.7773 (1.01)	200.0038*** (11.09)
DPR	-50.7676 (-0.46)	54.7491 (0.50)	13.6690 (0.14)	-33.2457 (-0.98)
ROA	21045.4540* (1.84)	-14629.6906 (-0.79)	7571.5574 (0.58)	15007.24*** (3.95)

PRICE	OLS	FEM	REM	FGLS
GR	1205.1668 (1.60)	3000.2548*** (2.85)	1511.7184** (2.10)	1249.93*** (15.75)
DPS	1.5233*** (5.46)	-1.3418*** (-3.96)	0.3162 (1.11)	0.63074*** (4.05)
_cons	11583.4527*** (11.49)	22585.6455*** (12.19)	14992.3370*** (12.01)	11337.53*** (177.69)
N	1519	1519	1519	1519
R-sq	0.388	0.085	0.0586	
F-value	0.0000	0.0000	0.0000	

Notes: * $p < 0.1$ (significant level of 10%), ** $p < 0.05$ (significant level of 5%), *** $p < 0.01$ (significant level of 1%). The number in brackets () is the t value in the regression model.

(Source: Stata 16)

4.2. Correlation matrix

Based on Table 3, the correlation coefficient matrix data between the above observed variables, it can be seen that some of the independent variables are correlated with the dependent variable. In which, variables EPS, ROA, DPS have the highest correlation coefficients with values of 0.6093, 0.4445, and 0.4496, respectively. These coefficients show that this correlation is statistically significant because both are larger than the coefficient 0.1 according to Fenton & Neil (2014). Some other variables have a negative correlation coefficient with the dependent variable such as DE and DPR, but this correlation coefficient is very small, so it is not enough to conclude that there is a correlation between the variables.

4.3. Regression results

In this research, we use three typical regression models of panel data, namely Pooled OLS model, Fixed Effect Model (FEM) and Random Effect Model (REM). After testing suitable model, REM is selected. However, this model contain autocorrelation and heteroscedasticity. To overcome this problem, we have to use the method of Feasible Generalized Least Squares (FGLS)

According to FGLS model (Table 4), the regression results are rewritten as follows:

$$PRICE = - 132.02*DE + 4.56*EPS + 200*CR - 33.24*DPR + 15007.24*ROA + 1249.93*GR + 0.63*DPS + 11337.53$$

(1) Debt to equity ratio

From the results of Table 5 above, it can be seen that the debt to equity ratio recorded DE reached statistical significance at 5% and had a negative impact on the stock prices of the enterprise, similar to Tran, N. G. (2015). It can be seen that when debt-to-equity ratio increases then the stock prices will decrease. Debt to equity ratio shows the degree of financial leverage of a

firm. Low ratio means firms use low levels of debt and are financed mostly by equity, indicating a strong financial situation. Our finding rejects H1 and is not in line with the results of Putranto et al. (2019), Mansyur et al. (2020), and Sholichah et al. (2021).

(2) Earnings per share

In contrast, earnings per share (EPS) has a positive effect on stock prices and this effect is statistically significant, same result with the research of Öztürk & Karabulut (2018). It can be seen that when earnings per share increase by 1%, the stock prices will increase by 4.56%, other factors held constant. EPS shows how much profit generated to a unit of firm share. High EPS means the shareholders can get more profit per share, leading the firms' stock to be attractive and stock prices to increase. Then, H2 is accepted.

(3) Current ratio

The solvency coefficient (CR) reaches statistical significance at the 1% significance level and has a positive impact on the stock prices of the firms in the sample. This result is similar to the results of Siagian, Wijoyo & Cahyono (2021) and confirms H3. Specifically, when the solvency ratio increases to 1%, the stock prices will increase by about 200%, other factors being held constant. Accordingly, the higher the current ratio, the higher the value of a company, which means that the company can be considered financially sound and able to attract more profits. Companies with good financial status can influence the company's stock price in the future.

(4) Dividend payout ratio

There is no significant impact of dividend payout ratio (DPR) on stock prices was recorded. This is contradicted with results of as Sakia (2019), Mansyur et al. (2020), and Prayogiyanto et al. (2020) and rejects H4. Dividend payout ratio shows how much of dividend paid to investors per unit of profit generated by the

firms. Normally, investors prefer a high dividend payout ratio meaning that they will get much cash dividend from capital invested. However, in the Vietnamese market, many investors otherwise prefer to use the profit generated by the firm to reinvest in those firms when the firm still has potential to grow. This is understandable when the Vietnamese economy is in the early phase of development the firms have many opportunities to expand and grow. From two opposite of opinions of groups investors above, it leads to that dividend payout ratio has no impact on the stock prices.

(5) Return on assets

Return on total assets (ROA) has a positive effect on the stock prices of companies and reaches statistical significance at 1%, agreeing with a number of specific typical studies, including Idawati & Wahyudi (2015) and Badruzaman (2020) with the results that ROA has statistically significant and positive impact on stock prices. ROA is a measure of the company's profitability per unit of assets. High ROA means the firm is using their assets to generate profit effectively compared to other companies. This will push their stock prices to increase as their stock becomes more attractive in the eyes of investors. Therefore, our results support for H5.

(6) Growth rate

The variable average growth rate of enterprises (GR) reached statistical significance at 1% and had a positive impact on stock prices of non-financial firms in the sample. This result is consistent with Böni & Zimmermann (2021) and aligned with H6. Growth rate shows how much revenue in the current period has increased compared to the figure of the previous period. High growth rate means firms are generating more revenue time by time, leading to the value of the firm to be increased. As a result, the firms' stock prices should increase reflecting the increasing value of firms.

(7) Dividend per share

Similarly, dividend per share (DPS) is significant at the 1% level and also has a positive effect on the stock prices of firms, agreeing with Muigai (2012), Kenyora et al. (2013) and Irman et al. (2020). Dividend per share shows how much cash investors can get from holding a unit of share of the firms. According to Bird in Hand theory, investors prefer dividends from investing stock rather than potential capital gain because of the certainty of holding cash from dividend paying. As a result, firms with high dividends per share are more attractive to the investors, leading the stock prices to rise.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusions

This study focuses on the firms' fundamental factors affecting the market stock prices in the case of a listed company on the Vietnamese Stock Exchange. Literature review presented about stock and stock prices concept as well as several fundamental factors of the firm. A

collection of 780 non-financial companies on two stock exchange that are HNX and HOSE was used to test the hypothesis and get the results that (1) factors such as earnings per share, current ratio, dividend payout ratio, return on asset, growth rate and dividend per share have positive relationship on the stock prices (2) debt to equity ratio has negative relationship on stock prices and (3) there has no statistically relationship between dividend payout ratio and stock prices.

5.2. Recommendations

5.2.1. Recommendations for investors

Investors who participate in the stock market all want to earn profits. Their common strategy is to buy stocks at low prices and sell at high prices. There are many ways to evaluate and analyze a stock, the most common of which would be technical analysis and fundamental analysis. Technical analysis is based on existing patterns in the past such as trend, price, volume to predict future stock prices. This method is often used by investors to seek profits in a short period of time. Fundamental analysis is an investor's look at the underlying fundamentals of a business to predict a stock's price. This strategy is suitable for investors with long-term vision and investment horizon. Investors should look at fundamental factors of companies to assess their prospects as well as their stock price. In the short term, the stock prices of a firm can be affected by various factors including market factors such as market sentiment, supply and demand, market condition, interest fluctuations, etc... However, in the long term, fundamental factors are the main key drivers that decide stock prices. Firms with good fundamentals such as low debt to equity ratio, high earning per share, current ratio, return on asset, growth rate and dividend per share will have stock prices outperforming compared to firms that have inverse aforementioned financial ratios. Hence, investors can find and buy stock of firms with financial aspects as described above.

5.2.2. Recommendations for listed firms in Vietnam

Listed companies must focus on their internal factors to develop and maintain their stock prices sustainably. The Vietnamese stock market is just classified as a frontier market - lowest of three types of stock market including frontier, emerging and developed market. Hence, many firms instead of focusing on internal development to boost firms' value as well as their stock prices, they choose to use some "tricks" such information-based manipulation or transaction-based manipulation to inflate stock prices. It somewhat helps firm stock look attractive with investors in the short term. It is clear that Vietnamese companies should focus on internal development to grow sustainably, leading to stock prices increasing as well. Firms can take advantage of capital structure by focusing on using available equity rather than borrowing more debt from outside. In addition, they should maintain a relatively high current ratio, showing that

companies are always ready in the condition of liquidity needed. Earning per shares and dividend per share are two financial ratios that firms also should keep and maintain at a suitable extent. This is the sign that firms are doing well in terms of making and paying profit for the shareholders, leading to their stock being attractive to outside investors. Firms also try to increase revenue year by year by pushing sales or expanding business. Return on assets ratio indicates how efficiently a firm uses its assets to generate profit, the higher this ratio, the higher efficiency of the firm

5.3. Implications for Government Agency

Vietnam's credit-to-GDP ratio is currently higher than 140%, among the top countries with the highest ratio in the world. This shows the fact that the Vietnamese economy is too dependent on the banking system while other capital channels have not yet played their inherent role as in developed countries. One of the indispensable capital channels in developed economies is the equity or stock market. This is a capital channel that helps firms easily access abundant capital directly from investors to expand and develop their business. Besides, this access to capital helps businesses not have to bear interest costs compared to borrowing capital from the banking system. In this research paper, the author also showed that stock prices has a negative relationship with debt to equity ratio. Debt here is the main source of capital borrowed by firms from the banking system while equity is the capital that firms mobilize through the stock market. This further shows the importance of promoting the development of the stock market for regulators. This not only helps boost the stock prices of businesses in particular, but also promotes the development of Vietnam's economy in general.

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THE NEXUS BETWEEN ASIAN EMERGING STOCK MARKETS AND PRECIOUS METALS UNDER IMPACTS OF COVID-19 OUTBREAK

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Research purpose:

This study explores how the Covid-19 pandemic influences the relationships between selected ten Asian emerging stock markets and the S&P GSCI Precious Metals index.

Research motivation:

This study is inspired by the unprecedented crisis as caused by the Covid-19 outbreak.

Research design, approach, and method:

This study employs the bivariate conditional correlation generalized autoregressive conditional heteroscedasticity (GARCH) framework to examine the nexus between the daily return series of stock markets and precious metals index from 01 September 1999 to 03 May 2021, especially in terms of return and volatility spillovers.

Main findings:

The results indicate that those relationships inverse from positive to negative in Southeast Asia but remain positive in Southwest Asia. These results are supported by statistically significant evidence of return and volatility transmissions between examined indexes. The assessments of the stock-precious metal portfolio on optimal weight allocation and related specifications reveal that the precious metals index is a hedge or safe haven in seven countries but diversifier in three Islamic finance markets, which are Pakistan, Jordan, and Oman.

Practical/managerial implications:

This study provides supportive evidence on the impacts of the Covid-19 pandemic to Asian emerging markets in terms of region and cultural fields.

Keywords: *emerging stock markets, precious metals, Covid-19.*

THE IMPACT OF FAMILY AND STATE OWNERSHIP ON CORPORATE DEFAULT RISK: EMPIRICAL EVIDENCES FROM VIETNAM

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Research purpose:

The study investigates how state and family ownership significantly impact the corporate default risk in Vietnam.

Research motivation:

Vietnam has a dominance of government and family control over most of listed corporations across various sectors.

Research design, approach and method:

Utilizing a panel dataset of 230 nonfinancial listed corporations in Vietnam from 2012 to 2020, the study focuses on a possible nonlinear relationship between state/family ownerships and corporate risk taking in the context of Vietnam.

Main findings:

The findings document the non-linear relationship between state, family ownership and default risk among Vietnamese listed corporation. In particular, state ownership promotes risk-taking behavior as the industries are motivated to borrow more debt when the government ownership allows a total state control over the firm, and hence increases corporate default probability. Family owners with a long-term orientation guided by an incentive to ensure corporate continuity and maximize family wealth frequently favor more cautious techniques to restrain risk.

Practical/managerial implications:

The study should have an important implication for the policy makers, corporate management, as well as investors.

Keywords: *State, Family ownership, corporate default risk, nonlinearity.*

ESG TRANSPARENCY AND FIRM VALUE – EVIDENCE FROM G7 COUNTRIES

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Research purpose:

This study investigates the relationship between ESG scores and firm value from G7 countries in the period 2015 – 2020 to find evidence for the benefits of ESG.

Research motivation:

Investing in community responsibility is increasing according to the trend of sustainable development. Environmental, social, and governance (ESG) indicators gradually become essential when assessing the firm value.

Research design, approach, and method:

This study applies the Feasible Generalized Least Squares (FGLS) method to examine this issue. The research sample of listed companies focusing on the G7 countries (France, Germany, Italy, Japan, the United States, the United Kingdom and Canada) is used across the period from 2015 to 2020.

Main findings:

The research results show that the application of ESG positively impacts firm value.

Practical/managerial implications:

The study makes valuable recommendations for firms to quickly and effectively deploy and take full advantage of the benefits of transparent implementation of ESG.

Keywords: *Environmental, Social, Governance (ESG); Firm Performance; Sustainable Development*

1. INTRODUCTION

A press release on research published by PwC (November 2021) shows that Environmental, Social, and Governance (ESG) criteria have become a critical determinant of top investors' investment decisions. Focusing on ESG standards is considered the core of sustainable development - the right hand to lead businesses globally to go further effectively. Dynamic business leaders often set ambitious goals, are ready to quickly adjust how the business is run, and are willing to take on responsibility. In addition, business leaders can re-examine their business models to respond well to requirements from new realities or to capitalize on new opportunities, all of which can turn risk into a competitive advantage.

Investing in ESG previously did not attract much attention compared to economic benefits. However, many people were still "half-hearted" about ESG until they poured more money into ESG-compliant businesses than ever. According to a report from Morningstar, a leading financial services company, in 2020, for the first time in history, total assets under management at funds will comply with ESG guidelines.

The announcement of the ESG attracts domestic and international investors (Chauhan & Kumar, 2019). When the COVID-19 epidemic broke out, developing a business according to ESG criteria was no longer an option but became a vital decision. It is the COVID-19 pandemic that has contributed to accelerating this trend, the investment strategy shifts to ESG factors rather than traditional financial indicators. In addition, sustainable investment instruments have shown significant growth even during the COVID-19 pandemic, making investors and regulators more concerned about the transparency of information related to ESG. Over time, the reasonable and transparent implementation of ESG targets has increasingly affirmed the position and strength of the business.

Coupled with the growing demand for ESG pillars from businesses and investors, the ESG has also brought unanswered puzzles and heated debates, calling for academic scrutiny. In addition to studies showing consensus, many studies have denied the benefits of ESG for businesses. Yuyama et al. (2019) found no significant association between ESG disclosure and investment returns on the stock market in Japan. Arribas et al. (2019) did not find a substantial difference

between socially responsible and conventional investments in the United States.

Amidst many conflicting opinions on the impact of ESG reports on businesses, the authors found the following issues. Most past studies focused on analyzing the effect of ESG within a specific country or region. However, ESG disclosure is a subset of non-financial information; its practices are flexible and do not follow a standardized format like financial information (Elzahar et al., 2015). That means the level of ESG disclosure and its impact will vary from region to region. Maria Assunta et al. (2018) study and institutional theory have also demonstrated that the country factor can reduce or improve the level of disclosure on ESG.

Recognizing the limitation in the scope of analysis from previous studies, the authors aim to understand the impact of ESG on a broader and broader scale – the G7 group of countries, which are developed countries and share a standard orientation towards sustainable development. G7 leaders expressed special attention to environmental factors from the Paris Agreement (2015) on Climate Change at the G7 Summit meeting in 2016. They claim to support moving towards mandatory climate-related financial disclosure and social responsibility.

Inheriting and supplementing previous studies, the study aims to examine the effect of applying and disclosing the ESG report on firm value. Inherently with their status as the great powers with the most developed industrial economies in the world, G7 enterprises can easily cause a domino effect and create positive changes in the global economy. The study also provides policy implications to help businesses quickly and efficiently deploy and take full advantage of the benefits of transparent implementation of ESG.

The next parts of the paper are organized as follows. Section 2 presents reviews of the Theoretical Basis of the literature in this area. Section 3 provides the methodology and the empirical models. Section 4 demonstrates the results of the research. And the last section will present some conclusions

2. THEORETICAL BASIS

2.1. The Basic Concepts

Sustainable Development

Sustainable development goals are not a new concept. The term, which has a long history of origin, first appeared in 1980 in the World Conservation Strategy published by the International Union for Conservation of Nature and Natural Resources (IUCN). It was then widely disseminated in 1987 thanks to the Brundtland Report of the World Committee for Environment and Development (WCED), which defined sustainable development as "development that can meet current needs without compromising or

harming the needs of future generations." (World Commission on Environment and Development, 1987). In 2002, at the World Summit on Sustainable Development in Johannesburg, Republic of South Africa, nearly 200 countries summarized the action plan on sustainable development over the past ten years and made relevant decisions. Gradually over time, the issue of sustainable development became popular and was noticed by everyone, and the trend of socially responsible investment and the environment also increased (United Nations, 2002).

ESG Report

Sustainable development is not only a concept that requires the necessary adjustments but a process that is being applied slowly but firmly at all levels. For businesses, sustainable development means applying effective business strategies while maintaining the protection, maintenance, and enhancement of human and natural resources needed in the future. The cultivation of environmental, social, and governance capital positively affects sustainable business models (Kluza et al., 2021). Therefore, ESG (Environment – Social – Governance) appears and is a proxy of the firm responsible for the environment, society, and governance.

Environment

Environmental standards consider a business's impact on the natural environment. Environmental criteria include how companies use renewable energy sources, how they handle waste management, use solar energy to reduce CO2 emissions, use biogas systems, and a circular economy (3REs: Reduce, Recycle, Reuse) to limit the amount of waste (Zumente & Bistrova, 2021). According to a study by Weber (2013) analyzing the reports of the top 100 Chinese companies in terms of green environment, good ESG reporting results provide better financial returns and improve corporate environmental performance. In addition, how the business handles potential air or water pollution issues and its attitudes and actions toward climate change issues.

Social

Social criteria are basically about social relationships. They are often judged by the fairness of employee pay, the diversity of bonuses and compensation, and the benefits for workers. Investors interested in ESG can make a big difference in evaluating the business if it possesses unique benefits and privileges. Because workplace policies involve diversity, inclusion, and improving the quality of labor, employee satisfaction is a criterion that contributes to many long-term benefits (Zumente & Bistrova, 2021). Diplomatically, social standards are assessed by the relationship with customers and the extent to which a business contributes to charitable causes (Gillan, Hartzell, Koch, & Starks, 2010).

Governance

Management is basically about how the business is managed. This criterion is often evaluated by how the manager operates, how the board shares benefits with employees and partners, and avoiding conflicts of interest with shareholders. Financial transparency, accounting ownership, and full, honest financial statements are essential to good firm governance. Besides, the issue of compensation for executives is the primary concern of many ESG investors. Appropriate and worthy remuneration for executives is a proper way to increase the long-term value of the business's management capacity and profitability.

2.1. ESG and firm value

The theoretical framework for the impact of ESG transparency on firm value

Stakeholder theory

Stakeholder theory is a view of capitalism that emphasizes the interconnected relationship between a business and all customers, suppliers, employees, investors, communities, and other stakeholders in that business. This doctrine holds that any company should aim to create value for all parties responsible for the business (Freeman, 1984).

The theory of stakeholders (Freeman, 1984) holds that the organization is obliged to treat stakeholders fairly if the parties involved have a conflict of interest, and the business must be obliged to achieve the optimal balance between them. This theory accounts for the motivation for organizations to select and voluntarily apply the ESG report – to meet the increasing demand for information about society, governance, and the environment on the part of government agencies, credit institutions, investors, and consumers, the community.

Social responsibility theory

Social responsibility theory allows organizations to release information without any censorship freely. However, it is necessary to ensure that such content is discussed publicly and that businesses are obliged to explain and prove the purity of the information in public. This theory lies between both authoritarian theory and liberal theory: on the one hand, it allows for the entire freedom of communication of the business but has external control. This theory has helped to create professionalism in communication by establishing a high level of accuracy, honesty, and reliability. The ESG rating can be considered a good "representation" of social responsibility (Marina Brogi and Valentina Lagasio, 2019). In recent years, pressure from the media and investors has put environmental sustainability at the top of the board's agenda. A more proactive approach comes from the desire to demonstrate a commitment to corporate social responsibility because they believe this will bring a competitive advantage.

Agency theory

Agency theory (also known as the theory between the owner and the representative) is a classic theory in organizational economics, initiated by Ross (1973) as the first to explain the important relationships between principals and their relative agents. In the most basic sense, the principal relies heavily on an agent to execute specific financial decisions and transactions that can result in fluctuating outcomes. The purpose of the representation theory is to clearly define the contracts and the optimal conditions for the performance of the agreement to minimize the adverse consequences. The nature of the problem can come from the lack of information between the two parties. Therefore, the theory of representation recommends the development of fully informed, transparent, and public reports, especially on the social responsibilities of enterprises. Cheng, Hong, and Shue (2013) found that managers of large U.S. businesses enjoy personal benefits from investing in ESG at the expense of shareholders' value, in line with representation theory. Agency theory is also often referred to as the "agency dilemma" or the "agency problem."

Signaling theory

Michael Spence (1973) proposed a solution to overcome asymmetric information by signaling mechanisms. Signal theory describes how parties behave when approaching information that is not the same. One party chooses how to communicate information, and the other chooses how to interpret it. A party with a lot of information can send an honest and reliable signal to less informed parties. Bini et al. (2010) argue that highly profitable businesses will provide signals through demonstrations to increase their competitiveness. Thus, the signal theory is based on asymmetrical information; when there is an information asymmetry, the holder of the information needs to signal to the party that needs the information to achieve a particular goal. In listed firms, asymmetric information appears in managers' relationships with shareholders and firm relations with stakeholders.

Managers get a lot of information about the business because they are the operators; if deliberately concealed, it may affect the shareholders' decision to the detriment. Companies that do not send signals or send incorrect signals to the outside can influence decisions and cause damage to stakeholders. Firms are not transparent in information disclosure, especially in firm performance, leading to errors in tax payment and in making decisions of investors or creditors in disbursement or investment. Thus, according to signal theory, to minimize information asymmetry, businesses need to signal to stakeholders, emphasizing and promoting the role of transparency of ESG reporting – representing enterprises' social responsibility and ethics (Fu, Boehe, & Orlitzky, 2022), (Lee, Raschke, & Krishen, 2022), (Carnini Pulino, Ciaburri, Magnanelli, & Nasta, 2022).

Value enhancing theory

On the one hand, the value enhancement theory holds that integrating activities that demonstrate social responsibility into strategies will help businesses build a competitive advantage, promoting long-term value for shareholders. Other benefits include improving brand reputation and employee productivity, helping increase operational efficiency, and improving relationships with regulatory, social, and other stakeholders (Godfrey et al., 2009), access to better investment projects, and greater financial resources (Charlo et al., 2015). Based on this theory, businesses that make the ESG index report will receive a positive assessment of the stock market.

Empirical evidence on the effect of ESG transparency on firm value

Aboud and Diab (2018) investigate the impact of the publication of environmental, social, and corporate governance information on the value of businesses in Egypt. The results show that ESG score has a positive effect on firm value. Therefore, from the results drawn from the research paper, the ESG index plays a vital role in evaluating business value in Egypt. From here, businesses can promote transparency and publish enough information to upgrade reporting standards, improving sustainability and governance practices in Egypt.

Balatbat et al. (2012) analyzed ESG scores of 208 companies in Australia across various industry sectors from 2008 to 2010. A strong positive link between financial performance and sustainability practices, as measured by ESG scores, could not be established by looking at financial performance measures one at a time. The study results show that financial performance has little to no correlation with ESG scores. So, the study shows that ESG score has no relationship with firm value.

Eibad Jamil (2020), the study of environmental, social, and governance (ESG) performance affects the financial performance of businesses in Pakistan. With the dependent variable of the study paper being FINP (including ROA, ROE, and Tobin Q), the results show that ESG performance has a significant positive impact on ROA but has no relationship with firm value (Tobin Q). The remaining variables also had a negligible effect associated with Tobin Q. As a result, the findings have shown that ESG performance and financial performance are partly related.

Fuente et al. (2022) researched and presented a fresh theoretical and empirical approach to the relationship between ESG performance and a firm's total value through the real options lens. With the research team's idea, looking at the "right" side of the value of ESG practices imposes the need to shift attention to one source of a large portion of a firm's total value, namely G.O. value. Moreover, these latter findings indirectly

reveal that the value of ESG performance is mainly leveraged by its assets in place. As a consequence, G.O. can relieve the firm of the need to incur additional effort in ESG practices. Therefore, G.O. can reduce the company's need for extra effort in ESG activities. Therefore, it can be said that this study shows that focusing on ESG activities will have a negative impact on the value of the firm.

Saygili et al. (2021), studying in Istanbul, Turkey, shows a negative impact of environmental disclosure on CFP. Regulations related to shareholder rights and the board of directors positively impact CFP in terms of governance. Their analysis shows that, among ESG dimensions, governance-related disclosures have a more significant influence on CFP. It is realized that future studies could expand on the ESG indices and investigate practices in other groups of companies in Turkey and other emerging markets.

Shaista et al. (2021) investigate the impact of environmental, social, and governance (ESG) factors on the competitive advantage and operational efficiency of enterprises in Malaysia. Research results show that participation in ESG transparency has a positive impact on business performance as well as on firm value due to better access to external financial sources. In addition, the ESG factor also increases the competitiveness of enterprises in each specific industry. And from this study, with the findings found, it is possible to encourage businesses to view the disclosure of non-financial information as an essential criterion for long-term development.

3. DATA AND METHODOLOGY

3.1. Research Data

The study focuses on G7 enterprises (France, Germany, Italy, Japan, the United States, the United Kingdom, and Canada) from 2015 to 2020. The countries in the G7 group were chosen as a research sample because they are all the most developed economic powers. The G7 group was formed to work together to solve problems—in the international financial sector. G7 leaders have expressed concern about environmental factors since the 2016 G7 Summit. This study also employs several criteria for sample identification. First, restrict the sample to non-financial enterprises, excluding companies in the financial, insurance, and real estate sectors. Second, companies must access basic financial data such as total assets and liabilities and ESG scores. The companies chosen for the index, such as CAC40, DJ30, TSX30, etc., are all large-cap companies, resulting in 666 observations from 111 listed companies. However, data with outliers are removed from the sample during data preprocessing. The data comes from Refinitiv's Eikon, which includes ESG scores in addition to annual financial data (Worldscope) and market data (Datastream).

3.2. Hypothesis

Stakeholder theory is related to sustainable development, as expressed here through ESG (a set of standards to measure factors related to sustainable development and the impact of businesses on the community). Today, a prominent issue is how companies that publish a sustainability report (ESG) will affect their value. According to the stakeholder theory, a company's excessive focus on environmental protection and social responsibility instead of business activities will create agency problems. From there, a company's market value reflects information for investors. As a result, a statement of financial position or operational strategy is published that affects the value of the business. Besides, investors have always been more interested in corporate governance issues than environmental and social issues (Eccles et al., 2011). Many people assume that a high ESG will reduce the company's value because companies place a high value on environmental, social, and governance activities, which will cause agency problems.

Furthermore, studies show that sustainability reporting has a positive impact on the value of Turkish businesses. Another study that aggregated the results of more than 200 previous studies showed one finding, finding that 80% of the studies analyzed showed a positive correlation between ESG performance and financial performance in the market (TobinQ) (Clark et al., 2015). A research paper on the Korean market from 2013 also showed that a firm's ESG score is positively correlated with both stock returns and TobinQ (Kim et al., 2013).

According to the authors, the studies were only conducted in one country. Furthermore, when a company now cares about ESG, it does not deprive future generations of growth opportunities. Firstly, the environment is a sensitive issue, particularly for industrial enterprises, and contaminating the environment will result in higher costs to deal with the consequences and fines. Second, the ESG rating can be regarded as an effective "representative" of social responsibility (Marina Brogi and Valentina Lagasio, 2019). According to social responsibility theory, ESG helps lower capital cost and increase market value (George H et al., 2019). Third, having the right management strategy, respecting copyright, and caring about the business's management board will help the company gain more appreciation from stakeholders.

Furthermore, when deciding to invest in a business, both domestic and foreign investors are interested in the issue of sustainable development. The authors, however, agree with several previous studies that ESG has only a moderate impact on firm value. With the above arguments, we hypothesize the effects of the three ESG pillars on firm value below:

Hypothesis: *Environmental, social, and governance (ESG) has a positive impact on firm value*

Research Model

The authors construct the model as follows based on the hypotheses proposed by the group, using theory and previous research:

Based on the work of Saygili et al. (2021), Fuente et al. (2021), the authors build the following model to test the given hypothesis:

$$\text{TobinQ}_t = \beta_0 + \beta_1 \text{EPSE}_{it} + \beta_2 \text{SPS}_{it} + \beta_3 \text{GPS}_{it} + \beta_4 \text{GROWTH}_{it} + \beta_5 \text{SIZE}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{TAA}_{it} + \beta_8 \text{CASH}_{it} + u_{it}$$

Where:

Tobin Q: Corporate value

EPSE: Environmental pillar point

SPS: Social pillar score

GPS: Administrative pillar point

GROWTH: Growth rate

SIZE: Firm size

LEV: Financial leverage

TAA: Tangible assets

CASH: Cash holding ratio

Variables

Dependent Variable

Firm value is measured through Tobin's Q index (Tobin Q).

Tobin's Q index is used as a proxy for firm value because Tobin's Q index is an index that represents the value of assets of enterprises adjusted to market value. Tobin's Q coefficient measures how the market assesses a business's performance and its financial well-being to estimate whether a business is overvalued or undervalued.

Independent Variables

The independent variables for the research models are measured using a trio of indicators in the sustainability report (ESG), namely Environment (EPSE), Social (SPS), Governance (GPS) from Refinitiv Eikon (Cheng et al., 2013; Caroline Flammer, 2021). ESG reports and indicators are also important factors that present the overall business picture of an enterprise, related to issues such as energy efficiency, worker safety, and the board of directors' independence. Investors who use ESG scores to supplement their financial analysis can get a broader view of a business's long-term potential. ESG scoring is based on the Thomson Reuters model, corresponding to a scale from D- to A+ on Eikon.

Environmental policy stringency index (EPSE)

The Environmental Score refers to the relationship between business and environmental protection. It

shows the extent to which a firm uses management criteria to reduce environmental risks, including energy use, CO₂ emissions, energy saving policies, etc. There are 61 indicators that contribute to this score. (Ortas, 2015; Cheng et al., 2014)

Social policy stringency index (SPS)

The Social Score measures a business's potential to create trust, manage human relationships through methods such as how well it treats customers, contribute to community projects, local communities, and gender equality in the corporate environment. There are 63 indicators contributing to this score. (Ortas, 2015; Cheng et al., 2014).

Governance policy stringency index (GPS)

The Governance Score reflects issues related to the corporate governance structure to evaluate a company's systems to ensure its executives and board members act in the company's and long-term shareholders' interests. Fifty-one indicators contribute to this score. (Ortas, 2015; Cheng et al., 2014).

Table 1. ESG score conversion table on Eikon

Rating based on Eikon	D-	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
Redemption points	1	2	3	4	5	6	7	8	9	10	11	12

Control Variables

During the research process, the authors refer to control variables based on previous studies by Rio Murata and Hamori (2021), Masliza and Wasiuzzaman (2021), and Alsayegh et al. (2020).

GROWTH

The growth rate (GROWTH) is a ratio that measures the growth of sales in year t compared to year t-1.

SIZE

Firm size (SIZE) is a control variable measured by the logarithm of total assets. SIZE is one of the essential financial factors contributing to an enterprise's financial performance. The larger the SIZE, the easier it is to access loans.

LEV

A research paper by Alsayegh et al. (2020) measured the financial leverage variable through the D/E ratio (Debt to equity ratio). More specifically, it reflects the ability of shareholders' equity to cover all outstanding liabilities in the event of a business downturn. The debt-to-equity (D/E) ratio is calculated by dividing a company's total liabilities by its shareholders' equity.

TAA (Tangible Assets)

According to Fuente et al. (2021), the ratio of fixed assets to total assets has an impact on firm value. Typically, companies in the manufacturing sector will have a higher ratio of fixed assets to total assets than companies in the service sector.

CASH

The authors inherit the study of Li et al. (2018) when using the cash holding ratio to assess the impact of this ratio on the firm value. A high cash holding ratio indicates that a business can quickly pay its due debt obligations. However, this too-high ratio can also give analysts information that the business is leaving too much cash idle without investing in profitable projects.

4. RESEARCH RESULTS

4.1. Descriptive statistics results

Table 2 presents the results of descriptive statistics showing an overview of the research data sample. Accordingly, the research sample includes 111 G7 companies (France, Germany, Italy, Japan, USA, U.K., and Canada) in the period 2015 – 2020.

For the dependent variable TobinQ, with an average of 648 observations taken from Eikon of Refinitiv reliably, the team calculated the mean value of the ratio between values through the regression results from STATA software. Market and the firm's replacement value is 1,652; along with the model standard error of 1.425, the value between the ratio of market value to the replacement value of the smallest enterprise is 0.167, and the maximum value is 13.775.

For independent variables, with 648 observations, the results obtained with mean, standard error, minimum and maximum values are clearly and fully shown in Table 2 mentioned by the group. All variables generally have large standard deviations because their data are randomly selected from companies in G7 countries.

Table 2. Descriptive statistics

Variables	Number of observations	Mean	Standard deviation	Min	Max
TOBIN Q	648	1.652	1.425	0.167	13.775
EPSE	648	9.456	1.789	3	12
SPS	648	9.361	4.409	2	111
GPS	648	8.527	2.058	2	12
GROWTH	648	0.027	0.149	-1	0.9

SIZE	648	10.698	2.338	6.550	19.075
LEV	647	1.220	2.961	0.010	48.79
TAA	648	0.623	0.180	0.120	0.96
ASH	635	0.092	0.112	0.001	0.79

4.2. Correlation matrix

Before proceeding with further analysis, it is necessary to check for the presence of multicollinearity between the independent variables. Table 3 presents the correlation coefficients between the variables included in the research models. Table 3 shows that the correlation coefficient between EPSE variable with SPS

and GPS is 0.3035 and 0.5241, respectively, at a low level. The remaining variables in the model are correlated with each other, have a correlation coefficient of less than 70%, and therefore do not show signs of multicollinearity (Hair et al. (2010)). Consequently, it is possible to put these variables in the same research model simultaneously.

Table 3. Correlation matrix

	TOBINQ	EPSE	SPS	GPS	GROWTH	SIZE	LEV	TAA	CASH
TOBINQ	1								
EPSE	0.152	1							
SPS	0.0422	0.3035	1						
GPS	0.1282	0.5241	0.2375	1					
GROWTH	0.2643	0.0788	0.0032	0.0965	1				
SIZE	-0.2857	0.0159	-0.0221	-0.114	-0.1107	1			
LEV	-0.0689	-0.0273	-0.0325	0.0082	-0.1321	-0.039	1		
TAA	-0.0449	-0.0555	0.0008	0.0414	-0.0552	0.1105	0.0336	1	
CASH	0.0798	-0.0547	-0.0427	-0.0232	0.1249	-0.0515	0.0279	-0.358	1

4.3. Results and Discussion

Table 4. Regression results of enterprise value model by Pooled OLS, FEM, REM methods

TobinQ	Pooled OLS		FEM		REM	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
EPSE	0.2547	0.000***	0.2607	0.000***	0.2547	0.000***
SPS	-0.0023	0.697	-0.0048	0.387	-0.0023	0.697
GPS	0.0898	0.011**	0.0952	0.014**	0.0968	0.011**
GROWTH	0.1712	0.361	-0.1137	0.418	0.1639	0.361
SIZE	-0.0074	0.927	0.6592	0.000***	-0.0074	0.927
DE	0.005	0.602	0.0101	0.372	0.005	0.602
TAA	-0.271	0.566	-1.2546	0.018**	-0.271	0.566
CASH	0.3188	0.625	-1.2263	0.165	0.3188	0.625
R-square	43.24%		47.6%		43.74%	
Obs.	634		634		634	
Group	108					
F-test	51.47***					
L.M. test	321.84***					
Hausman test	57.24***					
Wald test	56202.1***					
*** p<0.01, ** p<0.05, * p<0.1						

Source: Synthesis of the research team

This content will analyze how a business that publishes a sustainability report will affect its value. The research results are presented in Table 4. F-test results show that $p\text{-value} < 5\%$, rejecting hypothesis H_0 , the FEM regression method is more suitable than the Pool OLS model. The results of the LM-test show that the $p\text{-value} < 5\%$, hypothesis H_0 is rejected, REM regression method is more suitable than the Pool OLS model. Comparing FEM and REM methods, Hausman Test results show that $p\text{-value} < 5\%$, the FEM model is more suitable than REM. Because the FEM model was chosen, the research conducted a defect test against this model. Since FEM is a model without series correlation, the research team only uses the Wald test to test the phenomenon of variable variance. Wald test results show that $p < 5\%$, hypothesis H_0 is rejected, so there is evidence to conclude that the FEM model has a variable

variance. The research used the FGLS method to regress the model to overcome this phenomenon. The results of the FGLS regression method are presented in Table 5.

The FGLS results found again that EPSE was statistically significant at a 1% significance level and positively impacted Tobin Q. This finding is in line with the theory of value enhancement. It could be explained that businesses with more attention to investment in environmental protection could improve their relationship with environmental resource management agencies while helping businesses reduce costs to deal with the consequences of environmental pollution and future fines. These results are consistent with the experimental study in Malaysia by Shaista et al. (2021) and in Egypt by Abound and Dilab (2018). The results for EPSE are also in contrast to the experimental study of Saygili, E et al. (2021) in Turkey.

Table 5. Summary of regression results of enterprise value model by the FGLS method

Tobin Q	FGLS	
	Coef.	P-value
EPSE	0.1113	0.000***
SPS	-0.0011	0.495
GPS	0.0315	0.000***
GROWTH	2.0264	0.000***
SIZE	-0.1535	0.000***
LEV	-0.0208	0.065*
TAA	0.4247	0.000***
CASH	0.8513	0.004***
Obs.	634	
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$		

Source: Synthesis of the research team

Similar to EPSE, GPS has statistical significance and positively affects Tobin Q. We based on signaling theory and asymmetric information background to argue for the impact of GPS on TobinQ as follows. An enterprise with good performance in operational management, business ethics, and respect The importance of intellectual property rights has a positive incentive to disclose information truthfully and completely to less informed parties such as individual investors and foreign investors. This reduction of information asymmetry will protect investors' interests and help the company's market value be appreciated—the positive impact of governance quality on the firm value (Saygili et al., 2021).

Beyond the research expectations, we argued based on the theory of value enhancement that: An enterprise ensures diversity, fairness in the use of labor, the

confidentiality of the information, and a public relationship. Positive contracts will improve employee productivity, increase production efficiency and improve relationships with stakeholders, thereby helping the market to value the company well. This study did not find evidence that SPS positively affects Tobin Q. Instead, SPS was not statistically significant at any appropriate significance level. The authors believe that the sampling of data of enterprises in many different countries has made the regression results for the SPS variable not very meaningful. Because each country has a heterogeneous social environment, companies in each country will have different levels of social concern. In addition, as argued in the hypothetical section, socially concerned companies are often not-for-profit companies, so the effect of the social score is not important for companies within the scope of the study. The estimated results for the SPS variable are similar to

the results of the study in Pakistan by Jamil and Siddiqui D.A (2020). This shows that although the study scope was extended to a group of countries instead of just studying in an individual country, there is still not enough evidence to conclude how businesses publishing social scores will affect their value.

In addition, the research also found several other factors that affect this dependent variable, including GROWTH, SIZE, TAA, and CASH, all of which are statistically significant at 99% confidence level, and D.E. is statistically significant at 90% confidence level.

GROWTH has a positive impact on corporate value. Businesses with high revenue growth show that their goods and services quickly attract market demand. This also implies that the company will have growth potential in terms of profit and cash flow in the future. Therefore, a business with high revenue growth will be noticed by investors and force them to spend more money to own part or all of that business. The above effect is also the result of an experimental study by Trieu (2019).

The regression coefficient of SIZE has a negative sign, which indicates that an increase in firm size will decrease their market value. The results of SIZE analysis on TobinQ in this study are in contrast to the studies of Taimur et al. (2015), Abdul Rauf (2015), and Ramadan (2016), who found a positive effect of the process on the market value of firms. The role of the SIZE variable in our study is mainly to supplement the full range of factors that can affect the firm's value. The size of the business increases the value of the business as long as that level of size still benefits from the reduction in fixed costs per unit (cost advantage of scale). If the optimal size is exceeded, the cost advantage of scale will diminish and potentially reduce the firm value.

The regression coefficient of LEV shows the negative impact of financial leverage on firm value. Specifically, debt only helps increase business value when the debt ratio is lower than the optimal debt ratio. If this optimal level is exceeded, the costs associated with financial distress will outweigh the tax shield benefits of interest, thereby reducing the firm's value. Therefore, adding the LEV variable to the research model only aims to avoid missing the important variable and reinforce the impact of the ESG pillar scores on Tobin Q.

Another empirical result from the regression analysis shows a positive effect of fixed asset ratio (TAA) on firm value. This result could be a result that further strengthens the empirical study of Gharaibeh et al. (2017), who was the first scholar to find a positive effect of TAA on firm value. The research makes two main arguments for the above result. First, the enterprises in the data sample are mostly large-scale enterprises. Therefore, when making investment decisions in any fixed asset, the management of these businesses will carefully calculate to ensure that this

investment will bring additional net value to the company. Second, increased investment in fixed assets means increased depreciation costs, the most obvious benefit of depreciation expense is the benefit from the tax shield.

Finally, there is a positive impact of cash holdings ratio (CASH) on firm value. This effect is in line with expectations as we assume a firm can use its cash reserves to finance some competition policy aimed at competitors or even use this money to gather more productive employees. Research by Benoit (2004) indicates that one can consider holding cash to prevent competitors from entering the industry or expanding the scale. The experimental research results for the CASH variable of the research team are similar to the study of Ferreira and Vilela (2004) and Amahalu and Beatrice (2017).

5. CONCLUSION

According to the results presented in the study, ESG reporting has improved the performance of companies, helping them to become more stable and develop. In this study, we investigated whether environmental, social, and governance (ESG) disclosures relate to corporate values for G7 countries: U.S., UK, France, Germany, Canada, Italy, and Japan. The transparency of the company's ESG situation can bring many benefits to stakeholders such as the company's strategic partners and investors because they can see the company's entire image to make decisions better and stick with the company for a long time. This study considers ESG disclosure as a proxy for corporate ethical behavior and disclosure trends. We expect that more active companies, regarding the disclosure of information about ESG, provide more transparent information, especially paying more attention to environmental protection, and create relationships with agencies. Environmental resource management agency thereby helping businesses reduce costs in dealing with the consequences of environmental pollution and fines in the future, leading to an increase in firm value.

We performed regression analysis for panel data Pooled OLS, FEM, REM, and FGLS on the effect of disclosure on firm value after controlling for growth rate, firm size, financial leverage, tangible assets, and cash holdings. Our findings show that ESG transparency will increase business value when EPSE positively impacts TobinQ, with businesses paying more attention to environmental protection and improving their relationship with the company. Similar to EPSE, GPS positively affects TobinQ, meaning that a business with a strong track record in operations management will protect the interests of investors and thereby help the company's market value be appreciated. However, in terms of SPS, there is no statistical significance at any appropriate significance level to Tobin Q. Our estimation results for the variable SPS are similar to the experimental results of Jamil and Siddiqui (2020). In

addition, we have discovered the level of influence of the ESG pivot point on firm value. The research also found other factors that affect this dependent variable; these control variables determine the value of a business.

In addition, with the announcement of the ESG, companies' business practices are becoming more and more accountable to their customers. For some countries where ESG reporting is not mandatory, the results of this study will encourage companies to be more transparent about some non-financial factors to look to the long-term future of development and sustainable development. And especially when ESG is considered an indispensable factor in the company's business, the future result will be higher profits for the company and its shareholders. In addition, companies that are well managed by the ESG situation will make substantial strides in the market and attract more and more trust from the public (Rezaee, 2017).

The G7 countries have mostly issued directives on non-financial factors in ESG reports to create better competition and a healthy business environment. In this study, with the selection of G7 companies to analyze ESG factors affecting company value to create a general overview that can be applied to developing countries when the concept and publication of ESG were still too new.

Implication

Businesses, especially at the helm of a company, need to be aware of the long-term benefits with a focus on ESG – not only for the company but also for social benefits. As a leader and visionary, business leaders must ensure that their development strategy is geared toward creating long-term values and pursuing financial and profit goals. Businesses must fulfill their responsibilities to the environment and the community and publicly and transparently report on ESG factors that are pivotal to creating corporate value. The ESG should not be a stand-alone initiative, dependent on an organization's key financial measures to be effective. Instead, it should be fully integrated into the strategy, performance, and work program of the Board of Directors, CEO, and executive compensation. In the Environmental factor, businesses need to make efforts to reduce waste and emissions, classifying and measuring materials used by enterprises to reuse, limiting the use of plastic and nylon items, thereby saving costs that the company uses to solve water pollution problems.

Regarding the social factor, the Board of Management regularly surveys employees about the working environment and has remuneration for employees: vacation mode, periodic travel, and training classes to improve efficiency and productivity and publicly report on those regimes, create excitement for employees to actively work, create external social relations, organize customer gratitude services to create satisfaction and satisfaction customer loyalty. In

addition, the Governance factor makes an essential contribution to enhancing the value of the business, so it is necessary to implement financial transparency, declare legal documents and complete and truthful financial statements, and have a remuneration and salary policy suitable for senior managers and employees.

ESG reports should be prepared according to a common standard for enterprises across the country to unify the targets; simultaneously, it is also convenient for stakeholders to compare, classify and select suitable investment portfolios. In this regard, businesses can refer to the Global Reporting Initiative standards (GRI standards) and additional published indicators according to GRI's guidelines specific to each sector.

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INVESTMENT UNDER UNCERTAINTY AND FINANCIAL CONSTRAINTS – FIRM-LEVEL EVIDENCE FROM EMERGING COUNTRIES

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Research purpose:

Examining the effect of uncertainty on investment under financial constraints in emerging countries.

Research motivation:

The damage of the 2008 financial crisis and the outbreak of Covid-19 pandemic in 2020 have renewed the interest in the nexus between uncertainty and firm investment. The impact of uncertainty on investment in emerging countries might deviate from that in developed countries because of the high extent of uncertainty and financial constraint in these economies.

Research design, approach, and method:

The paper uses an extended version of the q model to examine the relationship between uncertainty and investment. To control for the measurement error in q , we use marginal q proposed by Gala (2019). Our dynamic panel model is estimated using System GMM to overcome the endogeneity problem.

Main findings:

We find that firms in emerging countries cut investment under uncertainty. Of three uncertainty proxies, market and CAPM uncertainty exhibit a significant negative impact on investment while the coefficient of intrinsic uncertainty is insignificant. We also find that the negative effect of uncertainty on investment is more pronounced for financially constrained firms.

Practical/managerial implications:

In emerging countries, authorities should mitigate uncertainty by utilizing countercyclical policies and improving transparency of policy making process. Authorities should pay attention to broadening the access to finance for firms especially during times of uncertainty. Firms should implement risk management policies and enhance their financial flexibility to be able to adjust in the times of uncertainty.

Keyword: *emerging countries, financial constraint, investment, uncertainty*

THEORETICAL FRAMEWORK FOR THE INFLUENCE OF CRUCIAL FACTORS ON GREEN BANKING STRATEGY IMPLEMENTATION

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Research purpose:

The paper aims to discuss determinants of green banking strategy implementation and propose hypotheses about the efficiency of these determinants on green banks

Research motivation:

Over the past decade, most research in sustainable development has emphasised the implementation of green banking as a vital part of the transition to Sustainable Financial 2.0 (Schoenmaker, 2019). It creates stakeholder value by optimising the integrated value that combines financial, social and environmental value. Ensuring environmental value is one of the most crucial goals of sustainable growth. A stable environment could let the next generation gain more profit without worrying about hardship and risks from natural disasters. As a result, green banks are adopted by applying the stakeholder approach in corporate governance and the conduct of corporate social responsibility.

Research design, approach, and method:

The theory of change is used to classify these factors into ESG (environment, society and governance) model under the theoretical framework.

Main findings:

While environmental pressures (including physical risks, transition risks and liability risks) and social pressures (such as policy, regulation, customers demand and competition) are external factors influencing green banking strategy, bank management is a decisive internal element to direct the banking system to the green pathway.

Keywords: *bank management, environmental pressure, green banking, policy and regulation, social impacts, theory of change*

DOES R&D ALWAYS SUPPORT SUSTAINABLE GROWTH? EVIDENCE FROM AN EMERGING ECONOMY

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Research purpose:

This paper aims to investigate the relationship between sustainable growth rate (SGR) and research and development activities (RD) in an emerging economy.

Research motivation:

Along with the development of information technology and the explosion of creativity, we want to evaluate the impact of RD on the development of the business.

Research design, approach, and method:

We use panel regression techniques to examine a sample of 767 Vietnam-listed companies from 2008-2020.

Main findings:

The empirical results show a negative impact of RD on SGR, meaning that investment in the RD of the existing business does not provide the benefit of value growth. Existing RD strategies may represent only firms' innovation efforts. This confirms that managers need to consider and evaluate more clearly the contribution of research and development to different categories. Besides, the control variables in the model, including SIZE (the natural logarithm of total assets), ROA (returns on assets ratio), STATE (the percentage of ownership in the firm held by state), LV (Financial leverage ratio that equals total debt borrowings scaled by lagged total assets), DUALCFO (Dual CFO-COO in firm management), and CF (the ratio of total cash flow to total assets), are statistically significant.

Practical/managerial implications:

This finding has practical implications for enterprises investing in technology and policymakers to improve production and business activities' scientific and technological capacity.

Keywords: *Emerging economy; Sustainable growth, R&D*

FINTECH AND BANK CREDIT RISK: EMPIRICAL EVIDENCE FROM A FRONTIER COUNTRY

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Research purpose:

The research uses the word frequency and two-way fixed effect, system GMM and DID approach method on the bank system in Vietnam to find out the truth.

Research motivation:

If FinTech really can help banks, will it have the ability to reduce credit risk in Vietnam?

Research design, approach and method:

The study employs the word frequency web crawling technique to measure the intensity of FinTech applied in banks as well as the two-way fixed effect, system GMM and DID methods to find out the truth about the effects of FinTech on bank credit risk in Vietnam.

Main findings:

As predicted, the empirical results show that FinTech can help banks in many good ways, but it can't reduce bank credit risk in the context of Vietnam. One of the main reasons might come from limitations in the way Vietnamese banks apply FinTech. The study also gives recommendations to promote all FinTech abilities.

Practical/managerial implications:

The study has important implication for Banks as well as policy makers in Vietnam to help them have a more objective view of the current state of FinTech applied in Vietnamese commercial banks.

Keywords: *FinTech, web crawling, bank credit risk, Vietnam, frontier country*

THE EFFECT OF GLOBAL FACTORS ON HERDING BEHAVIOR IN THE VIETNAMESE COMMODITY MARKET

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Research purpose:

The study investigates the presence of herding behavior in the Vietnamese commodity market for four sectors and the differences in herding behavior among those sectors. Additionally, the authors examine the effect of global factors: Oil prices, US stock market and US Dollar Index on herding behavior in this market.

Research motivation:

The commodity market is a potential and brand-new investment market for investors in Vietnam, which still hasn't been discovered by any researchers before. Investors in commodity markets have faced difficulties in asymmetric information, unwell-controlled insider trading system and market uncertainty during the transaction process. Besides, herding in commodity markets could be totally different from stock markets, which requires a different set of approach.

Research design, approach and method:

The paper uses daily data during 2018-2022 from the Mercantile Exchange of Vietnam (MXV) in both static and time-varying perspective of Return Dispersion Model by Cross-Sectional Absolute Deviation of return and State Space Model.

Main findings:

The study confirms the dynamic character of herding behavior in the Vietnamese commodity market, especially in the high volatile market by the time-varying model whilst there is no evidence of its presence in the constant model. Moreover, the impact of the global factors varies across commodity sectors and time periods.

Practical/managerial implications:

This paper gives valuable insight to the following researchers into herding phenomenon in the Vietnamese commodity market and proposes development orientations for MXV and safe investment solutions in the market.

Keywords: *Herding behavior, commodity market, oil price, stock market, Dollar Index.*

HOW FINANCIAL LITERACY AFFECTS ON THE FINANCIAL BEHAVIOR, CONFIDENCE AND FINANCIAL PERCEPTION OF UNIVERSITY STUDENTS

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Research purpose:

This study focuses on the factors that influence university students' financial behavior (FB). It investigates whether university students' financial behavior, confidence, and views of financial literacy vary according to their level of financial literacy.

Research motivation:

Financial behavior is influenced by financial literacy, and it has a significant impact on how much money people save and invest. There is concrete evidence that those with high financial literacy have different financial life outcomes than those with low financial literacy. Financial literacy is also weakly related to individual cognitive capacity. Therefore, it is crucial to look at how financial literacy is related to financial behavior and individual traits.

Research design, approach, and method:

A questionnaire that asked about personal information, Facebook replies, financial impressions, and financial knowledge was used to collect the data. A total of 200 students made up a suitable total sample for the study. According to a t-test study, university students' judgments of FB, confidence, and financial literacy varied considerably by financial literacy level.

Main findings:

Our findings indicate that undergraduate university students are more overconfident; such FB is associated with the root causes of financial crises throughout the world. An OLS regression model investigation revealed that the perception of financial literacy and confidence had a substantial impact on the FB of classified university students. University students' financial knowledge, confidence, and personal traits should be considered in order to comprehend their financial behavior.

Practical/managerial implications:

Academicians, professionals, and future researchers will be able to study this research work and take into account future research in the same area attributable to the collection, classification, and comprehensive literature on the effects of financial literacy on financial behavior provided in the present paper.

Keywords: *Financial behavior, financial literacy, confidence, financial perception, Vietnam.*

DO LARGE BANKS TEND TO LEND MORE TO LARGE FIRMS? EVIDENCE FROM VIETNAMESE BANKING CONSOLIDATION WAVE

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Research purpose:

After the Global Financial Crisis 2008, many banks in Viet Nam were suffered from financial difficulties. To overcome these issues, many bank started restructuring through bank M&As. It is well-known that large banks tend to lend more to large firms. If this happen, it means that lending to SMEs might decrease and therefore negatively affect the whole economy because SMEs account for almost 99% of total firm in Vietnam. However, we do not know much about the effect of bank M&A on SME lending in Vietnam (to my best knowledge). This paper tries to find out the answer.

Research motivation:

This paper investigated the effect of bank consolidation wave in Vietnam on portion of lending to SMEs in consolidated bank's loan portfolio in the post bank M&As period. The findings in this paper have some implications for Vietnamese regulators in credit supplying policy and credit monitoring policy.

Research design, approach, and method:

- Data for announcements of bank mergers and acquisitions in Vietnam were collected from Thompson Reuters database.
- Financial data and detail of loan portfolio were collected from the financial reports of the acquiring banks before the M&A deals and from consolidated banks after the M&A deals.
- The proportion of loan to each customer category of acquiring banks in one year before the merger were compared to those of consolidated banks at the end of three years after the mergers. t-statistics test was then conducted to find out the statistically changes in the consolidated banks' loan portfolio to examines the effect of bank M&As on SMEs lending.

Main findings:

- This paper found that large banks tend to lend less to SMEs
- However, there was little evidence to suggest that large banks tend to lend more to large firms.
- In fact, this paper found that consolidated banks had allocated higher portion of their loan portfolio to individual customers.

Practical/managerial implications:

The results in this paper suggest some implications related to credit supplying policy and credit monitoring policy:

- To mitigate the impact of decreasing lending from large bank to SMEs and ensure sufficient credit supply for SMEs, a well-established banking system which includes banks with different size should be maintained.
- The credit unions – one type of credit institutions in Vietnam which are normally much smaller than banks, with their advantages in understanding local markets and SMEs operating in that local markets, should be encouraged and incentivized to make more loans to SMEs.
- Shifting of bank loan portfolio may be risky and therefore, consolidated bank loan portfolio should be more rigorously monitored by regulators to prevent a potential bad debt crisis in Vietnamese banking system

Keywords: *Small business lending, Bank M&As, SMEs lending*

OVERVIEW OF DETERMINANT OF BANK CAPITAL STRUCTURE AND CAPITAL ADEQUACY RATIO (CAR) CASE OF VIETNAMESE COMMERCIAL BANKS

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Research purpose

To review the fundamental methods to forecast banking capital ratio/capital adequacy ratio has been used and a suggestion for using a method in determining factors affecting the bank capital structure and capital adequacy ratio (CAR) in Vietnam commercial banks.

The thesis mainly focuses on studying the capital structure and capital adequacy ratio of Vietnamese commercial banks in relation to selected economic factors that are directly related to the business activities of the banks.

Research motivation:

In Vietnam, commercial banks have risen rapidly in the last 20 years. However, it raised many concerns among investors and economists about macroeconomic stability if credit continues to soar and whether the history of the volatile cycle will repeat itself like crisis in 2007-2008. To prevent it, since 2010s, Vietnam has applied the Basel II Capital Accords (Basel Capital Accords) to have an international standard system for bank management to control the amount of capital needed as reserve to protect banks from falling. However, with designated banks taking a long time to fulfil the requirement, the author finds that it is necessary to carefully consider the conditions and factors affecting the capital activities of banks to prove the necessity of regulations on bank capital. As well as being able to verify the advantages as well as difficulties in the process of completing Basel 2, thereby creating a premise for the banking system to move to Basel 3 and widely applied throughout Vietnam.

Research design, approach, and method:

Using VAR/VECM analysis methods, the paper examines the data collected from 10 initial pilot banks selected to implement Basel II in the period of 2014 including Vietcombank, BIDV, VietinBank, Sacombank, MB, Techcombank, ACB, VIB, Maritime Bank (MSB) and VPBank in a chooses a time frame from 2009-2019. The variables are as follow:

Abbreviation	Name	Calculation Formula	Number of Variables Expected	Source of Information
LEV	Leverage ratio	Ratio of equity to total equity (total asset value)	110	Bank's annual audited report
CAR	CAR ratio	Tier 1+2 Capital/ Risk Weighted Asset	110	Mainly from Bank's annual audited report, other sources
SIZE	Bank size	total assets of the bank	100	Bank's annual audited report
ROA	Bank profitability	Total bank income/Total assets	100	Bank's annual audited report
GROW	The growth of the bank (Growth Opportunity)	(Total assets this year - total assets last year) / total assets last year	100	Bank's annual audited report
LIQ	the bank's liquidity	current assets/current liabilities	100	Bank's annual audited report

RISK	Credit Risk Ratio	Total outstanding loans group 2-5/Total outstanding loans	100	Bank's annual audited report
GDP	GDP growth rate	over year as a percentage with the formula $(GDP_{x+1} - GDP_x)/GDP_x$	10	mainly from GSO, State Bank's website, IMF
INF	Vietnam Inflation Rate	$[(CPI \text{ Price Index year } t - CPI \text{ Price Index year } (t-1)) / CPI \text{ Price Index year } (t-1)] * 100\%$	10	GSO, State Bank's report, IMF
GOV	The participation of state capital	Whether state capital is involved or not	10	Bank's annual audited report, State Bank's report
Total variables			750	

With the analyzed result, the paper aim to find better explanation in assessing the economic factors that influence the banks' Capital structure and Capital adequate ratio as well as the necessity of implementing Basel accord in Vietnamese banks.

Main findings:

As the research is still on the way, the paper has not had a conclusive finding. However, the expected result will be as followed:

Factor	Expected relationship with Capital ratio	Expected relationship with CAR
SIZE	+	+
ROA	+	+
GROW	-	-
LIQ	+	+
RISK	+	+
GDP	+	+
INF	+	+
GOV	+	+
Equity ratio		No significant relationship with CAR

Practical/managerial implications:

The main finding of this paper will help:

- Systematize theoretical bases on capital structure ratio, capital adequacy ratio of commercial banks, economic factors inside and outside the bank affecting the value of those ratios, overview of related theories and propositions
- Using quantitative methods to build the relationship between economic factors affecting the value of capital structure ratio and capital adequacy ratio of banks
- Assess the current state of the correlation of economic variables with the ratios related to the Bank's capital, thereby drawing conclusions about the importance and influence of the factors on the ratios. consider. In addition, assessing the impact of the application of Basel convention on banking activities
- Proposing recommendations and solutions to improve the application of Basel convention in the Vietnamese banking system as well as management and prediction mechanisms for the Bank's capital ratio

Keywords: *Capital structure, Capital adequacy ratio, economic factors affecting, VAC / VECM research model, Vietnamese commercial banks, Vietnam's economy factors.*

THE EFFECT OF WORD-OF-MOUTH ON THE ADOPTION BEHAVIOR OF MOBILE BANKING IN VIETNAM

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Research purpose:

The paper aims to examine the effects word-of-mouth concerning products and social factors have on the adoption behavior of mobile banking.

Research motivation:

Mobile banking has evolved as the most cost-effective channel for delivering banking services. Word-of-mouth influences most customers' decisions by significantly impacting their Trust and willingness to use services. While word-of-mouth marketing isn't new, it hasn't been used very much in the Vietnam banking context.

Research design, approach, and method:

The study includes a data sample of 272 Vietnamese mobile banking customers collected through a convenient sampling method. The data were then submitted to PLS-SEM for testing the research hypothesis and model. Following the approach of the TAM model, we built our research model on four factors, including Perceived Usefulness, Perceived Ease of Use, Attitude, and Intention to use. Unlike other studies which considered Perceived Usefulness and Perceived Ease of Use as the main precursors of TAM, we include Attitude as an additional primary precursor in the research model. Furthermore, three more factors (such as Social Influence, Trust, and Word of Mouth) are also included for better predictability.

Main findings:

The results show that Word-of-Mouth is the main driving factor in explaining the adoption behavior of Vietnamese financial customers towards mobile banking. While other factors, including Perceived Usefulness, Trust, and Social Influence, significantly affect the Intention to use mobile banking, Perceived Usefulness has the most substantial effect in the research model.

Practical/managerial implications:

Bank managers should create online platforms or provide more relevant information for those who have not used mobile banking services. In this way, banks can maximize the strength of Word-of-Mouth as this offers their customers to make more informed decisions to adopt Mobile Banking. Recommendations should include addressing brand image to motivate customers to adopt mobile banking.

Keywords: *Word-of-Mouth, mobile banking, adoption behavior, Vietnam.*

INVESTORS' PERCEPTION ABOUT INFORMATION DISCLOSURE OF COMPANY PERFORMANCE: CASE OF VIETNAM STOCK EXCHANGE

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Research purpose:

The purpose of this paper is to examine the importance of information disclosure about company performance in terms of current and future -oriented information from listed companies on the Vietnamese securities exchange in investment decision making of investors.

Research motivation:

The results achieved from the research reflect investors' perception about necessary and importance of information disclosed by the listed company. The results are very important for government authorities in regulating information disclosure of listed firms; for listed firms in improving quality of information disclosure.

Research design, approach, and method:

Most of researches relating to information disclosure are implemented from the view of market discipline governance rather than from the investors' view as in this research. To understand investors' perception about the information necessary and expectation, the research implemented survey method by applying questionnaire interview.

Main findings:

The research found out that information about management of investment projects, updated business activities information are the most important items of information for investors while others as structure of organization and management), human resource management, and societal responsibility are the least important to investors. Regarding to forecasted information disclosed by the listed firms, information related to planned projects, planning for capital raising, predicted dividend payment, and predicted P/E (price/earnings) ratio are the most important information that investors expect from listed firms.

Practical/managerial implications:

The achieved results show guidelines in information disclosing of the listed firms to get attention and investment attractiveness of the investors. The results are also remarks for the market authorities in regulating requirements in information disclosure of listed firms.

Keywords: *business performance, information disclosure, stock exchange, investor perception, information needs, Vietnam stock exchange*

DETERMINANTS OF GOLD DEMAND: EMPIRICAL EVIDENCE IN DEVELOPING COUNTRIES

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Research purpose:

Identify factors affect demand for gold in developing countries

Research motivation:

The rising demand for gold despite its high price would lead to a relatively high dollar outflows which can potentially worsen the current account deficit for a country. Consequently, this deficit might increase the burden of external debt situation and depreciation for that country's sovereign currency, hence, causing an overall macroeconomic instability. Therefore, studying the determinants of gold demand can have important policy implications for governments in stabilizing the economy, especially in this time of economic turbulence of research motivation.

Research design, approach, and method:

Using a data set of 10 developing countries across continents over the period from 2008 to 2020 and employing quantitative method using regression models including FEM, REM, GMM.

Main findings:

Our findings provide further empirical analysis suggesting that volatility of GDP per capita and real interest rate statistically influence gold demand in developing economies.

Practical/managerial implications:

The results imply critical implications for development policy, financial intermediation and gold market in the developing economies, especially in this time of economic turbulence and high inflation.

Keywords: *Gold demand, central banks, developing countries, inflation, real interest rate, income per capita*

CORPORATE GOVERNANCE AND THE ACCURACY OF ANALYSTS' EARNINGS FORECAST IN VIETNAM

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Research purpose:

Our paper investigates the influence of corporate governance on the accuracy of analysts' earnings forecasts in Vietnamese stock markets.

Research motivation:

Although previous studies have examined the influence of corporate governance on the accuracy of analysts' earnings forecasts, there has been no study in Vietnam where the financial markets are having high growth rate of development.

Research design, approach and method:

We investigate the impact of corporate governance on the analysts' forecast accuracy using panel regression. Our sample comprises 386 firm-years for the period of 2015 - 2020. Corporate governance is investigated through the roles of state, institution, board and management ownership, board size, board independence, board gender diversity, CEO duality and female CEO/chairman.

Main findings:

Our results show that state ownership has a negative impact and institutional ownership has a positive effect on analysts' earnings forecast accuracy. Other corporate governance characteristics are insignificant.

Practical/managerial implications:

Our study adds to the literature on the impacts of corporate governance quality on corporate transparency and disclosure in emerging markets.

Keywords: *corporate governance, analysts' forecasts, board size, female CEO, board independence, state ownership, institutional ownership, managerial ownership, emerging country*

CORPORATE REPUTATION, INFORMATION ASYMMETRY, AND THE COST OF EQUITY IN AN EMERGING MARKET: EVIDENCE FROM VIETNAM

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Research purpose:

This paper examines the relationship between corporate reputation, information asymmetry, and the cost of equity in the context of Vietnam – a fast-growing emerging market.

Research motivation:

Corporate reputation is essential for businesses, helping to build a position and a foothold in the business world, creating a solid advantage for businesses, coping with difficulties and prolonged economic crisis. Especially, in developing countries, where the market is not really stable and effective, the importance of building and developing the corporate reputation is much greater. Firms in the emerging markets in general and Vietnam in particular must also have a good reputation to attract and build trust with both domestic and foreign investors. Prior research results show that firms with higher reputation have a lower cost of equity. Nonetheless, as an emerging market, information asymmetry and non-transparency in information disclosure are very common in Vietnam. As a result, these issues raise the question of whether the effect of corporate reputation on the cost of equity is altered by the occurrence of information asymmetry in emerging markets.

Research design, approach, and method:

The paper employs t-test and a combination of three regression methods (Pooled Ordinary Least Square, Fixed Effect Model and Random Effect Model) to test the effects of corporate reputation and information asymmetry on the cost of equity. In addition, Principal Component Analysis is also applied for calculating the corporate reputation score. The research sample includes 3088 firm-years from 391 non-financial firms listed in Vietnamese stock market from 2011 to 2020.

Main findings:

The finding shows that firms with higher corporate reputation are associated with a lower cost of equity. The results also indicate that when information asymmetry occurs, the impact of corporate reputation on the cost of equity is greater. In addition, the more reputable corporates increase, the lower the cost of equity will be.

Practical/managerial implications:

Firms in Vietnam can manage the cost of equity better. Furthermore, based on the information asymmetry in the market and the state of corporate reputation, investors can make appropriate investment decisions.

Keywords: *Corporate reputation, Cost of equity, Emerging market, Information asymmetry, Information disclosure*

THE IMPACT OF STATE OWNERSHIP ON THE MARKET VALUE OF LISTED FIRMS IN VIETNAM

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Research purpose:

This research investigates the influence of state ownership on the market value of listed firms in Vietnam during 2012 – 2019.

Research motivation:

The influence of state ownership on business value is a subject that is still limited in Vietnam, a country with the characteristics of a developing economy, consisting typically of small and medium-sized companies, which still face various economic risks and mainly depend on the State's capital contributions.

Research design, approach, and method:

The research observed balance sheet data of 252 companies listed on the Hanoi Stock Exchange (HNX) and the Ho Chi Minh City Stock Exchange (HSX) for the period 2012 - 2019. To overcome the model's hypothesis violations and achieve the final result, we use the feasible generalized least squares (FGLS) method.

Main findings:

The relationship between the state ownership rate and the market value of firms is a non-linear association in the form of an inverted U-shaped curve and the benchmark is 42.36%. In addition, the SOEs will contribute to the growth of the firm market value through investment decisions, financing decisions, cash flow effects, and the discounted cash flow effects channels.

Practical/managerial implications:

The impact of SOEs on firm value is more pronounced in financially less developed countries, where firms have limited access to capital. With external financial sources, companies with SOEs will have the advantage of accessing capital from the Government, specifically here in Vietnam.

Keywords: market value, state ownership, investment decision, financing decision, cash flow, discounted cash flow effect

ACCOUNTING AND AUDITING

BOARD CHARACTERISTICS AND EARNINGS QUALITY OF LISTED COMPANIES IN VIETNAM

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Research purpose:

This paper aims to measure earnings quality (EQ) and examine the effect of the Board characteristics on the earnings quality of listed companies in Vietnam.

Research motivation:

According to recent empirical studies in Vietnam, earnings quality is measured on only one or two attributes. Therefore, measuring the earnings quality of listed companies by multiple attributes is a good research direction. In addition, we wanted to answer the question: Is earnings quality affected by board characteristics?

Research design, approach, and method:

First, we measured earnings quality, four components including persistence, predictability, variability, and earnings smoothing over 2016 to 2020. Then, EQ is averaged from four attributes before. Data is collected from financial statements of 347 firms listed on the Ho Chi Minh Stock Exchange and Hanoi Stock Exchange from 2016 to 2020, resulting in 1,735 observations.

Main findings:

There is a positive association that exists between board size (SIZE), women members (FEMALE), firm size (F_SIZE), and EQ, while the opposite is true for financial leverage (DFL). The other two variables, CEO duality (DUAL) and non-executive member (NONEX), are not statistically significant.

Practical/managerial implications:

Our findings suggest the importance of considering the board characteristics to earnings quality. Therefore, it is helpful for investors, managers, and policymakers to make decisions useful. In particular, this study supports the concept of earnings quality as a multidimensional measure. This has not been mentioned in previous studies on earnings quality in Vietnam.

Keywords: *earnings quality, measuring, attribute of EQ, multidimensional measure, CEO duality, non-executive members.*

1. INTRODUCTION

Earnings quality is the centre of attention for every investor, providing helpful information about a firm's financial position and performance (Francis et al., 2004). Dechow, Ge, and Schrand (2010) define higher earnings quality when they provide more information for stakeholders. There are various studies about measuring earnings quality, and this issue has also become the focus of interest for many researchers. Earnings quality focus on two main factors: (1) profits that faithfully reflect the company's business results and (2) profits that are useful for decision-making (Dechow,

Ge, and Schrand, 2010). Francis et al. (2004) propose to measure EQ based on accounting principles and a market basis, including Accruals Quality, Persistence, Predictability, and Smoothing. Parte-Esteban and García (2014) measure earnings quality, including attributes persistence, predictability, variability, and earnings smoothing. This measurement, based on Kormendi and Lipe (1987), and Lipe (1990), has been successfully applied in previous studies on earnings persistence (Francis et al., 2004; Dichev & Tang, 2009; Cascino et al., 2010; Gaio, 2010; Kousenidiset al., 2013; Rezaee et al., 2018).

With the separation between ownership and management rights in joint-stock companies, the status of earnings management (EM) of managers has become popular. It has a significant influence on the EQ of companies. The participation of the Board plays the role of monitoring the plans and actions of the Board, ensuring capital investment, preventing the concentration of power in groups of people in the senior management, build a system of control and balance between them, Rezaee (2004). Each company will have a Board with standard points and specific characteristics that affect the ability to monitor and ensure the company's performance, including providing EQ.

For companies listed on the Vietnamese stock market, earning is an indicator disclosed in the financial statements that receive special attention from investors. However, the number of listed firms that have to adjust their financial statements after the audit is relatively standard. The primary data that must be adjusted is earnings. According to Vietstock's statistics, 278 enterprises, of 526 accounting for more than 52%, had to adjust their earnings on financial statements for the accounting period in the first six months of 2020. This creates a significant concern for investors because this issue affects shareholders' interests and reduces the usefulness of financial statement information. There are several studies on factors that influence EQ, but these authors used one or two attributes of earnings quality, such as smoothing (Can, P. Đ. T., 2019) and predictability (Trang, N. T. N., & Phuong, B. K. 2020).

This study aims to analyse the earnings quality and determine the influence of board characteristics on the EQ of Vietnamese listed companies. First, we develop a multidimensional concept of EQ through four earnings attributes: persistence, predictability, smoothing, and variability. Second, we explore which Board characteristics affect earnings quality by regression analysis. This study may fill the gap in the influence of characteristics of the Board on earnings quality in the context of Vietnam. Our sample includes all listed companies on the two largest stock exchanges in Vietnam, HOSE and HNX, from 2016-2020.

The results show a positive and significant relationship between board size, female members, firm size, and earnings quality. Only the financial leverage variable hurts earnings quality. The findings show that the earnings quality of Vietnamese listed companies in 2016-2020 was relatively low. This result is meaningful in promoting managers' interest and improving the earnings quality to attract investment. This study helps examine board characteristics concerning earnings quality from an investor perspective.

Our contribution to the literature is to analyse additional determinants of the earnings quality tendencies of listed firms in Vietnam. This study supports the conceptualisation of earnings quality as a multidimensional measure. This has not been mentioned

in previous studies on earnings quality in Vietnam.

This paper begins with this introduction section, and then section 2 discusses the literature review and hypothesis on earnings quality. Next, section 3 discusses the methodology used in the paper. In section 4, we report empirical results. Finally, section 5 provides conclusions for the paper.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1. Background theory

Berle first formulated agency theory in 1932, then further developed by Jensen and Meckling (1976). This theory explains the relationship between owners as shareholders and agents as company managers. The Board have to ensure that management prioritises the interests of shareholders. Therefore, agency theory implies that board diversity will better monitor managers and increase board independence (Carter et al., 2010), reduce conflicts between members and positively affect firm performance (Campbell & Mínguez Vera, 2008). Independent external members of the international management system have a crucial supervisory function in the financial reporting process. Therefore, agency theory serves as the basis to explain the increase in independent BOD members to increase EQ (Alves, 2014), without the duality between Chairman and CEO will increase EQ (Dimitropoulos & Asteriou, 2010).

Edward Freeman first used stakeholder theory in 1984 in his work on strategic management. The theory of stakeholders argues that a company's success depends on the cooperation of its stakeholders because they provide tangible or intangible resources to ensure the survival of any company. The resources can be financial resources (shareholders), operating environment and public services (government agencies), and labour power (employees), so the company is responsible for accountability. Information that explains the company's business to stakeholders instead of just providing information to owners (Freeman, 1984). Disclosed financial statement information must ensure transparency and quality to meet stakeholders' expectations. Good management of relationships with investors, customers, and shareholders shows good corporate governance. Ensuring maximum benefits for shareholders requires the Board of Directors to operate effectively through the quality of profits. Therefore, stakeholder theory explains the motivation for corporate disclosure, where EQ is seen as stakeholder requirements and expectations.

2.2. Literature review

The factors belonging to the characteristics of the Board affecting EQ have been shown in many studies. Dimitropoulos and Asteriou (2010) and Alves (2014) find a positive relationship between the proportion of independent members and EQ. The higher the percentage of independent members, the higher the EQ.

However, the research results of Al-Dhamari and Ku Ismail (2012) and Al-Othman and Al-Zoubi (2019) did not find the impact of board independence on EQ as expected or have an effect of negligible movement. Koevoets (2017) found that the independence of the Board of Directors and EQ were inversely related. The following factor is board size which has different results depending on researchers. Al-Othman and Al-Zoubi (2019) find a positive effect of board size on EQ. While Al-Dhamari and Ku Ismail (2012) demonstrate that investors do not consider board size as a good indicator of EQ, and board size does not affect EQ as initially hypothesised (Dimitropoulos & Asteriou, 2010). In contrast, Houque et al. (2011) found that board size harms EQ in the Bangladeshi market.

Krishnan and Parsons (2008) found that gender diversity on the Board improves EQ. Research by Haruna et al. (2018) highlights that companies with a higher number of female directors are more likely to report better earnings quality. However, it is not necessarily that hiring more female managers will increase EQ. Instead, increasing the uniformity of the Board of directors by age or paying attention to background factors such as education and tenure for EQ improvement is the solution to be sought (Kangtao Ye et al., 2010). Nasution and Jonnergård (2017) found that the gender of the auditor and the gender of the CFO did not affect EQ. However, the interaction between the auditor and the new CFO affected EQ but was unrelated to gender. This result is also similar to the study of Al-Othman and Al-Zoubi (2019).

Although there is no significant evidence in studies on the influence of CEO duality on EQ (Dechow et al., 1995, 1996; Klein, 2002; Efendi et al., 2007; Kamarudin et al., 2012; Alzoubi, 2016), this model will disrupt the balance of power between CEOs and boards, potentially limiting the effectiveness of board control (Yasser et al., 2014). Dalia Ali Mostafa Hemdan et al. (2021) found the CEO-Chairman model's significant and negative impact on EQ.

There are various definitions of earnings quality by authors. Dechow (1994) believes that earnings are significant for other investors because this information on firm performance is used to make decisions for current or future purposes. The Standard of high-quality earnings accurately reflects the company's current operating performance, is a good indicator of future operational performance, and is a useful summary measure for assessing firm value.

Schipper and Vincent (2003) argue that EQ reflects the truthfulness of real profits compared to reported returns. According to Bellovary et al. (2005), EQ is essential in assessing a company's financial health. However, the user tends to pay little attention to this information. Bellovary et al. (2005) point out that EQ reflects the company's actual profit in the current period, is also valid for predicting future profits, and is affected

by the company's stability and earnings volatility. Kirschenheiter and Melumad (2004) argue that profits are higher when they are more informative and closer to the firm's sustainable value.

Dechow et al. (2010). EQ is high when it provides more information about aspects of financial results and is relevant to specific user decisions. Therefore, the concept of EQ should apply to the context of the decision user. Srinidhi et al. (2011) describe EQ as the ability of current earnings reported to reflect future cash flows and returns. The IASB and FASB agendas emphasise that EQ is the regulators' most important goal.

Although considered an essential feature of financial statements, EQ is an abstract and multidimensional concept that cannot be measured directly and is evaluated in many ways. Nelson and Skinner (2013) conclude that there is a lack of consensus on defining and measuring EQ, and there is no universally accepted definition of EQ. Parte-Esteban and García (2014) measure earnings quality, including persistence, predictability, variability, and earnings smoothing.

2.3. Hypothesis

Size of Board of Directors

The number of members of an enterprise's Board of Directors represents that enterprise's size. The larger the enterprise, the larger the number of members of the Board of Directors to increase the ability to control the company's operations. Al-Othman and Al-Zoubi (2019) find that board size and board member experience positively and significantly impact EQ. On the contrary, the results of some studies show that board size hurts EQ (Houque et al., 2011) and earnings management behaviour (Linh, N. H., 2017). The author expects that the larger the board size, the higher the EQ. The hypothesis that needs to be tested in this study is:

Hypothesis H1: Board size has a positive relationship with EQ

The duality between the Chairman of the Board of Directors and the CEO

In a joint-stock company, the Chairman of the Board of Directors and the Chief Executive Officer (CEO) play an essential role in all current activities and future development orientations. The duality occurs when the Chairman of the Board of Directors and the CEO take on the role. Research results on the influence of duality and EQ have many differences. Dimitropoulos and Asteriou (2010) argue that the duality impacts EQ, whereby the company with a large proportion of independent directors, the EQ will be high. When the duality occurs, it will affect the control ability of the Board of Directors. In this study, the author expects that the separation of powers between the Chairman of the Board of Directors and the CEO will positively impact EQ. The hypothesis is tested in this research:

Hypothesis H2: The duality between Chairman and CEO has a negative relationship with EQ

The proportion of non-executive members

Non-executive member positively affects EQ (Dimitropoulos & Asteriou, 2010; Al-Othman & Al-Zoubi, 2019; Thúy, V. T. T. 2020); Nguyễn, T. T., 2021), which improves EQ (Alves, 2014). However, in the study of Al-dhamari and Ku Ismail (2012), Linh, N. H. (2017), Duong, B. V., & Điệp, N. H. (2017), the independence of the Board of Directors has no impact on EQ; there is a relationship opposite to EQ (Koevoets, 2017). The hypothesis is stated as follows:

Hypothesis H3: The proportion of non-executive members positively correlates with EQ.

Percentage of female members in the Board of Directors (BOD)

Research by Nielsen and Huse (2010) has shown that with the presence of women on the Board, the conflict of interest is improved, creating a difference in value compared to male members. Indeed, according to Haruna et al. (2018), a higher number of female directors are more likely to report better earnings quality. However, Nasution and Jonnergård (2017) suggest that the gender of the board member does not affect EQ or has a negligible effect (Al-Othman & Al-Zoubi, 2019). The hypothesis put forward is:

Hypothesis H4: The proportion of female members in BOD is positively related to EQ.

Percentage of members of the Board of Directors with expertise in economics and finance

The Board of Directors performed well in supervising the preparation and disclosure of financial statements with professional knowledge in finance. Moreover, earnings management behaviour is unlikely to occur when the company has a board of directors with a background of financial knowledge, which is confirmed through the study by Xie et al. (2003), and Park et al. (2004). When investigating the effect of characteristics of the Board on EQ, Al-Othman and Al-Zoubi (2019) consider this influence insignificant. The author expects that financial knowledge might create favourable conditions for the Board to perform the supervisory function and, at the same time, orient the company's activities to develop sustainably, contributing to increasing EQ. So the hypothesis is:

Hypothesis H5: The proportion of board members with financial expertise positively relates to EQ.

Company size

The larger the company's size, the more it is subject to the supervision of stakeholders. So the manager is always looking to meet the expectations, especially the investors. This can cause risk in earnings management behaviour (Bui Van Duong and Ngo Hoang Diep, 2017). On the contrary, the larger the company size, the less profit management behaviour is reduced. However, Trang, N. T. N., & Phuong, B. K. (2020). did not find a relationship between company size and EQ. The hypothesis to be tested is:

Hypothesis H6: Firm size is positively related to EQ

Financial leverage

Duong, B. V., & Điệp, N. H. (2017), Trang, N. T. N., & Phuong, B. K. (2020) find a relationship between financial leverage and EQ. Specifically, financial leverage has the same effect on EQ. The reason is that both shareholders and creditors supervise the company. This effect shows that the higher the leverage, the higher the EQ. However, overseas studies show that the direction of the impact between financial leverage and EQ is different; Gopalan and Jayaraman (2012) and Liu et al. (2017) find a negative relationship. Meanwhile, Barton and Waymire (2004) provide evidence of a positive relationship, even without statistical significance (Parte-Esteban & Garcia, 2014); Vasilescu & Millo, 2016). This study expects financial leverage to have a positive effect on EQ; the hypothesis to be tested is:

Hypothesis H7: Financial leverage is positively related to EQ

3. METHODOLOGY

3.1. The sample

The present study's sample consists of companies listed on the Vietnamese Stock Exchange, HOSE, and HNX. Following earnings quality studies, finance firms are excluded from the sample as they are more regulated and have different financial reports. To increase the homogeneity of the sample, companies whose financial year-ends are not 31 December are eliminated.

The data is collected from financial statements and annual reports with the following items on BOD, earnings in year t and year $t-1$, and cash flow from operations, liability, and total assets. The selected sample of 569 firms after removing outliers using the three-sigma rule of thumb method (Pukelsheim, 1994), the final sample consists of 347 companies for five years from 2016 to 2020 (1,735 firms-year observation). It is used to measure earnings quality and regression analysis.

3.2. Measuring the variables in the research model

3.2.1. Measuring the independent and control variables

Table 1. Variables measures

Variables name	Measurement
Independent variables	
Size of Board (SIZE)	Number of Board at year-end
CEO Duality (DUAL)	Taking the value 1 for the firm has CEO is also serving as the Chairman, or 0 otherwise.
Non-executive (NON_EX)	The proportion of non-executive members
Gender Diversity (FEMALE)	Percentage of female members on the Board of directors
Financial expertise (FI_EXP)	Percentage of members of the Board of directors with expertise in economics and finance
Control variables	
Firm size (F_SIZE)	Natural logarithm of total assets
Financial leverage (DFL)	Measured as total liabilities divided by total equity

3.2.2. Measuring the earnings quality

Earning quality is computed based on the formula in table

2. Then, we create an aggregate earnings quality measure for each firm by averaging the four individual measurements.

Table 2. Earnings quality measures

Item	Calculation
Earnings persistence	First-order autoregressive model (AR (1)) for annual earnings. $Earn_{i,t} = \phi_0 + \phi_1 Earn_{i,t-1} + v_{i,t}$
Earnings predictability	The Square root of the error variance of AR(1) $2v_{i,t}$
Earnings variability	The standard deviation of earnings $Earn_{i,t}$
Earnings smoothing	The standard deviation of earnings Divided by the Standard deviation of cash flows $Smooth_{i,t} = \sigma(Earn_{i,t}) / CFO_{i,t}$
Earnings quality	Averaging the four measures of persistence, predictability, variability, smoothing

Source: Parte-Esteban and García (2014)

To examine the influence of each feature of the Board of Directors on EQ, the study uses the following multivariable regression model:

$$EQ = \beta_0 + \beta_1 * B_SIZE + \beta_2 * DUAL + \beta_3 * NON_EX + \beta_4 * FEMALE + \beta_5 * FI_EXP + \beta_6 * F_SIZE + \beta_7 * DFL + \varepsilon$$

Where:

EQ: Earnings Quality

B_SIZE: Board size

DUAL: CEO Duality

NON_EX: Non-executive members

FEMALE: Women members

FI_EXP: Financial Expertise

F_SIZE: Firm size

DFL: Financial leverage

$\beta_1 - \beta_7$ = Coefficient of explanatory variables

β_0 = Constant or Intercept

ε = Error term

We use the Excel program to calculate four attributes of earnings quality. Panel data was imported into Stata 16 to perform the following analysis steps. This study uses descriptive statistics to synthesise the essential characteristics of the collected data, such as mean, standard deviation, maximum value, and minimum value. The method is intended to provide the reader with an overview of the characteristics of the sample. Next, the study uses correlation analysis to test the quantitative relationship between independent and dependent variables. Multiple regression analysis is adopted to estimate the model of the study. We are specifically examining the influence of board characteristics on the earnings quality of Vietnam-listed companies. The existence of multicollinearity problems is assessed by the correlation matrix and the Variance Inflation Factor (VIF), and Heteroscedasticity was also estimated to evaluate model fit.

4. RESULTS AND DISCUSSIONS

4.1. Results

4.1.1. Earnings quality measurement results

First, we calculate the four attributes and then use the technique of ranking discrete in descending order and using the ranked discrete values divided by the maximum value in the series to transform the discrete data into continuous data. Therefore, earnings attributes will have values ranging from 0 to 1. A firm with this index closer to 1 implies a higher earnings quality. The company's index in any attribute equal to 1 means that the EQ in that attribute is the best compared to the companies in the research data. Then, we compute the EQ variable by averaging its individual earnings quality measures.

Table 4 summarises the results of earnings quality over the years from 2016 to 2020. It can be seen that the earnings quality of Vietnamese listed companies is relatively low; the maximum value of EQ over the years only fluctuating around the average.

Table 3. Earnings quality by four attributes over the years

	2016	2017	2018	2019	2020
Persistence					
MIN	0,0000	0,0002	0,0004	0,0002	0,0000
MAX	0,8989	0,4252	1,0000	0,5713	0,5527
Median	0,0557	0,0555	0,0466	0,0476	0,0457
Mean	0,0788	0,0702	0,0714	0,0668	0,0667
Std. Dev	0,0885	0,0632	0,0905	0,0726	0,0720
Predictability					
MIN	0,0003	0,0003	0,0002	0,0002	0,0003

Table 5. Descriptive statistics

Variable	Mean	Std. Dev	Min	Max
EQ	0.0960429	0.0861813	0.0031978	0.5893267
SIZE	5.610375	1.281267	2	15
DUAL	0.2195965	1.582269	0	100
NON_EX	3.261671	0.2354697	0	100
FEMALE	0.879538	1.026698	0	100
FI_EXP	2.876657	1.702093	0	100
F_SIZE	11.87737	0.6422395	10.12846	13.57791
DFL	0.4761166	0.2837772	0.0004629	7.571786

Note:

EQ considers persistence, predictability, variability, and smoothing.

B_SIZE represents the total number of board members; *DUAL* dummy variable which takes a value of 1 when the CEO and the Chairman of the Board are the same people and 0 otherwise; *NON_EX* represents the ratio between the number of non-executive members and the total number of board members; *FEMALE* represents the ratio between the number of female members and the total number of board members; *FI_EXP* represents the ratio between the number have financial expertise members and the total number of board members; *F_SIZE* represents the firm's size; *DFL* represents the ratio between the book value of all liabilities and the total assets.

	2016	2017	2018	2019	2020
MAX	1,0000	0,9957	0,7835	0,8100	0,9136
Median	0,0161	0,0215	0,0182	0,0209	0,0208
Mean	0,0510	0,0618	0,0563	0,0599	0,0657
Std. Dev	0,1002	0,1165	0,1035	0,1117	0,1224
Variability					
MIN	0,0000	0,0003	0,0002	0,0002	0,0000
MAX	1,0000	0,9738	0,8610	0,8442	0,8950
Median	0,0210	0,0219	0,0231	0,0248	0,0248
Mean	0,0615	0,0666	0,0704	0,0728	0,0763
Std. Dev	0,1203	0,1286	0,1272	0,1333	0,1390
Smoothing					
MIN	0,0000	0,0019	0,0063	0,0069	0,0000
MAX	0,8979	0,9129	0,8727	0,9171	1,0000
Median	0,1432	0,1398	0,1384	0,1388	0,1282
Mean	0,1979	0,1914	0,1858	0,1779	0,1716
Std. Dev	0,1720	0,1649	0,1625	0,1554	0,1474

Table 4. Earnings quality over the years

Year	Mean	Std. Dev	Min	Max
2016	0,097289	0,086558	0,005805	0,589327
2017	0,097497	0,087087	0,003397	0,572883
2018	0,095985	0,085240	0,003198	0,482174
2019	0,094373	0,084166	0,008746	0,544229
2020	0,095070	0,087642	0,006872	0,558057

4.1.2. Descriptive statistics

The descriptive statistics are presented in Table 5, where the study variables' mean, standard deviation, minimum, and maximum data are captured.

4.1.3. Correlation matrix

Table 5 shows the Pearson correlation between the dependent variable EQ and the independent variables established between independent variables. The analysis shows that EQ positively correlates with the variables B_SIZE, DUAL, NON_EX, FEMALE, FI_EXP,

F_SIZE, and DFL. Table 6 shows that the correlation coefficients between pairs of independent variables are smaller than 0.8. So, the correlation between the independent variables related to each other is very low, and there is no present multicollinearity in the independent variables.

Table 6. Pearson correlation coefficients between the dependent variable (EQ) and explanatory variables

Variables	EQ	B_SIZE	DUAL	NON_EX	FEMALE	EXP	F_SIZE	DFL
EQ	1.0000							
SIZE	0.1831	1.0000						
DUAL	0.0154	-0.0778	1.0000					
NON_EX	0.0285	0.0632	-0.1835	1.0000				
FEMALE	0.0732	0.0370	-0.0030	-0.0399	1.0000			
FI_EXP	0.0633	-0.0169	-0.0279	-0.0280	0.0306	1.0000		
F_SIZE	0.4409	0.2727	-0.0360	0.0673	-0.0406	0.0913	1.0000	
DFL	-0.0655	0.0281	-0.0289	-0.0384	-0.0852	-0.0473	0.2515	1.0000

Sources: Output of Stata 16

4.1.4. Regression analysis results

To test the effect of board characteristics on EQ, we have to choose a suitable regression model. The regression models used are Pooled OLS ordinary least squares model (POLS), Fixed effects model (FEM), and Random effects model (REM). Based on the comparison results between the models, we have selected the appropriate model as the REM model.

After that, we conduct necessary tests for the REM model, including autocorrelation by Breusch - Godfrey test, VIF multicollinearity test, and variable variance phenomenon by test Breusch and Pagan's determination. The results show that the selected model does not violate multicollinearity but violates autocorrelation and variable variance. Therefore, the study has carried out the remedy by performing FGLS regression.

Table 7. Results of the FGLS regressions models

EQ	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SIZE	0.0039449	0.0014636	2.70	0.007	0.0010763	0.0068135
DUAL	0.005692	0.0044565	1.28	0.202	-0.0030426	0.0068135
NONEX	-0.0000173	0.0000783	-0.22	0.825	-0.0001709	0.0001362
FEMALE	0.0003616	0.0001021	3.54	0.000	0.0001614	0.0005617
FI_EXP	0.0000388	0.0000651	0.60	0.551	-0.0000888	0.0001664
F_SIZE	0.0638423	0.0030437	20.98	0.000	0.0578768	0.0698078
DFL	-0.0550607	0.0066939	-8.23	0.000	-0.0681806	-0.0419408
_cons	-0.6661699	0.0341257	-19.52	0.000	-0.7330551	-0.5992846

Table 8. Estimation results of board characteristics affect EQ

	POLS	FEM	REM	FGLS
SIZE	0.00399*** [2.70]	0.00400*** [2.71]	0.00399*** [2.70]	0.00394*** [2.70]
DUAL	0.00656 [1.47]	0.00544 [1.20]	0.00656 [1.47]	0.00569 [1.28]
NONEX	-0.0000178	-0.0000159	-0.0000178	-0.0000173

FEMALE	[-0.23] 0.000362*** [3.52]	[-0.20] 0.000374*** [3.63]	[-0.23] 0.000362*** [3.52]	[-0.22] 0.000362*** [3.54]
FI_EXP	0.0000342 [0.52]	0.0000318 [0.49]	0.0000342 [0.52]	0.0000388 [0.60]
F_SIZE	0.0635*** [20.75]	0.0638*** [20.82]	0.0635*** [20.75]	0.0638*** [20.98]
DFL	-0.0542*** [-8.15]	-0.0546*** [-8.20]	-0.0542*** [-8.15]	-0.0551*** [-8.23]
_cons	-0.662*** [-19.32]	-0.665*** [-19.39]	-0.662*** [-19.32]	-0.666*** [-19.52]
N	1735	1735	1735	1735
R-sq	0.238	0.239		
t statistics in brackets * p<0.1, ** p<0.05, *** p<0.01				

The estimated results in Table 8 show that the size of the Board (SIZE), the proportion of women (FEMALE), and the size of the company (F_SIZE) have a positive impact on EQ at the level of statistical significance of 1%. Contrary to expectations, financial leverage (DFL) negatively affects EQ at the 1% statistical significance level. The DUAL variable has a positive effect, and the NONEX variable shows a negative relationship with EQ, but in our research model, these two variables are not statistically significant.

4.2. Discussion

Table 9. Hypothesis testing results

Hypothesis	Expected	Results
H1: Board size has a positive relationship with EQ	+	+
H2: The duality between Chairman and CEO has a negative relationship with EQ	-	0
H3: The proportion of non-executive members has a positive relationship with EQ.	+	0
H4: BOD's proportion of female members is positively related to EQ.	+	+
H5: The proportion of board members with financial expertise positively relates to EQ.	+	0
H6: Firm size is positively related to EQ	+	+
H7: Financial leverage is positively related to EQ	+	-

Note: + positive; - negative; 0 no impact

Research results in Table 9 show that four out of seven variables in the model have an impact on the EQ. Variables that do not impact EQ include DUAL, NON-EX, and FI-EXP.

Besides, board size (SIZE) positively affects EQ, meaning the more prominent the board size, the higher the EQ. This makes sense for shareholders when choosing a company with a large board size to invest in. The proportion of non-executive members (FEMALE) also has a positive relationship with EQ, is companies with a higher percentage of women on the Board, the better the EQ. This result prompts companies to rethink the structure of women in management, thereby contributing to improving EQ. Firm size (FI_SIZE) in this study positively affects EQ. This is consistent with the author's original hypothesis that the larger the company, the more likely it is to maintain and improve EQ to attract investment. Finally, DFL is expected to have a positive relationship with EQ, but the results are the opposite. The larger the DFL used by the company, the lower the EQ will be, consistent with the interpretation of the agency theory and the signalling theory. To get financing, companies tend to report higher profits to build trust with lenders so that EQ will be low.

5. CONCLUSION

In this research, we measure earnings quality by using a sample of 1,735 firm-year observations listed companies on HOSE and HNX over five-year periods between 2016 and 2020. This study finds that earnings quality is relatively low. The study findings have provided empirical and statistical evidence on the effect of board characteristics on the earnings quality of the surveyed firms. Regression results indicate a positive relationship between board size and earnings quality. This finding has implications for the investment choice of shareholders. In addition, there is a positive

relationship between the proportion of women on the Board and the earnings quality of Vietnam-listed companies. This suggests that women members play a positive role in monitoring management to improve earnings quality. The study found the significant impact of firm size and financial leverage on earnings quality. Overall, the study concludes that board characteristics have significantly improved the earnings quality of the listed firms in Vietnam.

Our findings suggest the importance of considering firms' characteristics of the Board to evaluate a company's earnings quality. Our results are also valuable for users of financial statement information who may evaluate EQ practices. If earnings quality is a significant variable used for making decisions for stakeholders, it would be fascinating to study in the future. We suppose that the results can support regulators and academics may evaluate the quality of earnings in different industries. Finally, these findings also can assist firm managers in their decision-making.

The main limitation of this study is in terms of measuring earning quality. We only use accounting-based attributes, not market-based attributes. This can make the measurement of earnings quality less comprehensive, especially for listed companies.

6. ACKNOWLEDGMENTS

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THE APPLICATION OF ANALYTICAL PROCEDURES IN A FINANCIAL STATEMENT AUDIT: AN EMPIRICAL STUDY IN VIETNAM

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Research purpose:

This research aims to investigate the differences in the use of APs of independent auditors in Vietnam. The research concentrates on the five specific aspects: the extent of use, the effectiveness in achieving audit objectives, the frequency and effectiveness of different techniques, the assurance provided and influence on detailed testing, and the importance of factors in evaluating unexpected fluctuations and driving increased use of APs. In order to explore the differences of the extent of APs use with other countries, the research findings on APs use in Vietnam are compared with the findings in Egypt.

Research design, approach, and method:

The research conducts a survey to investigate the use of APs in Vietnam. The data was collected from both Big 4 and non-Big 4 firms that were involved in all Big 4 firms and eight local audit firms in Vietnam. These twelve external auditing firms are large and dominant professional service providers in Vietnam. There were 400 questionnaires that were hand-delivered to twelve external audit firms in Vietnam in 2020. All questionnaires were sent to all three levels of practicing auditors: partners, managers, and seniors. Each of the Big 4 firms was distributed 40 questionnaires with a total of 160 questionnaires. Each of the eight local firms was distributed 30 questionnaires with a total of 240 questionnaires.

Main findings:

Although the time of data collection in Vietnam, Egypt and Canada were dissimilar, there were similarities between Vietnam and Egypt. On the contrary, there were differences between Vietnam and Canada. There are dissimilarities of the APs use among three stages of an audit. There are not many differences between Big 4 and Non-Big 4 relating to the extent of use. The Vietnamese auditors believe that the effectiveness of AP in achieving audit objectives is low. Besides, in Vietnam, the most favourite types that auditors use is scanning analysis and the least is regression models. There are 4 APs that have been often used by Big-4 auditors. And the higher levels of auditors are (e.g., managers), the more APs are used.

Practical/managerial implications:

This study contributes by providing knowledge about the APs use in a financial statement auditing within Vietnamese culture and economic context. It helps in improving the effectiveness of APs' practice in Vietnam.

Keywords: Analytical procedures, planning, testing, final review.

FINANCIAL REPORTING QUALITY AND INVESTMENT EFFICIENCY: THE MODERATING ROLE OF FEMALE CEO

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Research purpose:

Our research is conducted with three purposes: the influence of female CEOs on financial reporting quality (FRQ); the influence of FRQ on investment efficiency, and in particular, the impact of moderating role of female CEOs on the relationship between FRQ and investment efficiency.

Research motivation:

The study provides more information for boards to consider the role of female CEOs while enhancing the quality of financial reporting to improve investment efficiency.

Research design, approach, and method:

By analyzing the institutional background and hypotheses development, the paper selected listed firms in Vietnam as the study samples. On the basis of that, we discuss three main research contents of the paper.

Main findings:

Our results show that female CEOs are less involved in earning management, and the quality of financial reporting improves overinvestment. Further, the relationship between FRQ and overinvestment would be improved if the company was run by a female CEO.

Practical/managerial implications:

Our findings also have important implications for boards when appointing women to senior positions, as their presence can reduce earning management and minimizes over-investment. Another issue pointed out by Vietnamese listed companies is that investment shortfalls do not depend on the FRQ. In addition, companies in emerging markets such as Vietnam are expected to find it difficult to raise external funds. In other words, the FRQ is not reliable enough to attract external funding to improve under-investment.

Keywords: *Financial reporting quality, investment efficiency, CEO, female CEO, under-investment, over-investment*

INTERNATIONAL EXPERIENCES OF ADOPTING TASK FORCE ON CLIMATE- RELATED FINANCIAL DISCLOSURES (TCFD) AND SUGGESTIONS FOR VIETNAM

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Research purpose:

The paper objective is to analyze international experiences of adopting Task Force on Climate-related Financial Disclosures (TCFD) to give suggestions for Vietnamese Government and companies.

Research motivation:

Since 2015, to create the necessary conditions for transparency, the Financial Stability Board (FSB) has set up an international working group, the Task Force on Climate-related Financial Disclosures (TCFD), with the aim of enhancing climate-related corporate disclosures. Private organizations and Governments around the world have adopted TCFD recommendations to disclose the financial information related to climate. At present, there is severe lack of articles on TCFD adoption in Vietnamese enterprises.

Research design, approach, and method:

We employ desk-research and analysis techniques to review and study international experiences of Task Force on Climate-related Financial Disclosures (TCFD) of Brazil, the EU, Hong Kong, Japan, New Zealand, Singapore, United Kingdom and Australia, and international corporations like BHP, and so on.

Main findings:

It is found that almost no governmental regulation or guidance for disclosing financial information related climate for organizations at present. Moreover, no listed companies have disclosed climate-related information based on the globally accepted framework like TCFD. There is an urgent need to estimate and disclosure climate risks and opportunities in the Vietnamese companies for the long-term benefits such as gaining competitive advantages, new technologies and new markets. Learning from international experiences helps Vietnamese companies apply effectively the TCFD framework in the future.

Practical/managerial implications:

Our paper contributes to the literature of adopting TCFD and shed a light on the current situation of adopting TCFD in Vietnam to give some suggestions for the Government, the Vietnamese companies and society.

Keywords: *TCFD, disclosure, financial information, climate, Vietnam.*

1. INTRODUCTION

The term 'climate' broadly refers to a statistical description of weather and related conditions of oceans, land surfaces and ice sheets. Climate change is an alteration in the pattern of climate over a long period of time due to a combination of natural and human-being causes. Climate change is an urgent issue for humanity since it is happening faster and faster with consequences that are more unpredictable than anticipated. Global average temperature rise has been accompanied by ongoing rises in ocean temperatures, ocean heat storage, sea levels and atmospheric water vapour. There has also

been shrinkage in the size of ice sheets and most glaciers. The recent slowdown in the rate of surface warming is mainly due to climate change. One of the main reason for climate change is human activities such as increasing greenhouse gas (GHG) in the atmosphere, creating global warming with CO₂.

Since 2015, to create the necessary conditions for transparency, the Financial Stability Board (FSB) has set up an international working group, the Task Force on Climate-related Financial Disclosures (TCFD), with the aim of enhancing climate-related financial information disclosures. The first version of TCFD recommendation

was issued on 2017. Right after that, private organizations and Governments around the world have adopted TCFD recommendations. As of October 6, 2021, the Task Force had over 2,600 supporters globally, including 1,069 financial institutions, responsible for assets of \$194 trillion. TCFD supporters now span 89 countries and jurisdictions and nearly all sectors of the economy, with a combined market capitalization of over \$25 trillion. The TCFD aims to standardise climate change reporting requirements by providing a set of voluntary recommendations to be incorporated in companies' business models and the regulatory monitoring process of the enterprises.

At present, in Vietnam, there is almost no regulation of climate-related reporting requirements and almost no organization discloses officially financial information aligned with TCFD recommendations. Therefore, the article objective is to analyze international experiences of adopting TCFD, the current situation of disclosing financial information related to climate change in Vietnam, then give suggestions for Vietnamese companies in the near future.

The article employs desk research, analysis techniques of secondary data which are collected on the official website of TCFD, international companies and information disclosure regulations which were issued officially in Vietnam. The structure of the article includes three main parts, namely, literature review on TCFD recommendations, the international experiences of disclosure aligned with TCFD, and suggestions for Vietnam.

2. LITERATURE REVIEW

The Task Force on Climate-related Financial Disclosures (TCFD) was established in 2015 with the support of the G20 countries to issue and develop recommendations for climate-related risk disclosure. The TCFD framework was first published in 2017 and revised in 2021, which was developed at the request of the G20 Finance Ministers and Central Bank Governors. The TCFD framework provides recommendations and guidance about how to disclose climate-related financial information.

TCFD recommendations is to enable stakeholders to allocate capital efficiently through the transition to a low-carbon economy. It is voluntary, financially relevant, climate-related disclosure. These

recommendations help investors, creditors and insurance companies make better decisions about their investment portfolios with respect to greenhouse gases, assets exposed to climate-related risks, and environmental risks to the environment. This set of recommendations proposes standards for disclosing environmental-related opportunities and risks, focusing on four core elements, including: (i) Governance, (ii) Strategy, (iii) Risk management and (iv) Metrics and targets (Figure 1 and Figure 2). Based on the TCFD recommendations, the organizations should consider seven principles to effectively disclose the climate-related financial information as shown in the Figure 3. The key characteristics of the TCFD framework include voluntary for all types of organizations, imbedded in financial fillings, designed to decision useful and look forward financial information, strong focus on risks and opportunities related to climate change.

In many countries, public companies are obligated to disclosure information including climate-related financial risks. However, the requirements for publication are only regulated in a general way, making the disclosure content heavy on form, not focusing on comprehensive analysis and assessment of risks related to climate change with business activities. Therefore, although voluntary, the TCFD recommendations are considered by the G20 countries as a standard framework for developing national legislation to disclosure of climate-related financial information. In addition to the general agreement to tackle climate change, many developed countries are now prioritizing the adoption of TCFD to finalize legal framework of this field.

The TCFD provides a classification of climate risks into physical risks and transition risks. Transition risks arise from the transition to a low-carbon and climate-resilient economy and affect the value creation and reputation of the company. Physical risks arise from the adverse effects of climate change, such as material events that cause disruptions and financial damages. Those risks are sources of financial losses and lead to exposure to credit default. The TCFD explains climate-related opportunities, namely, resource efficiency and cost savings, the adoption of low-emission energy sources, the development of new products and services, access to new markets, and building resilience for the supply chain, and depending on the region, market, and industry in which a company operates.

Issue	Question	Recommended Disclosure
Governance	1. Does the company describe the boards or a board committee's oversight of climate-related risks or opportunities?	Governance (a)
	2. Does the company describe management's or a management committee's role in assessing and managing climate-related risks or opportunities?	Governance (b)
Strategy	3. Does the company describe the impact of climate-related risks or opportunities that the company has identified?	Strategy (a)
	4. Does the company describe the impact of climate-related risks or opportunities on the organisation (e.g. businesses, strategy or financial planning)?	Strategy (b)
	5. Does the company describe the resilience of its strategy, taking into consideration different climate-related scenarios, including a 2C or lower scenario?	Strategy (c)
Risk management	6. Does the company describe the organisation's processes for identifying and/or assessing climate-related risks?	Risk management (a)
	7. Does the company describe the organisation's processes for managing climate-related risks?	Risk management (b)
	8. Does the company describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management?	Risk management (c)
Metrics and targets	9. Does the company disclose the metrics it uses to assess climate-related risks and opportunities?	Metrics and targets (a)
	10. Does the company disclose Scope 1 and 2, and if appropriate Scope 3 GHG emissions?	Metrics and targets (b)
	11. Does the company describe the targets it uses to manage climate-related risks or opportunities?	Metrics and targets (c)

Fig 1. Overview of TCFD Recommended Disclosures (TCFD, 2017)



Fig 2: TCFD core elements (TCFD, 2017)

Governance: The organization's governance around climate-related risks and opportunities

Strategy: The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management: The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets: The metrics and targets used to assess and manage relevant climate-related risks and opportunities



Fig 3. Principles of TCFD recommendations (Authors summarized)

Regarding to the relationship to other reporting initiatives, the Task Force considered existing voluntary and mandatory climate-related reporting frameworks in developing its recommendations, including the CDP (Carbon Disclosure Project), Climate Disclosure Standards Board (CDSB), the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), and the Sustainability Accounting Standards Board (SASB). The reason comes from the expectation of TCFD that organizations/reporting entities disclosing climate-related information under other regimes will be able to use their existing processes when developing disclosures based on TCFD. The TCFD recommendations provide a common set of principles that help existing disclosure regimes come into closer, reduce fragmented disclosure, and provide greater comparability for reporting entities. Also, the TCFD encourages standard setting bodies to support adoption of the recommendations and alignment with the recommended disclosures.

In November 2021, at COP26, IFRS Foundation announces International Sustainability Standards Board (ISSB). The ISSB was built based on the foundation of the globally accepted TCFD framework and the work of an alliance of sustainability standard setters. The ISSB represents a major step forward in establishing consistent, comparable global reporting standards. (IFRS Foundation, 2021). In March 2022, ISSB launched a consultation on its first two proposed standards— Draft IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information (on general sustainability-related disclosure) and Draft IFRS S2 Climate-related

Disclosures (on climate -related disclosure). The Draft IFRS S2 build upon the recommendations of TCFD and incorporate industry-based disclosure requirements from SASB Standards. The requirements of The Draft IFRS S2 are consistent with the four recommendations and 11 recommended disclosures published by TCFD. Areas where the Draft differs from the TCFD recommendations reflect differences between the Draft and the TCFD's guidance, not the TCFD's core recommended disclosures. Therefore, the firms that have applied the TCFD recommendations are significantly better prepared to comply with the IFRS S2 disclosure requirements than those that have not.

There are significant previous research on the topic of applying TCFD in companies. Siew (2020) provides a briefing on the TCFD requirements. It highlights common challenges faced by the property and construction industry in implementing TCFD. The difficulty in integrating climate related risks and translating them into quantitative measures, lack of capability within the industry to understand the complexities of climate risks and data collection issues among others are analyzed in this research. The author suggests setting up an industry specific network to share best practices in TCFD, harmonisation of existing frameworks to include TCFD requirements and rewards for early applied companies. Maji and Kalita (2022) conducted content analysis of the annual reports and/or sustainability reports of 22 selected Indian firms. The firms come from the energy sector in the period 2018–2019 and 2019–2020. The analysis was implemented based on the four element of TCFD recommendations. They computed the overall and respective climate-

change disclosure scores for the selected firms. It is found that the disclosure level of Indian firms in the energy sector is moderate. The regression results show a positive relation between climate change-related financial disclosure and firm performance, meaning that firms can gain improved financial performance by disclosing more information on climate change. Florence (2021) found that since 2019 the ASX has argued that listed companies in Australia adopt the climate change risk disclosure recommendations of TCFD. It is found that most of Australia's top 200 companies incorporated one or more elements of the TCFD in their annual financial or sustainability report in 2019. Among the companies that made some disclosures, more than 40% covered all four elements of the TCFD framework. Some of the companies that showed very good disclosure practices are AGL Energy Limited, Aurizon Holdings Limited, and Insurance Australia. However, approximately one-third of all TCFD adopted companies have disclosed only one element. Meanwhile, more than 15 per cent of the sampled companies have made zero disclosures in relation to climate change risks including Bravura Solution Limited, James Hardie Industries Plc, and Polynovo Limited.

3. INTERNATIONAL EXPERIENCES OF DISCLOSURE ALIGNED WITH TCFD

International experiences from Governments

Many countries in the world have arranged TCFD recommendations into policy and regulations. The governmental regulators and supervisors have used the TCFD's work as a basement for climate-related reporting requirements. Recently, Brazil, the EU, Hong Kong, Japan, New Zealand, Singapore, United Kingdom and Australia have set up official requirements to make disclosure reports aligned with TCFD recommendations for the organizations in domestics.

Brazil: On April 26, 2021, the Central Bank of Brazil (BCB) issued the Public Consultation 86/2021 on regulations for disclosure of social, environmental, and climate-related risk management by institutions of the National Financial System (SFN). In September 2021, BCB announced mandatory TCFD-aligned disclosure requirements. The disclosure requirements will be conducted in two phases:

- (1) in 2021, addresses qualitative aspects related to governance, strategy, and risk management, and
- (2) in 2022, will address quantitative aspects like metrics and targets.

Hong Kong: In December 2020, the Hong Kong's Green and Sustainable Finance Cross-Agency Steering Group published a new Strategic Plan which announced that TCFD-aligned disclosures "will be mandatory" across relevant sectors by 2025. In July 2021, the Steering Group announced the next steps to advance its strategy to help Hong Kong become a leader in green

and sustainable finance and transition the financial ecosystem towards carbon neutrality. As so, the Steering Group will focus on mandating climate-related disclosures aligned with the TCFD framework by 2025, sustainability reporting, carbon market opportunities and the launch of the new Centre for Green and Sustainable Finance (Centre). To develop a new standard built on the TCFD framework, the Steering Group are supported by the International Sustainability Standards Board under the International Financial Reporting Standards Foundation (IFRS).

Japan: From June 2021, the Tokyo Stock Exchange published a revised Corporate Governance Code based on the proposals made by Japan's Council of Experts concerning the Follow-up of Japan's Stewardship Code and Japan's Corporate Governance Code. The Code requires listed companies in the Prime Market to enhance the quality and quantity of climate-related financial disclosures based on the TCFD recommendations or an equivalent framework. From then, 76 out of TOPIX100 companies have implemented disclosures based on TCFD in 2022. The listed companies supporting TCFD have been increasing especially on Prime Market with about 70% of all TCFD supporting organizations in Japan.

New Zealand: On October 21th 2021, New Zealand has become the first country to pass laws requiring banks, insurers and investment managers to report the impacts of climate change on their business. Approximately 200 of the largest financial firms in New Zealand, including banks with total assets of more than NZ\$1 billion (\$718.90 million), large insurers and equity and debt issuers listed on the country's stock exchange will have to make disclosures of climate-related information affecting their businesses. The disclosures will become mandatory for financial years beginning in 2023. These new laws will require financial firms to explain how they would manage climate-related risks and opportunities. The disclosure requirements will be based on standards from New Zealand's independent accounting body, the External Reporting Board (XRB). Especially, these standards will be based on the TCFD recommendations.

Singapore: In August 2021, the Singapore Exchange Regulation proposed a roadmap for climate-related disclosures to be made mandatory in issuers' sustainability reports (SRs). SGX is one of the first exchange markets in Asia to propose mandating climate disclosures in accordance with the TCFD recommendations. Based on the road map, all issuers would be required to adopt TCFD-aligned reporting on a comply or explain basis from 2022. The disclosure would become mandatory for companies in key industries including finance and transportation from 2023, and in most industries from 2024. Under TCFD, companies need to disclose climate-related risks and opportunities that impact finances. On top of the TCFD

framework, SGX suggested seven environment-related metrics for reporting, including:

- (i) absolute GHG emissions,
- (ii) emission intensity,
- (iii) total energy consumption,
- (iv) energy consumption intensity,
- (v) total water consumption,
- (vi) water consumption intensity,
- (vii) total waste generated.

SGX proposed that sustainability reports be audited initially for the accuracy and completeness of data reported, which can be done through external auditors or independent assurance services providers.

European Union: In April 2021, the European Commission issued a proposed Corporate Sustainability Reporting Directive (CSRD) which revises the Non-Financial Reporting Directive (NFRD). The directive stated that the reporting standards should take into account the current standards and frameworks, including the TCFD framework. This may lead to TCFD-aligned reporting for nearly 50,000 large companies in the European Union. The Climate Disclosure Standards Board (CDSB) will work at the EU level to improve further the Directive, to clarify its requirements and incorporate recent developments. On 31st January 2022, the Climate Disclosure Standards Board (CDSB) was consolidated into the IFRS Foundation to support the work of the newly established International Sustainability Standards Board (ISSB).

United Kingdom: In November 2020, the UK's Chancellor of the Exchequer announced that by 2025 the UK intends to mandate climate disclosures by large companies and financial institutions. One month later, the Financial Conduct Authority (FCA) introduced new regulations for companies with a UK premium listing to disclose climate related risks and opportunities in line with TCFD on a comply or explain basis. The annual financial statements of these businesses must include a disclosure statement of climate-related risks and opportunities, and where disclosure is not possible, the financial statements must also explain the reasons of non-execution. In June 2021, the FCA published further proposals to extend TCFD-aligned disclosure requirements to issuers of standard listed equity shares and introduce TCFD requirements for asset managers, life insurers, and FCA-regulated pension providers. The regulators believe that the mandatory TCFD recommendations will help investors' cash flows more efficiently towards a "low-carbon economy".

Australia: In May 2022, the proposed rule for climate disclosure aligned with TCFD were released publicly. The final rule could be adopted later in 2022 and taking effect in financial year 2023. According to the new rule, Australian companies who have securities registered under the Exchange Act will need to adopt these disclosure requirements to include climate-related

information in their filings. While have not been mandatory in Australia, the Australian Prudential Regulation Authority (APRA) and the Australian Securities and Investments Commission (ASIC) have both cited the TCFD recommendations as best practice for climate-related financial disclosures. The "*Climate disclosures within the Annual Report – An Australian focus*" is published to guide companies communicate the impacts of climate on their business models, strategy, financial performance, and future prospects in the annual reports and financial statements.

International experiences from companies based on eleven recommended disclosure of TCFD

Regarding the Governance a). Describe the board's oversight of climate-related risks and opportunities. Legal & General Group Plc prepared the 2020 Climate Report in line with TCFD. The Group described the information, namely, how its Board prioritizes, identifies, and reviews climate-related risks and opportunities, its climate related governing bodies, individual Board roles and responsibilities, as well as feedback mechanisms in page 8 of the report. (Legal and General Group Plc, 2020 Climate Report, p. 8). As shown in Figure 4, The Board is ultimately accountable for the long-term stewardship of the Group, responding to climate change and the risks associated with it. "*In early 2020, the Group added 'addressing climate change' as one of our six strategic growth drivers, emphasising the importance of climate risk and the opportunities arising from the necessary energy transition. Throughout the year, the Group CEO Report, divisional CEO Reports and Chief Risk Officer (CRO) Report to the Group Board detailed the challenge of climate change and the new opportunities presented by it, including continued focus on investing in clean energy technologies that support zero-carbon homes and climate-committed cities. Nigel Wilson, Group CEO, has spearheaded the Group's engagement on a range of climate change and environmental initiatives. Nigel is actively engaged and takes responsibility for the Group's strategic direction and progress on this important topic. The Group Chief Financial Officer (CFO), who is also a Board member, is responsible for how market risks connected to our investments (including risks arising from climate change) are identified, considered and managed. The CRO is responsible for ensuring that an appropriate strategy is in place to understand, identify, measure, monitor, control and report risks from climate change in line with the risk strategy and risk appetite parameters set by the Group Board. The CRO also supports business managers in the development of appropriate processes to monitor and report exposures to the risks from climate change*". The Group Board, through the Group Risk Committee (GRC) and Executive Risk Committee (ERC), has delegated oversight of the management of the risks associated with climate change to the Group Environment Committee (GEC).

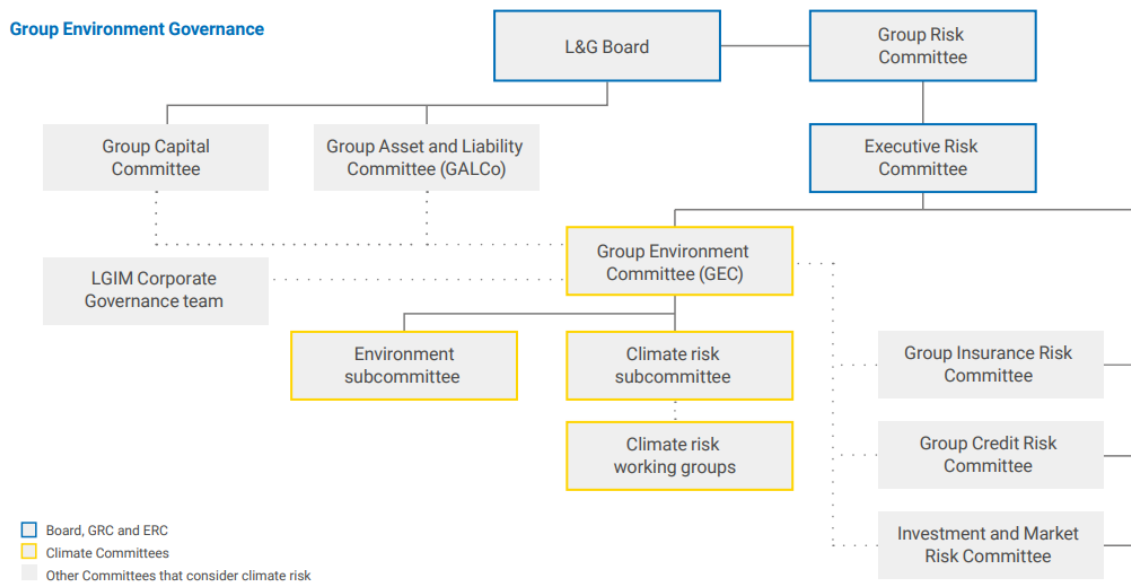


Fig 4. Legal & General Group Plc Environment Governance (Legal and General Group Plc, 2020 Climate Report)

Regarding the Governance b). Describe management's role in assessing and managing risks and opportunities. In the Repsol Annual Corporate Governance Report 2018 (p. 62, 66), the company established Sustainability Committee. "This Committee is an internal body for information and advisory purposes created by the Board of Directors, without executive functions, but with information, advisory and proposal powers within its area of activity. The Committee consists of no fewer than three Directors, the majority of which must be Non-Executive. Its members are appointed by the Board of Directors for a term of four years, taking into account the expertise, skills and experience of the Directors and the duties of the Committee. Without prejudice to one or more re-elections, they will be relieved of their duties at the end of the term, when their tenure as a Director ceases, or when agreed by the Board of Directors, subject to a prior report by the Nomination Committee. One of the members of this Committee will be appointed Chairman and the Secretary will be the Secretary to the Board. The duties of this Committee include, among others, being familiar with and shaping the Group's policies, objectives and guidelines on environmental, safety and social responsibility matters, analyzing and reporting to the Board of Directors on the expectations of the Company's various stakeholders and supervising the relations with them, proposing to the Board of Directors the approval of a Sustainability Policy and reviewing and evaluating the management and control systems for non-financial risks."

Regarding the Strategy a (Describe the climate-related risks and opportunities the organization has

identified over the short, medium, and long term), Strategy b (Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning), we analyzed the case of Royal Bank of Canada (RBC). The bank issued the Task Force on Climate-related Financial Disclosures Report 2019. The Strategy a, and b was described in page 10 and 16. Specifically, the RBC defined the "climate risk as those risks related to the transition to a lower-carbon economy (transition risks) and risks related to the physical impacts of climate change (physical risks). RBC faces both direct and indirect climate risk from its lines of business and operations: (i) RBC faces direct climate risk from emerging regulatory and legal requirements, disruptions to our operations and services, the products and services we provide our clients and the credit impact of clients' exposure to climate risk. (ii) RBC faces indirect climate risk from financing and investments for clients in climate-sensitive sectors 4 (see Tables 1 & 2, p. 10). Exposure to climate risk factors does not necessarily mean those risks will be realized, as the client or RBC may have taken steps to mitigate those risks."

RBC also identified climate-related opportunities across their business segments and are informed by their acknowledgements of climate-related risks. The opportunities include strategies, products, services and advice to support our clients in the low-carbon transition, and to capture new areas of business growth, such as sustainable finance. Also, they have indicated opportunities in our global operations to mitigate climate change, while improving efficiency and resilience.

Climate-sensitive sectors are those most impacted by the transition risks and physical risks of climate change. The factors that drive transition risk and physical risk are defined by the TCFD recommendations. In 2019, we assessed the relative sensitivity of sectors to these climate risk drivers to inform our risk management approach. Sector sensitivity to climate risk drivers does not mean that those risks will be realized for all clients in that sector. The impact at a client-level will depend on factors such as geography, location of assets and mitigation strategies.

Table 1: Client sectors most sensitive to transition risk

Sectors	Credit risk ⁹		Climate risk drivers ¹⁰					Examples of potential impacts for clients in these sectors may include
	\$bn	% of total exposure	Technology	Policy	Markets	Legal	Reputation	
Wholesale								
Automotive	\$17.0	1.5%						<ul style="list-style-type: none"> • Changes in demand for goods/ services • Reduced revenue • Increased operating and production costs • Asset devaluation • Difficulty accessing financing • Increased capital costs • Business model failures • Reputational damage • Legal fines or judgments
Oil & gas	\$20.2	1.8%						
Industrial products	\$16.6	1.5%						
Mining & metals	\$6.8	0.7%						
Transportation	\$14.1	1.3%						
Utilities	\$32.7	3.0%						
Sub-total	\$107.4	9.8%						

Fig 5. The climate risk from financing and investments for clients in climate-sensitive sectors (The Task Force on Climate-related Financial Disclosures Report 2019 of Royal Bank of Canada)

Regarding the element Risk management (Disclose how the organization identifies, assesses, and manages climate-related risks), we analyzed the BHP Annual Report 2019 page 65. The report described the BHP processes for managing climate-related risks and all eleven elements of TCFD. The Figure 6 illustrate the Risk management lists of BHP. “.....BHP was one of the first companies to align our disclosures with the recommendations of TCFD. We believe the TCFD recommendations represent an important step towards establishing a widely accepted framework for climate-

related financial risk disclosure and we have been a firm supporter of this work. Our Vice President of Sustainability and Climate Change, Dr Fiona Wild, is a member of the Task Force. We are committed to continuing to work with the TCFD and our peers in the resources sector to support the wider adoption of the TCFD recommendations and the development of more effective disclosure practices within the sector. As responding to climate change is an integral part of our strategy and operations, our TCFD-aligned disclosures can be found throughout this Report...”

Risk management - Disclose how the organisation identifies, assesses, and manages climate-related risks

a) Describe the organisation's processes for identifying and assessing climate-related risks.	Risk management	16.4
b) Describe the organisation's processes for managing climate-related risks.	Risk management - Risk factors (climate change, greenhouse gas emissions and energy)	16.4
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Risk management	16.4
	Non-financial KPIs - sustainability KPIs	15.2
	Risk management - Risk factors (climate change, greenhouse gas emissions and energy)	16.4

Fig 6. BHP Risk management list (BHP Annual Report 2019)

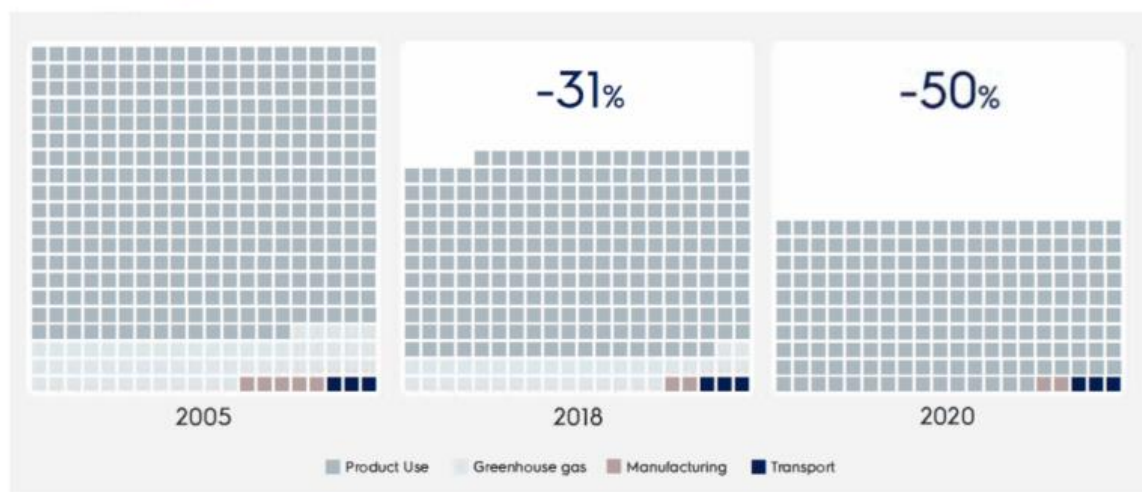
Regarding the Metrics and Targets element (Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material). We referred the 2018 Sustainability Report of Electrolux AB as shown in Figure 7 and the paragraph in the report “Our targets Our 50% climate target – halve the Group's climate impact, preventing the release of 25 million metric tons

of carbon dioxide and its equivalents (CO2e) over 15 years - between 2005 and 2020. The target focus on product efficiency in the main product categories. Sales volumes and emission factors are normalized to 2005. [...] Progress on our 50% target By the end of 2018, we had cut our CO2 emissions by 31% compared to 2005 - toward our 50% target by 2020.” Also, Figure 8 show the list of Metrics and Targets of BHP.

Progress on our 50% target

By the end of 2018, we had cut our CO₂ emissions by 31% compared to 2005 - toward our 50% target by 2020.

Climate targets 2020 ¹⁾



¹⁾ Reduce CO₂ impact by 50% in 2020 focusing on product efficiency in the main product categories. Sales volumes and emission factors are normalized to 2005.

Europe: Electrolux AB, 2018 Sustainability Report, pp. 29-30

Note: some content, denoted by "[...]," was deleted in order to fit the page

Fig 7. The 2018 Sustainability Report of Electrolux AB (Sustainability Report of Electrolux AB)

Metrics and targets - Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material

a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Non-financial KPIs – sustainability KPIs	1.5.2
	Climate change – Operational emissions	1.10.8
	Climate change – Scope 3 emissions	1.10.8
b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Non-financial KPIs – sustainability KPIs	1.5.2
	Climate change – operational emissions performance	1.10.8
	Climate change – Scope 3 emissions performance	1.10.8
	Climate change data	6.5
c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Non-financial KPIs – sustainability KPIs	1.5.2
	Climate change – operational emissions performance	1.10.8
	FY2019 STIP performance outcomes	3.3.2

Fig 8. BHP Metrics and Targets (BHP Annual Report 2019)

4. SUGGESTIONS FOR VIETNAM

In Vietnam, at present, there is a severe lack of regulations or any official guidance on disclosing climate-related financial information for the enterprises especially the listed firms. It is hard to find in current legislation documents mandating this kind of information disclosure.

The current effective document guiding the disclosure of information on the securities market is the Circular No. 96/2020/TT-BTC issued on 16th November

2020 by the Minister of Finance, Vietnam. This Circular replaces Circular No. 155/2015/TT-BTC dated 6 October 2015 by the Minister of Finance. The Circular takes effect from 1 January 2021.

According to the Circular No. 96, Chapter 2, Article 10, section 2, public companies have to disclose annual report based on the guidance of Appendix IV, and announce the report within 20 days since the day of disclosing the audited financial statements, and cannot exceed 110 days since the last day of financial year. The Appendix IV of the Circular No.96 give guidance on

preparing mandatory annual report, specifically:

Part I, the company have to announce corporate objectives with regard to Corporate environment, society and community Sustainability and Specify the risks probably affecting the production and business operations or the realization of the Company's objectives, including environmental risks).

Part II, The Appendix instruct in section 6. Environment-Social-Governance (ESG) report of the

Company. In the Section 6 of Part II of this Appendix, the company may set up a separate Sustainability Development Report, in which the items 6.1, 6.2 and 6.3 are not mandatory for companies operating in sector of finance, banking, securities and insurance. Also, the Circular No.96 encouraged enterprises apply the globally accepted reporting and disclosure standards in preparing their sustainability reports. The Section 6 Part II includes 8 basic contents as shown in Table 1.

Table 1. Section 6 Part II of the Appendix of Circular No. 96/2020/TT-BTC (Author summarized)

6.1. Impact of the environment: (i) Total direct and indirect GHG emission and (ii) Measures and initiatives to reduce GHG emission.

6.2. Management of raw materials: (i) The total amount of raw materials used for the manufacture and packaging of the products as well as services of the organization during the year.(ii) b) The percentage of materials recycled to produce products and services of the organization.

6.3. Energy consumption: (i) Energy consumption – directly and indirectly, (ii) Energy savings through initiatives of efficiently using energy. (iii) The report on energy saving initiatives (providing products and services to save energy or use renewable energy); report on the results of these initiatives.

**6.4. Water consumption (water consumption of business activities in the year);
Water supply and amount of water used; Percentage and total volume of water recycled and reused.**

6.5. Compliance with the law on environmental protection: (i) Number of times the company is fined for failing to comply with laws and regulations on environment. (ii) The total amount to be fined for failing to comply with laws and regulations on the environment.

6.6. Policies related to employees: (i) Number of employees, average wages of workers. (ii) Labor policies to ensure health, safety and welfare of workers. (iii) Employee training (The average number of training hours per year, according to the staff and classified staff , The skills development and continuous learning program to support workers employment and career development.)

6.7. Report on responsibility for local community.(The community investments and other community development activities, including financial assistance to community service.)

6.8. Report on green capital market activities under the guidance of the SSC.

On the official website of TCFD, the supporters of TCFD around the world are listed. For the Vietnamese organizations, we found five supporters

as shown in Table 2. However, the disclosure level aligned with TCFD have not been described on the TCFD website.

Table 2. The list of TCFD supporters from Vietnam (Author summarized)

Company	Sector	Industry	Location	Date of supporting
Dragon Capital Group	Financials	Asset Management/ Investment Management	Vietnam	April 2020
Dynam Capital Limited	Financials	Asset Management/ Investment Management	Vietnam	April 2021
Hanoi Stock Exchange	Financials	Stock Exchange	Vietnam	August 2019
Hochiminh Stock Exchange	Financials	Stock Exchange	Vietnam	December 2017
VinaCapital Group	Financials	Asset Management/ Investment Management	Vietnam	April 2022

PWC (2021) studied the groups of top 20 listed companies in 13 territories in Asia Pacific region including Vietnam on the aspect of positively applying the emission reduction policies. The result showed that the top 20 listed companies in Vietnam have not yet provided climate-related financial information based on TCFD recommendations, Net zero policies and Science-based target initiatives (SBTi) (shown in Figure 9). In comparison to 12 territories, the disclosure information of Vietnamese organizations equals to zero, the lowest. Therefore, the Vietnamese listed companies should improve the application of environmental policies in the near future.

Net zero policies	SBTi	TCFD	
18	4	18	Australia
4	1	2	China
6	2	5	India
1	1	1	Indonesia
7	3	17	Japan
5	2	8	Malaysia
9	7	14	New Zealand
2	0	8	Philippines
7	4	10	Singapore
3	3	14	South Korea
8	3	15	Taiwan
7	2	9	Thailand
0	0	0	Vietnam

Fig 9: Application of climate change policies across the top 20 listed companies in Asia Pacific territories as of 30th September 2021 (PWC, 2021)

The United Nations Framework Convention on Climate Change (UNFCCC) was released at Rio de Janeiro in 1992. The objective of the Convention is to prevent dangerous human interference into the climate system. The Conference of Parties (COP) is the supreme decision-making body of the UNFCCC. The COP26 is the 26th Conference of UNFCCC, which was held in Glasgow in November 2021. 197 countries that have ratified the Convention are known as “Parties of the Convention”. Joining the COP26 in solving climate change issues, Vietnam committed the following points: Net zero by 2050, eliminating coal thermal power by 2040, reducing GHG ((Greenhouse Gas) and stop deforestation by 2030. Vietnam is one of 12 countries that completed the update of the Nationally Determined National Contribution (NDC) on September 11, 2020.

To enhancing the application of TCFD recommendations in disclosing climate-related financial information in Vietnam, we would like to give some suggestions as follows:

Regarding the Government, the Government agencies and Vietnamese companies need to work

together more closer. The Government, as supporter role, establish policies and regulatory environment to help enterprises disclose information based on the TCFD. Also, the Government should share the burden of costs of research and development, innovation, supply chain and net zero global transformation with companies. The PwC report also suggests that the race to Net Zero will start with the commitment of the top leadership and the goals of strengthening at the national level, which are also the key points discussed at COP26. Regarding the guiding the disclosure of information on the securities market is the Circular No. 96/2020/TT-BTC issued on 16th November 2020, there is lack of mandatory or guiding on climate-related information. TCFD recommendations adopted by the above mentioned countries around the world would be the relevant choice for fixing the current regulations in Vietnam on this topic.

Regarding the Vietnamese companies, as core role in adopting TCFD, have to understand that financial information disclosure related to climate change based on TCFD is both a responsibility and an opportunity for them. They should commit to early disclosure climate related information to gain pioneering advantages, brand positioning in consumer trends, new technologies and new markets. Also, the companies increasingly have a legal obligation to shareholders and investors to quantify the corporate impact that will benefit or hurt in the pressures from climate change. Mitigating the impact of climate change is the long-term benefits for all companies. Governments play an important role in transforming the energy system, industry groups, economies as well as society as a whole. However, along with the government's efforts, firms need to join hands and lead the change. The accounting and/or finance departments can play a key role in preparing for sustainability reporting for any business. They will need to understand what the society and investors need to know about climate-related information, climate risks and opportunities, and translate that into the most relevant metrics and disclosures in the report. Reporting climate related information must be trusted, credible and relevant to stakeholders. The Chief Finance Officers and financial controllers can adopt their experience and knowledge of TCFD to implement non-financial reporting processes and controls. Moreover, we need the collaboration between finance and sustainability teams to identify and assess climate-related risks and opportunities. We should improve communication between teams and improve the output of the analysis. One interviewee stated that “*moving the climate conversation into financial language has helped bridge the gap between finance and sustainability teams by creating common language between departments.*” (TCFD, 2020).

The society also, play an important role. The investors, of course, give attention to the companies have financial information disclosure towards the TCFD

and other global accepted standards. For the consumers, they should change the attitude and consuming behavior, prioritize the companies with transparent information disclosure. The employees of companies have awareness of climate change and towards the companies which have committed to climate change and TCFD.

5. CONCLUSIONS

TCFD recommendations are globally adopted by many countries and organizations around the world. The TCFD framework with four recommendations and 11 recommended disclosures can help the companies provide climate-related financial information effectively to the interested parties.

Vietnam is one of the most vulnerable countries from the climate change in the world. However, as we analyzed, there is almost no governmental regulation or guidance for disclosing financial information related climate for organizations at present. Moreover, no listed companies have disclosed climate-related information based on the globally accepted framework like TCFD. There is an urgent need to estimate and disclosure climate risks and opportunities in the Vietnamese companies for the long-term benefits such as gaining competitive advantages, new technologies and new markets.

This article analyzed the TCFD framework, the international experiences of TCFD adoption and shed a light on the adoption of TCFD in Vietnam to give some suggestions for the Government, the Vietnamese companies and society. In the near future, adopting TCFD in the early stage, Vietnamese companies may cope with key challenges like lack of mandatory requirements, how to obtain relevant data and selecting and applying assessment methodologies. assessing and disclosing the financial impacts of climaterelated risks and opportunities. Therefore, learning from detailed guidance of TCFD and official climate reports/sustainability reports of international firms is very important for the Vietnamese organization.

Due to the time and resources restricts, the paper have limitations. In the future, we would like to increase the number of countries and international companies analyzed, and apply more methods such as interviews, statistical analysis to deepen the research.

6. ACKNOWLEDGMENTS

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THE AUDIT COMMITTEE'S FORECASTED IMPACT ON THE TIMELINESS OF FINANCIAL STATEMENTS IN THE CURRENT UNPREDICTABLE BUSINESS ENVIRONMENT – EVIDENCE IN VIETNAMESE LISTED JOINT STOCK COMPANIES

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Research purpose:

This article aims to analyze the influence of the Audit Committee (AC) in the organizational structure of the joint stock company on the timeliness of the Financial Statement (FS).

Research motivation:

AC is a new part of the organizational structure of the joint-stock company in Vietnam, which had just been legislated and took effect in 2021. AC aims to inspect and supervise the company's activities to enhance the truthfulness, reasonableness, and timeliness of Financial Statements (FS). Under the effect of the Covid-19 epidemic and the ongoing trade war, the global business environment has become unpredictable in recent years as well as in the coming years. Since then, it has had a significant impact on the production and business situation, and the time of publishing FS of companies.

Research design, approach, and method:

A quantitative study method is conducted by collecting data from the year 2017 to 2021 from all listed companies that have established AC (49 enterprises). The authors analyzed, evaluated, and tested the impact of Audit Committees on the timing of the financial report publication using the Binary Logistic model.

Main findings:

The results showed that AC with a compact personnel structure has played an active role in improving the timeliness of FS. At the same time, we also estimated the timeliness forecasting model of FS. When the company has an Audit Committee, the probability that FS information is timely published increases by 14.34%. The fully accepted audit opinion also raises the probability of timely disclosure of FS by 13.15%.

Practical/managerial implications:

This finding encourages joint-stock companies to examine the provisions of Enterprise Law 2020 when selecting a management structure to enhance the timeliness of financial statement information in the present unpredictable business climate.

Keywords: *Audit Committee, Timeliness, Financial Statements, Financial Reporting, Joint-stock company, Binary Logistic model*

A STUDY ON DEMAND - SIDE FACTORS AFFECTING INTERNAL AUDIT EFFECTIVENESS IN PRIVATE COMPANIES IN VIETNAM

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Research purpose: The research aims to investigate effects of demand-side factors influencing internal audit effectiveness in private companies in Vietnam. The findings might be a basis for enterprises to find out the solutions to enhance internal audit effectiveness. Moreover, for all stakeholders of private companies such as external auditors, managers at all levels, audit committee members also should realize their roles in coordination and interaction with internal audit for better the quality of internal audit functions.

Research motivation: There are quite lots of studies assessing the effects of factors on internal audit effectiveness, however most studies focus on supply - side factors affecting internal audit effectiveness and demand -side factors are usually being ignored. Moreover, in Vietnam internal audit effectiveness of private companies is not high, regulations on this sector have not been considered. Therefore, the research has been conducted to fulfill this theoretical and practical gap.

Research design, approach, and method: The research conducts a survey then uses the qualitative and quantitative method to measure the effects of demand-side factors on internal audit effectiveness. 228 questionnaires were sent to managers, audit committee members, head of internal control department and external auditors of private companies in Vietnam to assess internal audit effectiveness and factors affecting its effectiveness

Main findings: The results indicate that management support, interaction between internal and external auditor, supportive control environment, cooperation with audit committee and existence of follow - up process positively impact on internal audit effectiveness while two other factors cultural dimension and information and communication do not affect its effectiveness.

Practical/managerial implications: The findings of this study have wide implications to all stakeholders especially auditors, managers, in addition to regulators for the role of internal audit and how to improve its effectiveness in the future.

Keywords: *effectiveness, internal audit, Vietnam*

FACTORS AFFECTING THE AUDIT DELAY IN SERVICES, PRODUCTION AND REAL ESTATE COMPANIES IN THE COVID-19 PANDEMIC IN VIETNAM

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Research purpose:

This study's goal is to investigate the variables that affect audit delay in these businesses during the COVID-19 pandemic

Research motivation:

During the COVID-19 pandemic, many businesses are struggling financially. Companies in the commerce, services, and manufacturing sectors were among several that had severe financial problems that ultimately led to bankruptcy, and they were one of those who were severely impacted. As a result, the financial statements for this time period will be delayed. It is crucial for academics, shareholders, and investors in the Vietnamese financial market to conduct study on the variables influencing audit delay during the COVID-19 epidemic.

Research design, approach, and method:

In this study, 107 service, manufacturing, and real estate businesses in Vietnam from 2020 to 2021 that were affected by the Covid-19 pandemic are examined. With the use of Stata software, the regression model with panel data is tested using the random effect model (REM). The concerns of multicollinearity, variable variance, and autocorrelation are checked.

Main findings:

The results show that the audit time is significantly influenced by debt to total asset ratio (DAR), audit mission complexity (AMC), and return on assets (ROA).

Practical/managerial implications:

With a deeper comprehension of the elements influencing the timeliness of audit reports (such as the complexity of the audit mission, the debt-to-asset ratio, and return on asset) would significantly improve the effectiveness of audit work and result in better decisions. Furthermore, the information asymmetry that currently exists between business organizations and their stakeholders is reduced by the availability of accurate and timely financial information for decision-making.

Keywords: *Audit delay, audit mission complexity, Audit opinion, Debt, Return on assets, Timeliness of financial reporting*

EFFECT OF INSTITUTIONAL OWNERSHIP ON FINANCIAL PERFORMANCE WITH ESG SCORES AS MEDIATOR VARIABLES

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Research purpose:

The following are the research objectives to be studied in this article: (1) Knowing the influence of institutional ownership on the environmental pillar score, the social pillar score, and the governance pillar score. (2) Knowing the effect of the environmental pillar score, the social pillar score, the governance pillar score, and the ESG score on the company's financial performance.

Research motivation:

In addition to contributing to literacy on ESG in Indonesia, this scientific paper can be a finding that can be the basis for practitioners in corporations and regulators in responding to the facts that occur in the field.

Research design, approach, and method:

In this study, the data processing method used is Structural Equation Modelling (SEM). This is in line with the context of ESG research which has many forming factors so that it can find the most influential variables in the existing correlations.

Main findings:

This study has several interesting findings related to the implementation of ESG in Indonesia. First, not all public or public companies have an ESG score. Second, companies in Indonesia are still at the level of comply to regulation. Third, the market has not responded positively and significantly to ESG practices.

Practical/managerial implications:

The following are the benefits of article for company management: As a basis for evaluating and optimizing the company's ESG policy. For regulators: As a basis for making policies to regulate companies to comply with laws and regulations, and as a basis for providing socialization, warnings, reprimands, and penalties to companies for their ESG policies.

Keywords: *institutional ownership, ESG, company financial performance*

1. INTRODUCTION

The global economic system has changed drastically and complexly due to the Covid-19 pandemic which has been running since the end of 2019. This suggests that external influences have a significant impact within the economic system, both macro and micro. That way, the classical economic theory of *ceteris paribus* which means with other things remains equally irrelevant to the economic events that are happening today. Environmental and human factors also play an important role in the creation of profit or profit. The triple bottom line concept consisting of economic, environmental, and social aspects (commonly called 3P: planet, people, profit) is the basis for how corporations

should act in activities its business as a quintessence of sustainability by measuring impact (Savitz & Weber, 2006). The concept developed into an environmental, social, and governance issue or what is commonly referred to as ESG. There has even been a rise in interest in environmental, social, and governance (ESG) investments that have led to the creation and popularity of ESG offerings in every major investment management company (Hill, 2020). ESG investment solutions are gaining traction with all categories of investors: individual investors, consultants, wealth managers, and large institutional investors, both domestic and worldwide.

Not only because of the triple bottom line and ESG

factors, but also because of pressure from investors who encourage management to uphold good corporate governance so that it ultimately encourages an increase in the company's financial performance. In this context, there is research in Indonesia with a sample of manufacturing companies, having significant and positive results between institutional ownership and the value of the company that reflecting investors who care about the company's financial performance (Arfazil, 2021). Institutional stocks strategically invest in companies with higher levels of corporate social performance activity and thus achieve higher levels of financial performance (Mahoney & Roberts, 2007). In addition, ownership of foreign institutions encourages an increase in the marginal value of cash, consistent with the idea that foreign investors contribute to more efficient management of the company's cash, increasing the value of the company (Loncan, 2020).

This issue is relevant as stated in The Global Risks Report 2022. A survey of perceptions shows 5 out of 10 severe risks in the next 10 years are environmental problems i.e., climate action failure, extreme weather, biodiversity loss, damage to the human environment and natural resource crises (Franco et al., 2022). Not only that, this environmental issue is in line with Indonesia's G20 presidency in 2022, namely the sustainable energy transition which is included in the financial issue, namely carbon pricing (OECD, 2022a). Indonesia is included in the emissions-intensive producers who have a risk of increasing air temperature and humidity (Krishnan et al., 2022).

In addition, on the economic side, economic growth is projected at 4.4 percent where ASEAN (represented by Indonesia, Malaysia, the Philippines, Thailand, and Vietnam) is projected to be higher at 5.6 percent (IMF, 2022). This shows that there is already a recovery in 2022 as active cases of Covid-19 decline with the note that: (1) public and private sector leaders need to look broadly at the resilience agenda, (2) strategies and structures must be designed for flexibility and speed, and (3) public and private leaders must also build community resilience (Schwab & Sternfels, 2022).

On the other hand, the Russian-Ukrainian international geopolitical issue is driving up the exponential increase in prices of oil and other energy resources such as gas and coal (Shamsiro, 2022). The conflict triggered the delay in the transition of fossil energy to renewable energy due to the need for war between the two countries. In addition to extractive commodities, price increases also occurred in crude palm oil (CPO) commodities which are the basic ingredients of cooking oil. Although the price spike was denounced by the public, the geopolitical crisis had a positive impact on Indonesia's trade balance (Thomas, 2022).

For some of these incidents, several industries such as industries in the extractive sector and the oil palm

plantation subsector need to be considered. In addition to having diverse externalities, from the extreme left (carbon footprint, pollution) to the extreme right (trade balance, affordable fuel), the environmental, social, and governance (ESG) performance of the industry also shows management's focus on the surrounding environmental conditions. Even from 70 percent of the 40 global companies engaged in the mining sector have not carried out tax transparency policies (PWC, 2021). Whereas currently the development of investors who are aware of ESG issues is increasing, including companies that already have ESG policies are considered to outperform other companies in their sector in terms of level lower return on investment and cost of capital.

Meanwhile, in Indonesia, the ESG trend has also begun to develop. This is reflected in the ESG policy carried out by several banks such as PT Bank Rakyat Indonesia (Persero) Tbk (BRI) and PT Bank Central Asia Tbk (BCA) (Yogatama, 2022). BRI created a special work unit responsible for ESG management and BCA supports ESG issues through a corporate social responsibility program. The ESG Score is considered to have a positive and significant correlation with ROE and Tobin's Q as a proxy for the company's financial performance in Europe (Buallay, 2019). The results of a meta-analysis of more than 2000 empirical studies, the relationship of ESG to the company's financial performance was found to have an average correlation of 11.8 percent (Friede et al., 2015).

The role of ESG is very important because it has a positive impact on the long-term economic side for all stakeholders. That way, business activities can still run, in accordance with the concept of sustainability. For some of the above reasons, the author is interested in the topic of ESG. In addition to contributing to literacy regarding ESG in Indonesia, this scientific paper can be a finding that can be the basis for practitioners in corporations and regulators in responding to facts that happened on the field.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Corporate Governance

According to Tricker (1994), corporate means separating a business from its owner as an independent entity that liabilities from its shareholders which are first placed in the form of initial capital. Corporations should have a system or governance in place to regulate business activities in them. One key element in improving economic efficiency is corporate governance, which involves a series of relationships between the company's management, board of directors, shareholders, and other stakeholders (OECD, 1999). In addition, corporate governance must promote a transparent and fair market and must be consistent with the rule of law and support effective supervision and enforcement (OECD, 2015). There are at least six pillars for the framework, namely (OECD, 2022b):

- a. The basis for an effective corporate governance framework
- b. Rights and fair treatment of shareholders and key ownership functions
- c. Institutional investors, stock markets, and other intermediaries
- d. The role of stakeholders in corporate governance
- e. Disclosure and transparency
- f. Board responsibilities

Thus, good governance will fulfil three main functions namely (1) promoting access to finance, innovation, and entrepreneurship, (2) providing to the order to keep savers (savers), and (3) support the corporate sustainability sector and its resilience (OECD, 2022b). One of the best examples in the implementation of corporate governance policies in Asia is Malaysia which ranked first in corporate governance policy in 2005 according to research house CLSA Ltd. (Asian Productivity Organization, 2007).

In 2014 the Financial Services Authority (OJK) together with the International Finance Corporation (IFC) published the first edition of The Indonesia Corporate Governance Manual and updated in 2018 for the second edition. Not only OJK and IFC, the Ministry of State-Owned Enterprises (BUMN) of the Republic of Indonesia also issued a special ministerial regulation for the implementation of governance for SOEs. According to the guidelines, there are at least five basic factors for good governance, namely:

- a. **Transparency:** The corporate governance framework must ensure that timely and accurate disclosure of all material matters concerning the company, including financial status, governance structure, performance, and ownership (FSA & IFC, 2018).
- b. **Accountability:** The corporate governance framework should ensure the company's strategic guidance, effective management monitoring by the board, and the board's accountability to the company and shareholders (FSA & IFC, 2018).
- c. **Responsibility:** The corporate governance framework must recognize the rights of stakeholders as stipulated by law, and encourage active cooperation between companies and stakeholders in creating welfare and employment and ensuring sustainability (OJK & IFC, 2018).
- d. **Independence:** The corporate governance framework should ensure that some elements related to the company have a high degree of independence, such as an independent board of commissioners, committees audit, corporate secretary, and external auditor (OJK & IFC, 2014). The existence of independence means that the company is managed professionally without

conflict of interest and influence/pressure from any party that is not in accordance with laws and regulations and principles of a healthy corporation (Regulation of the State Minister of State-Owned Enterprises (BUMN) No: PER-01 / MBU / 2011 concerning the Implementation of Good Corporate Governance in State-Owned Enterprises, 2011).

- e. **Fairness:** The corporate governance framework should protect the rights of shareholders and ensure the fair treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain effective redress for violations of their rights (FSA & IFC, 2018).

The Coordinating Ministry for Economic Affairs of the Republic of Indonesia together with the National Committee for Governance Policy (KNKG) issued the 2021 General Guidelines for Corporate Governance of Indonesia (PUGKI) which are in line with the Indonesian Corporate Governance Roadmap (FSA, 2014). According to KNKG (2021), there are eight principles of corporate governance, namely:

- a. Roles and responsibilities of the board of directors and board of commissioners
- b. Composition and remuneration of directors and board of commissioners
- c. Working relationship between the board of directors and the board of commissioners
- d. Ethical and responsible behaviour
- e. Risk management, internal control, and compliance
- f. Disclosure and transparency
- g. Protection of the rights of shareholders
- h. Respect for stakeholders

2.2. Environmental, Social & Governance (ESG)

Sustainability is a form of shifting the old paradigm to a new paradigm where there are seven drivers of sustainability (Elkington, 2004):

- a. The market turns into competition and it's not just about compliance
- b. Values move towards soft rather than hard
- c. Transparency is more open than closed
- d. The technology lifecycle focuses on function rather than product
- e. Cooperation leads to symbiosis rather than subversiveness
- f. Time moves towards the long term rather than expanding
- g. Corporate governance is inclusive rather than exclusive

The term Environmental, Social and Governance (ESG) was first coined in the Who Cares Wins report in 2005. Environmental criteria include the energy used by the company and the waste disposed of, where the company affects and is influenced by the environment. Social criteria on the other hand discusses the relationships that the company has and the reputation it fosters with the people and institutions in the community in which the company is located, as well as includes working relationships, diversity, and inclusion. Finally, governance is a system of internal practices, controls, and procedures that a company implements to govern itself, make effective decisions, comply with the law, and meeting the needs of external interests (Henisz et al., 2019).

The issues that arise related to ESG, especially the environment are as follows (Global Compact, 2005):

- a. Climate change and associated risks
- b. The need to reduce the release of toxic waste
- c. New regulations that expand the limitations of environmental responsibility related to products and services
- d. Increased pressure from civil society to improve performance, transparency, and accountability, leading to reputational risks if not managed properly
- e. Emerging markets for environmental services and eco-friendly products

Social issues that arise include:

- a. Occupational health and safety
- b. Public relations
- c. Human rights issues in the premises of companies and suppliers/contractors
- d. Government and community relations in the context of operations in developing countries
- e. Increased pressure by civil society to improve performance, transparency, and accountability, leading to reputational risks if not managed properly

Corporate governance issues:

- a. Board structure and accountability
- b. Accounting and disclosure practices
- c. Audit committee structure and auditor independence
- d. Executive compensation
- e. Management of corruption and bribery issues

2.3. Sustainability Accounting

As environmental issues have grown, accounting issues have also developed in the last three decades. At least the issue of sustainability accounting has been discussed by Elkington (1993), where expectations from

the public are increasing which asks companies to disclose environmental factors that affects the business and vice versa affects the surrounding environment. It was revealed that in fact sustainability accounting both in theory and practice shows some of the attributes of the traditional financial accounting model, but there is still a lot of work to reach the point of rigor and integrity because it is generally influenced by qualitative attributes (Lamberton, 2005). This integrity needs to be emphasized because sustainability accounting is still related to stakeholder theory where stakeholders have an important role in creating environmental value and social (Hörisch et al., 2020). Not only that, the digital development that drives the fourth industrial revolution provides a good opportunity for the concept of sustainable accounting and reporting (Tiwari & Khan, 2020). Moreover, this sustainability issue is growing with the occurrence of climate change and disasters that occur in the environment, so that more and more parties are involved in support of reporting that includes climate-related factors such as the Task Force on Climate-related Financial Disclosures (O'Dwyer & Unerman, 2020).

2.4. Institutional Ownership

Institutional ownership is the ownership of company shares by large entities such as banks, insurance, investment managers, pension funds, and hedge funds. Institutional ownership in a company has a great impact on the direction of the company's strategic policy because it has a high bargaining position because of its large ownership to the majority. ESG policy is also influenced by institutional ownership because institutional investors have certain concerns so that low ownership tends not to promote high ESG performance (Martínez-Ferrero & Lozano, 2021). Institutional governance has a significant effect on influencing the relationship between CSR practices and corporate values (Buchanan et al., 2018). According to Velte's literature review (2020), institutional ownership in the long term improves ESG performance and ESG performance leads to a higher institutional ownership ratio high.

On the other hand, as a result of a significant increase in institutional ownership, the company's performance increases, and subsequently an increase in institutional shareholders will lead to a decrease in the efficiency of the company (Abdallah & Ismail, 2017; Daryaei & Fattahi, 2020). This shows that there is an inverse relationship, the higher the proportion of institutional ownership, there is a decrease in the efficiency of the company's costs. However, the company's performance can also be judged by stock price movements in the capital market and it can be seen that corporate governance, especially in innovation, is driven by institutional investors who will drive an increase in stock prices (Le & Lin, 2014).

2.5. Previous Research

In a study, there was a positive correlation between ESG variables moderated by enterprise risk management (ERM) to company performance proxied with return on assets (ROA). This shows that if ESG is seen as a company risk management activity, it will have an impact on improving company performance (Chairani & Siregar, 2021). According to Bodhanwala & Bodhanwala (2021), ESG variables have a negative correlation to the performance of companies proxied with Tobin's Q within the transportation and hotel sectors globally. This shows that investors are not focusing on ESG performance but rather focusing on financial performance because it will burden the company in terms of compliance costs and cash flow going forward.

On the other hand, as a company that also makes investment decisions, there will be a need from company stakeholders to find out non-financial information as a form of assessment of cash flow future and value creation (Orens et al., 2010). With the openness and disclosure of information about ESG, this will positively affect the efficiency of investment (Ellili, 2022).

2.6. Hypothesis Development

The Effect of Institutional Ownership on Environmental Pillar Score

Theoretically, the three main aspects that determine environmental performance related to institutional ownership are: (1) economic efficiency, (2) willingness to internalize environmental externalities, and (3) bargaining power with the government as well as local communities in the enforcement of regulations (Wang & Jin, 2006). This indicates that the ownership of institutions, both private and government, has a hand in encouraging companies to comply with regulations for the efficiency of the company and its external impact. Institutional ownership can be a driver of a company's environmental proactive policy, where a higher percentage of state ownership is associated with an increase in CDS (carbon disclosure score), which is related to the company's environmental score. the higher (Calza et al., 2016). On the other hand, institutional ownership within the company means that there is coercive, mimetic, and normative pressure on the completeness of the company's policies and systems towards environmental aspects (Phan & Baird, 2015). The natural character of institutional ownership is to have a long-term focus, sustainability, and be active in company policies so that this strengthens performance and ESG disclosures, particularly in their environmental policies (Velte, 2020).

H1: Institutional ownership positively affects the environmental pillar score

The Effect of Institutional Ownership on the Social Pillar Score

Institutional ownership positively affects CSR engagement which is part of the company's social score. Indeed, institutional investors have a long-term investment perspective, and they are able to influence the CSR activities of the company when they have a significant percentage of equity shares (Dakhli, 2021). On the other hand, the fact that institutional ownership in Iran has become one of the most influential corporate governance mechanisms that saves companies from the risk of bankruptcy during the economic crisis because the disclosure of CSR as a form of social responsibility plays an important role (Tarighi et al., 2022).

H2: Institutional ownership positively affects social pillar score

The Effect of Institutional Ownership on the Governance Pillar Score

Previous research in China has shown that institutional investors have a tendency to invest less in companies with weak corporate governance. In addition, institutional ownership has a significant role in increasing the value of the company because its good governance has an impact on how the company's operations run (Guo - Platikanov, 2019). In line with this, studies in Jordan state that the existence of institutional owners, specifically foreign ownership, improves corporate governance as evidenced by the increase in growth opportunities (Shubita & Shubita, 2019). This can happen because foreign investors are considered to provide a monitoring role for management in carrying out their business roles.

H3: Institutional ownership has a positive effect on governance pillar score

The Effect of Environment Pillar Score on Financial Performance

Corporate policy in the environmental field as a strategy for and environmental performance has a significant contribution to the company's financial performance in Vietnam (Ngo, 2022). Corporate policy in the environmental sector in the form of corporate environmental management (CEM) has an influence on the company's financial performance (Albertini, 2013). If the environmental score is moderated by financial slack where the company's financial condition exceeds its operational needs, it will result in a positive influence on the company's financial performance proxied by return on asset (ROA) (Duque-Grisales & Aguilera-Caracuel, 2021). This implies that there is a positive relationship between environmental policies and the company's financial performance. On the other hand, the carbon disclosure score is one part of environmental policies that have a positive influence on financial performance. companies (Alsaifi et al., 2020). This is because disclosure policies parallel transparency and responsibility for carbon spending.

H4: Environmental pillar score positively affects financial performance

The Effect of Social Pillar Score on Financial Performance

The company social performance has a positive and significant relationship with the company's financial performance proxied with ROA, return on equity (ROE), and Tobin's Q (Zhao & Murrell, 2016). One of the shapers of the social pillar score is the disclosure of corporate social responsibility which turns out to have a positive influence on the company's financial performance because it is a form of legitimacy society over corporate morals and ethics (Luethge & Han, 2012).

H5: Social pillar score positively affects financial performance

The Effect of Governance Pillar Score on Financial Performance

In the long run, corporate governance has a significant impact on the company's financial performance proxied with ROA (Ganda, 2022). This is in line with a previous study by Rodriguez-Fernandez (2015), where it was found that companies that have a high governance score will get superior financial performance. Governance is a form of compliance with the standards and principles that have been set at the beginning when the company was established, so this affects the company's financial performance.

H6: Governance pillar score positively affects financial performance

The Effect of ESG Score on Financial Performance

The ESG Score is considered to have a positive and significant correlation with ROE and Tobin's Q as a proxy for the company's financial performance in Europe (Buallay, 2019). The results of a meta-analysis of more than 2000 empirical studies, the relationship of ESG to the company's financial performance was found to have an average correlation of 11.8 percent (Friede et al., 2015). Meanwhile, studies in Korea showed the ESG Score had an R-Square value of 68.02 percent with an alpha significance of 0.01 (Yoon et al., 2018). The effect of ESG on financial performance, companies in Germany are positive and significant with ROA proxies (Velte, 2017). This shows that ESG has a contribution to the company's financial performance.

H7: ESG Score positively affects financial performance

2.7. Conceptual Framework

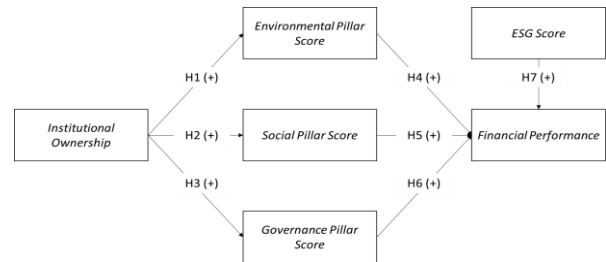


Fig.1. Conceptual Framework

3. METHODOLOGY

3.1. Research Design

The type of research used is pure research with quantitative and explanatory approaches. Pure research, also known as fundamental research, aims to expand the domain of existing knowledge about a particular science or topic either in physical form such as sales or in abstract forms such as human behaviour (Srivastava & Rego, 2011). Knowledge itself can be trends, patterns, or relationships where this pure research is carried out of curiosity, curiosity, and belief. A quantitative and explanatory approach is used because this study uses measurements and calculations and the results are explained in more detail.

3.2. Population & Sample Determination

The data used in this study came from the stock population of public companies listed on the Indonesia Stock Exchange (IDX). Meanwhile, the determination of samples using the purposive sampling method is by setting several specific criteria based on the research objectives. The criteria are as follows:

- The company belongs to the category of public companies and publishes annual reports, financial statements, and sustainability reports on the company's official website and IDX in 2018-2021.
- The company was not delisted during the observed period.
- The company has completeness of data needed in variable measurements.
- The company has an ESG score recorded on the Refinitiv Eikon website in 2018-2021.

3.3. Operationalization of Variables

Constructs and concepts of an abstract nature need to be relegated to empirical things. Operationalization of variables is needed to be a bridge between gaps from things that are theoretical in nature to things that can be observed through data (Wardhono, 2005). The following is the operationalization of variables from the institutional ownership construct, ESG variables, and financial performance of the company.

Table 1. Operationalization of Variables

No.	Variable	Code	Measurement
1	<i>Environmental Pillar Score</i>	ENVS	Measurement of the impact of enterprises on living and non-living natural systems, including air, soil, water, as well as complete ecosystems. This reflects how well companies use best management practices to avoid environmental risks and take advantage of environmental opportunities to generate long-term shareholder value.
2	<i>Social Pillar Score</i>	SOCS	Measurement of a company's capacity to generate trust and loyalty with the workforce, customers, and society, through the use of best management practices. It reflects the company's reputation and the health of its operating license, which is an important factor in determining its ability to generate long-term shareholder value.
3	<i>Governance Pillar Score</i>	GOVS	Measurement of the company's systems and processes, which ensures that its board members and executives act in the best interests of its long-term shareholders. It reflects the capacity of the company, through the use of its best management practices, to direct and control its rights and responsibilities through the creation of incentives, as well as <i>checks and balances</i> to generate long-term shareholder value.
4	<i>Resource Use Score</i>	RUS	Reflects the company's performance and capacity to reduce the use of materials, energy, or water, and to find more eco-efficient solutions by improving supply chain management.
5	<i>Emission Score</i>	EMS	Measurement of the company's commitment and effectiveness to reducing environmental emissions in production and operational procedures.
6	<i>Environmental Innovation Score</i>	INS	Reflects the company's capacity to reduce environmental costs and burdens for its customers, and thus create new market opportunities through new environmental technologies and processes or products designed to be environmentally friendly.
7	<i>Workforce Score</i>	WFS	Measurement of the effectiveness of the company on job satisfaction, a healthy and safe workplace, maintaining diversity and equal opportunities, as well as development opportunities for its workplace.
8	<i>Human Right Score</i>	HRS	Measurement of the effectiveness of the company in respecting fundamental human rights conventions.
9	<i>Community Score</i>	COS	A measurement of the company's commitment to being a good citizen, protecting public health, and respecting business ethics.
10	<i>Product Responsibility Score</i>	PRS	Reflects the company's capacity to produce quality goods and services that integrate customer health and safety, integrity, and data privacy.
11	<i>CSR Strategy Score</i>	CSRS	Reflects the company's practice to communicate that it integrates economic (financial), social, and environmental dimensions into the daily decision-making process.
12	<i>Management Score</i>	MAS	Measurement of the company's commitment and effectiveness in following the best practices of corporate governance principles.
13	<i>Shareholder Score</i>	SHS	Measurement of the effectiveness of the company against equal treatment of shareholders and the use of anti-takeover devices.
14	<i>Institutional ownership</i>	IO	Percentage of institutional shareholding, represented by the vanguard company as an institution that supports ESG policy

15	Total Assets	SIZE	Natural logarithm of the total assets of the company
16	Return on Asset	ROA	ROA is the profitability ratio and thus measures the return on investment of the enterprise. ROA measures the efficiency of a company's operations regardless of its financial structure (in particular, without regard to the level of leverage that the company uses) and is calculated by dividing the company's net profit before financing costs by total assets.
17	Book Value per Share	BVS	The book value per share represents the shareholders' equity minus the preferred stocks and is divided by the total ordinary shares.

3.4. Data Collection Methods

Data collection was carried out by researchers by accessing the Refinitiv Eikon data bank by Thomson Reuters through several accesses and networks from several universities that researchers worked on in obtaining data. So that after obtaining the data, the sample determination amounted to 10 companies that had complete data from 2018 to 2021. This is because completeness of data is important in data processing.

Table 2. Determination of Research Samples

No.	Information	Number of Companies
1	Companies listed on IDX in 2018-2021	778
2	Companies that are delisted, have no complete data, and do not have ESG scores	(768)
Total Sample		10

3.5. Data Processing Methods

In this study, the data processing method used was Structural Equation Modelling (SEM). This model describes the relationship between observed variables and latent variables in different types of theoretical models and provides quantitative hypothesis testing by researchers that basically, various theoretical models can be hypothesized and tested with SEM (Whittaker & Schumacker, 2022). SEM determines how the observed sets of variables are interrelated, how the set of variables defines constructions, and or how different constructs are related to each other.

SEM uses a combination of path analysis and multivariate analysis where the variables used are established or latent variables. This is in line with the context of ESG research which has many constituent factors so that it can look for the most influential variables in sharing existing correlations.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Descriptive statistics is a statistical section regarding data collection, presentation, and determination of statistical values in the form of tables so that the data presented is easier to understand and read (Nasution, 2017).

Table 3. Descriptive Statistics

	Mean	Median	Min	Max	STD
ENVS	52,11	50,35	20,80	82,73	16,01
SOCS	70,94	80,28	33,56	93,78	20,68
GOVS	48,48	55,09	10,38	89,52	22,77
RUS	45,95	43,02	19,95	86,51	18,80
EMS	61,24	60,29	33,74	89,77	14,41
INS	57,01	53,88	3,20	90,48	20,17
WFS	79,03	88,81	36,41	98,88	19,09
HRS	52,67	53,41	15,56	91,67	19,84
COS	69,98	86,05	10,86	99,11	30,93
PRS	77,08	93,34	15,49	99,80	28,22
CSRS	62,11	68,75	11,70	98,94	26,52
MAS	48,20	50,00	1,09	98,84	28,93
SHS	40,33	34,31	1,09	98,81	30,64
IO	0,01	0,01	0,01	0,02	0,00
SIZE	22,87	22,74	21,01	25,49	1,41
ROA	0,09	0,05	-0,04	0,47	0,11
BVS	0,22	0,11	0,01	1,15	0,32

In the descriptive statistical test above, researchers found that the ENVS variable had an average value of 52.11 which was higher than its standard deviation value of 16.01. Likewise, the SOCS and GOVS variables have higher average values than the standard deviation values of 70.94 and 48.48 compared to 20.68 and 22.77. This suggests that the diversity of data is small. This is because the sample used comes from 10 companies that have complete data so they do not have high diversity. On the other hand, the average shows that the company has a high score in every aspect of ESG from the highest being SOCS, followed by ENVS and GOVS. This shows that the company's compliance to make policies based on the social pillar is better than other pillars.

For the ENVS-forming proxy variables, namely RUS, EMS, and INS, they have mean values of 45.95, 61.24, and 56.94 respectively. This indicates that the average company has a policy with a score above 40 on

a scale of 0-100 where resource use, emission, and environmental innovation are good. Although when viewed from the minimum score, it can be seen that there are companies that have a very low score in THE INS with a score of 3.2 on a scale of 0-100. This indicates that there is still a large inequality when compared to the maximum value of 90.48. However, this indicates that data diversity occurred in this study. On the other hand, socs proxy variables namely WFS, HRS, COS, PRS, and CSRS also have average values above 50 on a scale of 0-100. This shows that the workforce score, human right score, community score, product responsibility score, and CSR score are good. Moreover, the median values of WDS, COS, and PRS were at 88.81, 86.05, and 93.34 respectively. The median of the three variables is at a value of more than 80, and some even have a middle value of 93. This indicates that in general, the variables that make up SOCS have excellent value by making social policies that are in accordance with the standards.

Furthermore, the GOVS proxy variables, namely MAS and SHS, have average values of 48.20 and 40.33 respectively. This shows that the GOVS-forming variables have a value of more than 40 on a scale of 0-100 where the company's management performance is considered good. Although there is still data inequality where the minimum values are at 1.09 and 1.09 while the maximum values are at 98.84 and 98.81 for MAS and SHS respectively. Then, IO is an institutional ownership variable that is proxied by the amount of ownership percentage in the company having an average, median, and minimum value of 0.01. Furthermore, the maximum value is 0.02, indicating that institutional ownership is not the majority shareholder of the company but has a significant role due to shareholders the institution is included in the top 10 shareholders in the company. Finally, the proxy variables of the company's financial performance, namely SIZE, ROA, and BVS have an average and median whose values are close to each other, which indicates that the average value close to the middle value of the data used. For ROA itself, there is a minimum value where the company experiences a loss of -4

percent while the maximum value of the company experiencing a profit is 47 percent.

4.2. Multiple Linear Regression

Multiple linear regression is a regression model that involves more than one independent variable that serves to know the direction and how much influence the independent variable has on the dependent variable.

Table 4. Multiple Linear Regression

	R²	R² Adjusted
<i>Environmental pillar score</i>	0,085	0,061
<i>Social pillar score</i>	0,020	-0,006
<i>Governance pillar score</i>	0,038	0,013
<i>Financial performance</i>	0,710	0,677

Based on multiple linear regression tests, it was proven that the ESG Score represented by the latent variable ESG as a whole and ESG separately, namely environmental pillar score, social pillar score, and governance pillar score has an influence of 71 percent with influence adjusted through R-Square Adjusted which is 67.7 percent. While the rest is explained by variables that were not studied in this study. This provides information that company policies that focus on ESG have an influence on the company's financial performance. The ESG-forming variable itself is influenced by the variable institutional ownership where the effect is 8.5 percent on the environmental pillar score, 2 percent on the social pillar score, and 3.8 percent on the governance pillar score and the rest is explained by variables not studied in this study. This shows that there is indeed little influence from institutional shareholders in encouraging management in making ESG policies.

4.3. T Test

The T test is one of the hypothesis testing tools for research on the influence of each independent variable partially on the dependent variable by looking at the value of T Statistics.

Table 5. T Test

	STD	T Statistics	P Values
<i>ESG Score -> Financial performance</i>	0.757	0,725**	0,235
<i>Environmental pillar score -> Financial performance</i>	0,546	0,366**	0,357
<i>Governance pillar score -> Financial performance</i>	0,813	0,927	0,177*
<i>Institutional ownership -> Environmental pillar score</i>	0,282	1,045	0,148*
<i>Institutional ownership -> Governance pillar score</i>	0,263	0,742**	0,229
<i>Institutional ownership -> Social pillar score</i>	0,322	0,441**	0,330
<i>Social pillar score -> Financial performance</i>	0,496	0,999	0,159*

* Significant at 80%

** t-table>t-count

With a sample of 40, the value of t-table is 0.851 where the degree of freedom is 40. Therefore, a t-table value that is greater than t-count is the ESG Score on financial performance, environmental pillar score on financial performance, institutional ownership on governance pillar score, and institutional ownership on social pillar score. This shows that there is a significant and positive influence. While the value of P Values with a confidence level of 95%, there is no significant

variable but if you use an alpha value of 0.2, then the value of governance pillar score on financial performance, institutional ownership on environmental pillar score, and social pillar score on financial performance proved significant.

4.4. Path Coefficient

In PLS-SEM, there is a path coefficient test which is a direct intervariable influence (direct effects).

Table 6. Path Coefficient

	ESG Score	Environmental pillar score	Financial performance	Governance pillar score	Institutional ownership	Social pillar score
ESG Score			-0,549			
Environmental pillar score			-0,2			
Financial performance						
Governance pillar score			0,753			
Institutional ownership		-0,295	0,276*	0,195		0,142
Social pillar score			0,496			

*Indirect effects

The test results found that the ESG score had a negative relationship with financial performance, which was -54.9 percent. When broken down according to each factor, only the latent environmental pillar score variable has a negative influence of -2 percent. Meanwhile, the latent social pillar score variable has a positive influence of 49.6 percent and also 75.3 percent for the latent governance pillar score variable on financial performance. On the other hand, the influence of the institutional ownership latent variables on each of the latent environmental pillar score, social pillar score, and governance pillar score variables are -29.5 percent, 14.2 percent, and 19.5 percent sequentially. This shows a positive influence on institutional ownership variables on social pillar score and governance pillar score. Variable environmental pillar score has a negative path when viewed from institutional ownership to financial performance.

4.5. Indirect Effects

In PLS-SEM, there is a path coefficient test which is an indirect intervariable influence (indirect effects). This is important because this study uses mediation variables so it wants to see the indirect influence of independent variables on dependent variables.

Table 7. Indirect Effects

	Specific Indirect Effects
Institutional ownership -> Environmental pillar score -> Financial performance	0,059
Institutional ownership -> Governance pillar score -> Financial performance	0,147
Institutional ownership -> Social pillar score -> Financial performance	0,07

For indirect effects, there is a positive influence of 27.6 percent of institutional ownership through an environmental pillar score of 5.9 percent, through a social pillar score of 7 percent., and through a governance pillar score of 14.7 percent. The above shows that the size of institutional ownership plays a big role in improving financial performance.

4.6. Outer Loadings

In forming a latent variable, a proxy variable is needed which is a measurement in the formation of the variable. Outer loadings are relationships that determine the absolute contribution of an item to the assigned construct. The value of outer loadings can be said to be significant if the value is above 0.7 and is considered not to contribute if the value is below 0.4 (Hair et al., 2017).



Figure 2. Outer Loadings PLS SEM

Out of the six latent variables above, the latent variable formed with the largest value of outer loadings is IO as a proxy variable over the institutional ownership latent variable. For the latent environmental pillar score variable, the VALUE of the INS variable is considered to have the largest contribution with a value of 0.887 and followed by a RUS with a value of 0.432. The value of EMS outer loadings below 0.4 then it can be assumed

that this proxy variable does not contribute to the environmental pillar score.

The latent variable social pillar score is formed through five proxy variables where three of the five variables are valued above 0.4 with the largest contribution by PRS, COS, and WFS. The other two proxies, namely CSRS and HRS, are considered not to contribute to the social pillar score. The latent governance pillar score variable was formed on the contribution of MAS with an outer loading value of 0.865 while the SHS variable was considered not to contribute to the governance pillar score.

The latent ESG score variable is formed by the proxy variables ENV5, SOCS, and GOVS, where only the GOVS variable has a large contribution of 0.902 and is followed by SOCS with a value of 0.683. The ENV5

variable is considered to have no contribution to the ESG score variable. Finally, the latent financial performance variable is formed by the SIZE variable with the largest contribution of outer loadings, namely with a value of 0.915 and the other two variables BVS and ROA are considered to have no contribution to the latent variable.

4.7. F-Square

Effect size or f-square is an intervariable influence (Hair et al., 2017). A larger f-square value equal to 0.35 means that the influence is great. If the value of f-square is 0.15 to 0.34 then the effect is moderate, and if the value of f-square is 0.02 to 0.14 then the effect is small. If the value of f-square is less than 0.02 then it is considered that there is no effect.

Table 8. F-Square

	ESG Score	Environmental pillar score	Financial performance	Governance pillar score	Institutional ownership	Social pillar score
ESG Score			0,306**			
Environmental pillar score			0,07***			
Financial performance						
Governance pillar score			0,522*			
Institutional ownership		0,095***		0,04***		0,002***
Social pillar score			0,403*			

*Big influence; ** medium influence; ***small influence

It can be seen in the table of f-square test results above, that the influence of social pillar score and governance pillar score on financial performance is large. ESG Score has a moderate effect on financial performance. On the other hand, a small influence occurs on the environmental pillar score on financial performance, institutional ownership on the environmental pillar score, institutional ownership on the social pillar score, and institutional ownership on governance pillar score.

4.8. Discussion

After conducting the tests above, there are several important findings in this study. With a large R-Square value of the dependent financial performance variable of 71 percent, it means that the company's financial performance can be explained by ESG variables aggregative and individually. This result is in line with research conducted by Linnenluecke (2022) which states that ESG provides value for stakeholders, one of which is through performance companies.

For the R-Square value of individual ESG dependent variables, it was seen that the largest value was obtained by the environmental pillar score variable with a value of 8.5 percent followed by 3.8 percent of the governance

pillar variable score, and 2 percent of the variable social pillar score. This corresponds to a significant T test with alpha 0.2. This proves that institutional ownership, especially foreign investors have great power in putting pressure on management in making good environmental policies. If this is not the case, investors can withdraw the results of their investment in the company. The foreign investors in question such as Vanguard, Blackrock and Blackstone. This result is in line with previous research which states that institutional investors have a significant role in the implementation of ESG policies (Velte, 2020).

In the path coefficient test, in the aggregate, the ESG value has no influence on financial performance. When viewed individually, the biggest influence is through corporate governance and social policies through CSR. Both results were also confirmed through a significant T-test at alpha 0.2. This result is in line with previous research, namely the study states that indeed social policy and governance have a significant influence on ROA (Alareeni & Hamdan, 2020; Syaputra & Rahadi, 2022).

This research has some interesting findings related to the implementation of ESG in Indonesia. First, even

though it has been regulated by the OJK that the issuance of sustainability reports is mandatory, it turns out that not all public or public companies have ESG scores, where only there are 10 companies that have complete data at least in the period 2018-2021. Second, companies in Indonesia are still at the level of complying with regulations and have not reached the level of beyond regulation, so this is quite a concern that regulators need to putting pressure on these companies, especially those that have not complied with regulations. Third, the market has not responded positively and significantly to ESG practices, so management has not given its best efforts to accelerate its ESG score.

4.9. Theoretical and Managerial Implications

The theoretical implication of this research is as a form of contribution to accounting science, especially in the aspects of corporate governance and corporate financial sustainability. This research can be a reference for subsequent research on the topic of sustainability, corporate governance, and especially into the topic of ESG, where there has not been much related research with ESG in Indonesia. Thus, there is great hope that this research will work and encourage academic literacy to understand aspects of sustainability. Moreover, bringing journal articles into popular articles can also be one of the steps in educating the general public.

The practical application of this research is for management and for regulators. With the results of this study, management can realize that ESG actually has an important role in improving the company's financial performance. Although it is not significant in a period of four years, it can be a concern that in the long term or long-run it will have a significant impact. The company's roles become important in providing literacy for the market that the company encourages ESG as one of the aspects that the company supports. Thus, the market will have a positive response to ESG.

On the other hand, company management also needs to realize that the large role of foreign investors, so good external communication in the form of investor relations and management is also important. Therefore, following up on the encouragement from foreign investors to build good ESG policies within the company also needs to be done as a good faith in building governance which is good.

Not only that, but there are also practical implications for investors. It is understood that several ESG factors and the ownership of institutional investors have an influence on the company's financial performance, this can help investors, especially retail investors in conducting a fundamental analysis of ESG factors and corporate governance more deeply. Thus, investment decisions in the capital market become more targeted and in accordance with the reasonable

conditions of the company.

Finally, for regulators, in this case the OJK, it is necessary to apply sanctions for companies that do not make sustainability reports and apply incentives for companies that routinely report its sustainability report. On the other hand, the Ministry of SOEs, can also provide encouragement to SOEs, especially those that have gone public to comply with regulations and even beyond regulations in the ESG aspect. This is in line with the current policy direction of the Government of the Republic of Indonesia which acts as the president of the G20 which also supports environmental and social issues. In this regard, the role of the Ministry of SOEs is also very important in encouraging the management of SOEs to continue to accelerate the ESG score.

5. CONCLUSION

Based on some of the tests above, it can be concluded that H1 is rejected, H2 is accepted, H3 is accepted, H4 is accepted, H5 is rejected, H6 is rejected, and H7 is accepted. Four of the seven accepted hypotheses have a positive and significant effect with an alpha value of 0.2. Meanwhile, the other three hypotheses have a positive but not significant effect. Following are the conclusions for each hypothesis:

- a. Partially, institutional ownership has no and no significant effect on the environmental pillar score.
- b. Partially, institutional ownership has a significant and significant effect on the social pillar score.
- c. Partially, institutional ownership has a significant and significant effect on the governance pillar score.
- d. Partially, the environmental pillar score has an effect and is significant on financial performance.
- e. Partially, the social pillar score has no effect and is not significant on financial performance.
- f. Partially, the governance pillar score has no and no significant effect on financial performance.
- g. Partially, the ESG Score has an effect and is significant on financial performance.

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THE ROLE OF DIGITAL TRANSFORMATION AND DIGITAL LEADERSHIP IN ADVANCING CLOUD-BASED ACCOUNTING EFFECTIVENESS, DECISION-MAKING QUALITY AND FIRM PERFORMANCE

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Research purpose:

This study investigates how cloud-based accounting effectiveness (CBAE) and decision-making quality (DMQ) mediate the impact of digital transformation on organizational performance. In addition, the moderating effects of digital leadership on the relationships between digital transformation and CBAE, and CBAE and DMQ were investigated.

Research motivation:

Our research motivation is gaining more understanding of how digital leadership and digital transformation can be interacted to promote CBAE and DMQ – the ability of a firm to make accurate and appropriate decisions which can improve firm performance.

Research method:

Using partial least squares structural equation modelling (PLS-SEM) on survey data from 252 large-sized Vietnamese firms, the proposed model and its hypotheses were evaluated.

Main findings:

The findings of the study were as follows: (1) digital transformation positively affects CBAE, which in turn affects DMQ and organizational performance; (2) when digital leadership is strong, the effects of digital transformation on CBAE and CBAE on DMQ are amplified.

Implications:

These findings demonstrate how the interaction between digital transformation and digital leadership can contribute to the success of firms in emerging markets that use cloud accounting. In addition, the current study elucidates the mechanism by which digital transformation influences the digitalization of accounting practices and contributes to our understanding of digital transformation research in accounting by introducing digital leadership as a boundary condition.

Keywords: *digital transformation, digital leadership, cloud-based accounting, decision-making quality, Vietnam*

MOTIVATING ACCOUNTING INFORMATION SYSTEMS SECURITY POLICY COMPLIANCE: INSIGHT FROM THE PROTECTION MOTIVATION THEORY AND THE THEORY OF REASONED ACTION

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Research purpose:

Combining the Protection Motivation Theory (PMT) and the Theory of Reasoned Action (TRA), this study is to explore the factors that motivate individuals to comply with accounting information systems security policies (AISSP) in Vietnam.

Research motivation:

The security of accounting information systems has been receiving much attention from organizations. There is an important thing that system security is not only a technology issue but also a management issue. This is reflected in the fact that organizations have been interested in promulgating and maintaining system security policies to regulate individuals' behavior, thereby aiming to ensure system security. However, policy adoption and policy compliance are two different things. A system security policy is only effective when employees follow it. This motivates us to investigate the motivational factors that promote compliance with the accounting information security policy, especially when the research in this area is minimal in Vietnam.

Research design, approach, and method:

We acquired the survey method for doing the study. The findings of our study were interpreted based on the data collected from 226 accountants in Vietnam through a self-administrated questionnaire. The psychometric properties of the theoretical model and proposed hypotheses were assessed by the PLS-SEM technique on SmartPLS 3.2.7.

Main findings:

The PMT and TRA model performs well in Vietnam. This validation explains 58.1% of the variance in behavior to comply AISSP across knowledge staff. Direct/ indirect positive impacts on AISSP compliance behavior may have resulted from the coping appraisal, attitude to comply AISSP, and subjective norms.

Practical/managerial implications:

This study recommends that management can boost employees' AISSP compliance behavior by instituting regular IS security awareness sessions, campaigns, and training. In addition, management might encourage employees to acquire the skills and knowledge required to secure the IS assets of the firm.

Originality/ value:

The findings from this study contribute to a better understanding of the mechanism of establishing and enhancing the employees' AISSP compliance behavior in particular, as well as ISSP compliance behavior in general in organizations.

Keywords: *threat appraisal, coping appraisal, attitude, subjective norms, intention, and compliance behavior.*

INTERNAL AUDIT MODEL FOR VIETNAMESE PUBLIC HIGHER EDUCATION INSTITUTIONS

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Research purpose:

The paper aims to review the internal audit models and discussing which will be relevant to Vietnamese public higher education institutions. Learning from international experiences in developed countries helps Vietnamese universities in choosing their suitable internal audit models.

Research motivation:

Performance of higher education institutions are of interests of all stakeholders. Besides the goals which are similar to firms, higher education institutions in Vietnam care about social impacts. The governance mechanism of universities is complicated due to the quality control of the Ministry of Education and Training. Therefore, the roles of internal audit in response to the demands of all stakeholders are important to the development of universities. However, there is currently a lack of research on the internal audit model applied to public universities.

Research design, approach and method:

We review the roles of internal audit, the responsibilities of internal audit, the independence of internal audit, and mainly the organizational structure of internal audit with the different models of internal audit function, and discuss the models that relevant to Vietnamese higher education institutions. The interviews of academic experts in some autonomous universities are used to confirm the analysis.

Main findings:

The internal audit model relevant to Vietnamese public higher education institutions should consider among two models: centralized and decentralized; among four models of allocation for internal audit resources: in-house, co-sourced, outsource with in-house management and outsourced. Internal audit samples can be learnt from University of Texas Dallas and University of Cambridge on the topics of authority, organizational structure, audit plan and report, policies and procedures and guidance. Due to the implementation of internal audit in Vietnamese higher education still in early stage, the understanding and initiatives of the high-level managers are important to the success of internal audit, in addition to resource, budget and other relating considerations.

Practical/managerial implications:

Our paper contributes to the literature by reviewing the internal audit models and discussing which will be relevant to Vietnamese public higher education institutions.

Keywords: *internal audit, model, public, higher education institutions, Vietnam.*

1. INTRODUCTION

The Institute of Internal Auditor (IIA) developed the definition of Internal Auditing as: "Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations" (IIA. 2017). It can be stated that the internal audit helps an organization accomplish its objectives by building a systematic, disciplined approach to evaluate and improve the effectiveness of performance, risk management, control and governance processes. Nowadays, internal audit is adopted in both the public and private organization around the world. In

public organizations like higher education institutions (HEIs), the internal audit departments are practiced and play increasingly important roles in enhancing the corporate governance structures, risk management, and internal control. This indicates that internal audit plays an important role at the beginning of the organizational process system. Also, the existence of an internal audit role is expected to create a monitoring mechanism primarily to ensure that resources within the organization have been used economically and effectively.

In Vietnam, the Decree 05/2019/ND-CP on internal

auditing (effective from 1 April 2019) have regulated autonomous public universities as one of the groups that have to adopt internal audit functions. However, until end of 2021, only two public universities have announced the application of internal audit function. The Circular No.67/2020/TT-BTC on regulations for internal audit activities applied to state agencies and public non-business units, as well as Circular No.8/2021/TT-BTC on Vietnamese Internal Auditing Standards and internal audit professional ethics principles are promulgated. They are the significant legal motivations for implementing internal audit in public HEIs in the near future. The preparation of theoretical bases for an appropriate audit model applied to Vietnamese HEIs is therefore necessary.

The objective of this study is to suggest the internal audit model for Vietnamese higher education institutions from the viewpoints of the current situation in the Vietnamese higher education institutions and international experiences.

We review the roles of internal audit, the responsibilities of internal audit, the independence of internal audit, and the organizational structure of internal audit including different internal audit models and suggest the models for Vietnamese higher education institutions.

We find that Vietnamese higher education institutions should consider among two models: centralized and decentralized; among four models of allocation for internal audit resources: in-house, co-sourced, outsource with in-house management and outsourced. Internal audit samples can be learnt from University of Texas Dallas and University of Cambridge on the topics of authority, organizational structure, audit plan and report, policies and procedures and guidance.

Our paper contributes to the literature by reviewing the internal audit models and the discussing what will be relevant to Vietnamese higher education institutions.

The structure of our paper is as follows: Section 1 introduce the research. The literature is reviewed in Section 2. Section 3 discusses the internal audit models applied in HEIs around the world. Section 4 shows the internal audit model for Vietnamese higher education institutions. Section 5 concludes.

2. LITERATURE REVIEW

Although there is lots of research on internal audit in public sector (Nerantzidis *et al.*, 2020), research in internal audit in a specific entity like HEIs is not much. The standards and the organization of internal audit in universities follow those of internal audit in firms. However, there are still different characteristics of universities that make the internal audit characteristics different.

The roles of internal audit

According to IIA, the role of internal audit is to “provide independent assurance that an organization’s

risk management, governance and internal control processes are operating effectively” (IIA, 2017). Zakaria *et al.* (2006) revealed that a substantial number of private institutions of higher education do not have an internal audit function. The management of both types of institutions have similar perceptions on the role of internal auditors and the important audit areas as there are no significant differences between public and private institutions of higher education. With those which applied internal audit function, this will help in assessing the degree of completion of the action plan and problems that may arise when using public resources in universities, from the study of Fonseca *et al.* (2020). The internal audit information of the universities has been obtained by the school’s management team to improve internal governance, promote transparency to improve the image and brand of the universities.

Adetoso and Akinselure (2016) in their research in Southwestern Nigeria public and private universities found that internal audit is evaluated as an effective tool in strengthening internal control. However, the effectiveness of the internal audit department mainly depended on the direction and decisions of the university’s board of directors or the top management. In studying the effectiveness of internal audit functions of Malaysian public sector, Shamsuddin *et al.* (2014) emphasized that the good relationship between internal auditors in the public sector and Malaysia Auditor General’s (AG) independent auditors is an undeniable factor in maintaining an effective internal audit system in public institutions. Internal auditors working in ministries are often dispatched from AG, so they already have relationships with AG’s external auditors.

Duties and responsibilities

Internal audit functions including risk assessment, internal controls and efficiency and effectiveness of operations. According to Arena (2013), in Italy, operational auditing represents the core of internal audit activities, though much effort is still dedicated to financial auditing and compliance. A few universities are dedicating increasing attention to risk management because universities are dealing with complex and uncertain context. According to Ferry *et al.* (2017), in Malaysia public sector, internal auditors seek to legitimize their position through compliance (watchdog) and performance (helper and protector) audits. At the micro level of practices, in performing these dual roles, internal auditors are not colonized by governance rules and managerial influence, but instead are enabled by them to perform communicative action. Nevertheless, this was undermined by financial and managerial capacity issues that are a challenge in developing countries.

The independence of internal auditors

Shamsuddin *et al.* (2014) used semi-structured face-to-face interviews with 8 internal auditors in 3 ministries

of Malaysian Government and 1 auditor of Malaysia Auditor General (AG) office. They found that internal auditors in public organizations were having difficulties on implementing their functions effectively. The reasons come from the lack of independence since internal auditors must audit their own "boss", lack of competency since they were not only performing their auditing functions, but also other duties as required by the boss even the duties are not related to their profession of internal auditing. As a result, the internal auditors' reports will often have to be favorable to the "boss", which compromises the internal auditor's independence. There is a shocking interview result that the independence of internal audit in the public sector have too many gaps with one situation that even a head of an internal audit department has been demoted due to his "aggressive" reporting against his organization. Besides, these internal auditors worked at the ministry was normally sent by the AG office, they are facing with the relationships with the external auditors (their peers - auditors who are stationed in the AG office). The fact shows that the relationship between internal audit and the auditee in the public sector is rarely easy. Most internal auditors face a lot of difficulties in communicating with other sections of their public organizations. Adetoso and Akinselure (2016) suggested that the independence of the internal audit department in universities should based on their own governance requirements and not depends on the suggestions of the states or external parties. It is necessary to have a mechanism to regularly check the internal audit department to ensure its effectiveness in the universities.

Organizational structure

DeSimone and Rick (2020) indicate that institutions with larger enrollments and endowments, those that receive public funding and those that have an audit committee are more likely to maintain an IAF. The presence of an IAF is negatively associated with reported material weaknesses for major programs at significant levels. The presence of an IAF is found to have a positive and significant association with federal grants received by the institution, with an even stronger association for IAFs that perform grant-specific procedures.

According to the Report of CohnReznick (2020), even in the US, "the educational sector has traditionally lagged other industries in establishing an internal audit function. Smaller institutions, in fact, often have not implemented a formal internal audit department. That's starting to change as they are pressed to develop more effective internal controls over financial information and compliance with policies, procedures, and regulations. In addition, many institutions are starting to understand that internal audit is a vital component of risk management, one that can help improve process efficiencies, perform diagnostic or investigative

reviews, and offer in-house consulting services". Internal audit can be in-house or outsourcing as long as it enables organizations to reduce risks, improve process efficiencies, and provide in-house consulting services.

Actually, there are several ways to categorize the internal audit organization model, but the two most used are classification by scope of activities and classification by resources.

If classifying internal audit model by scope of activities, organization of internal audit can be broadly categorized into 2 basic models: *centralized and decentralized* (Diamond, 2002; Vani, 2011).

In the private sector, with centralized model, the internal audit function only be organized at high level such as parent company or at the executive office of the corporation or group that does not have internal audit function in subordinate units. This model requires the internal auditors in the head office to move to member companies at different location for auditing.

For the public sector, in a typical centralized model, the Ministry of Finance (MoF) carries out internal audit in all ministries and departments either through internal audit staff placed in the ministries or though staff located within the MoF. In a decentralized model, each line ministry has its own internal audit department reporting to the head of the line ministry.

Different to the centralized mode, in the decentralized internal audit model in the private sector, internal audit department is established in both the parent company and its subsidiaries. This model is quite complicated in terms of practical organisations and limited by the cost, number of auditors, quality assessment.

For public sector, with decentralized model, generally, the MoF sets the internal audit standards, which are then implemented by internal audit departments within line ministries. Developed countries often applied both highly centralized and decentralized models, while less advance countries tent to apply centralized model (Diamond, 2013). In some cases, the Controller General of Accounts may replace the role of carry out internal audit function of MoF. Decentralized model requires more qualified people to cover not only the audit activity but to have knowledge on the overall budgeting process at all levels (Nedyalkova, 2020). Some countries even adopted the mixed approach, while a central internal audit organization covers the ministries, but large agencies have their own internal audit units (Diamond, 2013). These 2 centralized and decentralized models can be applied in both public and private sector.

Beside the classification method of categorizing internal audit model by scope of activities, it also can be classified by resources (or can be call internal audit resourcing models), which includes *in-house, co-sourced, and outsource with in-house management and*

outsourced models (IIA, 2018).

According to IIA (2018), In-house internal audit model is provided or predominately by in-house staff and managed in-house by an employee of the organisation. This model has certain advantages such as the internal auditors know well about their organisation operations, objectives, risks, system and culture, then they may have agility to respond quickly to emerging issues and can retain the corporate knowledge. This model also considered to be cost-effective with no conflict of interest and having more direct control over quality of audit work. However, it is quite difficult to attract and retain suitable staff with specific skills.

The co-sourced model is conducted by a combination of in-house staff and a sole service provider or a panel of service providers and managed in-house by an employee of the organisation. With a number of in-house staff, the model takes some of the above advantages relating to corporate knowledge, direct control and cost-effective. The skills can be transferred from the service provider to the in-house staff, it is also a good start for the organisation which wants to develop their apparatus in the future. This model also flexible and can fix the problems of personnel shortage. The main disadvantage is that the in-house staff may need to remedy quality of deliverables where effective third – party quality control arrangements may not be considered to maintain, which adding to time and cost for audits.

The outsourced internal audit model with in-house management is provided by a sole service provider or a panel of service providers contracted to the organisation for this purpose, with internal audit actively managed in-house by an employee with knowledge and experience of internal auditing. This model also flexible and can the skills will be transferred to in-house manager from service providers. However, there are maybe conflicts of interest, enhance cost and reduce organisation knowledge. It also have the problem of quality control arrangements similar to the case of co-sourced model.

The last one, oursourced model is conducted by service providers attracted to the organisation. It has passive management by the organisation, with management of internal audit activities generally left to the service provider. Of course, the model is very flexible and completely fix the problems of employee shortages. The service provider can provide specialist skills not available in-house. This model has the same disadvantages of the outsourced with in-house management model, plus some others, for example with this model, the management may have less control, the in-house manager is unlikely to be trained and may not have the knowledge to ensure audit quality is maintained (IIA, 2018).

3. INTERNAL AUDIT MODELS APPLIED IN PUBLIC HEIs AROUND THE WORLD

Internal audit function has been adopted in many universities in the world from long time. All UK universities are required to have an internal audit function and have an Internal Audit Department (internal audit service). At some universities, the internal audit function is outsourced to one of Big4 auditing company such as PwC, Deloitte... Internal audit and external audit services in that case have to be done by 2 different companies. Many other universities perform the internal audit function themselves (in-house internal audit), but can also use additional external services with some specific audit content such as IT audit.. as in the cases of Cardiff University, Bath, Birmingham University.

The internal auditors' report directly to the Audit Committee (or Audit and Risk Committee). The audit committee approves the annual internal audit plan. Internal audit content includes financial audits, operations audits, compliance audits, information technology audits and special audits upon request. Oxford University's Internal audit function is currently provided by PwC⁶. The planning, delivery and reporting of internal audit work is supervised by the Audit and Scrutiny Committee, with delegated responsibility to the Assurance Management Group. The audit report before being sent to the Audit and Scrutiny Committee was sent to the audited departments and divisions for comments, and also to the Head of Risk, Compliance and Assurance for information. After the Audit and Scrutiny Committee approves, the executive summary is posted on the website according to regulations.

The Swiss Law on universities in article 23, paragraph 3 provides that universities must have an internal control system including at least one internal audit department and one governance control department. comply with the standards and principles set forth by the State Council. The internal audit department is administratively linked to the Rector's office and hierarchically to the audit committee. The Internal Audit Department is responsible for reporting to the audit committee. The Law on universities also regulates on the independence of the university's Audit Committee.

In 2019, the University of Geneva⁷ has issued the regulations on the independence of internal audit in the university, which clearly states the process of performing the internal audit function of the internal audit department. Internal audit function must comply with international internal audit standards issued by the IIA. The University has drafted the internal audit charter (which then be approved by the University's Audit

⁶ <https://governance.admin.ox.ac.uk/internal-audit#collapse2301816>

⁷ <https://www.unige.ch/audit/>

Committee). The internal audit plan is prepared by the internal audit department and approved by the audit committee based on the risks identified and then be evaluated by the Rector's office based on the University's objectives. Prioritization in the audit plan is based on the significance of the identified risks. The remuneration of the Internal Auditor will be assessed by the Audit Committee and the Rector 's office. The internal auditors are in-house staff.

In the US and Canada, the Association of College and College Auditors (ACUA)⁸ has been established since 1958 with more than 500 university members (including a number of universities outside the US and Canada) to share experiences to improve the internal operations and processes.

In Ottawa University, the Audit Department reports to the Rector⁹. The Rector may delegate responsibility to the Vice-Rector. The selection, appointment, dismissal, remuneration and evaluation of the results of the head of the audit department shall be decided by the Rector, or Vice-Rector, after consulting the chairman of the audit committee. The head of the internal audit department (or internal audit office) is the permanent guest of the Audit Committee. The internal audit office must be independent of any program, function or activity that is the subject of the audit. The internal audit department is responsible for performing audits of financial statements, audits of operations, audits of information technology and special requirements and governance. In Laval University¹⁰, the University Council s responsible for setting up the Audit Committee and appointing its members, appointing/re-appointing the Internal Auditor, approving policies and adjustments, and reviewing opinions. and accountability

of the Committee. The internal audit charter was issued in 2018.

With US universities such as San Diego University¹¹, Louisiana University at Lafayette¹², the Internal Audit Department has been established, the Audit Committee has been settled and the charter and professional processes have been developed. San Diego University also launched the university's Compliance Program to provide a framework for compliance actions and monitor compliance with laws, regulations, and university policies.

According to the above examples, US and Canadian universities tend to have in-house internal audit service rather than outsourced as in European universities. Relating to organisational structure, the centralized internal audit model is often found in France, Portugal, Luxembourg, and Spain (Diamond, 2002; Vani, 2011). Centralized model is also quite common in former Soviet Union countries such as Ukraine although functions and responsibilities of these organizations do not necessarily equate with the concept of modern internal audit. Decentralized model can be found in the United Kingdom, the United States of America, and the Netherlands (Diamond, 2002; Vani, 2011). Sweden and Netherlands choose to adopte the mixed approach (Diamond, 2013).

We hereby choose to compare two big public universities which use two different types of internal audit model: University of Texas Dallas (US) and University of Cambridge (UK). University of Texas Dallas applies in-house service with a centralized organizational structure, when University of Cambridge outsources their internal audit function (the service provider is Deloitte).

⁸ <https://acua.org/About-ACUA/General-Information>

⁹ <https://www.uottawa.ca/administration-et-gouvernance/reglement-96-audit-interne>

¹⁰ <https://www.ulaval.ca/sites/default/files/notre-universite/pdf->

ulaval/politique-audit-interne.pdf_

¹¹ <https://www.sandiego.edu/audit/charter.php>

¹² <https://internalaudit.louisiana.edu/internal-audit/>

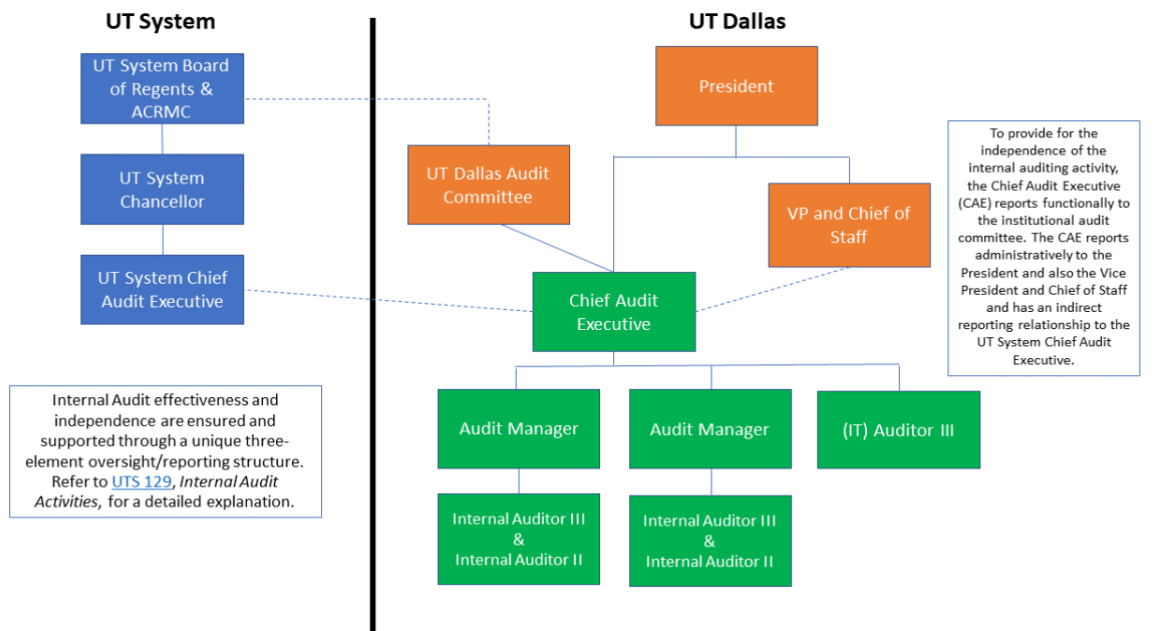


Figure 1. Organizational chart of Internal Audit at University of Texas Dallas¹³

The internal audit models are review in authority, organizational structure, audit plan and report, policies and procedures and guidance. We have reviewed the above aspects in the University of Texas Dallas¹⁴, University of Cambridge.¹⁵

Table 1. Case studies of Internal Audit in University of Texas Dallas and University of Cambridge

	University of Texas Dallas	University of Cambridge
Duties	<p>Assurance Services</p> <ul style="list-style-type: none"> - Financial and Operational Audits - Compliance Audit - Information Technology (IT) Audits <p>Advisory and Consulting Services</p> <ul style="list-style-type: none"> - Providing advice, training, and agreed upon procedures that are intended to add value and improve governance, risk management, and control processes. <p>Investigations</p> <p>Independent and objective investigations of potential fraud, waste, and abuse.</p>	<p>The University's internal audit function is responsible for providing an independent appraisal of the University's activities, both financial and operative. This provides the Audit Committee with assurance that risk management, internal controls, processes and governance are working effectively. The internal auditors investigate and review:</p> <ul style="list-style-type: none"> - Key financial issues - Risk management - Value for money - Internal controls - Governance
Organizational structure	<p>In-house internal audit department.</p> <p>The Chief Audit Executive (CAE) reports functionally to the institutional audit committee. The CAE also reports administratively to the President and also the Vice President and Chief of Staff and has an</p>	<p>The University has appointed Deloitte LLP as its internal auditors until 31 July 2025.</p> <p>The University has recently moved to a hybrid, managed outsourced internal audit model. This comprises a single outsourced internal audit firm, with a dedicated senior member of the University (Head of Assurance, Governance & Compliance</p>

¹³ <https://audit.utdallas.edu/authority-and-oversight/organization-chart/>

¹⁴ About Us | Audit and Consulting Services (utdallas.edu)

¹⁵ <https://www.governance.cam.ac.uk/committees/audit-committee/internal-audit/Pages/default.aspx>

	University of Texas Dallas	University of Cambridge
	indirect reporting relationship to the UT System Chief Audit Executive.	Division) who facilitates the work of the outsourced internal audit firm, with a view to driving the effectiveness and efficiency of internal audit. This approach allows the University to combine external and independent audit expertise with in-depth knowledge of the academic and administrative processes at the University.
Authority	<p>The UT Dallas internal audit activity is established by The Texas Internal Auditing Act and the UT System Board of Regents. The UT System Board of Regents' Audit, Compliance, and Risk Management Committee (ACRMC) and the institutional audit committee provide oversight responsibilities. Regents Rule 20401, Audit, Compliance, and Risk Management Programs, also provides guidance.</p> <ul style="list-style-type: none"> - UT Dallas Audit Charter - Texas Internal Auditing Act - UTS 129, Internal Audit Activities 	<ul style="list-style-type: none"> - Internal Audit Protocol
Audit plan	Audit plans outline the internal audit activities to be performed during a fiscal year. They are prepared using a risk-based audit approach and approved by the UT Dallas Audit Committee and the UT System Audit, Compliance, and Risk Management Committee of the Board of Regents.	Each year the University's internal auditors in consultation with the Audit Committee draw up a program of audits, which form part of an overall three-year internal audit plan. The plan will be used to assess the internal controls and accounting systems in place within the University and is based around a number of key risks identified by the University, as set out in the University's Risk Register, as well as assurances required by the OfS.
Audit report	The purpose of the annual internal audit report is to provide information on the assurance services, consulting services, and other activities of the internal audit function. The report assists oversight agencies in their planning and coordination efforts and also provides information on the benefits and effectiveness of the internal audit function.	Audits may take the form of departmental reviews which focus on key financial issues or topical reviews which will investigate strategic issues in greater depth and involve institutions across the whole University. The reports of the internal audit work are reviewed at each Audit Committee meeting, which take place six times per year. Any issues of fundamental importance will be reported to Council.
Who see the audit reports?		Draft internal audit reports are seen only by the audit sponsor, any other agreed stakeholders, the Director of Finance and his Deputy. The Audit Committee receives a copy of the final report. Copies of all audit reports are held on file by the Registry's Office. The Council receives minutes of the Audit Committee (but not usually papers) and so will see which audits have been conducted along with a synopsis of their outcome. The Audit and Regulatory Compliance Officer, who is the Assistant Secretary to the Audit Committee, forwards the relevant minutes of the Committee's discussion to the audit sponsor.

4. INTERNAL AUDIT MODEL FOR VIETNAMESE PUBLIC HIGHER EDUCATION INSTITUTIONS

The organizational structure of autonomous universities is regulated by the Decree No.60/2021/ND-CP. Each university has the right to form their organisation, develop the human resources according to their strategy and plan. Initially, the autonomy mechanism was implemented in 23 higher education institutions according to Resolution No. 77/NQ-CP dated October 24, 2014 of the Government. After the pilot period, the Law amending and supplementing a number of articles of the Law on higher education No.34/2018/QH14 issued in 2018 also promotes university autonomy. Up to now, the whole country has a total of 141/232 universities eligible for autonomy (however the number of autonomous universities is about 30 universities). In one autonomous university, the highest level is the University Council. Also according to the Law No.34/2018/QH14, the University Council of a public university is the governing organization, exercising the right to represent the owner and related parties, which decide on the establishment of the University's strategy and development plan, issue operating regulations, organizational structure, appoint leaders of the university, decide on investment policies and guidelines and other related activities. In the organigram, under the University Council, there are University's Board of Management, schools, faculties, departments, and enterprises.

Relating to the geographical organisation of Vietnam's autonomous public universities, many among them currently has a single campus such as Hanoi University of Science and Technology, National Economics University, Danang University of Economics, Hanoi University..., while some universities have 2-3 campuses (or more than that) outside of the university main base such as University of Economics Hochiminh city, Foreign Trade University, Thuongmai University, Hanoi University of Industry, Electric Power University..With those which have more than one campus, most campuses outside of the main site are just the places for students of some faculties to study as a form of expanding facilities and operating areas, there is no separate organizational structure including the management board, departments, faculties. But some university such as Foreign Trade University, the 2nd campus in Hochiminh city operates as an independent unit with the board of directors, party committees, trade unions, youth unions, functional departments and academic departments.

Autonomy has to go along with accountability, and the accountability of an university represents its transparency towards stakeholders. Vietnamese public universities receive funding from many sources including from the state budget, from donors' grants and from students' tuition fees, therefore transparency of

expenditures is mandatory. Many universities are not fully autonomous and still need state funding for investment expenditures, so there is a need for state budget use supervision by the state auditors. Universities may also have the independent audit of which the service is provided by external auditing firms. According to the Law on Independent Audit, for administrative and non-business units, those obligated to have annual independent audit are organizations implementing national important projects or group A projects using capital funded from the state budget. However, some big universities also voluntarily invite independent auditors to verify their financial statements and provide recommendations to improve. The audit content is usually financial audit only. Vietnamese public universities still do not have the habitude of preparing annual reports or public independent audit reports. Universities also have internal inspection activities conducted by the university's Legal Inspection Department, or Quality Management Department related to quality assurance of learning, teaching, and research.

Relating to risk management, different to the private sector where risk management is really focused from long time ago, with the public sector, including public universities, risk management department has not been settled up and risk management activities have not been implemented systematically. Even with the traditional or the changing role of internal audit, where internal audit is taking on a more strategic and central role in providing assurance in respect of fraud risk assessment, detection and investigation (Deloitte, 2012), it is necessary for universities to pay more attention to the organization of internal audit function to limit fraud risks and improve risk management effectiveness.

When studying the international experiences on internal audit models, it can be seen that each Vietnamese university can choose a model that is suitable for their organizational structure and their existing resources to apply if they decide to implement the internal audit function. The universities that have only a single campus or those who have several campus but the campus outside the main one are not independent in terms of organization and do not have their own executive board, but only serve as a location for organizing training and research activities, should choose a centralized model. In case of having management boards/boards of directors in every campus, it is possible to choose a decentralized model or a mixed model.

Public universities can choose to adopt one of the four models: in-house, co-sourced, and outsource with in-house management and outsourced. Recently, big audit companies in Vietnam also have a tendency to provide internal audit services to private companies. However, to be able to provide services to public administrative organisations and non-business units, it

may take some more time. Public organizations, whether autonomous or not, often do not have the habit of using external audit services if it is not obligated, still having concerns on inspection activities. After such a time of using independent external audit service and seeing the benefits of financial transparency, it would be easier to introduce internal audit function in order to get advice from outside experts to improve internal control and risk management. Meanwhile, newly established universities with an internal audit department can apply the in-house model, especially with economic universities if they have personnel with knowledge of auditing. Universities that are not concerns about exchanging information with outsiders and want to learn skills and experience from experts to set up their audit apparatus and personnel can be begin in the first few years with the outsourced model, or outsource with in-house management or co-sourced before applying full in-house internal audit function.

As mentioned above, most of the autonomous HEIs in Vietnam do not have an internal audit function, which significantly affects their status on accountability, risk management and independence inspection and control. In 2021, we conducted desk research and have interviewed academic experts in some autonomous universities in Hanoi on the internal audit models at their universities. However, only 2 universities have settled the internal audit function among the universities interviewed, and they both chose the in-house model. One among two only have one campus, and the other have 2 campuses but the 2nd campus is only the location for teaching, all the management based on the main site, therefore both the two universities choose the centralized internal audit model. Because both the two universities have just established their internal audit department, they do not have many employees and activities. Other universities are considering of establishing internal audit audit function in the near future but suppose to use the outsource independent audit to save time and costs.

5. CONCLUSION

Establishing internal audit models in Vietnamese public organizations and higher education institutions is on the most initial stage. This paper shed a light on proposing the model for internal audit in the Vietnamese higher education institutions (HEIs). We summarized and analyzed the characteristics of the internal audit in public organizations, namely, the roles of internal audit, the responsibilities of internal audit, the independence of internal audit, and the organizational structure of internal audit. It is clarified that there are two main ways of classifying internal audit model in organizations. The first one is to classify internal audit model by scope of activities into two models: centralized and decentralized. The second one is to classify internal audit by resources in to four models: in-house, co-sourced, outsource with in-house management and

outsourced. Also, we reviewed the internal audit model in public organizations in other countries including the UK, Switzerland, the US, Canada and so on. Especially, we analyzed the internal audit models in the University of Texas Dallas and University of Cambridge on the topics of authority, organizational structure, audit plan and report, policies and procedures and guidance.

Moreover, we found that most of the autonomous HEIs in Vietnam do not have an internal audit model. For the two universities in Hanoi, we found that they are probably using the in-house and centralized model. Due to the problems of the novelty of internal audit in the public sector in Vietnam, universities are not ready to the human resources requirements in this field, so the universities which have not yet implemented internal audit function will tend to use outsource services, especially for non-economics universities. This is feasible as independent audit firms recently have turned to pay more attention to internal audit services. However, with the cases of economics universities, it is supposed that the universities should use both internal audit and outsource services at the initial stage to take advantage of the resources and from that, they will receive the knowledge transfer which may contributes to rapidly building its own internal audit department. In fact, defining which model to choose depends on many factors such as understanding and initiatives of high-level leaders of the institutions, organizational structure, human resources, budget, timing, ..etc. Understand clearly the advantages and disadvantages of different models will help Vietnamese HEIs have more basis to make their choice.

By the way, it can be said that there is in severe lack of factual evidence on the internal audit models in the Vietnamese HEIs at present. The main reasons may come from the internal characteristics of the internal audit and the very new internal audit establishment in Vietnamese public organizations in general. Because the implementation of internal audit in Vietnamese higher education is still in early stage, the understanding and initiatives of the high-level managers are important to the success of internal audit models learnt from international experience.

It is also due to the extremely limited resources relating to the internal audit adoption in the Vietnamese public sector at present, the paper has a lack of factual evidence and the case studies on the effective internal audit models in Vietnamese public institutions. We can only focus on the international experience for seeking the lesson learnt. In the future, when more university adopt internal audit function, we would like to conduct further research on this topic to find the most effective model for Vietnamese HEIs in taking into account the factors affecting the chosen internal audit model, the auditing mechanism and activities as well as the results of audit work performed.

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ACCOUNTANTS' SKILLS AT THE TIME OF BLOCKCHAIN TECHNOLOGY: A RESEARCH AGENDA

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Research purpose:

This paper reviews the recent accounting literature focusing on the impacts of blockchain on accountants' skills. Specifically, it determines research strategies be being used to identify blockchain's impacts on accountants' skills, and identified skills which accountants are expected to have with the development of blockchain technology in the accounting profession.

Research motivation:

Blockchain technology requires a new generation of accounting professionals with skills to operate in the new blockchain environment

Research design, approach, and method:

Through a systematic literature review following the five-step approach outlined in the Preferred Reporting Items for Systematic review and Meta-Analysis Statement, the library database of an Australian university is used as a source of article collection.

Main findings:

The results indicate that empirical studies in the link between blockchain and accountants' skills are still lacking and identify the skills that today's accountants must have. Researches, including accounting researches, should present not only conceptual works but also empirical works that support established theories and concepts. Additionally, accountants should have to keep up skills and knowledge with the newest technologies. Soft skills will become even more necessary for accountants and auditors because the accountancy and audit professions move towards a more strategic and insights- based field.

Practical/managerial implications:

The findings of this study benefit educators. In education systems, specifically universities, educators can empower students across the curriculum by covering issues from practice and the skills employers expect students to have.

Keywords: *accountant; blockchain; skills; accounting.*

FINANCIAL REPORTING QUALITY AND SUSTAINABLE DEVELOPMENT INFORMATION: EVIDENCE FROM VIETNAMESE LISTED FIRMS

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Research purpose:

This study attempts to examine the effect of financial reporting quality (FRQ) on the extent of disclosure of sustainable development.

Research motivation:

The sustainable information has been receiving much attention from organizations and stakeholders. However, disclosure of sustainable development also faces many challenges. One of those challenges is companies that provide high quality financial information tend to be more conservative in their accounting and less inclined to carry out unethical practices such as earnings management. Accordingly, they are more socially responsible. This motivates us to investigate the relationship between financial reporting quality and the level of disclosure of sustainable development information, especially when the research in this area is minimal in Vietnam.

Research design, approach, and method:

The research has followed the quantitative data collection methods with a sample of 262 entities in 2018 and run the multiple regression to test the hypotheses.

Main findings:

The results indicated that FRQ through accounting conservatism positively affects the extent of disclosure of sustainable development information.

Practical/managerial implications:

The research results support the hypothesis about the influence of accounting conservatism on the level of disclosure of sustainable development information. It shows that the more companies pay attention to the financial interests of capital providers, specifically investors, the more they show ethical responsibility for environmental and social issues. This contributes to improving the sustainability in business activities of enterprises.

Keywords: Sustainable Development Information, Financial Reporting Quality (FRQ) and Listed Company.

DOES CORPORATE SUSTAINABILITY PERFORMANCE ENHANCE THE SPEED OF LEVERAGE ADJUSTMENT? EVIDENCE FROM SOUTH EAST ASIA

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Research purpose:

The purpose of this article is to examine the impact of CSP on the speed of leverage adjustment and competitive advantage as the mediation of that relationships.

Research motivation:

In recent years, companies who facing financial problems looking for an effective way to ensure long-term survival, further referred to as CSP. CSP has an important role to play in shaping the company's information environment, equity valuation, competitive advantage, and stakeholder engagement. However, in Southeast Asia region, CSP is still rarely adopted. Based on prior literature indicates that the implementation of CSP by developing countries will benefit from improved company performance, namely company size, leverage, profitability, and research and development expenditures.

Research design, approach, and method:

This article uses cross-sectional regression with a large sample of five countries in Southeast Asia region considering a sample of 408 listed companies during the period of 2021.

Main findings:

This article aims to find out whether there is an effect of CSP on the speed of leverage adjustment. This article uses samples from countries in Southeast Asia region and successfully proves two things. First, companies with better CSP, are faster to adjust the target leverage ratio. The presence of a CSP can help create corporate value that can indirectly improve financial performance. Second, as the mediation, competitive advantage can mediate companies with better CSP to affect the speed of leverage adjustment. CSP can improve the company's product market position as a competitive advantage that improves company performance through differentiation strategies that increase the company's competitive advantage.

Practical/managerial implications:

The findings of this article may be useful for practical implications to increase understanding of CSP in Southeast Asia region, which in prior literature shows that developing countries such as South East Asia region have low CSP implementation because the understanding of the role of CSP is still low. This article also enriches the limitations of the literature describing the relationship of CSP to leverage adjustment. For managerial implication, this article contributes to providing evaluations to companies and interested parties covered in the topics discussed in determining future strategies.

Keywords: *corporate sustainability performance, speed of leverage adjustment, competitive advantage, Southeast Asia region*

EFFECTS OF FACTORS TO THE IMPLEMENTATION OF MANAGEMENT ACCOUNTING, IMPACTING BUSINESS PERFORMANCE IN SMALL AND MEDIUM ENTERPRISES IN MEKONG DELTA

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Research purpose:

Identify and measure the impacts of factors to the implementation of MA in SMEs in Mekong Delta area;

Identify and measure the impacts of MA implementation to business performance of SMEs in Mekong Delta area;

Suggest helpful management recommendations for the implementation of MA to improve business performance of SMEs in Mekong Delta area

Research motivation:

Study factors influencing the implementation of MA and their impacts to business performance of SMEs in Mekong Delta area.

Research design, approach, and method:

The research is carried out in a combined method of both qualitative and quantitative

Main findings:

From the results analysis, the study makes the following implications: firstly, the factors affecting the implementation of management accounting include: Enterprise size, Market competition, Perception of business owners, Cost of implementing management accounting and professional qualifications of the accounting team.

Practical/managerial implications:

The research contributes a new model of impacting factors to MA implementation and their influence to business performance of SMEs in Mekong Delta area. In addition, the research also mentions impacting factors to specific MA implementation at SMEs in Mekong Delta.

The results from this research helps to bring about implications for relevant stakeholders; from that, SMEs in Mekong Delta area can identify impacting factors to MA implementation and their influence to business performance so that they can have appropriate plans for MA implementation. Also, it helps SMEs to understand the importance of MA implementation to enhance their business performance. Besides, the research supports accounting researchers, lecturers, and students to have more practical and relevant documents of MA for their professional research

Keywords: *Management accounting; Business performance; Small and medium enterprises; the Partial Least Squares-Structural Equation Modeling; Mekong Delta, Vietnam.*

1. INTRODUCTION

Management accounting is a reliable source of information in business operations and it influences management decisions and business performance. However, up to now, there have not been many comprehensive and systematic studies on the influencing factors and interactions between the

implementation of management accounting and the business performance of enterprises. The study of the above relationship has practical significance, contributing to the development and improvement of business efficiency for enterprises. This study focuses on (i) Determining the factors affecting the performance of management accounting and its influence on business performance; (ii) Develop a quantitative analysis model

of this relationship; (iii) Policy implications from research results. The study conducted a survey of 370 small and medium enterprises (SMEs) in the Mekong Delta to create a practical basis for the measurement model. The Mekong Delta is always considered an area with significant economic development compared to the whole country, with 55,089 enterprises and the total registered capital of more than 768 trillion VND.

Among enterprises in the Mekong Delta region, medium-sized enterprises accounted for 28.3%, small and micro enterprises accounted for 68.4%. Due to the large geographical distance, the study selects a sample of 5 provinces and cities in the Mekong Delta region (Mekong Delta): Can Tho City, Long An, An Giang, Dong Thap, and Ca Mau; these are also localities with a larger number of active SMEs than other provinces in the region.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1. Management accounting

Management accounting

The field of accounting includes three main areas: financial accounting, management accounting, and auditing. In particular, management accounting involves the creation of accounting information for the management and employees to assist them in performing their work (Caplan, 2006). Management accounting is an important tool to provide appropriate information for managers to make business decisions and it is not only widely applied in multinational business organizations around the world but also in medium-sized enterprises in developing countries. Moreover, management accounting has been playing an important role in business activities of enterprises (Ndwigwa, 2011). According to Kamilah & Zabri (2018), the implementation of management accounting is the building of an information system in an organization to provide reliable information to add value to customers and the organization; the implementation of management accounting will facilitate effective decision making and assist organizations in promoting business activities.

Factors influencing the implementation of management accounting

Since the early 2000s, many studies around the world have identified the factors affecting the implementation of management accounting in enterprises, including: Competition in the market (Wu & Boateng, 2010; Nair & Nian, 2017; Kordlouie & Hosseinpour, 2018); Firm size (Lucas et al., 2013; Nair & Nian, 2017; Ahmad & Zabri, 2018; Godil et al., 2019); Perceptions of business owners/administrators of management accounting (Ahmad & Zabri, 2015; Nguyen Tien Nhan et al., 2019); Professional qualifications of accountants (Lucas et al., 2013; Nair & Nian, 2017; Godil et al., 2019); Cost of implementing

management accounting (Abdel-Kader & Luther, 2006; Ahmad & Zabri, 2015; Sylvester & Austin, 2019). Based on empirical studies, the study proposes the following hypotheses:

H1: The size of the business affects the performance of management accounting

H2: Competition in the market affects the implementation of management accounting

H3: Awareness of business owners/administrators affects the implementation of management accounting

H4: Professional qualifications of accountants affect the implementation of management accounting

H5: Cost of implementing management accounting affects the implementation of management accounting

2.2. Management accounting and business performance

Small and medium enterprises

Small and medium enterprises: Small and medium enterprises are enterprises with small scale in terms of capital, labor or revenue. According to Ayyagari et al. (2003), the criteria of the World Bank, small and medium enterprises (SMEs) are enterprises with less than 200 employees, capital and turnover from 15 million USD or less. In Vietnam, Decree No. 80/2021/NĐ-CP, SMEs are defined according to the criteria of labor, capital and revenue according to different production and business sectors.

Firm performance

There are two indicators to measure the business performance of an enterprise: (1) financial expenditure and (2) non-financial indicators. Some researchers only mention financial indicators: Return on Total Assets (ROA), Return on Equity (ROE). Net return on sales (ROS-Return on Sale), Return on Investment- ROI (Carter and Hones-Evan, 2000); Others refer to non-financial indicators: growth of market share, cost reduction, customer satisfaction, delivery time, employee income (Chong, 2008; Emmanuel et al., 2013; Alasadi, 2007). According to Business Ratios Guidebook (2020), the business performance of an enterprise (firm performance) is measured by the ratio of net profit to sales (Return on sales-ROS), in which net profit is profit after tax. This indicator shows how much profit for a unit of revenue. The larger the ROS, the higher the business performance is. According to Liu et al. (2011), the ratio of net return on assets (ROA) is also a measure of business performance of the enterprise because assets are used to support the business activities. It determines whether the company can generate a commensurate return on assets rather than on revenue. This indicator shows how much profit for a unit of investment property. The larger the ROA, the higher the business performance is. Return on common equity (ROE) is also a measure of an enterprise's business performance (Carter & Hones-Evan, 2000; Sylvester & Austin; 2019; Kefasi; 2019).

Relationship between management accounting and firm performance

Since 2000, many empirical studies have shown that when enterprises use management accounting well, their firm performance will be higher (Mitchell & Reid, 2000; Merchant & Van der Stede, 2003; Alleyne & Weekes-Marshall, 2011; Nuhu et al., 2016; Sylvester & Austin, 2019). Most of the research results suggest that the implementation of management accounting affects the business performance of SMEs, however, SMEs in the Mekong Delta provinces will have their own characteristics, unlike SMEs in other countries. So, when SMEs in the Mekong Delta provinces implement international accounting, will there be an impact on business performance? The issue that managers as well as business owners care about is the business performance of the business. Researchers: Merchant and Van der Stede (2003); (Mitchell, F. and Reid, G., 2000), (Alleyne & Weekes-Marshall, 2011) (Nuhu, et al., 2016) proved that when enterprises use management accounting well, their business performance career will be higher. However, for SMEs in the Mekong Delta provinces, how effective will international accounting be for business performance?

Therefore, the author proposes the 6th hypothesis to determine the correlation between the implementation of management accounting and the business performance of SMEs in the Mekong Delta provinces. Based on empirical studies, the study proposes the following hypothesis:

H6: Implementation of management accounting affects firm performance.

3. METHODOLOGY

3.1. Research Methods

In this study, the author uses a combination of qualitative and quantitative research methods to solve each research objective. Qualitative research methods are carried out to form theories and hypotheses about the relationships between factors, while quantitative research methods are derived from existing theories and researchers will collect data to test the suitability of the theory in practice. The author's research aims to determine the influencing factors and the degree of influence of the factors affecting the implementation of management accounting, and at the same time affecting business performance in SMEs in the Mekong Delta. The research problem of the thesis is not a completely new content compared to previous studies; the factors affecting the implementation of management accounting have been done by several researchers, but the impact of the implementation of management accounting on business performance is still left an open issue, and it has not been studied in SMEs in the Mekong Delta. Therefore, the author applies a mixed method to conduct the research to ensure both scientific and practical aspects. It is necessary for this study to carry

out a qualitative research step, including: synthesizing theoretical documents on these research concepts and in-depth consultation with experts. Starting from the problem to be studied together with the works related to the problem which have been studied in the world and in Vietnam, the author determines the research objective of the thesis is to identify the factors and their degree of influence on the implementation of management accounting as well as on business performance in SMEs in the Mekong Delta provinces. The thesis is carried out based on the background theories: uncertainty theory, agency theory, benefit-cost relationship theory and resource base theory. The author also consults further research works of scholars in the world and in the country related to the implementation of management accounting affecting business performance in SMEs. The purpose is to determine the influencing factors and theoretical models related to the implementation of management accounting affecting business performance in SMEs in the Mekong Delta provinces, thereby suggesting the proposed research model. After proposing the expected research model from the theoretical synthesis, the author consults with experts, synthesizes and adjusts the influencing factors to suit the characteristics of SMEs in the Mekong Delta provinces. The author conducts the formal research model of the thesis, then builds scales to serve as the basis for conducting quantitative research methods. Based on the proposed research model and built scales, the author re-tests the reliability of the scales (using Cronbach Alpha), applying exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and test of the structural equation model (SEM).

3.2. Data collection methods

Sampling to collect survey data is done by non-probability method because the survey is conducted by the author based on easily accessible objects to facilitate information extraction. Non-random sampling method is a sampling method in which the units in the population are selected into the research sample without random rules. Survey results are often subjective on the part of the researcher because the selection of the sample is convenient and completely depends on experience, understanding and the subjective assessment of the researcher. Because of the inability to calculate the sampling error, it is not possible to apply the statistical estimation method to generalize the results on the sample to the general population. Convenience sampling is the sampling of elements that are accessible to the researcher. Convenient sampling saves time and costs (Nguyen Dinh Tho, 2013).

3.3. Study sample size and sampling method

All scales are adjusted from previous studies to fit the research context in the Mekong Delta. We design three processes for conducting surveys. Firstly, we survey using the expert discussing with accounting and financial management experts of SMEs, including ten

people with at least 5 years of experience working in these financial management agencies. They then suggest some adjustments to make sure the questionnaire is suitable for businesses. Secondly, a pilot survey with 20 business owners or business managers in Can Tho City aims to re-check that the survey questionnaire is without errors and with appropriate content. The sample is selected based on the respondents' willingness to participate in the study. Thirdly, surveying enterprises in 5 typical provinces and cities (Can Tho City, Long An, An Giang, Dong Thap, and Ca Mau), with enterprises having experience in implementing management accounting. A total of 331 SME respondents filled out the questionnaire.

A five-point Likert scale ranging from “strongly disagree” to “strongly agree” was used to measure all observed variables. To measure the scales "Business size", "Market competition", "Professional qualifications of accountants", "Management accounting implementation", with 17 observed variables were included in the questionnaire. The measurement factors are based on the scale of Nair & Nian (2017) in the study on the implementation of management accounting for SMEs in Malaysia, developed by the authors to suit the context of Vietnam based on the results of the discussion with experts. To measure “Cost of implementing management accounting” and “Business performance”, 6 observed variables were included in the questionnaire. The measuring elements of this scale are based on the

judgment of Lucas et al. (2013) and were developed by the authors from the expert discussions. To measure the scale "Awareness of business owners", 4 observed variables were included in the questionnaire. The measurement factors for these scales are based on the scale of Nguyen Tien Nhan et al. (2019). The detailed measurement table of the scale and observed variables is attached in the appendix.

3.4. Research model and hypotheses

Theoretical review and empirical research are necessary for further research to expand the theory, provide more empirical evidence and management implications related to the implementation of management accounting and business performance of enterprises. Previous studies highlight insights into the factors that influence management accounting performance or its impact on business performance and measure relationships using different, independent metrics such as exploratory factor analysis or separate regression models; however, they do not provide an adequate basis for a comprehensive analytical framework on the relationship between management accounting implementation and business performance. Therefore, the aim of this study is to extend the findings from previous studies on management accounting relationship and business performance with integrated analysis of the relationships in the structural equation model. The research team selected the research model for SMEs in the Mekong Delta as follows:

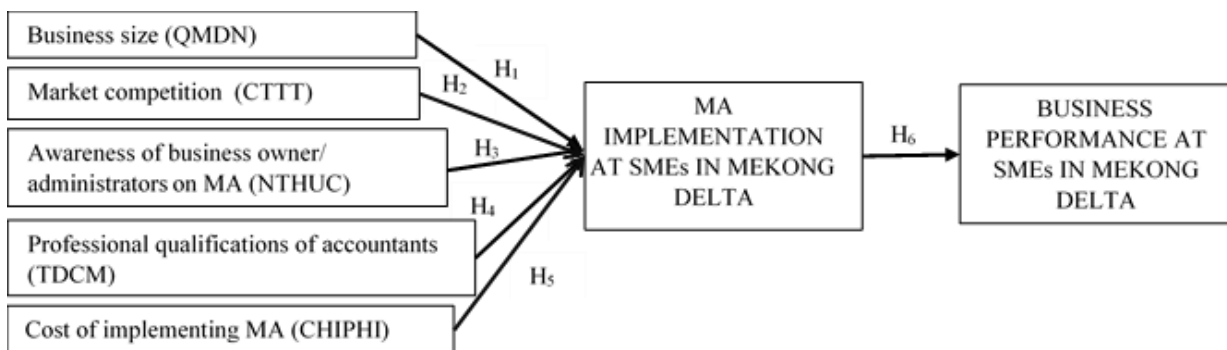


Figure 1. Research model

4. RESULTS AND DISCUSSION

4.1. The research results

4.1.1 Description of the characteristics of the survey object

- Production and business sectors: Among 321 surveyed enterprises, the production and business sectors of enterprises are in the fields of trade and services, industry and construction, and agriculture, forestry and fisheries.

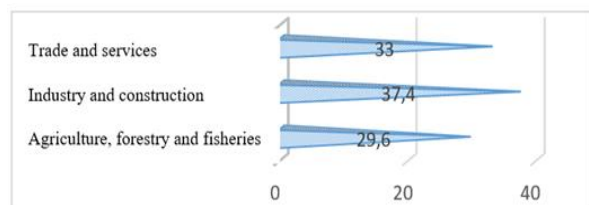


Figure 2. Production and business sectors of SMEs (%)

- Capital size: Most enterprises have capital size of ≤ 50 billion VND (86.7%)

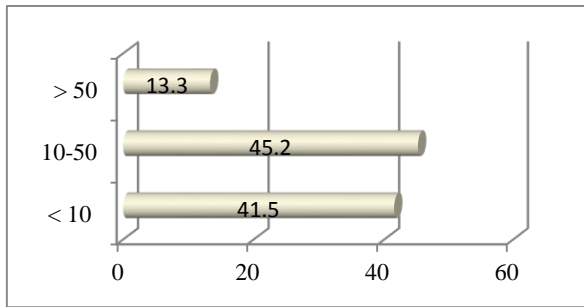


Figure 3. Capital size of enterprises (billion VND)

- Labor size: Enterprises with 10 -50 employees account for the majority (49.3%).

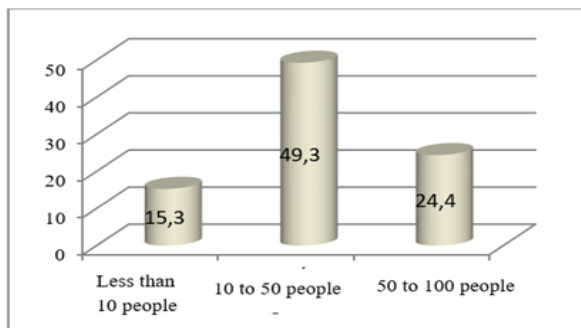


Figure 4. Labor size (persons)

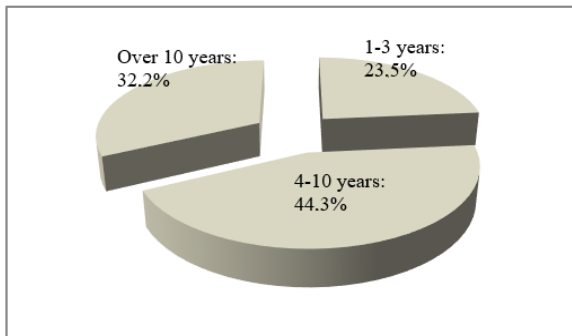


Figure 5. Years of operation (%)

- Years of operation: Most enterprises have more than 4 years of operation (76.5%).

4.1.2. Reliability analysis

Table 2. Reliability of the scale and excluded observed variables

Scale	Observed variable	Alpha index	Conclusion
QMDN	None	0,726	Qualified
CTTT	None	0,865	Good quality
NTHUC	None	0,834	Good quality
TDCM	None	0,841	Good quality
CHIPHI	None	0,778	Qualified
KTQT	None	0,844	Good quality
HQUA	None	0,836	Good quality

The results in Table 2 show that all observed variables satisfy the conditions in the reliability analysis

of the scale through Cronbach coefficient > 0.6 and variable-total correlation > 0.3 . (Nunnally and Burnstein, 1994).

4.1.3. Exploratory Factor Analysis

The results presented in Table 3 show that the factors affecting management accounting are extracted into 05 factors corresponding to the measured variables of the theoretical model with the total variance extracted of 65.816% at the Eigenvalue of 1,556; EFA of management accounting is extracted into 04 observed variables with extracted variance of 68.350% at Eigenvalue of 2,734. EFA of HQUA is extracted into 03 observed variables with extracted variance of 75.227% at Eigenvalue of 2,258. EFA results were from the use of Promax rotation method.

Table 3. New scales through the exploratory factor analysis

	Component						
	1	2	3	4	5	6	7
CTTT5	0,848						
CTTT2	0,826						
CTTT3	0,824						
CTTT1	0,778						
CTTT4	0,747						
TDCM3		0,796					
TDCM4		0,796					
TDCM2		0,795					
TDCM5		0,776					
TDCM1		0,737					
NTHUC3			0,840				
NTHUC4			0,833				
NTHUC1			0,798				
NTHUC2			0,776				
CHIPHI3				0,861			
CHIPHI2				0,843			
CHIPHI1				0,785			
QMDN3					0,816		
QMDN2					0,815		
QMDN1					0,762		
KTQT3						0,862	
KTQT1						0,857	
KTQT2						0,800	
KTQT4						0,786	
HQUA2							0,899
HQUA3							0,858
HQUA1							0,845
Kaiser-Meyer-Olkin Measure (KMO)					0,826	0,813	0,708
Bartlett's Test - Significance					0,000	0,000	0,000
Eigenvalues					1,556	2,734	2,258
% of Variance					65,816	68,350	75,227

Note: According to Hair et al. (2006), $0.5 < KMO < 1$; Bartlett's test has significance level of less than 0.05; Factor Loading of observed variables (Factor Loading) > 0.5 ; extracted variance $> 50\%$ and Eigenvalue > 1 .

4.1.4. Confirmatory factor analysis

According to Smith & McMilan (2001), a measurement model that is consistent with actual data must be consistent with four measures: (i) Cmin/df; (ii) TLI, (iii) CFI, (iv) RMSEA.

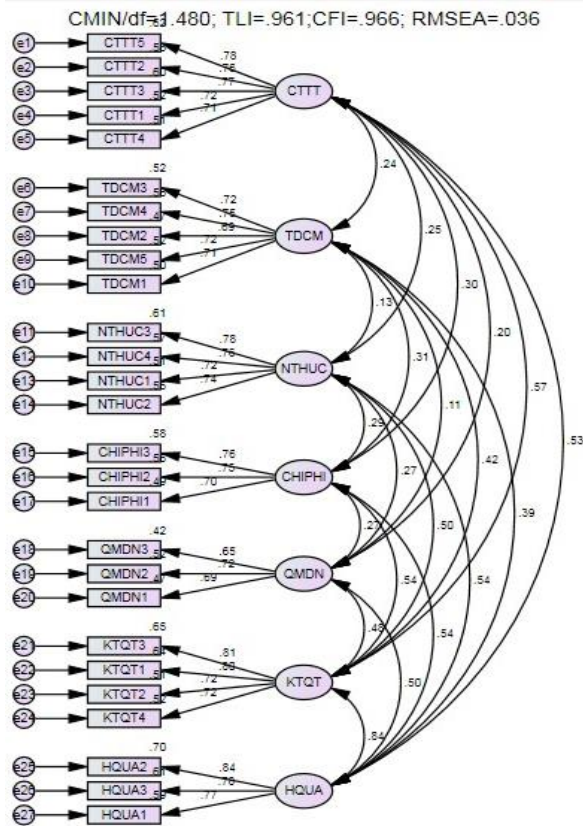


Figure 6. Results of confirmatory factor analysis

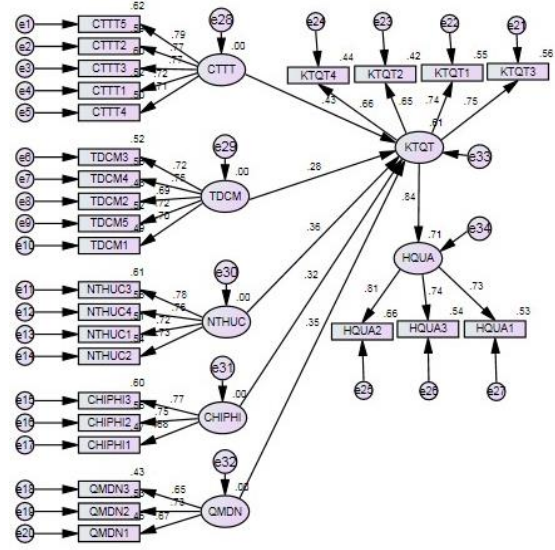
Table 4. Results of scale values

No.	Scale	Standard value	Model value	Result
1	Chi-square fit statistics/degree of freedom (Cmin/df)	$\chi^2/ d.f. \leq 5$ (Bentler & Bonett 1980)	1,480	Good
2	Tucker-Lewis Index (TLI)	TLI > 0.90 (Garver & Mentzer, 1999; Hair et al., 2006)	0,961	Good
3	Comparative Fit Index (CFI)	CFI > 0.90; 0 < CFI < 1, the more it approaches 1 the better. (Bentler & Bonett, 1980; Hu & Bentler, 1995)	0,966	Good
4	Root Mean Square Error Approximation (RMSEA)	RMSEA < 0.05: suitable model; RMSEA < 0.08 accepted; the smaller the better. (Garver & Mentzer, 1999; Hu & Bentler, 1995)	0,036	Good

Table 4 shows that the measurement model is consistent with the actual data.

4.1.5. Structural equation model analysis

The results presented in Figure 7 show that the model has a value of Cmin/df = 1,872; TLI = 0.932; CFI = 0.938 and RMSEA = 0.048. Therefore, the integrated model fits the actual data.



CMIN/df=1.827; TLI=.932; CFI=.938; RMSEA=.048

Figure 7. Results of structural equation model analysis

Table 5. Hypotheses results

Hypothesis	Impact	Estimate	S.E.	C.R.	P	Conclusion
H2	KTQT <--- CTTT	0,357	0,045	7,914	***	Appropriate
H4	KTQT <--- TDCM	0,269	0,050	5,379	***	Appropriate
H3	KTQT <--- NTHUC	0,339	0,050	6,745	***	Appropriate
H5	KTQT <--- CHIPHI	0,279	0,048	5,849	***	Appropriate
H1	KTQT <--- QMDN	0,361	0,062	5,798	***	Appropriate
H6	HQUA <--- KTQT	0,988	0,079	12,458	***	Appropriate

Note: *** (Sig. = 0.000).

The results presented in Table 5 show that all hypotheses are accepted at the significance level ≤ 0.05 , with the confidence level over 95%.

In Table 6, the factors affecting “KTQT” (management accounting) are in this order of influence: QMDN (company size), CTTT (market competition), NTHUC (awareness), CHIPHI (cost) and TDCM (qualifications). Implementating management accounting has a positive impact on business performance with a confidence level of more than 95% (In Table 5).

Table 6. Impact level

Impact level on SAT	Regression coefficient	%	Position
KTQT <--- CTTT	0,357	22,2	2
KTQT <--- TDCM	0,269	16,8	5
KTQT <--- NTHUC	0,339	21,1	3
KTQT <--- CHIPHI	0,279	17,4	4
KTQT <--- QMDN	0,361	22,5	1
Total	1,605		

4.2. Results discussion

From the results analysis, the study makes the following implications:

Firstly, the factors affecting the implementation of management accounting include:

Enterprise size-This result implies that SMEs in the Mekong Delta think that the changing external competitive environment, or the increasing competitive environment due to the increase of enterprises in the industry will have a positive effect. to the implementation of management accounting of enterprises. Thereby, it shows that the business environment has a strong impact on the activities of SMEs in the Mekong Delta, however, with the development of the market economy as well as the advancement of science and technology and competition in the region. competition of start-up businesses, SMEs in the Mekong Delta need to prepare in the process of integrating with the national economy together to bring Vietnam to economic development.

Market competition-This result implies that, for firms with larger turnover, more employees, and more capital and operating assets of the enterprise, the implementation of management accounting will be more necessary because In this, enterprises require multiple sources of information to serve timely decision making, complex organizations require multiple sources of information to serve more accurate decision making. Therefore, small and medium-sized enterprises should consider promoting the implementation of management accounting because it will bring more benefits to enterprises

Perception of business owners- This result implies that the development of SMEs in the Mekong Delta provinces depends a lot on the perception of business owners/administrators in the implementation of management techniques, especially the implementation of management accounting. Therefore, in order for the implementation of management accounting to be feasible, the awareness of business owners/managers about the benefits of implementing management accounting is very important.

Cost of implementing management accounting- This result implies that, when enterprises invest in facilities, technology and training resources, the lower the consulting fee, the lower the investment in implementing management accounting will increase the implementation of management accounting of enterprises. The characteristics of small and medium-sized enterprises in the Mekong Delta have limited resources, especially finance, so when they want to promote the implementation of management accounting related to enterprises, cost is considered an important issue for enterprises. business, so the above research results are consistent with practice.

Professional qualifications of the accounting team-The results of this study imply that SMEs in the Mekong Delta are interested in the qualifications of accountants who can perform management accounting because as the level of accountants increases, they will understand the importance of accounting staff. The importance of management accounting, understanding how to collect,

process and analyze information, the qualifications of accounting staff, lead to small and medium-sized enterprises in the Mekong Delta seeing the benefits of implementing management accounting. ; Therefore, this factor is considered to have an impact on the management accounting of small and medium enterprises in the Mekong Delta.

Secondly, the implementation of management accounting affects firm performance. The results of this study are similar to those of Ejike and Austin (2019), Ahmad (2017). The results of this study are interpreted through a combination of uncertainty theory and resource basis theory. In particular, the uncertainty theory states that when the environment (context) changes, the change (increasing the level of application of management accounting) can have an impact on increasing the efficiency of the enterprise. In addition, the theory of resource bases, considering that the implementation of management accounting in enterprises plays an important role in creating competitive advantages through the implementation of management accounting, enterprises can create valuable resources. value, difficult to imitate, creating a sustainable competitive advantage for businesses.

The results of this study imply that, when enterprises perform well in management accounting such as making budget estimates, supporting information sources, helping to make timely decisions, speeding up production and business activities, and implementing responsibility accounting. If the task is effective, it will bring many positive benefits to contribute to improving the business performance of the enterprise.

5. CONCLUSION

In the context of international integration, strong competition for survival and development, the implementation of management accounting plays an important role in the development of SMEs. Based on a survey of 321 SMEs in the Mekong Delta and using a structural equation model, the study shows that the implementation of management accounting has a direct impact on business results (similar to the research results of Nair & Nian (2017) in the study on implementing management accounting for SMEs in Malaysia). The research results provide a scientific basis for SME managers in improving business performance.

6. ACKNOWLEDGMENTS

I would like to thank a number of people who directly or indirectly contributed to the completion of this thesis. Firstly, my lovely family, without the support and encouragement from my family, I would not have had enough motivation and will to complete this research. Secondly, my supervisors, Long Huynh Duc, Loi Huynh, without the guidance and encouragement of the sage, this challenging project would not have been able to be completed, but also because it has turned this

into a successful process interesting program stretched my mind.

I am grateful to my friends, the respondents of the questionnaire survey and the participants of my interviews for their help and time. Without their help and willingness to participate, it would have been very difficult for me to collect the data and complete this study.

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APPENDIX

Table 7. Scales and observed variables

No	Scale	Variable code
I	Business size	QMDN
1	Higher revenue of the enterprise will increase the feasibility of management accounting implementation	QMDN1
2	Higher number of employees in the enterprise will increase the feasibility of management accounting implementation	QMDN2
3	Higher number of departments, divisions, and branches will increase the feasibility of management accounting implementation	QMDN3
II	Market competition	CTTT
4	Increasing number of similar enterprises in the same sector will affect the implementation of management accounting	CTT1
5	New products from similar active enterprises with increasing possibility of substitution will affect the implementation of management accounting	CTT2
6	Changes in high and modern technology will affect the implementation of management accounting	CTT3
7	The participation in more international trade treaties will affect the implementation of management accounting	CTT4
8	More policies on foreign investment attraction will affect the implementation of management accounting	CTT5

III	Awareness of business owners/administrators on management accounting	NTHUC
9	High awareness of business owners/administrators on management accounting will affect the implementation of management accounting	NTHUC1
10	High awareness of business owners/administrators on usefulness of management accounting will affect the implementation of management accounting	NTHUC2
11	High awareness of business owners/administrators on the content of management accounting will affect the implementation of management accounting	NTHUC3
12	High awareness of business owners/administrators on the severe market competition will affect the implementation of management accounting	NTHUC4
IV	Professional qualifications of accountants	TDCM
13	Accountants understanding the importance and usefulness of management accounting will affect the implementation of management accounting	TDCM1
14	Accountants understanding the organizing contents and techniques will affect the implementation of management accounting	TDCM2
15	Accountants understanding the collection, processing, and analysis of information on management accounting will affect the implementation of management accounting	TDCM3
16	Accountants understanding the provision of proper information to senior management will affect the implementation of management accounting	TDCM4
17	Accountants with professional qualifications in accounting will affect the implementation of management accounting	TDCM5
V	Cost for implementing management accounting	CHIPHI
18	Low cost on investing infrastructure, technology and HR training for management accounting will affect the implementation of management accounting	CHIPHI1
19	Low cost on consulting fees of experts and organizations will affect the implementation of management accounting	CHIPHI2
20	Low cost on carrying out management accounting will affect the implementation of management accounting	CHIPHI3
VI	Implementing management accounting	KTQT
21	Implementing management accounting in budgeting	KTQT1
22	Implementing management accounting in responsibility accounting	KTQT2
23	Implementing management accounting in cost accounting	KTQT3
24	Implementing management accounting in providing proper information for decision-making	KTQT4
VII	Firm performance	HQUA
25	SMEs implement management accounting well will increase Return on Total Assets (ROA)	HQUA1
26	SMEs implement management accounting well will increase Return on common Equity (ROE)	HQUA2
27	SMEs implement management accounting well will increase Return on Sale (ROS)	HQUA3

OVERVIEW OF THE METHODOLOGY IN RESEARCH ON THE APPLICATION OF THE PBB MODEL

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Research purpose:

Overview of the methodology in research on the application of the PBB model and selecting research methods suitable to the topic being studied, in order to achieve highly reliable and valuable research results.

Research motivation:

The implementation of PBB model innovation in public entities in Vietnam is currently quite limited, so the study on applying the PBB model in public entities in Vietnam is an urgent problem today. In addition, this research issue is related to the topic of the budget which is considered a rather sensitive topic. The appropriate research method for this topic is also an important step contributing to the success of the research related to the topic on the application of the PBB model in public entities in Vietnam.

Research design, approach and method:

Review foreign studies and then focus on the methodology applied mainly in the studies related to the application of the PBB model.

Main finding:

It is suitable for the selection of mixed method for the topic related to the application of the PBB model.

Practical/managerial implication:

This result is the basis for applying appropriate methodology for research related to budgeting in the context of research at public entities in Vietnam.

Keywords: *Performance-based budgeting, budgeting, reform, result-based budgeting*

1. INTRODUCTION

Vietnam is reforming the state budget system in parallel with administrative reform to meet the requirements of the renovation, overcome weaknesses in financial management, causing loss of budget resources and machinery in administrative procedures. One of the central tasks of the Government today is financial - monetary reform, in which the use of an appropriate budgeting model helps to manage and use budget resources effectively, so The Government orients to change the budgeting model according to performance.

There are basic budgeting models in the world, including: Line-item budgeting, performance budgeting, program budgeting, performance-based budgeting. Each country chooses the appropriate model depending on management level and development conditions as well as the legal system of each country. In Vietnam, the current financial management

mechanism of public entities follows the line-item budgeting model. The objective of the line-item budgeting model is in favor of controlling expenditure, controlling the use of the budget according to budget expenditure items. However, this budgeting model causes resources to be spread out and used wastefully, poor quality of public goods and services, and irresponsible managers for operating results, etc. Applying the PBB model combined with giving autonomy and accountability to the budgeting entities is a way to increase transparency and accountability. Moreover, the application of the PBB model also helps entities provide more useful information, create a positive competitive environment, and contribute to improving the quality of products and services to achieve socio-economic goals set by the Government. However, the implementation of PBB model innovation in public entities in Vietnam is currently quite limited, so the study on applying the PBB model in public

entities in Vietnam is an urgent problem today. In addition, this research issue is related to the topic of the national budget in general and the budget of the public entities in particular, which is considered a rather sensitive topic. The appropriate research method for this topic is also an important step contributing to the success of the researches related to the topic on the application of the PBB model in public entities in Vietnam.

2. RESEARCH OVERVIEW ON THE APPLICATION OF THE PBB MODEL

The PBB model first originated in the US in the 1950s, proposed for use by the Hoover Committee in 1949 (Talebnia, Vakilifard, Yeganeh, & Mohammadipour, 2012). The PBB model is a way to manage, build and allocate budget according to the same management and decision-making process as a business. Currently, the PBB model is a transformational trend in public financial management in many countries around the world. A strong wave of performance-based management and budget management system reform over the past two decades has taken place in advanced countries such as Australia, New Zealand, the United States, etc. Then this wave spread to developing countries such as Chile, Thailand, etc. Industrialized countries have brought a strong orientation towards performance in public expenditure management, in which New Zealand and Australia were considered the forerunners of performance-based budgeting and management in the late 1980s, followed by the mid-1990s with countries such as Canada, Denmark, Finland, France, Netherlands, Sweden, UK and the United States. In the late 1990s and early 2000s, Austria, Germany and Switzerland followed suit (OECD, 2004). According to Mauro, Cinquini, and Grossi (2017), countries that have experience in applying the PBB model are those that have implemented reforms for a long time like the United States (Melkers & Willoughby, 2001), and pioneers in PBB reform such as New Zealand, Canada, Sweden and the United Kingdom (Scheers, Sterck, & Bouckaert, 2006).

Mauro et al. (2017) analyzed the success or failure of the application of PBB model under the influence of the following factors: context and people (Helmuth, 2010); Other researchers have investigated the impact of using performance measures in the budgeting process on the perceptions of provincial managers (Wang, 2000). In addition, Melkers and Willoughby (2001) also researched to prove a positive relationship between the use of performance measures in budget management and organizational effectiveness improvement and accountability.

Xiaohu Wang is Associate Professor, Department of Public Administration, University of Central Florida (in

Northeastern America). He teaches and researches local government management and public budgeting. In the study of "Conditions to implement outcome-oriented performance budgeting: some empirical evidence" in 1999 discussed the conditions for effectively implementing performance-based budgeting model, that is 1) public officials' consensus on organizational goals and performance measures is a necessary condition for the implementation of an effective budgeting model; 2) consistent communication among public officials and legal support is important; 3) performance reporting and management practice; 4) the way in which budget inputs are converted into budgetary outputs is also important and; 5) variable types of performance measures.

In addition, Shah and Shen (2007) gave some considerations for countries that are orienting in budget reform to a performance-based budgeting model, paying attention to factors such as: performance measure, performance reporting and management.

On the other hand, Talebnia et al. (2012) in Iran studied the reasons for the failure of PBB model implementation in Iran over the years. According to the authors who have studied from the experience of Australia, New Zealand, Denmark, and Poland, there are 23 factors affecting the application of the PBB model in Iran, then conducted expert interviews and distributed sample questionnaires including 136 individuals, the results of 23 factors were classified into 3 stages: policy making (12 factors), implementation (6 factors), control (5 factors).

Iratni, Djasuli, and Hayati (2012) researched that the application of PBB in Bangkalan is influenced by 6 factors such as 1) the leadership and 2) The commitment of all components of the organization, 3) Focus on continuous improvement of administration, 4) resource sufficient to improve the business (money, time, people), 5) Award (reward) and 6) Punishment is obvious. In which, factors including leadership, resource sufficient, award and punishment have a significant influence on the successful implementation of the PBB model in Bangkalan.

In addition, in the study on "identifying and measuring factors affecting the effectiveness of the performance-based budgeting system in Fatemeh Zahra Hospital in Tehran" by Barati and Gelard (2016) studied change to the performance-based budgeting system is influenced by technical factors, political factors and human factors. This result was also studied by Roberts and Andrews (2005) in Ghana, Dixon (2005) in Thailand, Verheijen and Dobrolyubova (2007) in Latvia and Russia, Guess (2001) in the Balkans.

Furthermore, factors related to political leadership and management of the organization are also very important in the reform of the budget system according to Ronsholt and Andrews (2005). Moreover, Barati and Gelard (2016) also expressed the views of Ghodrati et

al. (2011) on the issue related to the important obstacles and problem affecting the establishment and implementation of the PBB system in Qom, including the following factors: 1. Human factors, 2. Technical and process factors, 3. Environmental factors respectively; and these three factors have also been studied by previous studies such as Azar and Vafaei (2010), Montes (2005), Garner (2007), Jordan and Hackbart (2005), etc. According to Barati and Gelard (2016), political factors including: regimes, political conditions and agreements, coordination at different levels between executive and legislative powers as well as organizational responsibilities to society that directly affect the effective implementation of PBB, and the human factors related to people (specifically people directly involved), orientation and tendency of managers, amount of training, and appropriate pay and benefits system affect the effectiveness of PBB implementation.

In summary, through the above studies, the author realizes the trend of innovating the budgeting model according to the PBB and identifies the factors affecting the adoption of the PBB model in countries around the world.

3. RESEARCH PROBLEM

According to the roadmap for building a budgeting system in Vietnam from 2020-2025, it is to build a budgeting model in association with innovating the budget management mechanism based on outputs. The Vietnamese government is gradually moving towards this model by giving financial autonomy to administrative and non-business entities through the promulgation of Decree 60/2021, at the same time, piloting budget estimation based on the medium-term expenditure framework (MTEF) since 2005. After an overview of foreign studies, and studies on this issue in Vietnam are still quite few, so the author finds that the research on the application of the PBB model in public entities in Vietnam is now necessary, in line with the national reform needs in the New Public Management movement. In addition, in order to contribute to the success of this research, the author first considers an overview of the methodology in foreign studies in order to select the appropriate methodology for the research topic.

4. METHODOLOGY OVERVIEW

Studies using qualitative research through the approach to Grounded theory

Researches around the world applying qualitative research often use Grounded theory to research and discover new factors. Grounded theory is defined as: "the discovery of a theory from data systematically obtained and analyzed in social research – can be furthered". The purpose of Grounded theory is to create or discover a theory, the use of Grounded theory to explore the social relationships and behavior of less-

explored groups such as: factors contexts that influence individual lives (Corbin & Strauss, 1990).

von Alberti-Alhtaybat and Al-Htaybat (2010) in "Qualitative accounting research: an account of Glaser's Grounded theory". This is one of the accounting studies that the authors conducted using qualitative research methods, through the approach to Glaser's Grounded theory. This study helps the authors have a deeper insight into qualitative research, the details of conducting a qualitative research.

Besides, Glaser (1992, pp. 11-14) emphasized the use of the Grounded theory for qualitative research. The authors also mentioned a number of research papers that discussed in detail the qualitative research method - Grounded theory approach in accounting research, the most notable of which is Elharidy, Nicholson, and Scapens (2008), Gurd (2008), Lye, Perera, and Rahman (2006), and Parker and Roffey (1997). Especially, according to Elharidy et al. (2008, p. 144) the main characteristics of qualitative research using the Grounded theory are: data collection, data analysis and interpretation. Then Elharidy et al. (2008) also state the reasons for applying Glaser's Grounded theory as follows: 1) novelty is an important factor in research, and according to Elharidy et al. (2008), Glaser's Grounded theory has not been fully applied in accounting research; 2) Glaser's approach gives a flexibility in the research process, flexibility in data analysis and development of results. Elharidy et al. (2008) argue that the Grounded theory method is really useful for management accounting research, although initially bearing the mark of an empirical study. The purpose of applying Grounded theory is to inductively build a theoretical framework related to a particular concept.

Birton, Triyuwono, Mulawarman, and Rahman (2015) conducted the study "Theory of Shariahization on Conceptual Accounting Framework: A Substantive Theory". In the process of building the accounting theory framework, the authors applied the Grounded theory of Strauss and Corbin, specifically: collecting data by interviewing the subjects in the panel related to the Conceptual Accounting framework building, and this data was analyzed through Grounded theory procedures, resulting in a new theory called "Theory of Shariahization on Conceptual accounting framework". In addition, this authors also argues that Grounded theory has been applied to extensive research in the fields such as sociology, business, information technology (Norris, 2002), total quality management (Leonard & McAdam, 2001), marketing (Goulding, 2002), activity-based information systems (Norris, 2002), logistics (supply chain) (Carter, et al., 2004) and also accounting (Abdul-Rahman & Goddard, 1998). Hence Birton et al. (2015) apply Grounded theory to this research by considering the data flexibility, literature

review and preconceptions that are beneficial for purposes of establishing theoretical sensitivity

In addition, previous studies directly related to the research topic of PBB model have used qualitative methods such as: Andrews and Hill (2003); Andrews (2004); Jordan and Hackbart (2005); Kong (2005); Syukri (2005); Lee and Wang (2009); Bawono (2015).

Studies using quantitative research

For empirical studies of the behavior of budget process have often rely on econometric regression-based techniques (High Performance System, 1994). However, this technique discourages the possibility of seeing the interdependence between the dependent and independent variables and the “ripple effect” when there is a change in one or more variables. Therefore, the nonlinear feedback-loop approach is used, to allow the modeler to more accurately reproduce the behavior of a particular system, to study the changes that arise throughout the system when the behavior of variables change, and to better understand which variables are more important to the overall success of the system. (Grizzle & Pettijohn, 2002)

According to Barati and Gelard (2016) used quantitative research methods to identify and measure the factors affecting the PBB system in Fatemeh Zahra Hospital in Tehran. Initially, Barati and Gelard (2016) consulted with university professors and experts to revise the questionnaire. After measuring the reliability of the questions, Barati and Gelard (2016) analyzed the data through structural equation modeling (SEM) by using SmartPLS software. Through the literature review, the author found that most of the studies related to applying PBB used quantitative research methods such as Barati and Gelard (2016); Iratni et al. (2012), Pakmaram, Esgandari, Koshteli, and Khalili (2012), Naseri, Zadeh, Arefi, Noushiravani, and Shamsaie (2014); Fath and Vanda (2016); Erkutlu, Tanç, and Koçyiğit (2017); Saeidasefzadeh, Farzadpeiravian, and Shamsiekhtiar (2014), etc.

Studies using mixed method

The research methods used in PBB studies as mentioned above are either qualitative studies or quantitative approaches. In which, according to Mauro et al. (2017) accounting researchers in non-European regions show a preference for quantitative method, while European researchers tend to prefer using qualitative method.

However, Vatjanapukka (2005) with the study "A Analysis of Output Based Budgeting (OBB) in the Victorian Government" advocates the use of a combination of both qualitative and quantitative. According to Vatjanapukka (2005) as well as other author such as Nachimias and Nachimias (1996); Punch (1998); Blaikie (2000), each method has some limitations, using a combination of these methods is intended to reduce these limitations and increases the

reliability of the research data (Sekaran, 2003).

For example, applying the quantitative research method, the use of survey questions to collect quantitative data to answer the research questions, and the content analysis method are used as an additional method to test and extend the findings from the survey question. Meanwhile, the qualitative research method through observing participants is considered to be unsuitable for research related to budgeting because it is difficult or impossible for researchers to observe or conduct negotiations on budgets and on government agency decision-making.

According to Vatjanapukka (2005), applying quantitative research through survey for research related to budgeting behavior is the most appropriate method because of its simplicity to measure user's perception. Furthermore, this is the method used most often in the type of research that wants to find information about users' attitudes. Meanwhile, qualitative research through methods such as structured or unstructured interviews, case studies and content analysis is rarely used. Most public budget researchers such as Jreisat (1990); Kluvers (1999); Melkers and Willoughby (2001); and government financial statements researchers such as Henderson and Scherer (1986); Adams (1989); Ingram and Robbins (1992); Coy, Dixon, Buchanan, and Tower (1997) often use survey methods via mail (mailing) in their research.

Moreover, other studies related to budgeting all use research method that combine qualitative and quantitative method such as Trakarnvanich (2010) with the study on "Performance Based Budgeting system: A study of poverty reduction policy implementation in Thailand", with the research method being empirical analysis. Trakarnvanich (2010) exploratory field research to have a better understanding of the current situation by interviewing people with experience on the subject matter such as senior budget officials, provincial governors, and the Bureau of the Budget senior consultants. In addition, Trakarnvanich (2010) also conducted surveys to develop conceptual frameworks. According to Trakarnvanich (2010), the combined use of both qualitative and quantitative method would provide more reliable and valid information for data analysis according to the research hypotheses.

Talebniya et al. (2012) study to identify the main factors that cause the implementation of PBB models in Iran to fail. The research methodology is descriptive by the means of survey-analytical approach. At first, the authors have studied the experience of countries who implemented PBB or trying to implement it such as Australia, New Zealand, Denmark, Poland, and summarizing 23 factors affecting the application of the PBB model in Iran. Then the authors conducted expert interviews and distributed sample questionnaires of 136 individuals.

Currently, there are not many studies related to PBB,

and with the above mentioned difficulties such as: difficulty in accessing the budget meetings of the Government agencies, so it is not possible to use qualitative research methods purely through observation methods, or consider time and budget factors in implementing the telephone survey method, etc. Therefore, for the study related to the application of the PBB model, it is necessary to apply mixed method.

5. RESEARCH METHODOLOGY FOR ISSUES RELATED TO PBB MODEL

In general, the choice of research method depends initially on the research question. Furthermore, issues related to the state budget in general, and the study of applying the PBB model in public entities in Vietnam in particular have not been studied much yet. In addition to the purpose of this study only to prove the current theory, the author does not intend to develop a theory from observation due to the specific difficulties of the research problem mentioned. Therefore, according to Vatjanapukka (2005), as well as other authors, the author applies mixed research methods to reduce the limitations of the methods and increase the reliability of the research data. In addition, it is not appropriate to use qualitative research method in this study because it is only suitable for use in the case of building new theories rather than verifying theories. Therefore, with the application of the mixed method, the author does it through 2 steps: Step 1, the author uses the deductive method and the comparative method to analyze the political context and national characteristics to explore characteristics that are suitable for Vietnam's politics and budget management system, then the author conducts in-depth interviews and compares the views of professional organizations, State-financial management agencies to explore the factors affecting the application of the PBB model suitable for Vietnam; Step 2: the author conduct quantitative research using regression model.

6. CONCLUSION

The main content of this article is to present the arguments for choosing the appropriate research methodology when conducting research on issues related to the application of the PBB model to public entities in Vietnam. After the review process, the author chooses the mixed method with the desire to achieve highly reliable and valuable results, in which the survey subjects must have a certain understanding related to budgeting.

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FACTORS AFFECTING THE APPLICATION OF INTEGRATED REPORTING IN ENTERPRISE - CASE STUDY IN VIETNAM

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Study purpose:

This study is conducted to explore the factors affecting the adoption of IR in Vietnam - an emerging economy in Southeast Asia.

Study motivation:

IR and its benefits have been widely accepted all over the world, however, in Vietnam, only a few businesses have adopted it. Discover the causes, as the basis for solutions to promote IR application in Vietnam.

Study design, approach and method:

Based on the purposeful sampling method, the authors selected 189 listed companies on two Stock Exchanges in Vietnam to conduct the survey. The observation period was 3 years and the total number of observations was 567 observations. The data in this study is secondary data with the data source being IR, Annual Reports, and Sustainable Development Reports of surveyed enterprises.

Key findings:

The study explores five factors that positively affect the adoption of IR in Vietnam, including: Pressure from major shareholders; Pressure from competitors; Pressure from operating in environmentally sensitive fields; The independence of the Board of Directors; Diversity of nationalities in the Board of Directors. Meanwhile, the pressure factor from the funding organization has the opposite effect on the application of IR.

Practical significance:

This study shows that stakeholders increasingly put their trust in businesses with high level and quality of information disclosure, especially information disclosure through IR. Therefore, businesses need to raise awareness about setting up IR, need to change their mindset and show high commitment in implementing IR application. This issue is related to the independent operation of the Board of Directors or the new thinking of the Board of Directors, which is evident in the Board of Directors having a diversity of nationalities.

Keywords: *Integrated report; Influence factor; Apply Integrated reporting*

1. INTEGRATED REPORTING AND THE NECESSITY TO APPLY INTEGRATED REPORTING IN VIET NAM

The International Integrated Reporting Council (IIRC) was established in 2010 in order to develop contents related to IR. Accordingly, different viewpoints of IR have been mentioned. According to Eccles and Krzus (2010), IR is the process of integrating environmental, social and governance information of a company into its annual report. Eccles and Krzus calls IR 'one report', implying that IR provides information of financial and non-financial performance in one single document, showing the relationship between financial and non-financial performance and providing how

corporate values are created or destroyed to shareholders and other stakeholders. South Africa's IR Council emphasizes that IR is not only the combination of the financial statement and the sustainability development report; IR provides brief information of an organization's insight, connecting information of strategy, risks, opportunities, social relationships, and environmental, economic, and financial issues, meeting multi-faceted needs from stakeholders. The first International Integrated Reporting Framework (IIRF) was released in 2013, and in May 2021, a revised version was published. IIRF provided a complete concept of IR. According to IIRF, IR is a report covering important information of an organization's strategy, governance, performance, and prospect in the

commercial, social and environmental context in which it operates. It provides clear and brief information of an organization's governance and value creation at present and in the future.

It can be seen that the above-mentioned viewpoints all describe IR as a report which allows stakeholders to access full financial and non-financial information, focusing on the connections between strategy, governance, and risks, and creation of short-term, mid-term, and long-term values of the enterprise.

IR has received increasing support thanks to the growing quantity of research institutions, Governments, organizations, and enterprises (KPMG, PWC, GRI, etc.), and its role is being recognized worldwide.

Research by Eccles and Saltzman (2011) analyzes benefits of IR from the corporate perspective including internal benefits and external benefits. The former refers to better internal resource allocation decisions and greater engagement of shareholders and other stakeholders. The latter refers to the possibility to meet investors' needs for environmental, social, and governance information as well as the possibility to reduce risks. The application of IR will promote integrated thinking in management and break silo thinking within the enterprise. Survey by the South African Institute of Chartered Accountants (SAICA) (2015) states there has been strong awareness of the concept of integrated thinking and its benefits in organizations with high quality IR. According to survey results, over 70% of the respondents believe IR is the driving force of integrated thinking, and that decision-making at board and management level will improve as a result of applying integrated thinking, thus helping organizations to develop reports with more highly integrated information and enhancing the quality of dialogues between organizations, financial providers and other stakeholders; most of them expect organizations to gain more benefits in the short, medium and long term from integrated thinking. In addition, establishing IR shows that these organizations have complied with regulations and standards on information disclosure in accordance with certain international criteria. As a result, this can build trust for international investors, creating opportunities for enterprises to access different sources of capital (PwC, 2014; Steyn, 2014; KPMG, 2016; Joshi et al., 2018; Vitolla và Raimo, 2018). For Eccles and Saltzman (2011), this is also a wave to speed up the international convergence to meet needs of the stock market and one step further towards sustainable development and information transparency (Vitolla and Raimo, 2018). IR is not simply the development of a new reporting system but also the result of a long journey towards global business integration.

Vietnam is a country that has not yet required adoption of the integrated reporting. The businesses in Vietnam prepare their financial statements according to

the Vietnamese accounting standards issued in 2000 - 2005. With strong development of the market economy, the current financial reporting system reveals various limitations: the disclosures of the financial statements are non-systematic, incomplete, simple and discrete (Nguyen Thi Thu Hang, 2019), especially, those statements only disclose financial information. This reduces the investors' benefits, making it difficult for the state agencies' monitoring. To improve the same, the Ministry of Finance issued Circular No. 96/2020/TT - BTC guiding disclosure of information on the securities market. Accordingly, the Vietnamese businesses are required to disclose more information about their environment, society and sustainable development goals in their annual reports. However, because there is no standard governing such disclosure, the extent and quality of environmental and social disclosures vary from company to company, leading to inaccurate judgments by the stakeholders. To improve these issues, Vietnamese businesses need to apply IR, which is very necessary, especially in the current context of deep integration. The question arises, how to accelerate the application of IR in Vietnamese enterprises? To answer this question, it is necessary to determine what factors the application of IR in Vietnamese enterprises is affected by? This is the basis for stakeholders to provide implications and policies to accelerate the application of IR in Vietnamese enterprises.

2. THEORETICAL BACKGROUND TO EXPLORE FACTORS AFFECTING THE APPLICATION OF INTEGRATED REPORTING IN ENTERPRISES

The legitimacy theory asserts that, for an enterprise to continue operating successfully, it must act within the boundaries and norms that society defines as socially responsible behavior. Burlea and Popa (2013) argued that the legitimacy theory is a mechanism to support businesses in making voluntary disclosure of social and environmental information to perform "social contracts" between an organization and the society in which it operates. Enterprises always try to legitimize their actions by participating in social responsibility reports for social approval. With a set of legal standards, the International IR Framework (IIRF) which was officially established in 2013, and revised and supplemented in 2021, is considered a legal reference in the domain of corporate reporting.

In addition, the application of IR by enterprises is also affected by other factors such as pressure from stakeholders and their internal factors.

The stakeholder theory has succeeded in challenging conventional analytical frameworks by suggesting including stakeholder needs at the beginning of any action. The growing awareness of non-financial communications from stakeholders has encouraged enterprises to expand their sustainability programs. IR is derived from sustainability information as a result of

financial and non-financial performances at all levels. This trend is supported by the IIRC as the IIRF is globally accepted with three specific goals of providing external impetus, explanation of resources, the organization's interaction with the external environment and capital sources to create value in the short, medium and long term. The implementation of IR is still in its early stages for developing countries. The success of organizations in the IIRC's pilot program to apply IR creates an impetus for other enterprises to disclose information and to best address the information needs of stakeholders. On the other hand, stakeholder pressure can also force organizations to adopt IR.

To explain the internal factors of an enterprise, specifically the independence of the Board of Directors (BOD) and the diversity of nationalities in the BOD for the application of IR, the agency theory is used in this study. The agency theory analyzes the conflicting and dependent relationship between enterprise owners (shareholders) and managers (directors and managers) in the enterprise. The existence of imperfect information and asymmetric information leads to opportunistic behaviors of agents, due to which agency costs are incurred. In order to reduce agency costs, one of the factors for choosing personnel for the BOD is the diversity in the BOD or its independent operation. The BOD with diversity will gather many new views and thoughts, thereby promoting working efficiency, which reduces agency costs due to reduced supervision costs. An independent BOD is a BOD with no concurrent roles of both the Board of Directors and the management of the enterprise. Non-executive directors are needed to control and monitor the chief executive's actions to prevent opportunistic behavior, and if non-executive directors properly perform their supervisory roles, they expect much information to be disclosed. As a result, the dominance of non-executive directors can pressure the management to implement IR in their enterprises.

The characteristics of the Board of Directors (BOD) in disclosing information can also be explained by the resource dependence theory. The resource dependency theory holds that organizations are significantly affected by external pressure from the operational environment, including the sources - which control or provide the necessary resources for organizations. Therefore, organizations must find ways to reduce their dependence on resources. Accordingly, Pfeffer and Salancik (1978) propose a number of specific actions to reduce this dependence, namely: merging into another organization; engaging and collaborating in activities; increasing the role of the management board and building relationships with government agencies; demonstrating the success of the organization. According to Johnson et al. (1996), while the stakeholder theory focuses on relationships between multiple groups for personal interests, the resource dependency theory focuses on the appointment of an organization's representative, typically the BOD, and

considers the BOD as a bridge to achieving access to and assurance of resources for enterprises. And of course, the BOD must be a diverse group with expertise in many areas, good thinking, substantial experience as well as extensive social relationships to perform well its role, including minimizing dependence on resources as well as minimizing pressure from stakeholders. It can be seen that the decisions of enterprises depend substantially on the characteristics of the BOD. Therefore, this study uses the resource dependence theory to provide explanations on the knowledge of the BOD in the field of finance and accounting; the diversity of nationality in the BOD, and the independence of the BOD in choosing to disclose information through Integrated Reporting.

3. RESEARCH METHODOLOGY

Qualitative research was carried out in March 2021. First, the author conducted a literature review to determine the factors affecting the establishment of IR in enterprises. After that, semi-structured interviews were conducted with a number of experts in order to determine the factors and the scale of factors affecting the establishment of IR in listed companies in the Vietnamese stock market. The interview sample covers two groups of experts: the first group includes those directly involved in the process of preparing IR, Annual Reports, and Sustainability Development Reports in listed companies in the stock market in Vietnam, specifically Chief Financial Officer (01 person); Deputy Head of Finance - Accounting Department (01 person); Chief Accountant (03 persons), Accountant (01 person); the second group includes people who are deemed to have extensive knowledge of IR issues, specifically Director of an Auditing Company (01 person); university lecturers (04 persons).

The results of expert consultation are analyzed through descriptive statistics, and the factors and scales chosen by more experts will be included in the research model.

The expert interview results are the basis for the author to develop a model for the study of factors affecting the establishment of IR within the research context in Vietnam including 6 factors, specifically: (1) Pressure from the State and major shareholders; (2) Pressure from competitors; (3) Pressure from funding organizations; (4) Pressure from operating in environmentally sensitive areas; (5) Knowledge of the BOD of finance and accounting; (6) Independence of the Board of Directors; (7) Diversity of nationalities in the Board of Directors.

To analyze the data, the author uses descriptive statistics, correlation analysis and regression analysis with the support of Stata 16 software.

As of December 31, 2020, the total number of listed companies in the Vietnamese stock market was 745. Due to the large scale of the overall study, the selection

of the sample has clear criteria: (1) Enterprises participating in the competitions for annual reports and annual sustainable development reports (minimum 1 year) for the period from 2018 to 2020; (2) These enterprises have prepared sustainability reports or used GRI standards in the preparation of annual reports, sustainability reports, and IR in the period 2018 - 2020; (3) The reports of these enterprises can be accessed on the official website of the Vietnamese stock exchange and on their own websites.

Based on the purposeful sampling method, the authors selected 189 listed companies on two Stock Exchanges in Vietnam to conduct the survey. The observation period was 3 years and the total number of observations was 567 observations. The data in this study is secondary data with the data source being IR, Annual Reports, and Sustainable Development Reports of surveyed enterprises. Such data was obtained through the official website of the Vietnam Stock Exchange and on the websites of the enterprises in the sample.

4. RESEARCH MODEL

The analytical data is panel data, so the regression equation has the following form:

Regression Model (1)

$$IR = \alpha_0 + \alpha_1 \text{SHAPRE}_{it} + \alpha_2 \text{COMPI}_{it} + \alpha_3 \text{CREDIT}_{it} + \alpha_4 \text{ENVIPRE}_{it} + \alpha_5 \text{FINANCE}_{it} + \alpha_6 \text{INDEP}_{it} + \alpha_7 \text{FOREIG}_{it} + \epsilon_{it}$$

Regression Model (2)

$$IR = \alpha_0 + \alpha_1 \text{SHAPRE}_{it} + \alpha_2 \text{COMPI}_{it} + \alpha_3 \text{CREDIT}_{it} + \alpha_4 \text{ENVIPRE}_{it} + \alpha_5 \text{FINANCE}_{it} + \alpha_6 \text{INDEP}_{it} + \alpha_7 \text{FOREIG}_{it} + \omega_{it}$$

In there:

$$\omega_{it} = \epsilon_{it} + \nu_{it}$$

ϵ_{it} : normally distributed error that varies with respect to i and t

ν_{it} : combined space and time series error.

α : are constants

IR (Y): Apply the financial statements of listed companies

SHAPRE: Pressure from major shareholders of listed companies i

COMPI: Competitors of listed companies i

CREDIT: Pressure from funding organizations of listed companies i

ENVIPRE: Pressure from operating in environmentally sensitive fields of listed companies i

FINANCE: Knowledge of the BOD in finance and accounting of listed companies i

INDEP: Independence of the Board of Directors of listed companies i

FOREIG: Diversity of nationality in the Board of

Directors of listed companies i

In which, IR variables are dependent variables, while SHAPRE, COMPI, CREDIT, ENVIPRE, FINANCE, INDEP, FOREIG variables are independent variables.

This study measures the IR adoption levels in enterprises according to the assessment method of Herath and Gunarathne (2016). Specifically, based on the information published on the enterprise's reports, the research team will compare it with the checklist of enterprises' reported contents according to Herath & Gunarathne; a content element will be assigned point "1" if disclosed, and assigned "0" if not disclosed. The disclosure scores are added up, and finally the IR adoption index is calculated according to the following formula:

$$DI = \frac{\sum_{i=1}^m d_i}{\sum_{i=1}^n d_i}$$

In which:

DI: Disclosure index of listed company i

d_i : Criteria score of listed company i ($d_i = 1$ if such content item has been disclosed; $d_i = 0$ if such content item has not been disclosed)

m : Number of points for items disclosed by listed company i in the reports

n : Maximum number of points for items disclosed according to IIRF ($n = 78$)

The disclosure level is the arithmetic average. The closer this value comes to 1, the more the company's report complies with the IIRC guideline framework and meets requirements for IR application.

6. DEVELOPING RESEARCH HYPOTHESES

(1) Pressure from major shareholders

Major shareholders are shareholders who own 5% or more of an organization's voting shares according to the Securities Law 2019. They are a force that gains great benefits or suffers disadvantages from enterprises. Therefore, as they need more multi-dimensional information about enterprises, they pressure enterprises to disclose information. Therefore, the study presents the following hypothesis:

Hypothesis H1: The higher the ownership ratio of major shareholders is, the more positive impact it has on the establishment of IR of listed companies.

The variable representing pressure from major shareholders is measured by the rate of the number of shares owned by the major shareholders to the total number of outstanding corporate shares, inherited from

the study of Kurniawan et al (2018).

(2) Competition from competitors

Competition arises when more than two enterprises operate in the same business environment. In such context, in most of their operational strategies, enterprises need to consider how competitive their industry is. This is especially true for those operating in a highly competitive environment. Due to higher rejection rates, enterprises need to take more aggressive measures to maintain their position in the industry. On the other hand, investors' decision initially depends significantly on market information; for example, the news of the world's increasing oil price immediately makes investors pay attention to enterprises in the oil sector. At this time, the comparison process is made through disclosed information from enterprises. Competitive advantage belongs to those that provide complete and multi-dimensional information to meet the needs of investors. However, the study of Huang and Kung (2010) did not provide evidence on the impacts of pressure from competitors on the disclosure of information of enterprises in the context of Taiwan. Meanwhile, considering the perspectives of stakeholders on IR in the context of Vietnam, Bui Van Duong and Tran Thi Thanh Thanh (2021) show the driving force for Vietnamese enterprises to apply IR; specifically, in addition to meeting the needs to provide information to stakeholders, competitors are the second driving force for enterprises. Very few studies consider this factor in the decision to apply IR in enterprises. Therefore, the next hypothesis is studied:

Hypothesis H2: Enterprises with a high market share in the total market share of the industry in which they operate will have a positive impact on the establishment of IR.

The study measures the pressure from competitors by the rate of enterprises' net revenue to the total revenue of the industry, as inherited from the studies of Huang and Kung (2010).

(3) Pressure from funding organisations

Leverage is a financial structure of an enterprise which is used to measure the risks for the enterprise in repaying its obligations. Previous studies provided mixed evidence on the relationship between leverage and the degree of voluntary disclosure. Both Alsaeed (2006) and Lan et al. (2013) suggested that there is a positive relationship between leverage and voluntary disclosure. Meanwhile, Uyar et al. (2013); Albitar (2015) found the opposite relationship. There are also studies asserting that leverage is not a factor affecting the voluntary disclosure of information through IR as stated in the studies of Lai et al. (2014) and Ghani et al. (2018). However, it is widely held that enterprises with higher leverage will experience severe agency problems and therefore incur higher agency costs. In an effort to satisfy creditors' requests, highly leveraged enterprises

are more likely to voluntarily disclose more information. Therefore, the third research hypothesis is developed:

Hypothesis H3: Enterprises with a high debt ratio will have a positive impact on the establishment of IR.

The variable for pressure from funding institutions is measured by the ratio of total liabilities to the total owner's equity of the enterprise, as inherited from the research of Ghani et al. (2018).

(4) Pressure due to operating in environmentally sensitive areas

Enterprises operating in environmentally sensitive areas often have adverse effects on the environment. As a result, they have to report more environmental information and social impacts than those in other industries. Failure or delay in disclosing environmental information can signal to stakeholders that the enterprise is not complying with environmental requirements, which can lead to business risks. However, environmental information disclosure without linking it to finance becomes meaningless for stakeholders. Therefore, enterprises will choose to disclose environmental information via IR to meet the needs of all stakeholders, without having to focus on or omit anyone. Therefore, hypothesis H4 is proposed:

Hypothesis H4: Enterprises operating in environmentally sensitive areas will apply IR.

The study measures the pressure due to operating in environmentally sensitive areas by considering whether the business lines of an enterprise belong to environmentally sensitive areas, as inherited from the scales in the studies of the Frías - Aceituno et al. (2014).

(5) Knowledge of the BOD in finance and accounting

Carter et al. (2002) argues that in order to enhance the role of the BOD, modern organizations should consider building a diversified BOD. The diversity of the BOD is reflected in the diversity of demographics (observable) such as gender, age, race, nationality, and cognitive diversity such as expertise (skills) and experience (Carter et al., 2002). The expertise of the BOD can be manifested in many different aspects such as management, finance - accounting, law, etc. Each board member's educational background will reflect that member's cognitive characteristics, thereby affecting the board's capacity to make decisions, especially those related to the board's expertise. Research by Wallace and Cooke (1990) shows that managers with a background in finance can disclose information at a broader level to improve the enterprise's image and the management's reputation. This result is not supported by the study by Rasmini et al. (2014). However, a recent study by Rehena et al. (2021) has provided evidence that financial experts in the BOD influence social outcomes through CSR disclosure. The financial experts in this study believe that participating in social activities and

sustainable development aims to create a positive image of the enterprise in the eyes of not only the society but also investors. It is expected that a BOD with members having expertise in finance and accounting will pay more attention to the new trend in finance and accounting - the trend of applying integrated reporting, a trend that brings outstanding values to enterprises. Therefore, hypothesis H5 is made:

Hypothesis H5: A BOD having many members knowledgeable about finance and accounting will have a positive impact on the application of integrated reporting in the enterprise.

The study measures the knowledge of the BOD in finance and accounting by looking at the ratio of the BOD members with degrees in finance and accounting to the total number of BOD members. This scale is inherited from the studies of Rasmini et al. (2014); Rehana et al. (2021).

(6) Independence of the BOD

The independence of the BOD will help better control the management activities of an organization and limit the opportunistic behaviors of the CEO. Boards with less independence may have a negative impact on corporate disclosure practices because of the increasing power of managers. Sanchez et al., 2011 argued that the concurrent roles and concentrated power of both the BOD chairman and the CEO in the hands of one person will limit the ability of the BOD in handling corporate information and thus affect the level of information disclosure. Several studies have shown a positive relationship between disclosure and the presence of an independent BOD such as the study by Prado-Lorenzo et al. (2009), García-Sánchez et al. (2011); and Vo Van Cuong (2021). Meanwhile, there have been studies showing opposite results such as Lim et al. (2007) and Prado-Lorenzo and García-Sánchez (2010), Frias-Aceituno et al. (2012); Rasmini et al. (2014). There have been differences in research results on the relationship between voluntary disclosure and the independence of the BOD. It is necessary to re-test this factor with the research object being listed companies in Vietnam. Therefore, the next hypothesis is made:

Hypothesis H6: The independence of the Board of Directors will positively affect the establishment of IR in the enterprise.

This study measures the independence of the BOD by looking at the concurrent roles performed by the Chairman and the CEO: if the Chairman is not the CEO, it is considered independent; otherwise it is not - as inherited from the research of Frias-Aceituno et al. (2012).

(7) Diversity of nationalities in the BOD

The diversity of the BOD, defined as differences in its member characteristics, is a factor that promotes

problem solving, increases leadership effectiveness, and facilitates more effective global relationships. In general, studies that include this feature often focus on the nationalities and gender of board members. The studies of Rasmini et al. (2014) and Vo Van Cuong (2021) show that the presence of foreigners in the BOD affects the amount of information disclosed by enterprises. Meanwhile, the study of Frias-Aceituno et al. (2012) Alfiero et al. (2017) finds no such association. It is expected that BOD members with foreign nationalities and a more developed cultural identity, thinking and perspective will catch up with the current trend, the trend of establishing IR. Therefore, the next hypothesis is made:

Hypothesis H7: A BOD with foreign members will have a positive impact on the establishment of IR in the enterprise.

The diversity of nationalities in the BOD is measured by the rate of the number of members with foreign nationalities to the total number of members of the BOD, as inherited from the studie The tests all have Prob>F (or Prob>chi2) less than 0.05, and adjusted R2 greater than 50%; therefore, the three models are suitable and can be used to predict the IR dependent variable through independent variables s of Alfiero et al. (2017).

7. RESEARCH RESULTS

The results of descriptive statistics are presented in Table 1.1 below:

Table 1.1: Basic statistics describing the variables in the model

	Mean	Min	Max	Standard deviation	Observe
IR	0.7031	0.1794	0.9143	0.1896	567
COMPI	0.0091	0.0001	0.6361	0.0087	567
CREDIT	0.5117	0.3038	0.8920	0.1502	567
ENVIPRE	0.5731	0	1	0.4950	567
SHAPRE	49.3538	6.7856	91.6619	23.0735	567
FINANCE	0.4540	0.2000	0.8000	0.4640	567
INDEP	0.4426	0	1	0.4971	567
FOREIG	0.1374	0	0.6250	0.1917	567

(Source: Processing results on STATA 16)

Because the analytical data is panel data, the study used three types of empirical research models: Pooled OLS, fixed effects model (FEM), random effects model (REM) to test the factors.

The results of running 3 models are summarized by the author in Table 1.1:

Table 1.2: Regression results according to Pooled models OLS, FEM, REM

Independent Variable Result	Result	Pooled OLS	REM	FEM
SHARE	Beta coefficient	0.0068	0.0041	0.0003
	Standard deviation	0.0016	0.0001	0.0002
	Value t	4.37	2.94	1.65
	Value P	0.000(***)	0.003(***)	0.099(*)
COMPI	Beta coefficient	0.2227	0.1673	0.1459
	Standard deviation	0.0451	0.0322	0.0349
	Value t	5.12	5.20	4.18
	Value P	0.000(***)	0.000(***)	0.000(***)
CREDIT	Beta coefficient	- 0.2518	- 0.1872	- 0.1527
	Standard deviation	0.0272	0.0260	0.0307
	Value t	- 9.26	- 7.19	- 4.97
	Value P	0.000(***)	0.000(***)	0.000(***)
ENVIPRE	Beta coefficient	0.0326	0.0365	0.0428
	Standard deviation	0.0887	0.0105	0.0165
	Value t	3.77	3.47	2.59
	Value P	0.000(***)	0.001(***)	0.010(***)
FINANCE	Beta coefficient	0.0552	0.0927	0.1153
	Standard deviation	0.0223	0.0213	0.0252
	Value t	2.47	4.35	4.57
	Value P	0.014(**)	0.000(***)	0.000(***)
INDEP	Beta coefficient	0.1879	0.1970	0.1982
	Standard deviation	0.0091	0.0096	0.0127
	Value t	20.78	20.45	15.66
	Value P	0.000(***)	0.000(***)	0.000(***)
FOREIG	Beta coefficient	0.0941	0.0393	0.0018
	Standard deviation	0.0198	0.0204	0.0253
	Value t	4.74	1.92	0.07
	Value P	0.000(***)	0.054	0.945

Note: (***) P_value coefficient less than 0.01, (**) P_value coefficient less than 0.05, (*) P_Value coefficient less than 0.1

(Source: Processing results on STATA 16)

The analysis results show that, except for the FOREIG factor, all the remaining factors are statistically significant in all 3 models. Specifically for the FOREIG factor, this factor is only statistically significant in the OLS model, not statistically significant for the FEM and REM models (P value > 0.05).

To assess the relevance of the model, the study was based on the adjusted F statistic and R2 for the Pooled OLS and FEM models, and the adjusted Wald Chi2 and R2 for the REM model. The test results are shown in Table 1.3:

Table 1.3: Results of testing 3 models OLS, REM, FEM

The test	Pooled OLS	REM	FEM
F statistic/ Wald Chi2	F (6, 559) = 207.81 Prob > F = 0.0000	Wald chi2(6) = 919.60 Prob > chi2 = 0.0000	F (6, 371) = 62.58 Prob > F = 0.0000
R2 adjusted	0.7189	0.7118	0.6946

(Source: Processing results on STATA 16)

The tests all have Prob>F (or Prob>chi2) less than 0.05, and adjusted R2 greater than 50%; therefore, the three models are suitable and can be used to predict the IR dependent variable through the independent variables: SHAPRE, COMPI, CREDIT, ENVIPRE, INDEP, FOREIG.

In panel data analysis, the implementation of the OLS regression method does not make much sense because this method considers enterprises to be homogeneous, leading to biased estimates and uncontrollable separate effects. Therefore, it is necessary to have in-depth tests to choose the appropriate model.

The results of Hausman –Test with Prob>chi2=0.0238 show that the FEM model fits the data sample better than the REM model. The study continues to perform necessary tests on homogeneity variance and autocorrelation between residuals and multicollinearity of the variables in the selected FEM model. The results of model estimation by means of the feasible generalized least squares method (FGLS) for the model having variable variance and series autocorrelation are shown in Table 1.4:

Table 1.4: The results of model estimation by means of the feasible generalized least squares method (FGLS)

Index	Regression coefficient	Level of significance
Prob > chi2	0.000(***)	
SHAPRE	0.0002	0.001(***)
COMPI	0.1501	0.000(***)
CREDIT	- 0.1867	0.000(***)
ENVIPRE	0.0362	0.000(***)
FINANCE	0.0533	0.000(***)
INDEP	0.1793	0.000(***)
FOREIG	0.0610	0.043(**)
Constant	0.5849	0.000(***)

The analysis results show that all factors affect the establishment of IR at the significance level of 5%; therefore, the regression equation for the research model has the following form:

$$\text{IR} = 0.5849 + 0.0002 * \text{SHAPRE} + 0.1501 * \text{COMPI} - 0.1867 * \text{CREDIT} + 0.0362 * \text{ENVIPRE} + 0.1793 * \text{INDEP} + 0.0533 * \text{FINANCE} + 0.0610 * \text{FOREIG}$$

8. DISCUSSING THE RESULTS OF RESEARCH ON FACTORS AFFECTING THE ESTABLISHMENT OF IR IN LISTED COMPANIES IN THE VIETNAMESE STOCK MARKET

From the aforementioned research results, it can be seen that the establishment of IR in listed companies in the Vietnamese stock market is influenced by 6 factors, namely: pressure from the State and major shareholders; pressure from competitors; pressure from funding organizations; pressure due to operating in environmentally sensitive areas; independence of the BOD; diversity of nationalities in the BOD. The FEM model shows the result that the coefficient $R^2 = 0.6946$, meaning 69.46% of the dependent variables are explained by the independent variables in the model. Moreover, all factors in the influence model are at the level of statistical significance. This model is suitable for the Vietnamese context.

Pressure from major shareholders

The variable for pressure from major shareholders (SHAPRE) has a proportional relationship with the establishment of IR in listed enterprises, with the coefficient = 0.0002, p-value = 0.001. Thus, hypothesis H1 is accepted, which means that the pressure from major shareholders has a positive impact on the establishment of IR in the enterprise. Major shareholders for their own sake have demanded more disclosure. Major shareholders have a huge impact on the value of the enterprise; therefore, under pressure from major shareholders, listed companies in Vietnam must disclose information in order to reduce information asymmetry. The research results are consistent with many studies in explaining the pressure from large shareholders on information disclosure, according to Huang and Kung (2010) for example, and also in improving the quality of IR according to Vitolla et al. (2019) for example.

Pressure from competitors

The variable for pressure from competitors has a proportional relationship with the establishment of IR in listed enterprises, with the coefficient = 0.1501, p-value = 0.000. Thus, hypothesis H2 is accepted, which means that pressure from competitors has a positive impact on the establishment of IR in enterprises. In fact, investors have made comparisons when choosing enterprises in the same industry, especially those with similar market shares. The competitive advantage at this time will belong to businesses that provide full and multi-

dimensional information to meet the needs of investors. Therefore, enterprises operating in a competitive environment often tend to establish IR to increase competitiveness. This is asserted by the research of Bui Van Duong and Tran Thi Thanh Thanh (2021) in their survey of listed companies in the Vietnamese stock market.

Pressure from funding organizations

The variable for pressure from funding organizations has an inversely proportional relationship with the establishment of IR in enterprises, with the coefficient = - 0.1867, p-value = 0.000. Thus, hypothesis H3 is rejected, and enterprises with a higher debt ratio are less likely to apply IR. This is explained by the reason from the side of the enterprise that, because of the high debt ratio, they want to conceal this problem. Meanwhile, funding organizations may have a different interest, or analyze the problem in a different way that does not rely on non-financial information. This is also consistent with the study of Alsaeed (2006) and Lan et al. (2013) in which they looked into the relationship between funding institutions and information disclosure.

Pressure due to operating in environmentally sensitive areas

The variable for pressure due to operating in environmentally sensitive areas has a proportional relationship with the establishment of IR in listed enterprises, with the coefficient = 0.0362, p-value = 0.000. Thus, hypothesis H4 is accepted, which means that enterprises operating in environmentally sensitive areas have a positive impact on the establishment of IR in enterprises. The legitimacy theory shows that enterprises always try to legitimize their actions by participating in social responsibility reports to gain social approval. This is even more true for those operating in environmentally sensitive areas when they are often considered to have an adverse impact on the environment. Failure or delay in disclosing environmental information can signal to stakeholders that the enterprise is not complying with environmental requirements, which can lead to business risks. Therefore, they will choose the best tool to disclose information in order to give a good signal to the stakeholders. This is consistent with the studies of Frías-Aceituno et al. (2012) and Garcia et al. (2013) in the practice of IR.

Knowledge of the BOD of finance and accounting

The variable of the BOD's knowledge of finance and accounting has a proportional relationship to the preparation of integrated reporting in the listed enterprises, coefficient = 0.0533, p-value = 0.000. Hypothesis H5 is accepted, which means that members of the BOD with knowledge of finance and accounting will see the importance of information disclosure, especially information disclosure through integrated

reporting thanks to the benefits of integrated reporting not only to enterprises but also to all stakeholders, thereby encouraging enterprises to apply integrated reporting. This is also confirmed by Rehana et al. (2021) in their research on disclosure.

Independence of BOD

The variable for the independence of the BOD has a proportional relationship to the establishment of IR in listed companies, with the coefficient = 0.1793, p-value = 0.000. Hypothesis H5 is accepted, which means that enterprises with an independent BOD will have a positive impact on the establishment of IR in the enterprises. BODs with poor independence can negatively impact corporate disclosure practices because of the increasing power of managers. On the other hand, the concurrence of BOD roles will limit the capacity of the BOD. This has been asserted by the studies of Prado-Lorenzo et al. (2009), García-Sánchez et al. (2011); Vo Van Cuong (2021); Rehana et al. (2021).

Diversity of nationalities in the BOD

The variable for the diversity of nationalities of BOD members has a proportional relationship with the establishment of IR in listed enterprises, with the coefficient = 0.0610, p-value = 0.000. Hypothesis H7 is accepted, which means that the more foreign BOD members enterprises have, the more positive impacts it will have on the establishment of IR in enterprises. The diversity of cultures and viewpoints as well as access to new trends by foreign members of the BOD will add new thinking and strategies to the BOD. Therefore, IR is applied. This is also asserted in the studies of Rasmini et al. (2014) and Vo Van Cuong (2021); Rehana et al. (2021).

9. CONCLUSION

The effectiveness and benefits of IR have been confirmed by enterprises in many countries, not only for the enterprises themselves but also for the economic development of a country. This study shows that stakeholders are increasingly building up their trust in enterprises with a high level and high quality of information disclosure, especially information disclosure through IR. Therefore, enterprises, especially the Board of Directors, need to raise awareness of the establishment of IR, need to change their mindset and show high commitments in the implementation of IR. In the immediate future, enterprises must develop an appropriate roadmap towards a sustainable development strategy through the application of IR. In addition, in order to support enterprises, the State needs to develop a roadmap for implementing IR for enterprises, firstly with a focus on listed companies. At the same time, it is also necessary to have policies to encourage enterprises to implement IR because the initial difficulties when applying IR will always be a big barrier that prevents them from doing so.

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TAXATION ON TRANSPORTATION ENERGY: INFLUENCE ON CARBON EMISSIONS REDUCTION

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Research purpose:

The purpose of this paper is to compare and analyse the effects of carbon taxation implementation and factors considered in its development within the transportation industry

Research motivation:

The motivation of this paper is to explore how taxation policies on energy consumption for transportations will impact developing and developed countries in its implementation and policy development.

Research design, approach, and method:

The review focuses on the possibility of different types of countries behave differently in response to the implementation of energy taxation.

Main findings:

From the review it is found that different types of country consider different factors on its energy taxation policies development and behaves differently towards its implementation.

Practical/managerial implications:

The research done may be focused on limited aspects that are affected by carbon taxation implementation.

Keywords: *carbon taxation, fuel tax, pollution tax, carbon emission, fuel efficiency, greenhouse gas emissions*

THE CONTINGENCY FACTORS, INTEGRATED PERFORMANCE MEASURES AND ORGANIZATIONAL PERFORMANCE – EVIDENCES FROM VIETNAMESE MANUFACTURING ENTERPRISES

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Research purpose:

This research will empirically investigate whether some contingency factors motivate the firms to use the integrated performance measures in order to improve their performance.

Research motivation:

Literature reviews on performance measurement system propose that firms should more focus on non-financial performance measures in addition to financial measures.

Research design, approach and method:

The collected data of 257 Vietnamese manufacturing enterprises relating to the extent to which these firms use the integrated performance measures and their determinants as well as consequences was used to analyze through quantitative research method under PLS_SEM analysis technique.

Main findings:

The research results show that two contingency factors comprising differentiation strategy and the managerial accountants' participation in the strategic decision-making process have the significantly positive effects on the use of the integrated performance measures. In addition, the use of the integrated performance measures plays a partly mediating role in the relationship between each of the contingency factor and organizational performance. Finally, the study also concludes that level of competition does not moderate the relationship between the use of the integrated performance measures and organizational performance whereas the managerial accountants' participation also does not play that role in the association between differentiation strategy and the use of the integrated performance measures.

Practical/managerial implications:

In order to improve performance in the enterprises pursuing a higher differentiation strategy and much participation of managerial accountants in the strategic decision-making process, their managers need to apply more integrated performance measures.

Keywords: *contingency factor, the use of the integrated performance measures.*

IMPACT OF IFRS APPLICATION ON FIRM PERFORMANCE THROUGH DISCLOSURE QUALITY

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Research purpose:

The paper examines the change of firm performance of listed companies by considering the influence of IFRS application. Furthermore, the mediating effect of disclosure quality is also considered in this study. It provides empirical evidence in Southeast Asian countries context.

Research motivation:

The application of IFRS has had a huge impact on the quality of financial reporting and thus increasing company performance. However, there has been a lack of studies integrating these factors into the same research model.

Research design, approach and method:

The five-year dataset of companies listed on stock exchange of Southeast Asian countries during the period from 2017 to 2021 is used to investigate hypotheses by using GMM estimation method. Additionally, we use the feasible general least squares estimation method to test the robustness of GMM estimation method results.

Main findings:

The results exposed that there is positive and substantial influence of IFRS application on firm performance, which suitable for agency theory and economic theory of networks. Moreover, disclosure quality positively mediates the nexus between IFRS application and firm performance in Southeast Asian countries.

Practical/managerial implications:

According to the study's outcomes, the higher the disclosure quality, the less information is omitted. That is, the information presented in the financial statements is disclosed more fully and carries more relevant value. This contributes to a higher financial firm performance. Therefore, companies need to improve the disclosure quality of financial statements by improving the level of omission of material items, especially by speeding up the application of IFRS in countries.

Keywords: *Disclosure quality, Firm performance, IFRS application, Southeast Asian countries*

CORPORATE SOCIAL RESPONSIBILITY ACCOUNTING DISCLOSURE AND FIRM PERFORMANCE: EVIDENCE FROM VIETNAM

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Research purpose:

The purpose of the study is to test the two-way causal relationship between the level of Corporate Social Responsibility Accounting Disclosure (CSRDA) and financial performance of listed companies on Vietnam's stock market during the 2015-2021 period.

Research motivation:

Until now, there have been many domestic and foreign studies on the relationship between responsibility accounting disclosure and corporate financial performance from different aspects, including the one-way effect between responsibility accounting information disclosure and financial performance, or vice versa, the results of the studies also have many differences. Some studies in Vietnam have already discussed about this relationship, but only in the banking industry, there are no study on listed companies in Vietnam.

Research design, approach, and method:

The study uses the Ordinary Least Squares (OLS) with data collected from annual reports, financial statements and sustainability reports of the Top 30 companies with the largest capital on the Vietnam stock exchange. The study uses a set of CSRDA based on Circular No. 155/TT-BTC issued on 6 October, 2015 and supplemented and amended in Circular No. 96/2020 /TT-BTC. Additionally, the efficiency of the corporation is assessed by the return on assets (ROA) and return on equity (ROE).

Main findings:

The results show that there is a causal relationship between CSRDA and financial performance of companies listed on the Vietnam stock market.

Practical/managerial implications:

Provide some suggestions for enhancing the effectiveness of CSR accounting information disclosure in order to improve company financial efficiency in Vietnam.

Keywords: *Disclosure of information, social responsibility accounting, corporate financial performance.*

INFORMATION SYSTEMS

ACCOUNTING INFORMATION SYSTEMS AND ORGANISATION PERFORMANCE: THE CASE OF VIETNAM

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Research purpose:

We explore a path model by integrating Technology–Organisation–Environment (TOE) framework, resource-based view (RBV) and the other theories to interpret software adoption in accounting information systems (AIS).

Research motivation:

In the world of uncertainties, businesses are increasingly interested in implementing IT for the purpose of enterprise management. In this context, we focus on how a software in AIS is accepted because an efficient AIS will support managers making decisions better, then, enhancing performance.

Research design, approach, and method:

A quantitative study method is conducted by collecting data from 203 Vietnamese enterprises. The PLS analysis is used to examine the path model.

Main findings:

The results of PLS analysis confirm that technological elements are strongly correlated with software adoption more than organisational, and environmental elements. Behavioural intention software use plays a significant role for acceptance of software, in turn, software adoption increases organisation performance.

Practical/managerial implications:

Since the AIS management in the 21st century is focused on IT orientation, the study results show an operational perspective to be prepared for software adoption in AIS.

Keywords: *Technology–Organisation–Environment framework, software adoption, accounting information systems, performance, Vietnam*

BIG DATA ANALYTICS AS AN ENABLER FOR SUSTAINABLE DECISION MAKING IN THE TIMES OF UNCERTAINTY: UNVEILING THE IMPACT OF CYBERSECURITY RISK MANAGEMENT, EFFECTIVENESS OF ACCOUNTING INFORMATION SYSTEM AND MORAL INTELLIGENCE

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Research purpose:

The current research conceptualizes and validates a model focusing on the interconnection between big data analytics (BDA) and sustainable decision-making (SDM). Additionally, it also pursues to delve into the mediation mechanism of effectiveness of accounting information system (EAIS) and cybersecurity risk management (CRM) in the linkage between BDA and SDM. Outstandingly, it makes several endeavors to deepen insight on whether the interconnection between these aforementioned components varies resting on specific degree of moral intelligence (MI).

Research motivation:

The cybersecurity has been pondered as a great concern for professionals, legislators as well as all decision-makers and the EAIS has long been well-acknowledged as the prerequisite organizational management. Against this backdrop, BDA would become a must-have element of any fruitful cybersecurity resolution and organizational EAIS to enable public sector organizations (PSOs) to achieve the SDM in operation within the time of uncertainty

Research design, approach, and method:

The statistical data was captured from paper-and-pencil survey circulated to a convenience and snowball sample of 683 respondents in the Southern areas of Vietnam. The two-step Structural Equation Modeling (SEM) with the support of AMOS version 26 was employed to testify series of hypothesized interconnections in the proposed model. Additionally, the multi-group analysis (MGA) was applied to examine the moderating impact of MI.

Main findings:

The result analyses underlined that the proposed dimensions were interdependent and fortified each other.

Practical/managerial implications:

The findings of this research might offer newer insights to practitioners and policymakers to generate targeted strategies to enhance the digital transformation in PSOs, which could yield fruitful benefits in the long run.

Keywords: *accounting information system, big data analytics, cybersecurity risk management, decision-making, moral intelligence*

INFORMATION TECHNOLOGY CONTINUANCE IN THE EXTERNAL AUDIT PROFESSION: EVIDENCE FROM VIETNAM

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Research purpose:

This study examines the influencing factors from the synthesis of theoretical perspectives on information technology (IT) continuance in the external audit profession.

Research motivation:

This study not only has a theoretical contribution in providing information on analyzing and synthesizing different paths that can shape IT continuance behavior, but also has practical value through management implications for independent auditing firms for the use of technology in the context of digital auditing.

Research design, approach, and method:

To do so, it presented a continuance behavioral model, which was conducted experimentally using data collected from two surveys for audit practitioners in Vietnam. They were interviewed 1 month apart. The final survey data were analyzed via a two-step SEM.

Main findings:

Findings show that the behavior of continuously using a particular technology in the past is different the behavior in the first use. And it is not necessarily evaluated only in the theory of rational action but should be seen in conjunction as experience in a specific time. Finally, the individual is an external auditor, from the intention to the use behavior is also governed by the application conditions of the organization.

Practical/managerial implications:

The final result implies that the researcher needs to consider the relationship between the intention to continue using behavior of the auditor in the cross-effect of the application condition, and this behavior is proposes to consider in a theoretical perspective a combination of rational action and empirical response.

Keywords: *information technology, continuance, auditor, TAM, disconfirmation, satisfaction*

A CASE STUDY IN VIETNAM USING THE IMO MODEL TO EXPLORE UNDERGRADATE STUDENTS' VIRTUAL TEAMWORK

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Research purpose:

Few research has focused on how computer-mediated communication competency impacts the success of virtual teamwork through affecting conflict management among university students. As an important topic in teamwork, especially in the situation where it is more likely to happen due to the limitations of CMC, conflict management needs more attention so that virtual teams can deliver the best performance even in difficult times. Therefore, by applying the widely accepted IMO model in studying team effectiveness, this study fills the gap by examining the link between these variables during the pandemic.

Research design, approach, and method:

Three hundred and twenty-four Vietnamese university students participated in the study and completed an online survey. SmartPLS 3 would be used to analyse 315 replies. CMC skills, conflict management, trust, cohesion, team performance, and team satisfaction are all evaluated using structural equation modelling.

Main findings:

Expressiveness and coordination, which account for two out of four CMC skills, have a positive effect on conflict management. The efficacy of the virtual team improves as a result of this interpersonal process, which fosters trust and togetherness. Following the IMO model, undergraduate students' CMC abilities have an impact on the virtual team's effectiveness.

Practical/managerial implications:

Practical implications for stakeholders and contributions to future research are discussed.

Keywords: *CMC skills, cohesion, conflict management, trust, virtual teams' effectiveness*

1. INTRODUCTION

Technological advancement has changed the way people communicate not only through face-to-face conversations but also through computer-mediated communication (CMC) technologies. This creates opportunities for connecting people to work regardless of time and geographical location, which leads to the definition of a virtual team. Despite the advantages of virtual teamwork, people still prioritize traditional teamwork as face-to-face interaction is believed to be the richest medium of communication over CMC (Daft & Lengel, 1986). Since the outbreak of the COVID-19 pandemic - the most severe public health emergency - occurs, people are required to stay at home. Thus, social, and academic activities are conducted virtually. Given that nowadays universities expect students to engage in

teamwork in every class, undergraduates must manage virtual teams to accomplish schoolwork during the time of social distancing.

Virtual teamwork presents a number of challenges for team members (Krumm et al., 2016) including technology management, the lack of face-to-face interaction, unresolved conflicts in tasks and relationships, and so on. As a result, college students who lack the ability to communicate and collaborate effectively will find it challenging to form an effective virtual team. If a person lacks the ability to express himself through CMC technologies, his incompetence might cause him into conflicts with other team members. This could lead to a loss of trust and a decrease in team cohesion. More seriously, the team may not be able to meet their mutual objectives.

Although the efficiency of a virtual team has long attracted the interest of academics, the majority of studies are undertaken in the workplace. Indeed, there is a limited amount of research that offers evidence on how virtual teamwork matters among college students. Furthermore, while there have been studies on how virtual teams handle cultural diversity or geographic dispersion (Chang et al., 2011, Scott & Wildman, 2015), there have been few studies on the technological challenge of virtual teams. In light of this, the current study was conducted in order to explain how technological competence in the CMC environment would help virtual teams of Vietnamese college students manage conflict, which leads to the success of teams. Specifically, the effect of CMC skills on conflict management is examined which leads to team cohesion and trust. Subsequently, the IMO model is used to test how that mechanism affects virtual team effectiveness.

2. THEORETICAL BACKGROUND

The "Information richness theory" is another name for the original media richness theory (Daft & Lengel, 1986), which acknowledged that media could transfer necessary information. The theory states that diverse media or communication types can acquire varied levels of richness. The capacity to include personal attention, the promptness of feedback, the variety of language carried, and the delivery of multiple cues are some factors that can be used to assess the richness of the media. Face-to-face communication is therefore the richest while CMC is still the poorest since it satisfies the bulk of the requirements that CMC was unable to satisfy.

Virtual teamwork has received much attention because the remarkable development of technology removes the restrictions of face-to-face teams. More specifically, some scholars define a virtual team as a group facing three challenges namely geographical, temporary and organizational restrictions. Some researchers indicate that a virtual team is a collection of individuals who are geographically and temporally separated and are connected by virtual technologies (Pazos, 2012; Garro-Abarca et al., 2021). Other researchers combine organization as a boundary in the definition (Powell et al., 2004; Alaiad et al., 2019). Taken together, because the present study focuses on students in a specific university, we eliminate the organizational factor from the definition of a virtual team.

Moreover, social information processing (SIP) theory (Walther, 1992) explains the development of interpersonal impressions and relationships in the CMC environment. The theory posits that communicators can adapt to using the computer-assisted medium with the absence of nonverbal cues to communicate as effectively as they can in face-to-face settings if time increases. This indicates that people in virtual environments can gain the same level of effectiveness

through CMC as they can face to face.

Whether a virtual team works effectively depends on the communication and collaboration empowered by computer-mediated communication (CMC) technologies. As stated by Spitzberg (2006), CMC refers to any human symbolic text-based interaction conducted or facilitated through digitally based technologies such as the Internet, cellular phone text, text-supplemented videoconferencing, etc. The definition of CMC requires actual people engaged in any interpersonal interaction mediated through computers. Therefore, adapting the work of Spitzberg (2006), this study investigates virtual teams formed by college students operating on platforms such as Zoom, Microsoft Teams, Facebook, etc.

2.1. IMO model

In this current study, the IMO (Input-Mediators-Output) model is considered to examine the relationships between three sets of variables which are CMC skills as input variables; conflict management, trust, and cohesion as mediator variables; team performance and satisfaction as output variables. Formerly, Input-Process-Output (IPO) model is a dominant theoretical lens used in studying team effectiveness and it is widely accepted in virtual settings to shed light on the nature of virtual team performance. In the IPO framework, input combines factors that lead to process, and process, in turn, leads to output. Therefore, it is understandable that the process operates through the mediating mechanism converting input to the output of a team. Although much of the work has been done applying the IPO model, some researchers have advanced the framework. Marks et al. (2001) is a typical example when they introduced the appearance of emergent states as another type of variable. Specifically, they have supplemented the original process with the concept of "emergent states" which can be considered both team inputs and proximal outcomes. Regarding the process, Marks et al. (2001) have divided them into three dimensions which occur during and between the performance episodes namely transition processes, action processes and interpersonal processes. In this study, we focus only on interpersonal processes such as conflict management. Besides, concerning the emergent states, they distinguish them from the process by referring them to the cognitive, motivational, and affective states of the team. Consequently, because it is believed to limit the focus on process-related variables but not processes, the IPO model is developed into IMO (Input-Mediators-Output) model instead (Marks et al., 2001; Ilgen et al., 2005; Mathieu et al., 2008). Partially based on that view, the developed IMO model substitutes "M" for "P" to refer to a broader range of variables that transform team inputs into team outputs (Ilgen et al., 2005). Finally, output in this model is considered as the accomplishment of a team after working together and is referred to as team effectiveness.

2.2. Input

CMC skills, which combine attentiveness, expressiveness, composure, and coordination, are chosen to be team inputs in this study. Input in traditional teams represents starting conditions of teamwork, namely the structure of the norms which guide group member behavior, the design of the group task, and the composition of the group (Hackman & Morris, 1975). Therefore, knowledge, skills, abilities, and other factors (KSAOs) of everyone in a team are also considered as input factors and adopted in virtual context (Powell et al., 2004; Gilson et al., 2015; Krumm et al., 2016). Also, according to Krumm et al. (2016) by reviewing extensive research in the domain of virtual teamwork, three key virtuality facets affect team mediators and outcomes. These facets are related to three core challenges which are technology use, cultural differences, and geographic dispersion. Krumm et al. (2016) have argued that CMC competence is important in handling those challenges. During the times of the COVID-19 pandemic, challenges posed by social confinement have stimulated advances in CMC technologies, which could assist students in achieving their educational goals. Students need to develop competence in those technologies if they want to succeed in virtual teamwork via effective interaction with other members. CMC competence needs more attention when mentioning virtual teams' experience in such a circumstance.

This study focuses solely on the skills, which are one of three components of CMC competence. Based on the CMC competence model, Spitzberg (2006) has noted that motivation and knowledge are antecedents of skills. Furthermore, because the digital world has turned students into a tech-savvy generation, they are virtually knowledgeable about how to interact through CMC technologies. Also, due to the COVID-19 pandemic, social distance coerces students to perform educational activities online whether they are motivated or not. Hence, focusing on only CMC skills is appropriate for college students in this present study.

2.3. Mediators

2.3.1. Team process

Conflict management has been recognized as a critical interpersonal process in studying traditional teams (Jehn & Mannix, 2001; Mathieu et al., 2008). Fundamentally, a process is described as a set of interdependent actions performed by members of a group to convert inputs into outcomes through cognitive, verbal, and behavioral activities to achieve a common goal (Mathieu et al., 2008). Therefore, in this study, conflict management represents a mechanism in which actions are taken to resolve conflicts due to differences in everyone's CMC competence, leading to the effectiveness of a virtual team.

Studying conflict management is necessary for virtual settings. Prior studies have applied cues-filtered-

out theories to explain why conflicts matter in virtual contexts. For example, according to media richness theory (Daft & Lengel, 1986) and social presence theory (Short et al., 1976), CMC is considered as the least rich and socially present compared to face-to-face interaction. Along with the CMC's impersonal, interpersonal, and hyper personal effects (Walther, 1996), those researchers have argued that CMC lacks interpersonal cues through possessing features such as depersonalizing, task-orientation as well as encouraging freedom to verbalize because of anonymity. Thus, it can be inferred that virtual teams are more likely to experience conflicts than face-to-face teams (Furumo, 2008). Consequently, conflict management is of paramount importance in researching virtual teams' effectiveness.

2.3.2. Emergent states

Emergent states are constructs that characterize team qualities, many of which are dynamic and change because of team context, inputs, processes, and outcomes (Marks et al., 2001). According to Mark et al. (2001), emergent states do not generate the representation of team interactions or activities that result in team outcomes. They stated that "emergent states are not processes in and of themselves because they do not describe the nature of member interaction." In other words, emergent states result from team experiences, including team processes, and they become new intakes to later processes and outcomes (Marks et al., 2001). In virtual teams, communication, trust, and cohesion were found to represent the most proximal emergent states (Kirkman et al., 2002). Trust and cohesion are argued to pose a particular challenge (Kirkman et al., 2002) for virtual teams because of the highly contextual dependence of emergent states. Those only become concrete through team experience.

Trust can be defined as a connection between individuals in which one person believes that the others are engaged and capable, will accomplish a fair share of group work, and will try their best to meet expectations (Furumo, 2008). It is important to trust other members when they are in a team, especially a virtual team. With the lack of face-to-face meetings, the rareness of real-time communication, and the reliance on technology-mediated communication, which will result in inferior quality of team communication, "virtuality requires trust to make it work" (Jarvenpaa & Ives, 1994).

Team cohesion, as stated by Garro-Abarca et al. (2021), could be viewed differently by team members. In this study, we adopt the definition of cohesion stated by Chidambaram (1996), which explained cohesion as "the extent to which the group members are attracted to the group and each other." In addition, the cohesion of the team could be inhibited by the physical distance (Salisbury et al., 2006). In the virtual context, cohesion has been found to be important in groups in cases where members are new to each other or are assigned to new group projects (Griffin, 1997).

2.4. Output

Numerous studies in the field of virtual teams have used team satisfaction and team performance as the critical aspects of team effectiveness (Piccoli et al., 2004; Tekleab et al., 2009). Considering the definition, team performance is viewed as the output of a team regarding the punctuality in meeting deadlines, the pace, and the quality of a team, said by Erdem et al. (2003). Regarding team satisfaction, Piccoli et al. (2004) defined the term as the members' perceptions of the decision and their agreement with the final outcomes. Similarly, team performance and team satisfaction in this study also fit the definition provided by those researchers.

3. CONCEPTUAL FRAMEWORK

3.1. Relationship between input and process

In comparison with traditional teams, more conflicts happen in the CMC environment partly because it restricts interpersonal cues. However, the social information processing (SIP) theory of Walther (1992) posits that interaction quality can be achieved both in face-to-face and computer-supported communication when time passes. This means with increasing time use, an individual will enhance their skills to adapt their communication behaviors to the CMC context and find ways to handle challenges imposed by CMC technologies. Hence, CMC still provides the possibility for achieving effective communication. To this end, if someone is competent in CMC after using it, they can minimize conflicts in the team. Firstly, according to Spitzberg (2006), with attentiveness skills, team members know how to display concern or attention appropriately to others. Secondly, with expressiveness, they know ways to show vividness in computer-mediated conversation. Thirdly, being aware of composure helps them to confidently control communication. Finally, coordination skills enable them to manage the topic discussion during teamwork. Thus, concerning the technological use aspect, an individual competent at using CMC technologies in virtual teams means that they can manage conflicts.

There is a large number of researchers investigating communication via CMC technologies and conflict management in virtual teams separately. Prior studies have failed to take these variables into account concurrently. Through reviewing literature in the field, there is no research in studying the relationship between CMC competence, especially skills, and conflict management. Thus, this present study is conducted to address the research gap with the following hypotheses:

H1: Attentiveness affects conflict management in virtual teams.

H2: Expressiveness affects conflict management in virtual teams.

H3: Composure affects conflict management in virtual teams.

H4: Coordination affects conflict management in virtual teams.

3.2. Relationship between process and emergent states

Although conflicts have long been thought to reduce trust, in this study, drawing from Beersma and De Dreu's (1999) perspective, we propose that how team members address conflicts with one another is a key factor in determining whether they can trust one another. In some cases, conflicts are needed to distribute a fair share of group work and push the speed of members' process in completing tasks in a timely manner. Furthermore, conflicts can also depict the issue between person and tasks, and they can be used as the means to solve those issues. Hence, conflict management can strengthen the bonds of team members, which subsequently build trust among them (Tjosvold et al., 2005).

We propose that conflict management is important to predict team cohesion. In the words of Jehn (1995), effective conflict management requires teams to openly discuss and, at the very least, actively strive to resolve their disagreements. Teams that can confront disagreement directly should be better equipped to foster an open, healthy, and productive environment in the long term. This will eventually promote a higher level of team cohesion (Tekleab et al., 2009).

H5: Conflict management affects team trust.

H6: Conflict management affects team cohesion.

3.3. Relationship between emergent states and output

Trust has been proved to have an impact on team effectiveness (Liu et al., 2008; El-Kassrawy, 2014) through the process of problem-solving, decision-making, and communication (Kiffin-Petersen, 2004). Teams with a prominent level of trust displayed innovative and diverse patterns of behavior, which increased the team's problem-solving abilities. Otherwise, lack of trust or low trust will create barriers to the flow of information within teams (Kiffin-Petersen, 2004), which consequently affects team members' satisfaction with collaboration and willingness to work with the team in the future. Furthermore, trust in virtual teams is reported to have the same significant role as it does in traditional ones (Henttonen & Blomqvist, 2005). Therefore, in virtual contexts, it is important to understand the effect of trust on team satisfaction and team performance.

Cohesion has also been suggested to have an impact on team effectiveness (Tekleab et al., 2009). As stated in his study, several theoretical reasons, such as punctuated equilibrium and team development stages, support the idea that team cohesion is associated with team effectiveness. Team cohesion helps team members to have a faster and stronger commitment to team goals, which leads to smoother functioning of the team and increases team satisfaction (Tekleab et al., 2009). In

addition, it has been discovered that the performance of cohesive teams outperformed non-cohesive groups by about 18% (Evans & Dion, 2012). Hence, this study will determine whether a team with higher cohesion will perform better and feel more satisfied or not.

H7: Trust affects team satisfaction.

H8: Cohesion affects team performance.

H9: Cohesion affects team satisfaction.

H10: Trust affects team performance.

3.4. Relationship between input, process, emergent states, and output

Based on the mechanism of the IMO model, there are connecting links from input to output with the mediating role of process and emergent states. Besides the direct relationship between each pair of variables in the IMO, there are indirect associations among them. Specifically, the usage of CMC technologies could be challenging for the development of trust and cohesion (Powell et al., 2004). Moreover, technology-related problems also affect virtual team effectiveness. A lack of CMC competence could have a negative impact on virtual team success (Kayworth & Leidner, 2000). Furthermore, the ability of team members to manage conflicts is also crucial to virtual team effectiveness. Taken together, an individual who is skillful in using CMC technologies could enhance the team process which is conflict management in this present study. Consequently, he could know how to handle technological challenges to communicate and collaborate effectively with each other, leading to minimizing conflicts within a team. Then, conflicts are managed means trust and cohesion are developed. As a result, this could increase team engagement so that everyone could contribute more wherever needed to achieve a common goal, which improves team performance as well as team satisfaction. In conclusion, we propose there are links between CMC skills, conflict management, trust, cohesion, team performance and team satisfaction following the mechanism of the IMO model.

3.5. Research model

Those pieces of literature review lay a foundation for our framework in this study as shown in Figure 1.

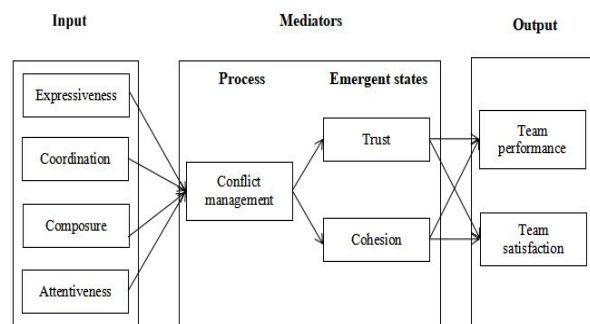


Fig.1. Research model

4. METHODOLOGY

4.1. Participants and procedure

There are 324 participants in our survey, all of whom are full-time undergraduates at UEH University, Ho Chi Minh City, Vietnam. After purifying, the sample consists of 315 qualified responses. There were no personal identifying questions in our survey, and 8 lucky participants were collected to receive our special gift after completing the questionnaire.

Table 1. Summary of demographic variables

		Frequency (N)	Percentage (%)
Biological gender	Male	254	81.2
	Female	59	18.8
	Total	315	100
Batch	44	8	2.5
	45	81	25.7
	46	86	27.3
	47	140	44.4
	Total	315	100

The sample consists of 81.2% female and 18.8% male students. This ratio represents the overall population of UEH university. However, our sample consists of only 8 final-year students, compared to 81 seniors, 86 sophomores and 140 first-year students.

4.2. Measures

In our survey, computer-mediated communication (CMC) refers to the communication between undergraduates in the context of virtual teamwork, on familiar platforms such as Messenger, Google meets, Microsoft teams, Zoom, Zalo,... Also, the survey is completed individually, and the participants are informed that they should answer the questions based on their latest teamwork experience.

CMC skills include attentiveness, expressiveness, composure, and coordination, all of which are adapted from (Spitzberg, 2006). For the coordination scale, we adapt the original item "I am skilled at prioritizing my email traffic" and change it to "I am skilled at prioritizing my message." The scale for conflict management is adapted from (Tekleab et al., 2009). For trust, we utilize the scale from (Jarvenpaa et al., 1998). We make a small adjustment by switching the reverse version to the normal one. We change it from "There is a noticeable lack of confidence among those with whom I work" to "There is a noticeable level of confidence among those whom I work". For cohesion, we adapt the scale from (Chin et al., 1999). We exclude the item "I am content to be part of this group" as we believe that

its meaning overlaps with two other items which are “I see myself as part of this group” and “I am happy to be part of this group”. The scale for team satisfaction is adopted from (Robert & You, 2018) while team performance’s scale consists of 5 items adopted from (Erdem et al., 2003).

5. RESULTS

We analyze the data using SmartPLS 3. First, we test construct reliability and validity as well as discriminant validity. Then, we conduct a Structural Equation Modeling (SEM) method to test the hypotheses that we proposed above.

5.1. Scale reliability and validity

The reliability of the scale is tested using SmartPLS. The result indicates that all the scales used are acceptable with Cronbach’s alpha greater than 0.5 (Hair, 1998), composite reliability greater than 0.7 (Bagozzi & Yi, 1988) and AVE (Average Variance Extracted) greater than 0.4 (Hock & Ringle, 2010). The detailed result is shown in table 2.

Table 2. Cronbach’s alpha

Factor	Cronbach’s Alpha	Composite Reliability	AVE
Attentiveness (AT)	0.679	0.802	0.505
Expressiveness (EP)	0.536	0.723	0.406
Composure (CP)	0.791	0.850	0.487
Coordination (CD)	0.638	0.786	0.483
Conflict management (CM)	0.711	0.821	0.535
Trust (TR)	0.849	0.889	0.575
Cohesion (CH)	0.904	0.929	0.724
Team satisfaction (TS)	0.875	0.909	0.667
Team performance (TP)	0.779	0.849	0.532

scales are valid as the square root of AVE (Average Variance Extracted) is greater than the correlation

5.2. Hypotheses test

As mentioned above, we use Structural Equation Modeling (SEM) method to test our hypotheses. SmartPLS is utilized to perform such a method.

Table 3. Results of hypotheses test

Hypotheses	Path coefficient	P-value	Conclusion
H1. Att → CMa	0.043	0.531	Not supported
H2. Exp → CMa	0.187	0.002	Supported
H3. Com → CMa	0.118	0.113	Not supported
H4. Coa → CMa	0.215	0.012	Supported
H5. CMa → Tru	0.475	0.000	Supported
H6. CMa → Coh	0.390	0.000	Supported
H7. Tru → TSa	0.396	0.000	Supported
H8. Coh → TPe	0.351	0.001	Supported
H9. Coh → TSa	0.422	0.000	Supported
H10. Tru → TPe	0.359	0.000	Supported

(Att: Attentiveness, CMa: Conflict management, Exp: Expressiveness, Com: Composure, Coa: Coordination, Coh: Cohesion, Tru: Trust, TSa: Team satisfaction, TPe: Team performance)

Table 4. R-square

	R-square	R-square adjusted
Cohesion	0.152	0.149
Conflict Management	0.186	0.176
Trust	0.226	0.224
Team performance	0.433	0.429
Team satisfaction	0.575	0.572

The hypotheses test result indicates that out of 26 hypotheses being proposed, 15 hypotheses are supported, and 11 of them are not supported. The R square adjusted for team satisfaction is 0.572 and for team performance is 0.429, which means that all the predictor variables help to explain 57.2% of the variance in team satisfaction variable and 42.9% of team performance variable. Variance inflation factor – VIF of all variables is smaller than 3, indicating that the model does not have multicollinearity issues.

On the one hand, considering the direct effects, hypotheses 1 and 3 are not supported, showing that attentiveness and composure do not have an impact on team’s conflict management. Meanwhile, hypotheses 2 and 4 are supported as expressiveness and coordination are proven to have a small effect on conflict management ($r = 0.187$, $p = 0.002$ and $r = 0.215$, $p = 0.012$ respectively). Conflict management, in turn, exerts a medium positive effect on trust and cohesion, with $r = 0.475$ ($p = 0.000$) and $r = 0.390$ ($p = 0.000$) correspondingly. Trust and cohesion are also shown to be strong predictors of team satisfaction and team performance. For team satisfaction, trust and cohesion are found to have a medium positive effect with $r = 0.396$ ($p = 0.000$) and $r = 0.422$ ($p = 0.000$). For team

performance, the two variables almost have the same level of effect, with trust having $r = 0.359$ ($p = 0.000$) and cohesion having $r = 0.351$ ($p = 0.001$). Thus, hypotheses 4 to 10 are all supported.

6. DISCUSSIONS

This study was conducted to examine how technological competence impacts team effectiveness via affecting conflict management in virtual teams among college students. To accomplish this, we examine the links between CMC skills, conflict management, trust, cohesion, team satisfaction and team performance under the application of the IMO model. Our study advances the literature on virtual teams by focusing on the CMC skills of undergraduate students in Vietnam, specifically at UEH university. We discuss the findings and contributions of this study below.

Firstly, our study concludes that only two in four CMC skills have a weak effect on the process of managing conflicts in virtual teams. Specifically, only expressiveness and coordination positively affect conflict management while attentiveness and composure do not. This result implies that expressiveness skills such as the use of emoticons, humour or even the depth and breadth of self-disclosure (Castella et al., 2000; Whitty, 2003) could help an individual to settle conflicts while working in virtual teams. By possessing expressiveness skills, it is possible that team members know how to show self-disclosure in the CMC context. Thanks to this, even in conflicts, they could clear out the points to better understand each other and resolve disputes. Considering coordination skills, having the ability to manage the interaction between team members could help them know how to appropriately close or continue the conversation when conflicts arise via several messages, the length of messages, the rapidity of response to others' messages, and the content and task relevance of responses - features of coordination skills stated by (Spitzberg, 2006).

Secondly, our findings show that conflict management has a medium positive effect on both trust and cohesion developed within a virtual team. Our study reveals that the more team members could resolve conflict effectively, the more they could better understand each other and the issues, which subsequently builds trust and cohesion among CMC interactants. Our findings on the relationship between conflict management and emergent states are consistent with Tekleab et al.'s (2009) results regarding cohesion and Tjosvold et al.'s (2005) results regarding trust. However, previous researchers divide conflict management into different approaches (Tjosvold et al., 2005) while this study examines that interpersonal process overall.

Thirdly, our study reveals the medium positive effect of emergent states on virtual teams' effectiveness.

As expected in the hypothesis, both trust and cohesion are found to positively affect team satisfaction and performance. The direct effect of trust on team performance is consistent with the result of Garro-Abarca et al. (2021) and the effect on team satisfaction is consistent with the result of El-Kassrawy (2014). In addition, the findings reveal the positive relationship between cohesion and team satisfaction, which is consistent with the findings of Tekleab et al. (2009). Also, the association between cohesion and team performance is considered like the result of Tekleab et al. (2009). In virtual teams, it is understandable that when the team members trust each other and build cohesion, they could develop a strong bond among them. Consequently, this could enhance their teamwork experience, which makes participants content and productive.

Finally, with respect to the indirect effects, our study shows support for the mediating role of process and emergent states following the mechanism of the IMO model. Specifically, conflict management and trust mediate the relationship between CMC skills and virtual teams' effectiveness whereas cohesion mediates the relationship between CMC skills and team satisfaction. Like the direct effect of CMC skills, there are only expressiveness and coordination that contribute to our proposed framework. Previous research divides that process and emergent states play the mediating roles which helps to transform the team's input into output (Marks et al., 2001; Ilgen et al., 2005; Mathieu et al., 2008). However, our study advances the work on virtual teams by showing that there is still a link between process and emergent states both directly and indirectly, and in this study, it is a link between conflict management, trust, and cohesion.

7. IMPLICATIONS

Virtual teamwork is given much more attention during times of social distancing. Even in the upcoming future, this practice is still considered important when more and more universities are applying hybrid learning as a new model for learning and teaching methods. Thus, research into virtual teams would bring several practical implications for undergraduate students, higher educational institutions, and other stakeholders involved in the experience of virtual teams. On the one hand, the findings from this study could help students to realize which CMC competencies are effective in solving conflicts; therefore, they could know how to practice a specific set of skills to communicate effectively with each other, particularly when it comes to any conflicts. Indeed, having a better understanding of CMC features could help students to mitigate potential conflicts or if they happen, the interactants could manage them in a productive way which ends in the virtual team's success. Furthermore, research into conflict management in virtual teams could also contribute to training programs. Because conflict

management relates to virtual teams' effectiveness, this study could support teachers and instructors to develop training approaches that orient students toward the development of CMC skills, especially the expressiveness and coordination skills to mitigate the conflicts arising in teamwork.

On the other hand, virtual teamwork is not only a tendency of educational institutions but also both domestic and international companies due to the COVID-19 pandemic disrupting face-to-face activities. Therefore, the results of this study also provide guidelines for the management of virtual teams in these working environments. Understanding how to deal with disputes arising while working via computer-assisted communication could help employees, team leaders, or even managers to solve serious conflicts. Consequently, this could help to ensure the best performance of teams and delivers synergy which results in nonfinancial and financial benefits for companies.

8. LIMITATIONS

This study is not without its limitations. First, our data is self-reported individually to the university students. However, our scales are proven to be reliable and trustworthy. Secondly, our sample has a small percentage of seniors because they are the hardest to approach. Thirdly, our data might be more qualified if the survey is done in groups, we do not have enough resources to arrange such an experiment. We encourage future researchers to advance this topic and solve these gaps.

9. CONCLUSION

Overall, our study examines the effect of CMC skills on virtual teams' effectiveness by utilizing the IMO model. Given the impact of the COVID-19 pandemic in Vietnam, most higher education institutions turn to online classrooms as an immediate solution, and that amplifies the role of being productive at home. Our research assumes that students' CMC skills have an impact on the team's effectiveness, following the IMO model. Because we might be one of the first studies in Vietnam to do so, we encourage future researchers to further expand our findings in several ways. Firstly, future studies can try using the IMO model with other processes and emergent states, depending on the context of the study. Secondly, our study failed to put the participants in a real experiment where they get to work with others and do the survey after the teamwork activity. We encourage future studies to do so to get a more qualified result.

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STUDY ON THE INTENTION AND BEHAVIOR COMPLYING WITH ACCOUNTING INFORMATION SYSTEM SECURITY POLICY: THE CASE OF VIETNAM

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Research purpose:

This study explores the cognitive factors and personal characteristics affecting the intention and behavior to comply with accounting information system security policy (AISSP) based on deterrence theory, protection motivation theory, and the theory of reasoned action.

Research motivation:

The digital-driven economy leads to many opportunities and many challenges for businesses concerning information system security. This is the reason why more and more managers concentrate on promulgating and enforcing accounting information system security policies. Research on AISSP compliance behavior therefore also receives much attention from researchers. However, research on this topic is still very limited in Vietnam.

In business practice, organizations usually use sanctions to deter employees who do not comply with the security policy. However, previous research results show inconsistency regarding the effectiveness of a motivated as well as the deterrent approach to compliance. These different results can be explained based on cultural differences as previous studies argued that research on information systems security policy compliance behavior based on motivation and deterrence mechanisms needs to be considered in the impact of a specific cultural factor. This motivated us to conduct research on AISSP compliance in the context of Vietnam.

Research design, approach, and method:

The survey method was acquired for doing the study. Data for the analysis were collected from 214 accountants in Vietnam through a self-administrated questionnaire. The PLS-SEM technique was employed for assessing the psychometric properties of the theoretical model and proposed hypotheses by using SmartPLS 3.2.7.

Main findings:

Our results demonstrate that the intention and behavior of accountants to comply with AISSP are positively influenced by the punishment severity, AISSP compliance attitude, response efficacy, and uncertainty avoidance.

Practical/managerial implications:

The results add to the body of literature and inform future research on information systems security policy compliance in general and AISSP compliance in particular. From the management aspect, the results help organizations recognize the problems that need to be addressed to ensure AISSP compliance from accountants.

Keywords: *punishment severity, uncertainty avoidance, response efficacy, AISSP compliance attitude, intention to comply with AISSP, and AISSP compliance behavior.*

WHO INFLUENCES INFORMATION SYSTEMS SECURITY POLICY COMPLIANCE BEHAVIOR? A ROLE OF WORKING EXPERIENCE, AND GENDER

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Research purpose/ motivation:

This paper aims to investigate the effects of years of experience, and gender on information systems security policy (ISSP) compliance behavior in Vietnam, a technologically emerging and developing country, using the Theory of Reasoned Action (TRA).

Research design, approach, and method:

The research was an empirical study based on surveys completed by 256 IT and non-IT professionals in organizations in Vietnam that have formally adopted ISSP. The authors applied the partial least square method to test hypotheses and test moderating role of gender and working experience.

Main findings:

Attitude toward ISSP compliance positively direct and indirect affects employees' ISSP compliance behavior. Subjective norms influence ISSP compliance via intention to comply. Intention and behavior to comply with ISSP exist significant relationship. As for working experience differences, attitude have stronger direct impacts on low-experience employees' ISSP compliance than it does on high-experience group while attitude exerts an indirect significant effect on low-experience employees' ISSP compliance only. As for gender differences, attitude have stronger direct impacts on males employees' ISSP compliance than it does on female. Moreover, an indirect influence between attitude and behavior, between subjective norms and behavior; and a direct impact between intention and behavior are supported significantly for females' group only.

Practical implications:

The results could be important in understanding and facilitating the process of establishing, developing, and enhancing ISSP compliance in Vietnam.

Originality/ value:

The findings from this study contribute to a better understanding of the variance of employees' ISSP compliance behavior affected by their demographic characteristics including working experience, and gender.

Keywords: *working experience, gender, ISSP compliance behavior, Vietnam.*

HYBRID IT GOVERNANCE MECHANISMS THAT INFLUENCE DIGITAL TRANSFORMATION AND ORGANIZATIONAL PERFORMANCE IN BANK RAKYAT INDONESIA (BRI)

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Research purpose:

The purpose of this paper is to explore the hybrid IT governance (ITG) mechanisms which consists of traditional and agile/adaptive ones that influence a successful digital transformation (DT) and organizational performance (OP) in a bank, because the banking industry is generally heavily impacted by financial technology.

Research motivation:

The disruption of emerging technologies, the challenge from born-digital competitors, the increased digital behaviour among stakeholders, and the COVID-19 pandemic, have forced incumbent organizations to accelerate their DT journey. However, many DT investment failures have occurred, suspected to be caused by poor governance. There is also a doubt that the traditional ITG is still effective for this digital era. Therefore, there is a lack of knowledge of the emerging ITG mechanisms that influence a successful DT in a bank.

Research design, approach, and method:

To address the problem, a case study has been carried out in Bank Rakyat Indonesia (BRI), which recently received many awards for its successful DT. The data used were collected through interviews and triangulated by external and internal documents, then analysed using thematic analysis. There are 4 themes, 16 categories, and 158 codes which are identified from the thematic analysis. Whereas BRI is a 126 years old incumbent bank with the largest assets and network in Indonesia. Indonesia is a G20 country (the world's largest economy) that has the most significant digital economy development predicted in the ASEAN (South East Asia) countries and Indonesia also has a prospective market for digital services for its 4th world largest population.

Main findings:

The results have validated the 46 hybrid ITG mechanisms identified in previous research and even identified new ones. The results have also explored the six DT dimensions that influence OP, and the organization's achievements which is influenced by a successful DT in BRI.

Practical/managerial implications:

These findings have practical implications by providing recommendations to the practitioners on what they will adapt and adopt about the hybrid ITG mechanisms to support a successful DT journey, especially in the banking context. In addition, this research has also shown the influence of the hybrid ITG mechanisms on a successful DT and influence of DT to their OP as extension to the research knowledge base for the future agenda.

Keywords: *IT Governance Mechanisms, Digital Transformation, Organizational Performance, Case Study, Bank Rakyat Indonesia (BRI).*

HOW DOES TECHNOLOGY INNOVATION INFLUENCES EDUCATION: A CASE OF APPLYING GAMIFICATION TO TEACHING IN BUSINESS SCHOOL

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Research purpose:

The goal of this study is to analyze the use of gamification technologies in teaching economics and business courses in an effort to better understand how gamification can be applied to education.

Research motivation:

Gamification is an innovative and enjoyable way for inspiring students and enhancing their learning. As a result of its potential to engage and motivate students in their learning process, gamification is drawing more and more attention as a teaching style. Though there is growing interest in gamification's application to education, little is known about how technology tools like gamification affect student learning.

Research design, approach, and method:

A quantitative approach is taken. The questionnaire survey involved 310 participants in total, and SmartPLS 3.0 was used to evaluate the results.

Main findings:

Two key findings of the study emerged from this analysis. Firstly, studies show that using games in higher education has a positive effect on students' behavior change. Secondly, perceived playfulness was established as a multi-mediator between other variables of conduct.

Practical/managerial implications:

Based on the findings, educators should improve student engagement and game preferences by creating tools and resources that provide information about the learning content. The study also shows that higher education institutions have the opportunity to implement gamification activities. This paper outlines the managerial implications of the learning and teaching methodologies and offers options for further theoretical and empirical research.

Keywords: *Gamification, Higher education institution, Education, and Business courses*

UNDERSTANDING CONTINUANCE INTENTION IN PROFESSIONAL NETWORKING SITE: THE ROLE OF PERCEIVED VALUES AND SOCIABILITY

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Professional social network sites (SNS) are widely employed by business individuals to build formal relationships, obtain career opportunities, and professional development. While the characteristics of professional SNS are generally different from other SNS, there is limited understanding of the determinants of users' continued usage on this platform. The study addresses this research gap by developing a conceptual framework that relates perceived values perspective (utilitarian value, hedonic value) and sociability dimensions (social presence, social benefit, social support, and self-presentation) to continuance intention to use professional SNS. Data was gathered from a questionnaire distributed on LinkedIn and analyzed using PLS-SEM. The findings contribute to the emerging literature on the IS continuance domain, particularly in the area of professional SNS. Furthermore, the study can help professional SNS providers properly manage to retain existing users for sustainable business performance.

Research purpose:

The purpose of this study is to develop a theoretical model to explain the continuance usage of professional SNS

Research motivation:

Although the pervasiveness of professional SNS is undeniable nowadays, limited attention was paid to the professional SNS. Thus, this work is to address this gap and expand the literature on the domain of SNS.

Research design, approach, and method:

Data was collected by using online questionnaire distributed via LinkedIn platform. Smart PLS 3.0 was employed to examine the research model.

Practical/managerial implications:

This study makes several contributions to the emerging literature on the domain of IS continuance, precisely professional SNS. Practically, the findings provide critical factors that can help professional SNS properly manage to retain existing users amid the fall of social network user growth worldwide in recent years

Keywords: *IS success model, Sociability, Continued usage*

**ECONOMICS LAW AND
POLICIES OTHERS**

BUILDING THE ECONOMIC EFFICIENCY ASSESSMENT MODEL OF THE GRID-TIED ROOFTOP SOLAR POWER WITH STORAGE PROJECT

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Research purpose:

According to Decision No. 13/2020/QĐ-TTg dated April 6, 2020 by the Prime Minister on the mechanism to encourage the development of rooftop solar power in Vietnam will expire after December 31, 2020. To harmonize the interests of households and the Electricity of Vietnam (EVN), a grid-connected rooftop solar power system with storage will be a solution worthy of attention. This paper builds a grid-tied solar power model with storage system. The model will ensure to storage of excess electricity from the solar power system and will not use grid electricity for the storage system. From there, evaluate the impact of the rooftop solar power system with the storage system on the household's load demand in two cases of cost optimization and grid operation optimization. In addition, the paper will evaluate in detail the investment efficiency of this type of rooftop solar power from the perspective of households. The results show that the grid-connected rooftop solar power system with storage system brings many benefits in terms of grid operation such as: no pressure on the power grid, reduced peak demand for households, increased energy efficiency, and increased energy efficiency. flat load graph, reducing the demand for electricity at peak hours. But in economic terms, the interests of households and those of EVN are opposite. Analyze and evaluate the impact of grid-tied rooftop solar power system with storage system on household's load demand. Overall assessment of financial efficiency of grid-connected rooftop solar power system projects with storage system. And evaluate the change in the effectiveness of the project in the condition of changing inputs.

Research motivation:

The installation of solar power on the roof depends on the needs of the household owners. Together with the high FIT price, it attracts a lot of households. But the growth rate is too fast, leading to problems such as overloading of the grid system and phase imbalance,... causing difficulties for EVN. To solve this problem, the grid-tied rooftop solar power system with storage will be the solution that deserves the most attention. Especially when the era of technology is growing, the cost, lifespan, performance,... of all kinds of storage systems are improved better.

Research design, approach, and method:

The paper builds a model of the software based on the background of excel. Use functions in excel to create a relationship between the input variables of a grid-tied rooftop solar power project with storage and give results about the effectiveness of the project. As a result, the model can analyze and evaluate all project sizes

Main findings:

The grid-tied rooftop solar with storage is less economical than no-storage, but is still quite good. The effectiveness of grid-tied rooftop solar with storage depends greatly on the scale of installation. The interests of EVN and the interests of households are at odds. The larger the scale of the storage system, the more benefits for EVN, but the fewer benefits for households and vice versa.

Practical/managerial implications:

The grid-tied rooftop solar power projects with storage system that is both economically and technically efficient. The optimal use of the grid-tied rooftop solar power system with storage system and balance of benefits between households and EVN is very important. It is necessary to have policies to encourage investment, price policy, and investment coordination policy to develop this type of solar power.

Keywords: *Storage system, grid-tied rooftop solar power, solar power*

THE NON-DISCRIMINATION PRINCIPLE IN INTERNATIONAL TRADE - THE EXCLUSION OF IMPORTING COUNTRIES AND THE CASE STUDY OF RUSSIA FEDERATION

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Research purpose:

This article's aim is to analyse the World Trade Organization's (WTO) rule on most-favored-nation (MFN) treatment principle and come to conclusion is that whether the United States and its supporting countries whose suspended MFN treatment for Russian Federation goods in mid-March 2022 is consistent with the WTO's rule or not.

Research motivation:

Non-discrimination is a fundamental principle of the WTO, which promotes global trade with the goal of eradicating hunger, reducing poverty, and promoting global prosperity. According to WTO's rule, WTO members are required to give other members most-favored-nation (MFN) and national treatment (NT) references. Due to the military conflict between Russia Federation and Ukraine, the United States, the European Union, and a number of other countries suspended MFN treatment for Russian Federation goods in mid-March 2022.

Research design, approach, and method:

This study is purely theoretical and interpretive in nature. The authors employ comparative jurisprudence and analysis of written law methods to assess the MFN principle in nature and then linking to the Russia Federation case. Besides, the study's primary research data source is WTO regulations pertaining to MFN principal and other pertinent WTO's agreements.

Main findings:

This article's outcome points out that the U.S and its supporting countries were unable to present concrete evidence demonstrating a direct and causal relationship between the military situation in Ukraine and their own nation's "essential interests" to support their decision regarding MFN issue in question.

Practical/managerial implications:

The Russian Federation may file a lawsuit if it suffers economic harm because of the actions conducted by the United States and other relevant countries, however Russia is responsible for proving to the WTO's Dispute Settlement Body that the measures imposed are in violation of GATT 1994 and other relevant WTO rules.

Keywords: *nondiscrimination, most-favored-nation treatment, international trade, United States, Russia, WTO*

1. THE ORIGINS OF THE NON-DISCRIMINATION PRINCIPLE IN INTERNATIONAL TRADE

To assist the British in expanding international trade, Great Britain enacted the Reciprocity of Duty Act in 1823, allowing the elimination of import duties on imports acquired through commercial agreements with other countries. Britain lifted restrictions on grain

imports in 1846, and by 1850, most protectionist policies for British imports had been lifted (Johnston, 2021). Furthermore, the Cobden-Chevalier Treaty between the United Kingdom and France introduced tariff-cutting measures based on the principle of "reciprocity". The treaty also includes a Most Favored Nation clause, which originally meant a non-discriminatory policy for a signatory country's goods. This Agreement paved the way for and accelerated the

conclusion of numerous agreements on non-discrimination in trade throughout the rest of Europe, kicking off the development of multilateral or trade liberalization, also referred to as free trade (Farnell, 1946). International free trade is based on Adam Smith's theory of competitive advantage and natural division of labor, as well as David Ricardo's theory of comparative advantage. The two men, along with many other economists, later emphasized the numerous benefits of trade liberalization, greatly influencing the global trend of signing bilateral and multilateral trade treaties in recent years (Atkinson, 2011).

The Bretton Woods Agreement of 1944 established three international organizations, the International Monetary Fund (IMF), the World Bank, and the International Trade Organization (ITO), to improve trade cooperation after World War II. During WWII, while the IMF and WB played critical roles in monetary management and financial support in the new international framework, the ITO was unable to achieve its goal of monitoring the development of a new multilateral trade order. As a result, the General Agreement on Tariffs and Trade (GATT 1947) was signed and ratified in 1947 to establish basic principles for promoting international trade, typically non-discrimination principles such as national treatment and most-favored-nation treatment, with the goal of reducing and eventually eliminating tariff barriers in order to promote international trade activities (Bossche & Zdouc, 2021). Following the Uruguay Round of Trade Negotiations, the WTO succeeded GATT 1947 as the global watchdog for global trade liberalization in 1995. While GATT 1947 focused primarily on goods, the WTO goes much further by incorporating policies on services, intellectual property, and investment (Baldwin & Low, 2009).. However, the GATT 1947 principle of non-discrimination is still upheld by the WTO and is more clearly defined in specific agreements.

2. RESEARCH METHODOLOGY AND DATA SOURCES

2.1. Research Methods

This study is purely theoretical and interpretive in nature. In addition, the authors employ comparative jurisprudence and analysis of written law methods to assess the MFN principle in nature and then linking to the Russia Federation case.

2.2. Research data sources

The study's primary research data source is WTO regulations pertaining to MFN principal and other pertinent WTO's agreements. Furthermore, the author selectively uses secondary data sources - published data - to aid the research, maintain objectivity, take a multi-dimensional approach, and ensure the accuracy of the

research.

3. THE PRINCIPLE OF NON-DISCRIMINATION UNDER THE WTO AND EXCEPTIONS

3.1. Non-discrimination principle in accordance with the WTO regulations

The principle of non-discrimination under GATT 1994 and the WTO is divided into two parts: (i) Most Favored Nation (MFN) Treatment; (ii) National Treatment (NT). The term "Most Favored Nation" means equal treatment to others under WTO agreements, according to WTO interpretation, when a Member State gives a specific country preferential treatment (for example, a lower customs duty rate on one of its products) and the importing country is required to do the same for all of other members products. This is referred to as most favored nation (MFN) treatment, and it is the first provision of GATT 1994. The MFN principle is also enshrined in Article 2 of the General Agreement on Trade in Services (GATS) and Article 4 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), though the core meaning of this principle varies depending on the agreement (WTO, 2021a). However, the WTO has allowed an exemption from MFN obligations in the case of member countries that have signed free trade agreements that only apply to goods traded between countries in the agreement, and discrimination against goods from WTO member countries that are not covered by signed bilateral or multilateral agreements is permitted. Furthermore, where the exporting country is a developing country, the importing country may offer special access rights to its market, or a country may raise barriers to products from certain countries that are considered a breach of "fair trade" obligations (WTO, 2021a).

Under normal circumstances, the principle of National Treatment requires equal treatment of foreigners and domestic citizens, imported goods and domestically produced goods, foreign services and domestic services, and other intellectual property-related matters. All three major WTO agreements include the principle of "national treatment" (Article III of GATT 1994, Article 17 of GATS and Article 3 of TRIPS). It should be noted that the National Treatment principle only applies when an intellectual property product, service, or item is placed on the market, so the calculation of tax on imports is not covered by this principle (WTO, 2021a).

3.2. Exceptions to the non-discrimination principle

The exception of the WTO is understood as allowing member countries to do things differently from the basic principles of the WTO but must ensure compliance with WTO regulations in order to ensure sovereignty and security, ethics, human health, protection of precious and rare natural resources, and balance of payments

assurance. Exceptions have been made during the process of negotiating and developing WTO documents, with a particular emphasis on international trade and WTO provisions in three areas: trade in goods, trade in services, and intellectual property. There are also exceptions for developing countries only.

3.2.1. Special treatments

This is a special preferential tariff regime among a number of member countries formed during the colonial period that existed prior to the establishment of GATT 1947. Because it is only applicable between certain countries or within a specific area, special preferential tariff treatment is a discriminatory tariff advantage. For example, the Commonwealth receives preferential treatment, the French Union receives preferential treatment, and the United States and the Philippines receive preferential treatment. Although the goal of GATT 1947 was to liberalize trade and combat discrimination among member countries, its implementation in 1947 did not result in the immediate and complete elimination of tariff preferences. As a result, it was forced to accept the existence of this special treatment as an exception, but only under the following conditions (UNCTAD, 2004):

To begin with, these incentives are limited to tariffs on imported goods and do not permit special preferences in terms of export tariffs, import and export restrictions, and other items.

Second, this special preference is limited to a small number of previously accepted member countries, with no ability to establish new types of preferences when GATT 1947 is established (Article I(2) and the annex to GATT 1947 lists these special offers)...

Third, it is not permitted to increase the difference between the special preferential tax rates that were already in place when GATT 1947 was established and the tax rates of the most favored nation.

3.2.2. Economic integration in the region

The principle of MFN treatment will not apply to a free trade zone or a customs union, according to the provisions of Article XXIV of GATT 1994. In other words, regional economic integration, such as customs allies and free trade zones, is considered an exception to the most favored nation principle. A customs union means that its members do not, in general, erect trade barriers to each other's trade, while for non-regional trade, a common tariff system and other commercial general rules are applied. A free trade area means that the members of the area do not, in principle, erect trade barriers to each other, but each member maintains its own tariff system and trade regulations for each other with regional foreign trade (Article XXIV(8)).

GATT 1947 acknowledges that a free trade zone and a customs union among member countries can promote trade liberalization and trade efficiency among member

countries. However, this is still only free trade within the bloc, so the disadvantage of establishing a free trade zone and a customs alliance is that it creates discriminatory barriers for countries outside the bloc. Depending on the severity of these barriers, imports from high-efficiency non-EU countries may be replaced by low-efficiency products from intra-regional producers. Because of the foregoing characteristics, GATT 1947 established the following conditions for the formation of a free trade zone or a customs union (International Trade Center – ITC, 2022):

First, tariffs and other substantive trade barriers between regional countries must be completely eliminated.

Second, tariffs and other trade barriers for countries outside the region cannot be raised any higher than they were before the formation of a customs union or a free trade zone.

Third, customs allies and free trade zones must be built on a reasonable schedule and in a reasonable amount of time.

3.2.4. Special treatments for developing countries

The next exception to the principle of most-favored-nation treatment is special treatment for developing countries. The special treatment that developing countries have been allowed to apply since the establishment of GATT in 1947 is to assist the government with economic development; this measure is provided in Article XVIII. As a result, member countries in the early stages of economic development will be permitted, under certain conditions, to impose import restrictions necessary for economic development.

Following changes in the world's economy and politics in the 1960s as a result of the disparity in development levels between developing and developed countries, a number of developing countries fought for more preferential treatment in international trade and proposed a new special measure under which developed countries would have to give developing countries trade preferences more favorable than other third country preferences. Since 1971, the Generalized System of Preferences (GSP) has been accepted and implemented in GATT 1947 (UNCTAD, 2022). GSP is essentially a unilateral agreement by developed countries to grant developing-country products lower import tax rates than similar products from other developed countries. This also implies that developed countries will not ask developing countries to make "reciprocal" trade commitments, but will instead unilaterally reduce and eliminate tariff barriers. As a result, GSP has had the effect of encouraging developing-country exports to developed-country markets, thereby increasing revenue, promoting industrialization, and accelerating developing-country economic development (Mavroidis, 2008). There are currently 17 different preferential

regimes in operation in 42 developed countries, including 27 EU member states. There are also countries such as the United States, United Kingdom, Japan, Australia, New Zealand, Switzerland, the Customs Union of Russia-Kazakhstan-Belarus, Canada, Norway, Australia, New Zealand, and Turkey, in addition to the EU. GSP is also applicable during this time period (UNCTAD, 2022).

The similarity to the preceding special preferential regime is that the tax rate on imports from certain countries will be lower than the import tax rate charged on products from other member countries. The GSP, on the other hand, is not only applicable to countries with special political and historical ties, but also to all developing countries; thus, it is referred to as universal mode. Furthermore, the countries that benefit from universal tariff preferences are developing countries, and these are developed countries' one-way preferences for developing countries. Meanwhile, whether developing or developed, the special preferential regime is bilateral. When the WTO was established, special and differential treatment (S&D) for developing countries was also specified in the WTO agreements, in addition to the GSP. Certain privileges, exemption from performance for a set period of time, and technical assistance are examples of special and differential treatment (WTO, 2022).

3.2.5. Additional exceptions

In addition to the above exceptions, GATT 1994 provides for a number of cases in which the importing country does not apply the principle of most-favored-nation treatment without obtaining permission or following any special procedure in case of necessary safeguards for morality, public order, human life and life, and natural resources (Article XX); safeguards for national security (Article XXI)... Furthermore, if a Member State is granted a provisional exemption from its obligations under certain GATT 1994 procedures, it will not be required to fulfill the obligation of most-favored-nation treatment (Article XXV) (WTO, 2022).

4. IMMUNITY FROM THE IMPORTING COUNTRY'S NON-DISCRIMINATION OBLIGATIONS – IN THE EVENT THAT THE RUSSIAN FEDERATION'S MFN STATUS IS SUSPENDED

Professor Bossche (Judge of the WTO Appellate Body from 2009 to 2019) stated that, over a period of more than 70 years, the first signatories of GATT 1947 and later WTO members demonstrated self-reliance by citing the national security clause as a justification for its inconsistent GATT measures, but that self-restraint is now a thing of the past, with countries invoking national security rules, particularly the national security exception under Article XXI of GATT 1994 (Bossche & Zdouc, 2021). As a result of the armed conflict between the Russian Federation and Ukraine, a quarter

of the 164 WTO members - accounting for 58 percent of global GDP - stopped applying the principle in mid-March 2022. Under WTO rules, the Russian Federation is designated as the Most Favored Nation for its goods (European Union, 2022), on the grounds that “the Russian Federation cannot seriously violate international law and expect to benefit from membership in the WTO” (Chakraborty, 2022). This list includes major economies such as the United States, the European Union's 27 member states, Japan, the United Kingdom, Canada, South Korea, and Australia. While many countries are expected to join the coalition to remove the Russian Federation's right to most-favored-nation treatment, a few other countries, including China, India, Brazil, Indonesia, Saudi Arabia, and Turkey, are still expected to join the coalition to continue the Russian Federation's application of Most Favored Nation status (Baschuk, 2022). Thus, a problem here is that both the US and the EU are WTO members and are required to follow the provisions of GATT 1994 as well as other WTO agreements. Is it considered a violation of the WTO's provisions on the principle of non-discrimination in international trade if the EU and some other countries unilaterally renounce most-favored-nation treatment for Russian Federation goods? Can the Russian Federation, at the same time, sue the US, the EU, and other countries for unilaterally depriving Russia of its right to MFN treatment at the WTO? Because the United States and the other countries argued that they relied on the national security exception in Article XXI of GATT 1994 to waive the obligation of most-favored-nation treatment for Russian Federation goods. To answer both questions: (i) Are the actions of the United States and relevant countries in accordance with WTO regulations? and (ii) Can the Russian Federation sue the United States and related countries in the World Trade Organization and win? It is necessary to determine the content of the Article XXI of GATT 1994.

As previously discussed, member countries are not permitted to discriminate among their trading partners under normal circumstances under WTO rules. This principle, however, may be waived by the importing State in the event of a situation involving “Security Exceptions”, as provided in Article XXI of GATT 1994. The countries that revoked the Russian Federation's MFN status argued that their decision was justified under the WTO's national security exceptions, which allow a country to violate its WTO obligations and take “any action it deems necessary to protect its essential security interests” (Baschuk, 2022). As a result, when a member state falls into one of the following categories, the binding obligations of GATT 1994 do not apply:

“Nothing in this Agreement shall be construed:

(a) to require any contracting party to furnish any information the disclosure of which it considers contrary

to its essential security interests; or

(b) to prevent any contracting party from taking any action which it considers necessary for the protection of its essential security interests

(i) relating to fissionable materials or the materials from which they are derived;

(ii) relating to the traffic in arms, ammunition and implements of war and to such traffic in other goods and materials as is carried on directly or indirectly for the purpose of supplying a military establishment;

(iii) taken in time of war or other emergency in international relations; or

(c) to prevent any contracting party from taking any action in pursuance of its obligations under the United Nations Charter for the maintenance of international peace and security.”

According to the WTO (WTO, 2012), the GATT Dispute Panels have confirmed that countries can impose such measures if they are imposed “during a time of war or other emergency in public relations”. It is worth noting that the Czechoslovakian Complaints Settlement Council explained in 1949 that whether a particular measure is appropriate for the purpose of protecting national security or not will be decided by the country of application, but member states should be cautious in using this exception and not take any action that could jeopardize the General Agreement (WTO, 2012). Furthermore, in 2019, the WTO's Dispute Settlement Body, when considering a case between Ukraine and the Russian Federation involving the Russian Federation's many restrictions on transit traffic from Ukraine through the Russian Federation to third countries, supported the Russian Federation's argument that its trade restrictions on Ukraine were justified following Russia's annexation of Crimea (WTO, 2019). On September 14, 2016, Ukraine requested that the WTO consult with Russia Federation about the Russian Federation imposing restrictive measures on goods in international transit by road and rail from Ukraine to the Republic of Kazakhstan or the Kyrgyz Republic, as well as prohibiting the carriage of certain goods in transit. Article XXI (b) of GATT 1994 is one of the grounds for the Russian Federation to take the above measures.

The Russia – Traffic in Transit (2019) Panel held that: given the context of the article itself and based on its object and purpose GATT 1994 and the WTO Agreement as a whole, consideration must be given to whether the measure in question meets the requirements of Article XXI(b) in one of the enumeration subparagraphs of Article XXI(b) or not (Panel Report: Russia – Traffic in Transit, 2019). The panel explained that determining whether the measures in question were “taken in time of... international relations” under Article XXI(b)(iii) is a determination of an objective fact, not at the sole discretion of the State party invoking this article, but “subject to the outcome of the determination

of the objectivity” of the panel (Panel Report: Russia – Traffic in Transit, 2019). The Panel also noted that the negotiating history of Article XXI of GATT 1994 confirms that a panel must make an objective determination of whether a measure meets the requirements of Article XXI(b)(iii) (Panel Report: Russia – Traffic in Transit, 2019).

What specific interests are involved in protecting a country from external or internal threats “will depend on the country-specific situation and perceptions are mentioned and are subject to change as circumstances change”, according to the Panel in Russia – Traffic in Transit (2019). The Panel noted that the Russian Federation determined the situation it considers a state of emergency in international relations by taking into account the following factors: (i) the period during which it arose and continued to exist; (ii) that the situation concerns Ukraine; (iii) that it affects the security of the Russian Federation-Ukraine border in various ways; (iv) that it may lead to other countries imposing sanctions against the Russian Federation; and (v) that it may lead to other countries imposing sanctions against. The Panel concluded that the aforementioned factors were sufficient to unambiguously define the situation in which the Russian Federation was involved, and that this was an emergency situation in international relations (Panel Report: Russia – Traffic in Transit, 2019).

Considering the 2014 emergency between the Russian Federation and Ukraine, the Panel in Russia – Traffic in Transit (2019) also concluded that, given the nature of the emergency in international relations, which is very close to a state of war or armed conflict, the Russian Federation's articulation of its essential security interests cannot be considered ambiguous or undefined. Finally, the Panel determined that the Russian Federation met the requirements for invoking GATT Article XXI(b)(iii) when applying the relevant trade measure against Ukraine (WTO, 2021b). Furthermore, the Panel stated that States Parties should not “use the exceptions in Article XXI as a means of circumventing its obligations under GATT 1994” as part of their obligation to interpret and apply Article XXI in good faith (Panel Report: Russia – Traffic in Transit, 2019). The Panel's findings and conclusions in Russia – Traffic in Transit (2019) on the nature and application requirements of Article XXI GATT 1994 can be used to settle pending cases and in the future in relation to Article XXI of GATT 1994 (Bossche & Zdouc, 2021).

Another example is that in 2019, India suspended Pakistan's MFN status after a Pakistan-based Islamist group carried out a suicide attack that killed 40 Indian police officers, despite the fact that Pakistan did not grant India MFN status (Blenkinsop & Macfie, 2022). In the case of a previous trade conflict between the United States and China, or an armed conflict between China and India, these countries do not cancel the other

party's MFN status, because doing so not only failed to solve the internal problems, but also escalated and generated new conflicts (Chakraborty, 2022).

According to the preceding analysis, the armed conflict between the Russian Federation and Ukraine is unlikely to have a direct impact on the security of the United States, Canada, the EU, and other countries. In their official statements, these countries also failed to demonstrate a reasonable cause-and-effect relationship between Ukraine's unrest and their national security and economic performance. The WTO Panel emphasized in the case *Russia – Traffic in Transit* (2019) that security threats must be specific, not based on fanciful grounds. The dispute between the Russian Federation and Ukraine in 2014 demonstrated the reality of the state of national security, and the Russian Federation's actions met the minimum requirement of legitimacy regarding the essential security interests; however, in the case of the current military conflict between the Russian Federation and Ukraine, there is no basis to demonstrate the legitimacy of this situation to the essential security interests of the United States, the EU, and other co-conspirators. As a result, it can be concluded that the United States, EU, and other countries' renunciation of the right to most-favored-nation treatment with respect to Russian Federation goods is groundless and inconsistent with Article XXI of GATT 1994; these countries are politicizing economic activity, setting a dangerous precedent for arbitrarily and abusing WTO exceptions to create economic and political danger for other relevant countries in particular. The actions of the United States, the European Union, and a few other countries can be seen as distorting the WTO's basic principles and violating the WTO's rule-based principles. This is an attempt to isolate and politicize trade activities by distorting Article XXI of GATT 1994, which is contrary to the WTO's spirit of rule of law and non-discrimination.

An important point to note is that, according to Prof. Bacchus, the WTO currently lacks a formal process for one or more member countries to waive another member's right to Most Favored Nation status (Bacchus, 2022). That is, a country is not required to notify or consult the WTO if it unilaterally renounces another member's right to equal treatment. This situation leads to the arbitrarily and excessively overuse of GATT 1994 exceptions, which has a serious impact on the world economy's stability and long-term development.

5. CONCLUSION

Member state obligations set out in GATT 1994, particularly the obligation of non-discrimination in international trade, may not become binding on member states when certain conditions are met, as specified in GATT 1994's Article XXI. As a result, there is insufficient evidence that the United States, the EU, and other relevant countries have revoked the Russian Federation's right to MFN treatment for its goods to

clearly demonstrate that the Russian Federation's military activity in Ukraine has had a direct, real, non-fiction effect on these countries' essential security interests. Furthermore, despite claiming that their actions were based on the provisions of Article XXI of GATT 1994, the United States and the countries supporting its decision were unable to present concrete evidence demonstrating a direct and causal relationship between the military situation in Ukraine and their own nation's "essential interests". In the past, the United States and its allies (NATO) have repeatedly used military force on the territory of other countries, but the countries that are strongly supporting the war in Ukraine today have taken no steps, even nominally, to protest wars waged by the US and its allies (Kpekitsu, 2021). However, these countries are now condemning and sanctioning the Russian Federation, demonstrating the inconsistency of political positions and disregard for international law by the United States of America and relevant countries such as the EU, Canada, and Australia, particularly by deliberately distorting and challenging the WTO's fundamental provisions (Shams, 2021). The United States and its allies only use international law when it benefits them and ignore or violate international law principles when they interfere with their interests. The United States and its allies are also willing to abandon their allies when their interests are not secure (Patterson, 2016). Furthermore, some experts have commented that the Russian Federation's above-mentioned unilateral action to suspend MFN status is because the US and its allies are not concerned about the Russian Federation's economic retaliation, and because the WTO's Appellate Body is currently inactive, so if the Russian Federation files a lawsuit to the WTO, it will have little impact on the US and its allies (Bacchus, 2022). Thus, the Russian Federation may file a lawsuit if it suffers economic harm as a result of the above-mentioned actions by the United States and other relevant countries, but Russia is responsible for proving to the WTO's Dispute Settlement Body that the measures imposed are in violation of GATT 1994 and other relevant WTO regulations.

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LOCAL ECONOMIC ZONES FOR ECONOMIC DEVELOPMENT

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Research purpose:

The paper identifies a framework to strengthen local economic networks in the face of Covid Pandemic and Ukraine war economic shocks and an already politically fracturing global economy as the USA and China re-evaluate their relationship in response to China's rise.

Research motivation:

Economic networks are being destabilised and fractured as geopolitical tensions and Pandemic "Bull Whip" effects drive supply chain disruption, energy price rises and changes in the relative strength of the United States Dollar. To date, different forms of "development structure" have been envisaged (including Export Processing Zones, Special Economic Zones, Free Trade Zones, High Technology Zones, clusters) to strengthen region and country performance. Whilst in a narrow sense instances these have been acclaimed as "successful", evidence suggests that there is **no inevitable linkage** that drives business in the nearby locality to grow and benefit from this success, rather these zones can act to displace activity from one location to another, without stimulating the entrepreneurial framework that drives the higher rates of successful innovation and entrepreneurship required for economic progress. This contribution outlines aspects to underpin a framework for collaborative "Local Economic Zones" that enable innovation, entrepreneurship, and economic progress. These Local Economic Zone are typified by anchor firms that drive local activity whilst being themselves strengthened to be compete on a regional, pan regional and global level.

Research design, approach, and method:

This research paper combines author experience based action research with statistical compilation, transliteral modelling and literature review. We focus on opportunities to drive economic progress by understanding what already exists within the locality and then gap filling by (i) providing access to technology, finance and skills development through a local anchor institution, the "entrepreneurial university" that is local in character, but global in outlook and (ii) to enable complementary MSME capability together to support anchor firm competitiveness by providing a low cost solution to MSME access to finance that helps successful MSME's develop the information infrastructure to enable medium term affordable access to commercial bank and capital market capital. Our vehicle for this is to introduce a Central Bank regulated community currency related to the Local Economic Zone that acts as a limited-convertibility "Stable Coin" that supports intra- Local Economic network trade.

Main findings:

Opportunities exist to combine driving geo-spatially dimensioned economic growth and development with strengthening that defined economic geography's economic resilience. Local networks are crucial to foster collaborative working and supply flexibility based upon deep trust. These need to be facilitated by an anchor institution such as an Entrepreneurial University and augmented by improved MSME access to finance. For the later we propose a Central Bank integrated **stable coin** than only be used within the specific region and that collects the data on MSME transactions that can help transition them into the mainstream commercial banking sector.

Practical/managerial implications:

The framework opens the door to raising local growth rates and improving economic resilience within a defined region or country. The framework combines academic research with practical experiences, so offers an implementable framework that is locally driven to (i) strengthen local relationships and trade, (ii) enhance external competitiveness of the anchor firms and (iii) help MSME network members to freedom from finance constraints. Local implementation goes hand in hand with "Regulatory Integration" into Central Bank for the stable coin and a local anchoring institution (we propose the Entrepreneurial University) to grow and nurture network connection.

Keywords: Supply Chains, Local Economic Zones, Economic Development, Entrepreneurial University, Entrepreneurial Capitalism, Economic Growth.

GREEN INNOVATION IN AGRICULTURE DEVELOPMENT: THE ROLE OF SOCIAL NETWORKS

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Research purpose:

This study proposed the association among environment awareness, technology spillover, social networks, and green innovation. Additionally, this study also investigates the moderating role of social networks on green innovation and sustainable development.

Research motivation:

Brief description of research motivation

Research design, approach, and method:

The probability sampling method was employed to develop a research sample. The research uses correlation analysis and structural equation modeling (SEM) to analyze the data of valid observations collected in the structured questionnaire survey in Vietnam.

Main findings:

The results indicate that environmental awareness and technology spillover have direct positive impacts on green innovation. Moreover, social networks play the mediator in strengthening green production innovation in the agriculture industry.

Practical/managerial implications:

Firstly, government and policy-makers continue regular propaganda to help people raise awareness about the benefits of green agriculture production for the economy and environmental benefits. Secondly, farm households need to improve their capacity to respond to and manage risks related to climate change, pandemics and strengthen environmental management. Thirdly, to succeed in green agriculture innovation, it must be based on the condition of a large farming area to make effective use of scientific and technological applications, so the requirement for land accumulation is very necessary for farm households. Finally, the results of this study revealed the critical role of social networks in green innovation and sustainable development

Keywords: *Green innovation, Technology spillover, Environment awareness, Sustainable development*

HOST RESIDENTS' SUPPORT AND PERCEPTIONS TOWARD MAJOR SPORT EVENTS' IMPACTS ON SUSTAINABLE DEVELOPMENT POSTCOVID19: CASESTUDY OF SEAGAMES 31

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Research purpose:

The purpose of this study is to understand their willingness to host and support a sport event would help the government and other stakeholders to manage the event and balance the economic benefits with the residents' well-being.

Research motivation:

Many sport events around the world were cancelled or postponed, including those in the ASEAN region and Vietnam. The Vietnamese government wishes to organize the SEAGAMES31 as a "kick-start" for the "new-normal" life, and introduce the country as a safe, friendly, and attractive destination. However, the success of SEAGAMES31 depends on the residents' support, assessing the influence of their fear and health concerns. Considering the post-COVID19 situation of uncertainty, it is necessary to be aware of these understandings to develop relevant strategies to involve the host residents in the development of major sport events.

Research design, approach, and method:

A survey was conducted from 5 to 30 May 2022 on 931 residents from some host places of SEAGAMES31 in Vietnam.

Main findings:

The pandemic has made uncertainty situation to the people's life and affected the most on their work, income and physical health, however, people are supportive to SG31 as they perceive more benefits than negative impacts from these events to their life. The findings reveal that residents' habit of travelling, and sport would influence the perception and supporting behaviour towards the SEAGAMES31.

Practical/managerial implications:

This outcome would encourage the government to open the border entirely and return to normal economic and society activities since Vietnam got the high percentage of vaccinated population, and it effectively manages the COVID19 situation. The government's policy would balance between the pandemic control and the people's benefits and well-being.

Keywords: *residents' support, resident perception, sport event management, SEAGAMES, sustainable development.*

MONETARY POLICY, GOVERNMENT INTERVENTION, AND CORPORATE INVESTMENT ADJUSTMENT: EMPIRICAL EVIDENCE FROM A TRANSITION ECONOMY

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Research purpose:

This study focuses on examining the asymmetric effect of monetary policy, including the status and transmission channels, to the adjustment of corporate investment through an expected and partially adjusted investment model. Moreover, the study also evaluates the influence of government interventions through high level of state ownership on the moderating role of monetary policy towards corporate investment.

Research motivation:

Monetary policy has important effects on many different aspects of business. Studies on moderating role of monetary policy on corporate investment are still limited. Studies exploring impact of the moderating role of monetary policy on the direction and speed of the dynamic adjustment of firm investment in terms of expected investment, especially from the perspective of asymmetry, are very limited in the context of a transition economy like Vietnam.

Research design, approach and method:

Using the data of companies listed on Ho Chi Minh City stock exchange and Hanoi stock exchange in the period 2010-2020, the study employ two-step system GMM techniques to cope with potential endogeneity problems usually concerned in a dynamic model with the existence of the prior level of investment as an explanatory variable. Fixed effects estimate with adjusted standard errors are also provided as a robust check.

Main findings:

The study finds significant evidence about the moderating role of monetary policy on the corporate investment adjustment. When policy transmission channels are considered, both monetary and credit channels show a significant impact on the firm's investment adjustment speed, but the magnitude of the impact is disproportionate in different policy states. The research's results also show that the moderating role of monetary policy is significantly reduced in enterprises where state ownership level is high.

Practical/managerial implications:

The impact of both money and credit channel on enterprise investment adjustment is significantly decreased in companies with the dominance of state ownership. With government supports, state majority-owned companies seem to be less affected by the changes in the monetary policy. This adverse effect could make it more difficult for monetary policy efforts, especially in a transition economy with a high proportion of state ownership in many public companies like Vietnam.

Keywords: *Corporate investment adjustment, Monetary policy, Asymmetric effect, Government intervention*

1. INTRODUCTION

With a particularly important role in regulating the economy, it is argued that monetary policy has important effects on many different aspects of business operations at the micro level such as corporate capital structure (Cook & Tang, 2010; Korajczyk & Levy, 2003; Massa & Zhang, 2013), cash holding policy (Baum, Caglayan, Ozkan, & Talavera, 2006; Baum, Caglayan, Stephan, & Talavera, 2008) and corporate

investment (Horra, Perote, & Fuente, 2021; Kwon, Zhang, & Zhou, 2020; Vithessonthi, Schwaninger, & Müller, 2017).

The moderating effect of monetary policy on corporate investment behavior has been studied from various aspects. Oxana Babecka and Renata (2017) investigate the impact of financing constraints and the transmission of monetary policy on firm investment. Using data from Czech businesses, the authors find that tight monetary policy leads to increase financing costs,

which in turn reduces corporate investment activities. By examining the moderating role of policy transmission channels on corporate investment in Germany, France, Italy and Spain, Chatelain, Generale, Hernando, Von Kalckreuth, and Vermeulen (2002) showed that monetary channel (interest rate channel) has a stronger moderating role on corporate investment than credit channel in these four largest eurozone economies. A study of Abdul Karim (2012) shows that monetary policy works through both monetary and credit channels in moderating firm investment in the Malaysian economy. However, the effect is not uniform across different sectors of the economy. In the long term, investment in services sector and consumer products sector is significantly affected by interest rates and credit channels. Meanwhile, investment in industrials is only significantly affected by interest rate channel, while real estate sector is only affected by credit channel. Zulkhibri (2013) also conducts research on Malaysian market, and shows that the ability to access external financing, especially in companies that are heavily dependent on banks, is significantly affected by monetary policy.

In Vietnam, papers on monetary policy mainly focus on macro aspects or stock market. Studies on moderating role of monetary policy on corporate investment are still limited. L. M. Tran et al. (2019) show that monetary policy (measured by money supply) has minor effect on investment decisions of Vietnamese firms. With a study in the period between 2008 and 2017, Q. T. Tran (2021) indicates that an expansionary monetary policy through money supply growth has a positive effect on corporate investment in Vietnam. However, this effect is attenuated in firms with high level of cash holdings.

It can be seen that, current papers researching on monetary policy and investment decisions of companies mostly concentrate on levels of investment of the company. Meanwhile, studies exploring impact of the moderating role of monetary policy on the direction and speed of the dynamic adjustment of firm investment in terms of expected investment, especially from the perspective of asymmetry, are very limited in the context of a transition economy like Vietnam. This study focuses on examining the asymmetric effect of monetary policy, including the status and transmission channels, to the adjustment of corporate investment through an expected and partially adjusted investment model. Moreover, the study also evaluates the influence of government interventions through high level of state ownership on the moderating role of monetary policy towards corporate investment. These research aspects are especially important in the context of a transition economy, low level of financial development, and the state still holds a relatively large share of ownership in listed companies like Vietnam

Using the data of companies listed on Ho Chi Minh

City stock exchange and Hanoi stock exchange in the period 2010-2020, the study finds significant evidence about the moderating role of monetary policy on the corporate investment adjustment. When policy transmission channels are considered, both monetary and credit channels show a significant impact on the firm's investment adjustment speed, but the magnitude of the impact is disproportionate in different policy states. The research's results also show that the moderating role of monetary policy is significantly reduced in enterprises where state ownership level is high.

The next section of the paper are literature review and research hypotheses. The research methodology and data are presented in Section 3. Section 4 presents the empirical results and the final section concludes.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Monetary policy, transmission channels, and corporate investment adjustment

The moderating role of monetary policy in various aspects of business operations, including investment decisions, has been recognized through a variety of policy transmission channels. There are two main channels, including monetary channel (access to interest rates, exchange rates, asset prices) and credit channel (Bernanke & Blinder, 1992; Bernanke & Gertler, 1995; Chatelain et al., 2002)

As for the money channel, in the opinion of neoclassical economics, policymakers may affect a firm's cost of capital through short-term interest rates and then to influence spending on durable goods, such as investments in fixed assets, buildings, inventories and consumer goods. Sequentially, variations in total demand impact the investment level of firms. When there is an increase in interest rates, subsequently the cost of debt increases, and then this limits firms' external financing (Zulkhibri, 2013). Therefore, firms increasingly depend on internal financing or have to reduce corporate investments.

For the credit channel, the moderating effect of monetary policy is through changing the limit of bank loans offering, thereby affecting the level of investment activities of the company (Bernanke & Gertler, 1995; Oliner & Rudebusch, 1996). Vietnam is a bank-based economy, thus, allocating or imposing a total credit limit is used as an important policy tool (Q. T. Tran, 2021). The total amount of new loans offered annually by the commercial banking system cannot exceed the limit set by the central bank. By controlling the lending channel, monetary policy strongly regulates the credit financing that the company may access from the banking system (Kashyap, Stein, & Wilcox, 1993).

When there is a change in monetary policy (for example, from easing to tightening), a company's external financing and investment opportunities are affected through the monetary and credit channels. This

motivates managers to proactively consider adjusting investment plans and investment level in order to adapt to these changes. With an expected investment level predetermined based on existing characteristics, investment adjustment speed to this expectation level is influenced by changes in the environment, in which, monetary policy plays an important role. In the context of a loose monetary policy, with an increase in credit supply and a decrease in the cost of capital, adjustment costs are expected to decrease accordingly and thus the rate of adjustment to the target investment level is expected to be higher, and vice versa. Accordingly, the first research hypothesis is formulated:

H1: *The dynamic adjustment speed of corporate investment is faster during the expansionary monetary policy period than during the tightening policy period.*

Researchers have disputed whether monetary policy should play an equal role in real economic output in the period of downturns and growths. There is growing evidence that tight monetary policy has the ability to effectively restrain an overheating economy, but its ability to boost economic growth is unclear. This shows the asymmetry in the moderating role of monetary policy in various periods of policy states (Keynes, 2018).

In the early 1990s, studies assessing the disproportionate impacts of monetary policy were conducted. In a study of Cover (1992), with postwar US quarterly data during the period between 1951 and 1987, the author concerns that positive shocks of money supply do not affect output, while negative monetary shocks decrease output. Karras (1996) investigates eighteen countries in Europe from 1953 to 1990 and reveals that negative shocks of money supply have a substantial impact on output, while positive monetary shocks have no effect statistically. Besides, the money supply impact both prices and private consumption in a symmetric ways, but not the firm's fixed investment (Karras & Stokes, 1999). The impact on fixed investment is asymmetry which is consistent to the impact of monetary policy on output from the above mentioned studies.

From a micro-level perspective, Fu and Liu (2015) show the disproportionate impact of monetary policy on corporate investment adjustment, especially through the monetary channel. Specifically, an adjustment of policy instruments has a stronger influence on the speed of firm investment adjustment in the context of a contractionary monetary policy than in the expansion period. Similar evidence on the impact of monetary policy to moderate the investment behavior of firms is also found in the study of Gaiotti and Generale (2002).

With the above arguments, the second hypothesis of the study is constructed:

H2: *The monetary policy transmission channels (money channel and credit channel) have a disproportionate*

effect on the dynamic adjustment of firm investment in different monetary policy states.

2.2. The influence of state ownership on the moderating role of monetary policy and corporate investment adjustment

As a transitional economy, market-oriented reforms in recent years have significantly reduced government control over the economy in Vietnam. However, up to now, companies listed on Vietnam's stock market are still relatively heavily influenced by the government with more than 30% of listed companies having the state as the largest shareholder (L. T. H. Tran, Hoang, & Tran, 2018).

As both a "supervisor" and a "participant" in the market, the government has a strong influence on the extent and structure of credit allocation to firms in the economy (Foley-Fisher, Ramcharan, & Yu, 2016; Vithessonthi et al., 2017). Firms with state ownership may easily access debt financing from banks (Hoang & Phung, 2019). Firms with large state ownership or political connections often have easier access to credit sources, and increased investment capacity even during periods of tight monetary policy (Bartels & Brady, 2003; Deng, Jiang, Li, & Liao, 2020; Faccio, 2006; Gulen & Ion, 2016). These interventions can have opposite effects on the expected target of monetary policy (Dewatripont & Maskin, 1995). Zhao, Chen, and Hao (2018) shows that high state ownership and political connections weaken or even mitigate the moderating impact of monetary policy on corporate investment, especially during periods of tight monetary policy.

With the above arguments, the third hypothesis of the study is proposed:

H3: *The moderating role of monetary policy on corporate investment adjustment is weakened in firms where state ownership predominates.*

3. METHODOLOGY

3.1. Model specification

The paper's empirical framework firstly builds on a combination of the investment efficiency model developed by Richardson (2006) and the model of partial adjustment proposed by Flannery and Rangan (2006) to estimate the speed of dynamic investment adjustment. The aggregate model is then extended to explore the impact of monetary policy and the role of government interventions.

In a given external environment, there is an optimal level of firm investment decided by the most recent operating conditions (Richardson, 2006). The expected investment model can be written in the following form:

$$I_{i,t}^* = \alpha X_{i,t-1} \quad (1)$$

where $I_{i,t}^*$ is the optimal investment level of firm i in period t , and $X_{i,t-1}$ is a set of company internal variables

determining their expected investment, including the prior level of leverage, firm size, cash holding, growth opportunities, listing age and stock returns (Hubbard, 1998; Richardson, 2006).

Under ideal conditions, companies quickly adjust their investment toward the expected level. However, in the real world, with the existence of adjustment costs, it is difficult for companies to make a perfect correction. Flannery and Rangan (2006) suggests a framework to estimate the speed of partial adjustment, written as follows:

$$I_{i,t} - I_{i,t-1} = \lambda(I_{i,t}^* - I_{i,t-1}) + \omega_{i,t} \quad (2)$$

where, $I_{i,t-1}$ and $I_{i,t}$ are firm actual investments in periods t-1 and t, respectively; λ is the speed of firm investment adjustment close to their expected level in one period, $\omega_{i,t}$ is the error term. The perfect correction is made by companies without any adjustment costs when λ takes the value 1. In particular, λ is expected to be lower than 1 when adjustment costs are present. The smaller the value of λ , the slower companies close the difference between their actual and expected investment levels.

Combine equations (1) and (2), the aggregate model of firm investment partial adjustment is formed:

$$I_{i,t} = (1 - \lambda)I_{i,t-1} + \lambda\alpha X_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

To investigate the role of monetary policy in the firm investment adjustment, we relax the constant external environment assumption and extend the aggregate model (3) with the interaction component between the lagged investment variable and the proxy for current monetary policy:

$$I_{i,t} = (1 - \lambda)I_{i,t-1} + \gamma MC_t I_{i,t-1} + \lambda\alpha X_{i,t-1} + \varepsilon_{i,t} \quad (4)$$

where MC_t is the variable representing the monetary policy in period t. It can be argued that companies build their investment plans base on the most recent operating characteristics at the beginning of each year and make appropriate modifications to deal with the changes in current macroeconomic conditions. The speed of investment adjustment now is in the form of $\lambda' = \lambda - \gamma MC_t$. Since monetary policy variables are usually positive, the significantly negative sign on the estimated coefficient of the interaction component indicates a positive correlation between the monetary policy variables and the speed of firm investment adjustment, and vice versa.

In the final step, an additional interaction term with the indicator of state-dominant ownership is introduced into the model (4) to evaluate the influence of government interventions on the relationship between enterprise investment adjustment and monetary policy:

$$I_{i,t} = (1 - \lambda)I_{i,t-1} + \gamma MC_t I_{i,t-1} + \delta MC_t SOE_{i,t} I_{i,t-1} + \lambda\alpha X_{i,t-1} + \varepsilon_{i,t} \quad (5)$$

where $SOE_{i,t}$ is an indicator variable taking the value 1 if the government holds dominant ownership in

company i at time t, and 0 otherwise. The speed of investment adjustment becomes $\lambda' = \lambda - (\gamma + \delta)MC_t$ and $\lambda' = \lambda - \gamma MC_t$ for state majority-owned and private majority-owned companies, respectively.

Faced with potential endogeneity problems usually concerned in our dynamic model with the existence of the prior level of investment as an explanatory variable, we employ two-step system GMM techniques proposed by Arellano and Bover (1995), Blundell and Bond (1998) to cope with these problems. At the same time, Windmeijer's finite-sample correction is conducted to get around the downward bias of standard errors typically yielded in two-step GMM estimation (Windmeijer, 2005). Fixed effects estimate with adjusted standard errors are also provided as a robust check.

3.2. Variable measures

3.2.1. Firm investment

It is broadly accepted that total investment can be decomposed into two main components: the amount required to maintain existing assets and investment in new projects (Richardson, 2006; Strong & Meyer, 1990). Following Carpenter and Guariglia (2008), Gül and Taştan (2020), the study measures firm investment as the new investment represented by cash paid for purchasing fixed and other long-term assets. This measure is also divided by total assets to avoid the impact of scale differences.

3.2.2. Monetary policy

In this paper, we examine the role of both monetary policy states and the channels of transmission in the firm investment adjustment. The monetary policy state reflects the general direction of the monetary policy in each period. There are two main types of monetary policy distinguished in the literature: expansionary and contractionary monetary policy. In practice, it is difficult to discriminate between these states of monetary policy. Fu and Liu (2015) and Yang, Lu, and Tan (2021) propose using the difference between the M2 money supply growth rate and nominal gross domestic product growth as an indicator for the monetary policy state. In general, the GDP and M2 growth rates can be viewed as representatives of the money demand and supply for economic growth, respectively. Mayer, Duesenberry, and Aliber (1996) and Shirakawa (2001) found a consistent relationship between GDP and money supply growth. When M2 growth is lower than the change in GDP, there is a gap between the money supply and demand for economic growth, indicating an attempt by the central bank to implement a tightening monetary policy and vice versa. According to this classification method, during the period 2010-2020, the State Bank of Vietnam pursued a prolonged loosening monetary policy to encourage economic growth except for the period from 2011 to the first few months of 2012. In 2011, the contractionary

monetary policy was implemented to control the rising inflation caused by injecting a large amount of money into the economy to enhance the recovery after the 2008 financial crisis. These classifications of the monetary policy states in Vietnam are in line with the judgment of Q. T. Tran (2021).

Regarding the monetary policy transmission channels, two broad transmission mechanisms have been highlighted in the literature relating to the money multiplier: the money and credit channel (Bernanke, 1988; Bernanke & Blinder, 1988). The money channel affects the money supply by adjusting interest rates, deposit reserves, exchange rates, open market operations and other monetary policy instruments. Since Vietnam relies heavily on the quantity-based monetary policy (Anwar & Nguyen, 2018; Bhattacharya, 2014; Q. T. Tran, 2021), following Hodrick (1989), Raghavan, Silvapulle, and Athanasopoulos (2012) and Jayaraman and Choong (2009), the growth rate of money supply M1 is employed to represent the money channel. With the credit channel, both the scale and structure of the credit allocation, which can affect the firm's external financing constraints, are impacted by monetary policy instruments. In general, we use the growth rate of total domestic credit to the private sector provided by financial institutions to represent the credit channel.

The other variable descriptions are summarized in Table 3.1.

Table 3.1. Variable definition

Variable	Measure
Investment (I)	Cash paid for purchasing fixed and other long-term assets scaled by total assets
Monetary policy states (MP)	Indicator variable takes the value 1 in the period of contractionary monetary policy, and 0 otherwise
Monetary policy transmission channels	
Money channel	M1: M1 Money supply growth rate
Credit channel	Credit: Domestic credit to private sector growth rate
State-dominant ownership (SOE)	Indicator variable takes the value 1 if the government holds from 51% of company shares, and 0 otherwise
Control variables	
Financial leverage (Lev)	Total liabilities divided by total assets
Cash holdings (Cash)	Cash and short-term investments divided by total assets
Firm size (Size)	The natural logarithm of total assets
Growth opportunities (Growth)	Operating income growth rate
Firm stock return (Return)	12-month buy-and-hold stock return beginning at the next four months after the previous fiscal year-end
Firm listed age (IPOage)	Number of years from the company IPO year to the annual financial report year.

3.3. Data

The study uses a sample of companies listed on the Vietnam stock market from 2010 to 2020. Excluding financial, delisted firms and companies with less than three consecutive observations, our final dataset comprises 652 companies, representing 85% of the total companies listed on the two major stock exchanges in Vietnam at the end of 2020.

The firm classification into industries is based on the Global Industry Classification Standard (GICS). All corporate financial and ownership data were obtained from Refinitiv (Thomson Reuters). The International Financial Statistics (IFS) database and the official website of the State Bank of Vietnam are sources of macro variables data. The winsorization of all continuous variables was conducted at the 1% and 99% levels to reduce the bias originating from outliers. The statistical overview of variables is given in Table 3.2.

Table 3.2. Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
I	6137	0.0459	0.0630	0	0.3230
Lev	6137	0.5024	0.2127	0.1135	0.8338
Size	6137	27.1708	1.5277	23.3216	33.6772
Cash	6137	0.1451	0.1515	0.0011	0.6965
Growth	6137	0.0629	1.0756	-2.0849	3.0275
Return	6137	0.1722	0.5810	-0.6920	3.0658
IPOage	6137	7.5455	3.8530	1	21
State Ownership	6137	0.2385	0.2595	0	0.9793
M1		0.1566	0.0442	0.0970	0.2245
Credit		0.1589	0.0627	0.0876	0.3243

Notes: State ownership is the proportion of company shares held by the government. Other variables are defined in Table 3.1.

4. EMPIRICAL RESULTS

4.1. Firm investment adjustment across different monetary policy states

Our regression analyses start with a set of internal variables confirmed in the literature as major determining factors of the firm investment, including the prior level of investment, measures of past leverage, firm size, cash holding, growth opportunities, listing age and stock returns. The baseline regression results using these variables are reported in the first part of Table 4.1 with the OLS fixed-effect regression (FE) result in the first column, while the system GMM estimation is shown in the second one.

All specifications always contain industry dummy variables to capture industry-level fixed effects. With system GMM estimations, the p-values given by Arellano-Bond tests of serial correlations (AR(2))

indicate that there is no evidence for second-order serial correlation in the first-differenced residuals. At the same time, the Hansen tests for over-identification show that the instruments employed in our system GMM estimations are valid. All regression coefficients of the prior firm investment and control variables are highly statistically significant in both FE and SGMM results. The sign of the coefficients is in line with expectations in the related literature (e.g., Richardson (2006)). It is thus possible to believe that the integrated enterprise investment partial adjustment model (3) is appropriate for estimating the expected level and the adjustment speed of firm investment with the selected firm characteristics.

Table 4.1. Monetary policy states and firm investment adjustment

Dependent variable: Corporate investment rate	[1] Base		[2] Interaction with monetary policy states	
	FE	SGMM	FE	SGMM
I_{t-1}	0.4618*** (0.0178)	0.3497*** (0.0231)	0.4528*** (0.0187)	0.3336*** (0.0246)
$I_{t-1} * MP$			0.0783* (0.0450)	0.0866** (0.0435)
Lev_{t-1}	-0.0131*** (0.0039)	-0.0234** (0.0098)	-0.0133*** (0.0039)	-0.0231** (0.0097)
$Size_{t-1}$	0.0014** (0.0005)	0.0067*** (0.0019)	0.0014*** (0.0005)	0.0068*** (0.0019)
$Cash_{t-1}$	0.0157*** (0.0054)	0.0298*** (0.0103)	0.0153*** (0.0054)	0.0293*** (0.0103)
$Growth_{t-1}$	0.0020*** (0.0006)	0.0013** (0.0006)	0.0019*** (0.0006)	0.0011** (0.0006)
$Return_{t-1}$	0.0095*** (0.0016)	0.0073*** (0.0013)	0.0102*** (0.0016)	0.0081*** (0.0013)
$IPOage_{t-1}$	-0.0006*** (0.0002)	-0.0011*** (0.0002)	-0.0005** (0.0002)	-0.0010*** (0.0002)
Constant	-0.0081 (0.0137)	-0.1545*** (0.0464)	-0.0094 (0.0138)	-0.2128*** (0.0451)
Observations	5485	5485	5485	5485
Adj R-squared	0.2943		0.2895	
AR(2) test p-value		0.3447		0.3985
Hansen p-value		0.2853		0.3103

Notes: All specifications contain industry fixed effects (not reported). The symbols ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Standard errors in parentheses.

In the second part of Table 4.1, the study conducts a simple examination of whether the average adjustment speed of firm investment is varied between periods with different types of monetary policy. When the interaction component between the indicator for tightening monetary policy periods and the lagged investment

variable is included, the coefficients of this interaction term are significantly positive in both FE and SGMM estimates. This finding consistent with Fu and Liu (2015) implies that companies adjust their investment back to the target level slower during contractionary than expansionary monetary policy periods, and the first hypothesis is confirmed. To be more specific, based on the SGMM estimate, enterprises in our sample interval correct the difference between their actual and expected investment levels with an average speed of $\lambda' = 0.6664 - 0.0866MP$, or 66.64% per year under the loosening monetary policy, and decreased to only 60.04% during tightening periods

4.2. The asymmetric impact of monetary policy transmission channels on the firm investment adjustment

To take into account the role of monetary transmission channels in the enterprise investment adjustment, we firstly allow for an interaction of the lagged investment variable and the proxy for monetary policy transmission channels. After that, an additional interaction term with the contractionary state of monetary policy is included to explore the asymmetric impact of these transmission channels on the corporate investment adjustment in the presence of different monetary policy types.

4.2.1. Money channel

The regression results of the role of money channel in the firm investment adjustment are shown in Table 4.2. The regression coefficients of both the lagged investment variable and control variables are kept the same sign and remain highly statistically significant, as the preliminary results reported in Table 4.1. The first part of Table 4.2 presents an exciting finding when the money channel does not seem to matter for the adjustment speed of enterprise investment in the overall estimate. The coefficients of the interaction variable between the lagged investment and the money supply growth rate are insignificant in both the FE and SGMM results. This finding aligns with the empirical evidence for Vietnamese firms reported by L. M. Tran et al. (2019).

There is a striking difference in the second part of Table 4.2 when the monetary policy stances are counted with an additional interaction of the lagged investment, money supply growth rate and the contractionary state of monetary policy. The coefficients of interaction terms are significantly negative in both FE and SGMM estimates, especially with the interaction of the tightening periods. According to the model's economic significance, based on the SGMM estimate, the corporate investment in our sample interval is adjusted to the expected level with an average speed of $\lambda' = 0.6748 + 0.0722M_1 + 0.1172M_1MP$, or $\lambda' = 0.6748 + 0.1894M_1$ under the tight monetary policy, and only $\lambda' = 0.6748 + 0.0722M_1$ during

expansionary periods. This result implies a positive correlation between the money supply growth rate and the speed of firm investment adjustment; however, the marginal effects are asymmetric across different monetary policy types, consistent with Fu and Liu (2015). Holding other factors constant, the impact of money channel on firm investment adjustment under the tightening monetary policy is stronger than in expansionary periods. The second hypothesis is confirmed in the case of the money channel.

Table 4.2. Money channel and firm investment adjustment

Dependent variable: Corporate investment rate	[1] Interaction with the money channel		[2] Interaction with the money channel and monetary policy states	
	FE	SGMM	FE	SGMM
	I_{t-1}	0.4004*** (0.0628)	0.3869*** (0.0670)	0.3279*** (0.0722)
$I_{t-1} * M1$	-0.0385 (0.0383)	-0.0367 (0.0406)	-0.0767* (0.0426)	-0.0722* (0.0436)
$I_{t-1} * M1 * MP$			-0.1166** (0.0539)	-0.1172** (0.0556)
Lev_{t-1}	-0.0130*** (0.0039)	-0.0275** (0.0115)	-0.0132*** (0.0039)	-0.0181* (0.0098)
$Size_{t-1}$	0.0013** (0.0005)	0.0078*** (0.0019)	0.0014*** (0.0005)	0.0069*** (0.0015)
$Cash_{t-1}$	0.0153*** (0.0054)	0.0298*** (0.0104)	0.0149*** (0.0054)	0.0283*** (0.0101)
$Growth_{t-1}$	0.0019*** (0.0006)	0.0017** (0.0007)	0.0018*** (0.0006)	0.0016** (0.0007)
$Return_{t-1}$	0.0097*** (0.0016)	0.0088*** (0.0015)	0.0106*** (0.0016)	0.0095*** (0.0015)
$IPOage_{t-1}$	-0.0007*** (0.0002)	-0.0012*** (0.0002)	-0.0005** (0.0002)	-0.0010*** (0.0002)
Constant	-0.0004 (0.0142)	-0.1773*** (0.0450)	-0.0022 (0.0142)	-0.1589*** (0.0373)
Observations	5485	5485	5485	5485
Adj R-squared	0.2889		0.2903	
AR(2) test p-value		0.1384		0.1504
Hansen p-value		0.4613		0.5730

Notes: All specifications contain industry fixed effects (not reported). The symbols ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Standard errors in parentheses.

4.2.2. Credit channel

Table 4.3 summarizes the regression results for the role of the credit channel in the firm investment adjustment with and without the distinction of monetary

policy stances. In the overall estimate, the results for the credit channel are similar to those for the money channel. The coefficients of the interaction term between the lagged investment and the credit growth rate shown in the first part of Table 4.3 are insignificant in both FE and SGMM estimates. Without the distinction of monetary policy states, the credit channel seems to play no role in the adjustment speed of enterprise investment.

Table 4.3. Credit channel and firm investment adjustment

Dependent variable: Corporate investment rate	[1] Interaction with the credit channel		[2] Interaction with the credit channel and monetary policy states	
	FE	SGMM	FE	SGMM
	I_{t-1}	0.4358*** (0.0257)	0.4177*** (0.0450)	0.4218*** (0.0262)
$I_{t-1} * Credit$	-0.0163 (0.0145)	-0.0197 (0.0254)	-0.0192 (0.0146)	-0.0383 (0.0254)
$I_{t-1} * Credit * MP$			-0.0567*** (0.0200)	-0.0631** (0.0312)
Lev_{t-1}	-0.0131*** (0.0040)	-0.0237** (0.0107)	-0.0134*** (0.0040)	-0.0270** (0.0110)
$Size_{t-1}$	0.0014** (0.0005)	0.0077*** (0.0019)	0.0014** (0.0005)	0.0090*** (0.0019)
$Cash_{t-1}$	0.0157*** (0.0052)	0.0256** (0.0104)	0.0153*** (0.0052)	0.0265*** (0.0100)
$Growth_{t-1}$	0.0020*** (0.0007)	0.0017** (0.0007)	0.0019*** (0.0007)	0.0015** (0.0007)
$Return_{t-1}$	0.0092*** (0.0013)	0.0081*** (0.0015)	0.0099*** (0.0013)	0.0084*** (0.0014)
$IPOage_{t-1}$	-0.0006*** (0.0002)	-0.0011*** (0.0002)	-0.0005** (0.0002)	-0.0011*** (0.0002)
Constant	-0.0084 (0.0141)	-0.1817*** (0.0444)	-0.0097 (0.0141)	-0.2133*** (0.0460)
Observations	5485	5485	5485	5485
Adj R-squared	0.2887		0.2896	
AR(2) test p-value		0.1427		0.1835
Hansen p-value		0.4785		0.3668

Notes: All specifications contain industry fixed effects (not reported). The symbols ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Standard errors in parentheses.

With the presence of different monetary policy types in the second part of Table 4.3, the impact of credit channel on the firm investment adjustment is only found in tightening monetary policy periods. The coefficients of the interaction term between the lagged investment,

credit growth rate and the contractionary state of monetary policy are significantly negative in both FE and SGMM estimates. In contrast, the coefficients of the first interaction variable between the lagged investment and the credit growth rate remain insignificant. Under the tight monetary policy, a positive correlation between the credit growth rate and the investment adjustment speed is reported with an average speed of $\lambda' = 0.6326 + 0.0631Credit$ based on the SGMM estimate. However, during expansionary monetary policy periods, companies in our sample interval close the difference between their actual and expected investment levels with an average speed of 63.26% per year based on the SGMM estimate and insignificantly affected by the credit channel. The asymmetric effect hypothesis of credit channel on firm investment adjustment is confirmed.

4.3. Monetary policy and firm investment adjustment: Role of government interventions

In the context of a transition economy, we try to examine the influence of government interventions via dominant ownership on the relationship between monetary policy and firm investment adjustment. The regression results are reported in Table 4.4 with an addition of the interaction between the lagged investment variable, the proxy for monetary policy transmission channels and the indicator of state majority-owned companies. The coefficients of this interaction term are significantly positive in all estimates for both the money channel (the first part of Table 4.4) and the credit channel (the second part of Table 4.4). In other words, the impact of monetary policy on enterprise investment adjustment is significantly decreased in companies with the dominance of state ownership.

For the money channel, the regression results are shown in the first part of Table 4.4. Based on the SGMM estimate, the marginal effect of money supply growth rate on the investment adjustment speed of state-majority ownership companies is estimated to be 0.0174 lower than in private-dominant companies. To be more specific, during tightening monetary policy periods, ceteris paribus, a decrease of 1% in money supply growth rate leads to an approximately 0.1878% slowdown in the investment adjustment speed of private majority-owned companies, but only drives to around 0.1704% decline in companies with the presence of state-dominant ownership. Under the expansionary monetary policy, the marginal effect of money supply growth rate on the speed of investment adjustment is estimated at 0.0749 and 0.0575 for private-dominant and state-dominant companies, respectively. Similarly, in the second part of Table 4.4, the study also finds evidence for the negative impact of government interventions on the relationship between credit channel and corporate investment adjustment. The coefficients of the interaction component with SOE are significantly

positive in both FE and SGMM results, although at lower significance levels than those for the money channel.

Table 4.4. The role of government interventions in the relationship between corporate investment adjustment and monetary policy

Dependent variable: Corporate investment rate	[1] MC measured by money supply growth rate		[2] MC measured by credit growth rate	
	FE	SGMM	FE	SGMM
I_{t-1}	0.3236*** (0.0721)	0.3105*** (0.0754)	0.4143*** (0.0261)	0.3450*** (0.0468)
$I_{t-1} * MC$	-0.0800* (0.0425)	-0.0749* (0.0437)	-0.0249* (0.0144)	-0.0434* (0.0252)
$I_{t-1} * MC * MP$	-0.1168** (0.0539)	-0.1129** (0.0565)	-0.0653*** (0.0196)	-0.0618** (0.0307)
$I_{t-1} * MC * SOE$	0.0150*** (0.0023)	0.0174*** (0.0035)	0.0099* (0.0058)	0.0148** (0.0067)
Lev_{t-1}	-0.0131*** (0.0039)	-0.0347*** (0.0118)	-0.0124*** (0.0040)	-0.0336** (0.0144)
$Size_{t-1}$	0.0015*** (0.0005)	0.0095*** (0.0017)	0.0012** (0.0005)	0.0140*** (0.0023)
$Cash_{t-1}$	0.0154*** (0.0054)	0.0235** (0.0114)	0.0153*** (0.0052)	0.0245* (0.0126)
$Growth_{t-1}$	0.0018*** (0.0006)	0.0014** (0.0007)	0.0019*** (0.0007)	0.0012* (0.0007)
$Return_{t-1}$	0.0106*** (0.0016)	0.0091*** (0.0017)	0.0100*** (0.0013)	0.0063*** (0.0016)
$IPOage_{t-1}$	-0.0005** (0.0002)	-0.0011*** (0.0002)	-0.0005** (0.0002)	-0.0013*** (0.0003)
Constant	-0.0054 (0.0142)	-0.2144*** (0.0406)	-0.0081 (0.0140)	-0.3287*** (0.0545)
Observations	5485	5485	5485	5485
Adj R-squared	0.2911		0.2892	
AR(2) test p-value		0.1850		0.2492
Hansen p-value		0.4278		0.6215

Notes: All specifications contain industry fixed effects (not reported). The symbols ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Standard errors in parentheses.

With government supports, state majority-owned companies usually have easier access to external finance, even with some financially distressed firms or under the contractionary monetary policy. The investment adjustment of these companies is therefore less affected by the changes in the macroeconomic policy environment. In line with Zhao et al. (2018), this finding confirms the third hypothesis that government

interventions significantly weaken the effect of monetary policy on firm investment adjustment through both credit and money channels.

5. CONCLUSION

This study provides new empirical evidence of the asymmetric impact of monetary policy on the firm investment adjustment, especially with the presence of government interventions in the context of a transition economy. Using a sample of Vietnam's listed companies from 2010 to 2020, three remarkable results are found in the study. Firstly, companies tend to adjust their investment back to the target level with a slower average speed during tightening monetary policy periods than in expansionary periods.

Secondly, when the transmission mechanism is counted, our results support the asymmetric impact of both money and credit channel on the firm investment adjustment, but in different ways. The money channel plays a significant role in the enterprise investment adjustment under both states of monetary policy. However, the marginal effect is stronger in contractionary monetary policy periods than in expansionary periods. In the case of the credit channel, the impact is only found under the tightening monetary policy. There is no evidence for the linkage between this channel and the firm investment adjustment in monetary loosening periods.

This study also documents the negative influence of government interventions via dominant ownership on the relationship between firm investment adjustment and monetary policy. The impact of both money and credit channel on enterprise investment adjustment is significantly decreased in companies with the dominance of state ownership. With government supports, state majority-owned companies seem to be less affected by the changes in the monetary policy. This adverse effect could make it more difficult for monetary policy efforts, especially in a transition economy with a high proportion of state ownership in many public companies like Vietnam.

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PROPOSING A RESEARCH MODEL ON THE INFLUENCE OF SOCIAL MEDIA NETWORK USAGE ON COLLABORATIVE LEARNING - CASE STUDY AT HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

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Research purpose:

The purpose of this study is to propose a research model on the influence of social networks on collaborative learning.

Research motivation:

In recent years, the cooperative learning method has been applied in many educational institutions throughout the country, especially universities. In response to the requirement of cohesion, interaction, as well as sharing of learning resources of this active learning method, social networks have really become an effective and active support tool for learners. No one can deny the benefits that social networks bring to users, with extremely diverse features that allow users to register to connect, share and exchange information anytime, anywhere, with anyone, whenever they want. In the field of higher education in particular, social networks have become an effective support tool in communication and learning cooperation. It can be said that the presented research is relatively relevant and meaningful to the context of the education sector in particular and the country in general, which is entering the stage of digitalization in all fields.

Research design, approach, and method:

The main research methods used include: (i) Exploratory research: using qualitative research methods to help better understand the research area; (ii) Descriptive research: using quantitative research methods to test the research theoretical model. Qualitative research methods: Qualitative research is research aimed at discovering or proposing a number of scientific arguments and laws without using tools to quantify the relationship between factors. such as statistics, econometrics.... Qualitative research helps to explain quantitative research results. Quantitative research method is the process of quantifying the relationships between factors through the use of mathematical statistical tools, econometrics, or pure mathematics. Quantitative research uses quantitative data, all initial data when included in the quantitative model must be digitized. The results of the quantitative study show the correlation coefficients of the factors and test whether the factors are statistically significant or not. Quantitative research methods are applied to assess the impact of social networks on collaborative learning - research at Hanoi University of Science and Technology.

Main findings:

The team came up with a theoretical research model, built a survey and collected 320 valid observations. The survey subjects are students at Hanoi University of Science and Technology. Data processing, data running, and result analysis will be conducted in the near future.

Practical/managerial implications:

The research results are expected to partly assess the influence of social networks on collaborative learning of lecturers and students at Hanoi University of Science and Technology so that some recommendations can be made to improve the efficiency of using social networks in higher education in general and especially in collaborative learning at Hanoi University of Science and Technology.

Keywords: *Social media network, Collaborative learning, Collaborative learning model, Active learning, Modern education*

1. INTRODUCTION

According to statistics by May 2022, there are about 4.62 billion people using social networks in the world. According to Digital 2021 statistics, people spend an average of 2 hours and 25 minutes a day on social networks. Nigeria, the Philippines and Ghana are the countries where people spend the most time on social media, the countries that spend the least time on social media are Japan, North Korea and the Netherlands. There are six social networks with more than one billion monthly active users in all over the world, these are Facebook (2.895 billion - Facebook report) followed by YouTube (2.3 billion), Metaverse - WhatsApp (2 billion), Instagram (1.5 billion) and Facebook Messenger (1.3 billion).

In Vietnam, according to Napoleon Cat's statistics as of June 2021, the total number of Facebook users in Vietnam is nearly 76 million people, accounting for more than 70% of the national population, compared to 2019 this number has increased by 31 million users. In addition to Facebook & Facebook Messenger, some other popular social networks in Vietnam can be mentioned such as Instagram with 10,717,000 users, LinkedIn reaching 3,991,000 users in June 2021, Zalo about 60 million users, etc. With the number of users on social networks as mentioned above, Vietnam is currently ranked 7th in the world, the previous countries include India, USA, Indonesia, Brazil, Mexico and the Philippines.

According to the survey results of Global Web Index (in the first quarter of 2021), the most common purpose of social network users is to stay in touch with friends and family, accounting for 48.6%. Other reasons people use social networks are respectively: Filling free time (36.3%). Reading news (35.2%); Looking for funny or entertaining content (30.9%); Seeing what's being talked about (29.3%); Finding inspiration for things to do (27.5%); Searching products to buy (26.1%); Sharing and discussing the ideas with others (24.9%).

Thus, it can be seen that the internet in general and social media networks in particular have gradually become an indispensable part of modern life, especially for young people. In all fields, social networks are becoming an effective support tool for communication, advertising and networking. In the field of education and training, the use of social networks as a medium and tool for teaching and learning has been evaluated, analyzed and evaluated by many scientists and organizations. Most universities around the world use social networks as a tool to communicate and connect among students, alumni, and freshmen candidates. Moreover, social networks are used as a useful tool to support learning and research. There have been quite a few studies by domestic and foreign authors that have shown that the use of social networks in teaching and learning has contributed to increasing collaboration in the classroom as well as improving results of learning and researching

by collaborative learning groups.

This study aims to propose a model to measure the influence of social networks on the collaborative learning activities of students at Hanoi University of Science and Technology. The overview of the study is presented in Section 2, the theoretical basis for building the model is presented in Section 3, the proposed model and hypotheses are explained in Section 4, the research methods, samples, and survey questionnaire are presented in section 5, and at the end are the conclusion, acknowledgments and references.

2. LITERATURE REVIEW

Social media or social media networks or social networks are defined as "... web-based services that enable individuals to create public profiles within a limited system, specifying a list of other users they may request connect, set up views, share information in the same system" (Boyd & Ellison, 2008). In addition, it is also defined as internet-based applications and tools that provide the creation and exchange of user-generated content including videos, images, and written information (Kaplan & Haenlein, 2010; Li & Bernoff, 2008). The benefits provided by social networks are very relevant and necessary for mining education. For this reason, studying the use of social networks in education is a topic that has attracted many researchers. In fact, there have been many qualitative and quantitative studies by both Vietnamese and foreign authors to clarify this relationship.

2.1. Studies abroad

Bogdanov et al (2012) conducted a study to measure the impact of social networks on collaborative work. They observed that it was much more effective than a regular channel because it created a special purpose. Several studies treat social networking sites separately and investigate their specific impact on education and training. Research by Quincey and colleagues (2012) examined pages marked as social networking sites and found that they are useful for storing, sharing, and discovering resources. They are also useful for creating learning communities (Quincey et al., 2012).

Microblog is another type that have been investigated in research by Ebner and colleagues (2010), which found that social networking is a new type of communication that can help with informal learning of students outside the classroom. Furthermore, using social media networks for educational purposes has also been qualitatively studied by directly interviewing university students and the results show that they use social media networks more rather than for purposes of education such as exchanging the practical and academic information, learning from each other's experiences, supporting the social projects, and also connecting with friends and sharing materials (Hrastinski & Aghae, 2012).

Several other studies (Laird & Kuh, 2005; Junco et

al., 2013) indicate that there is a positive and significant relationship between the use of information technology in learning, the occurrence of social media networks have promoted collaborative learning, and the use of technology has also increased interaction between students and between students and lecturers. Also in 2013, another study by Waleed Mugaheed Al-Rahimi, Mohd Shahizan Othman, and Mahdi Alhaji Musa in Malaysia used the TAM model to measure the benefits of social media with collaborative learning. The authors desire to examine how students invest skills in using social media for collaborative learning and to investigate the factors that influence collaborative learning through the TAM model in order to improve the learning outcomes of students at Malaysia university of technology. The research team used qualitative research methods, combined survey and quantitative analysis with a sample size of 80 graduate students (31 female, 49 male), using the Likert 5 scale. Model setting using the intermediate variable is the intention to use social networks, the dependent variable is collaborative learning. The two independent variables are perceived ease of use and perceived usefulness. The results indicate that students need to learn to be more interactive in building a collaborative learning environment and building a community of practice between students and students, and with faculty, instead of wasting time in vain. Research by Hung and Yuen (2010) shows that students feel more socially connected when social networking sites are used as a supplementary tool for the lectures of teachers.

A recent study by Jamal Abdul Nasir Ansari and Nawab Ali Khan (2020) explores the role of social media in collaborative learning with the goal of examining the applicability and usefulness of social media and mobile devices in the exchange of learning resources and interaction between students and students, students and teachers in collaborative learning. Using qualitative and quantitative research methods, the author surveyed 360 students of one university in the East of India, the results showed that social media used for collaborative learning had a significant impact on the ability interaction between students and students, students and teachers through sharing behavior; The interaction between teachers and students in the sample has a significant impact on student learning outcomes.

Research by Wiid and his colleagues (2013) said that, according to students' perception, the most important factors affecting the use of social networks as an effective teaching tool are 'Ease of use' and 'Accessibility'. Another study by Sona Mardikyan, Aysun Bozanta on the effects of social media on collaborative learning in Turkey was conducted in 2017. Data were collected via email from 116 complete samples, survey subjects are students at some major universities in Turkey. The questionnaire consists of 3 parts, part 1 includes questions about demographics and education level, part 2 and part 3 are questions related

to perceived ease of use and perceived usefulness, questions using the Likert scale 7. Part 4 is a survey question about the use of social networks in practice, part 5, 6, 7 are survey questions about student interaction, the faculty interactions with students and students' level of commitment to the course. The authors also used the TAM technology acceptance model (Davis, 1989) to conduct the research. The model is built with 5 independent variables including Perceived ease of use, Perceived usefulness, social media usage, student interaction, student interaction teacher-to-trainer, and the participation in the course. Research has shown that ease of use has a significant positive effect on usability. Both of these factors have a positive effect on the level of social media usage for educational purposes. The use of social networks by students has improved the level of interaction between students. Student interaction and participation in learning have a positive impact on collaboration. However, student interaction with faculty did not significantly affect collaborative learning outcomes.

The above study is also quite consistent with the study of Al-Rahmi and colleagues (2014), the authors use two variables of the TAM technology acceptance model, these variables include "perceived ease of use" and "perceived usefulness". In addition, the research team also used the variable "interaction", "co-worker interaction" and "faculty interaction" as predictors of positive outcomes in collaborative learning. In this study, the authors also examined the influence of collaborative learning and student satisfaction. Finally, they examined the impact of collaborative learning and student satisfaction on student learning outcomes. As a result, all relationships were found to have significant effects on the specified variables.

Another study by R. Arteaga Sánchez, V. Cortijo, U. Javed (2014) focuses on finding out the factors that motivate students to accept the use of social networks (specifically Facebook) as a tool for educational purposes, thereby proposing solutions to improve the use of social networking tools in the new context and providing directions for adjusting teaching strategies to meet the educational needs of students. With a qualitative and quantitative research method based on the TAM model – developed by Mazman and Usluel in 2010, the research team combined the consideration of social networking applications on both technological and technical aspects. The sample surveyed are students from Huelva University in Spain. The proposed model consists of 3 latent variables including accept use, purpose, use for educational and 11 observed variables. Acceptance of use variable is explained by 5 observed variables: usefulness, ease of use, social impact, cognitive condition and community. The purpose variable is explained by 3 observations which are social relationship, daily activities, work related and the variables used for education are influenced by three observations: communication, collaboration, resource

sharing, and learning materials. The results of the study show that social relationships, issues related to learning activities, daily activities have a positive influence on the purpose of using Facebook of students. While Facebook has the potential to enhance the learning experience, the use of Facebook has not yet made a significant inroad into the classroom. Therefore, the authors highly appreciate Facebook's potential in improving experiential learning as well as the effectiveness of learning activities. Universities should incorporate Facebook into their learning resources, teachers should leverage Facebook's social nature to enhance communication, collaboration, and promote student engagement in the learning and research process.

In summary, in the world, there have been many studies by international authors including both quantitative and qualitative research on the impact of social networks on collaborative learning. Especially in the context of the explosion of social networks today and this is also one of the topics that many domestic authors are interested in, diligently researching and analyzing.

2.2. Studies in Vietnam

In Vietnam, studies related to the role and impact of social networks in the field of education or collaborative learning almost exclusively stop at qualitative research.

Research by Hoang Thi Hai Yen (2012) focuses on the aspect of communication, with the title of "Information exchange on social networks of Vietnamese youth from 2010 to 2011 - current situation and solutions". The author conducts the research based on the collected secondary data on the development of social networks in the world and Vietnam, collects information about social networks in the press, analyzes, synthesizes, compares. Compare, contrast, survey sociological investigation on the actual needs of using and exchanging information of Vietnamese youth on 3 networks Facebook, Zing Me and Go.vn with 900 samples. However, the results only stop at understanding the information exchange needs of Vietnamese young people on social networks to explain why social networks strongly attract young people as well as point out the positive, negative side of social networks on young people and propose some solutions to manage and orient young people.

In 2014, Ton Quang Cuong and Nguyen Thanh Huong conducted a study with the content "Using social networks in teaching as high school essays". The objective of the study is to clarify that the use of social networks as a tool and a new communication environment in teaching as well as writing essays will contribute to creating excitement for high school students. The research has made some very meaningful conclusions about the role of social networks in education in general and in teaching essay writing in particular. The authors believe that social networking is

not only a utility service but a viable technology platform for pedagogical purposes. The use of social networks for learning is a move from face-to-face learning to online learning. This is not only a change in the "classroom" space but also a profound qualitative change in teaching and learning thinking on the basis of interactivity and information sharing. When used for pedagogical purposes, social networks can take on the role of a teaching and learning tool as well as a learning environment and community, including functions such as posting documents, sharing information used by teachers to post lectures, study materials, assignments, tests, and assign learning tasks to students. Social media networks give teachers the ability to observe students' process of discovery, inquiry, knowledge acquisition, assessment and self-evaluation, becoming an effective tool to support assessment for the sake of progress. In addition, the operating structure of social networks allows teachers to easily create a learning environment that contains a community of learners with similar interests, in accordance with the goals and size of the "virtual classroom".

Research by Nguyen Lan Nguyen (2020) with the name "The influence of using social network Facebook on learning and life of students today" has the goal of clarifying the influence of using social networks. Facebook comes to students' study and life to make some recommendations to help improve students' effectiveness in using Facebook. The theoretical basis put into the research is the theory of rational choice: explaining why students choose the social network Facebook to use in the learning process, interact with friends and family, participate in participation in extracurricular activities, support for part-time employment and the theory of socialization: explaining the role of society, social groups, mass media in students' use of the social media network Facebook. The study uses qualitative research methods, descriptive analysis of data based on actual surveys of 853 students studying at three major universities in Hanoi including: University of Social Sciences and Humanities (USSH), University of Sciences (HUS), Hanoi University of Science and Technology (HUST). In addition, the author also references data from a number of other reliable and updated sources that have been published such as research topics, books, scientific articles, newspapers etc.

There is another study on improving the positivity of social networks for young people by Do Thi Anh Phuong - Institute of Business and Management, Hong Bang International University in 2021. The purpose of the research is to analyze and propose solutions to improve the positivity of social networks for young people today with the research method being descriptive data, surveying 1000 young people (11-35 years old) in Ho Chi Minh City. In the research paper, the author has pointed out the negative and positive aspects of social networks for people's lives, making recommendations

for families, schools, and state management agencies in order to enhance the positive and limit the negative of social networks. Specifically, the harms that often occur when using social networks include lack of interaction, difficulty in achieving personal goals, ease of depression, lack of creativity, problems of online violence, loss ability to control behavior, lack of confidence because of frequent comparison with others, or easy impersonation or breaking the law. On the positive side, the author points out that social networks will supplement and enrich the knowledge learned in school, such as quick access to news, increased connectivity, additional knowledge, life skills, easily expressing opinions, sharing emotions, diverse entertainment channels.

In addition, there are a number of other qualitative studies on the use of language on social networks, the influence and role of social networks in making friends, learning as well as entertainment of students such as: Research articles by Le Minh Thanh (2010), Ngo Lan Huong (2013), Le Thu Quynh (2014).

There is only one quantitative study by the group of authors Le Thanh Tung, Tang My Ha (2020), published in English journals on the effects of using social media on the learning outcomes of Vietnamese students, the research team uses TAM, UTAUT models, data collected from 576 graduates. The model includes the dependent variable which is the learning outcome; The intermediate variable is the use of social media networks, and the five independent variables include: Perception of usefulness, ease of use, social influence, convenience, and community identity. Research results show that the use of social networks has a positive impact on student learning outcomes at a significant 1% level. Besides, the use of social networks is a popular habit of students in recent years, social networks are a channel to help connect in the student community, a tool to support learning and follow-up. Monitor and update information and activities of the school and the class in the fastest way. Not only that, but social media networks are also an effective support tool for learning to help students achieve better learning results.

3. PROPOSING RESEARCH MODEL

3.1. Research background

There are many theoretical models that have been used by previous researchers when studying the role of social networks such as TRA, TPB, TAM, UTAUT. These are the classic theoretical models to measure the behavioral intentions and actual usage behavior of the information system of the users. In this study, the research team builds a research model based on three theories, including the theory of Use and Gratification (UGT), the theory of Rational Action (TRA) and the Technology Acceptance Model (TAM), specifically the content of the theory is as follows:

Use and Gratification theory is an approach to

understanding why and how people actively seek specific media to satisfy specific needs. Unlike other theories, UGT holds that it is the audience's responsibility to choose the media to satisfy their wants and needs so that satisfaction can be achieved. Katz, Blumler, and Gurevitch sum up that UGT's approach focuses on "the social and psychological origins of demand, creating expectations by media or other sources, leading to different patterns." media exposure (or participation in other activities), resulting in favors and a number of other consequences, perhaps most of which are unintended. According to research, media usage goals can be grouped into five uses. Users want to: (1) Be informed or educated, (2) Identify with the characters of the situation in the media environment, (3) Simple entertainment, (4) Enhance social interaction and (5) Escape from the stresses of everyday life. Applying UGT theory in the field of education and training, it can be seen that in the context that the use of social networks has become so popular today, there is a clear trend that learners will look to the Internet in order to meet the requirements of collaborative learning, which is interaction with group members, interaction with lecturers and exploitation of learning materials shared on social networking sites.

The Technology Acceptance Model (TAM) was first proposed by Davis (1989). Davis has shown the influence of factors: perceived ease of use and perceived usefulness of technology on attitudes towards using technology and, accordingly, using technology actually. TAM is based on the theory of rational action TRA (Theory of Reasoned Action) described by Fishbein & Ajzen (1975) and the theory of planned behavior TPB (Theory of Planned Behavior) proposed by Ajzen (1991). The proposal of the TAM model is widely accepted by the research community and has been further tested and extended by other researchers. To apply the TAM model, it is necessary to consider whether the components considered are suitable for the considered technology characteristics or not. The original TAM model proposed by Davis focused on two factors perceived usefulness and perceived ease of use. According to Davis, perceived usefulness is the degree to which a person believes that using a particular system will improve his or her performance. Perceived ease of use is considered by Davis to be the degree to which people believe that using the system is not a waste of their time. This study applies the TAM technology acceptance model to explain the learners' acceptance of using social networks for learning and research purposes.

3.2. Research model

The research model is built based on the theory of use and gratification, the TAM model as well as the research results of a number of international authors. The variables influencing social media usage taken from the underlying technology acceptance model (TAM) are

“perceived usefulness” and “perceived ease of use”. Other variables include: use of social networks, student interactions, student-faculty interactions, engagement, digital learning materials and collaborative learning variables, specifically shown as the figure below.

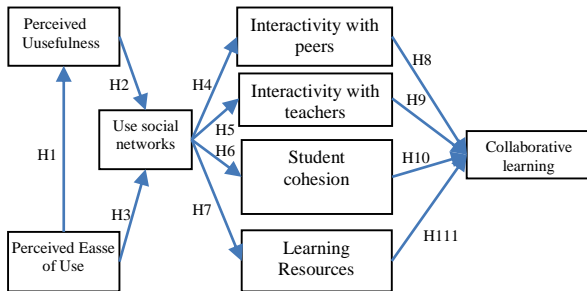


Figure 1. Research model

3.3. Conceptual framework and hypotheses

Perceived ease of use: Perceived ease of use refers to the degree to which a person believes that using a system will be easy. Perceived ease of use has a positive effect on perceived usefulness as well as social media use and intention to use social media (Lim et al., 2013; Rauniar, 2013). Previous research by Wiid et al. (2013) also showed that ease of use of social networks has a positive impact on the use of social networks in the educational concept.

Perceived usefulness: Perceived usefulness is defined as the degree to which an individual thinks that using a particular system will enhance their performance (Davis, 1989). Recent studies show that perceived usefulness has a significant positive impact on social network use and intention to use social networks (Lim et al., 2013; Rauniar, 2013). Moreover, also in the study of Wiid et al (2013) also showed that the usefulness of social networks for education has a positive impact on the use of social networks for education.

H1: Perceived ease of use of social media has a significant positive impact on perceived usefulness of social media.

Social media usage: The social media usage variable measures learners' actual use of social media for educational purposes.

H2: Perceived usefulness of social media has a significant positive effect on actual use of social networks.

H3: Ease of use of social networks has a significant positive effect on actual use of social networks.

Interactivity with peers: The variable was created to measure communication and information sharing among students in the same study group. Previous studies have shown that the use of social networks can have an increasing impact on interaction among students (McLoughlin & Lee, 2007; Laird & Kuh, 2005; Junco et al, 2013). In this study, the author also confirmed that the use of social networks increases student interaction.

H4: The fact that using social networks has a significant positive impact on the interaction among students in the study group

Interactivity with teachers: The student-faculty interaction variable was created to measure the communication and information sharing between students. Research by Laird & Kuh (2005); Junco et al., (2013); Al-Rahmi (2014), mentioned that students' use of social networks can have an increasing impact on student-faculty interaction. Based on previous documents, the author formulated the following hypothesis:

H5: Actual use of social media has a significant positive impact on student interaction with faculty

Student cohesion: Student cohesion is a commitment to participate, a regular connection, an individual's attachment to a learning group or a collective, through which there is a commitment to proactively take action to accomplish the group's common goals. Regular interaction through social networks helps maintain a close relationship between individuals in the study group, when each individual feels he or she has a certain value to the team, the group will be motivated to work and desire to create value to contribute to the collective, so the research team formulated hypothesis H6

H6: The fact that using social media has a significant positive impact on an individual's engagement with the learning group or group

Learning resources: These are news, lectures, scientific reports, knowledge, research results, etc. shared on social networks. Social networks are a place to store a huge amount of data, this data source is very diverse and rich, constantly updated and constantly increasing in quantity and quality. Textbooks, reference books, textbooks... are digitized, lectures, online courses are provided free and paid from reputable educational institutions are also published more and more on the learning social networks to better meet the learning and research needs of learners. Learners can easily access and exploit this digital learning resource for learning and research purposes.

H7: Social networks have a significant positive impact on students' access to digital learning resources

Collaborative learning: Collaborative learning is a learning method in which a group of two or more students work together on a learning or research task or try to understand or research a problem together. The results of collaborative learning are expressed through criteria related to knowledge, skills, and enthusiasm that individuals gain when experiencing in the online environment. In the study of Al-Rahmi (2014), it was

found that the ease of use and usefulness of social media, student engagement, student interaction, and student interaction faculty and staff are predictors of collaborative learning. Grosbeck and Holotescu (2010) also emphasize that social networking is an effective tool for collaborating with students. In addition, the richness of digital learning resources also has a certain influence on the results of collaborative learning. Due to the following hypotheses:

H8: Interactivity with peers has a significant positive effect on collaborative learning.

H9: Interactivity with teachers has a significant positive effect on collaborative learning outcomes.

H10: Student cohesion has a significant positive effect on collaborative learning.

H11: Learning resources has a significant positive impact on collaborative learning

Table 1. Impact factors and model hypotheses

Factors	Relationship expectations	Source
Helpful	<i>Hypothesis H1:</i> Perceived ease of use of social media has a significant positive impact on perceived usefulness of social media.	Theory
Use social networks	<i>Hypothesis H2:</i> Perceived usefulness of social media has a significant positive effect on actual use of social networks.	Theory
Easy to use	<i>Hypothesis H3:</i> Ease of use of social media has a significant positive impact on actual social media use.	Wiid et al. (2013)
Interactivity with peers	<i>Hypothesis H4:</i> The fact that using social networks has a significant positive impact on the interaction among students in the study group	(McLoughlin & Lee, 2007; Laird & Kuh, 2005; Junco et al., 2013).
Interactivity with teachers	<i>Hypothesis H5:</i> The practice of using social media has a significant positive impact on student interactions with faculty.	Laird & Kuh (2005); Junco et al., (2013); Al-Rahmi (2014)
Student cohesion	<i>Hypothesis H6:</i> The fact that using social media has a significant positive impact on an individual's engagement with the learning group or group	The authors develop from the practice of HUST
Learning Resources	<i>Hypothesis H7:</i> Social networks have a significant positive impact on students' access to digital learning resources	The authors develop from the practice of HUST
Collaborative learning	<i>Hypothesis H8:</i> Interactivity with peers has a significant positive effect on collaborative learning <i>Hypothesis H9:</i> Interactivity with teachers has a significant positive effect on collaborative learning outcomes. <i>Hypothesis H10:</i> Student cohesion has a significant positive effect on collaborative learning.	Al-Rahmi (2014)
Collaborative learning	<i>Hypothesis H11:</i> Learning resources has a significant positive impact on collaborative learning	The authors develop from the practice of HUST

Source: Compiled by the author, 2022

4. METHODOLOGY

Data: The data sources used in the study include primary and secondary data. Secondary data is collected from domestic and international reports and research articles related to the design and implementation of blended learning. The primary data was collected by the author by survey method.

Sample: Survey sample size is determined based on data analysis techniques, accessibility to survey respondents as well as financial budget balance. Data

analysis techniques in the study include factor analysis and multivariate regression analysis. The formal sample size for testing the research model is selected according to the empirical rules for factor analysis methods. The sample size for survey selection is 326, the satisfactory sample size is 320 (ratio of 98.16 %), achieving a good level according to the rules of Comrey & Lee (1992), and at the same time, this sample size also ensures ensure the reliability of the study according to the rule of minimum sample size of Bollen (1989) ($320 > 230$), ensuring the multiplication rule 5: 46 observed variables

x 5 = 230).

Sampling method: The study carried out sampling according to the convenient sampling method, that is, selecting the research sample based on the ability of the research team to reach the subjects. According to the plan, the survey will be conducted on three groups of subjects, which are students of economics, students of foreign languages and students of engineering at the University of Science and Technology. General requirements for survey respondents are students currently studying at the University of Science and Technology.

Methods of data collection: Directly and online, for the online form, the survey link is sent to the object to be collected. The implementation process is divided into two stages, the first stage is a preliminary survey, the survey is sent to 30 students to get feedback to make additional adjustments to the official survey sent to investigation subjects in phase 2.

Methods of data analysis: The obtained data are processed and analysed using the SPSS statistical tool version 20. The reliability of the scale and the relevance of the scale are tested by Cronbach's Alpha coefficient and analysis exploratory factor EFA (sample size 320). Preliminary assessment of the reliability and value of the scale by Cronbach's Alpha reliability coefficient and Exploratory Factor Analysis (EFA) through SPSS

processing software, in order to assess the reliability of the scales, thereby eliminating observed variables that do not reach reliability, convergent and discriminant values; at the same time, reconstructing the remaining observed variables into appropriate factors (measurement components), laying the basis for the correction of the research model, research hypotheses and subsequent analysis contents. Multivariate regression analysis aims to test the research model, research hypotheses and measure the impact intensity of factors. T-Test, ANOVA test to analyze the difference, test whether or not there is a difference in collaborative learning outcomes among 3 groups of economics, foreign languages and engineering students at Hanoi University of Science and Technology.

Survey: The survey consists of 2 main parts with 8 questions. Part 1 consists of 4 questions about demographics including: full name, gender, education, training field and 3 questions related to social networks used for collaborative learning. Part 2 is a question related to the reality of using social networks in collaborative learning. Part 2 actually has a total of 46 questions designed according to hierarchical questions to collect data for descriptive research, assess the level with a 5-point Likert scale (1- strongly disagree, 5- strongly agree) to collect quantitative data to analyze the impact of social networks on collaborative learning.

Table 3. Questions used in the study

Construct	Variables	Survey items
Perceived ease of Use (SD)	SD1	I find social media very easy to use
	SD2	I log in and use social media easily from the first time
	SD3	Using social media makes me easily accessible to friends
	SD4	Using social media makes me easily accessible to lecturers
Perceived usefulness (HI)	HI1	I find social media to be a useful learning and research tool
	HI2	I find that using social media will help me study better
	HI3	I believe that the use of social media will improve my learning and research results.
	HI4	I believe that using social media will help students be more satisfied in collaborative learning
Use social network (TT)	TT1	I often use social media for research purposes
	TT2	I often use social media to contact and share research learning information with friends, study groups, research
	TT3	I often use social media to contact lecturers to exchange information related to my assigned research tasks
Interacti-vity with peers (SV)	SV1	Social media makes it easy for me to regularly interact with other members of my study and research group
	SV2	Social media gives me the opportunity to discuss with all members of the study group

	SV3	Social media helps me express my personal views on common issues of the group easily
	SV4	Social media allows me to exchange information with team members in the fastest way
Interacti-vity with teachers (GV)	GV1	Social media helps me relieve my anxiety when interacting with lecturers
	GV2	Social media makes it easy for me to express my personal views to my lecturers
	GV3	Social media helps to communicate and exchange information with lecturers quickly
	GV4	Help me get quick feedback and advice from the lecturer
Student cohesion (GK)	GK1	I feel that my opinion is analyzed and considered by the team
	GK2	I feel the interaction between my team members via social media is valuable
	GK3	I feel the interaction with my lecturers through social media is valuable
	GK4	Social media facilitates my personal relationship with other members
	GK5	Social media facilitates my personal relationship with the teacher
Learning resources (TN)	TN1	I found many good eBooks for learning on social networks
	TN2	I found many good videos for learning on social networks
	TN3	I found many lecture slides for learning on social networks
	TN4	I found many useful scientific articles and information for my study and research tasks on social networks
	TN5	In general, I found a lot of good materials for studying and researching on social networks
Cooperate (HT)	HT1	Social media helps to connect with other members in the process of studying and working in groups
	HT2	Social media helps us to fully understand information, general work progress to arrange to complete each person's assigned work.
	HT3	Social media helps us quickly support and get support from other members when needed
Collaborative learning Outcomes (KQ)	KQ1	The use of social media in collaborative learning is effective
	KQ2	I gain a lot of new knowledge through collaborative learning
	KQ3	I learned new skills through collaborating with teacher
	KQ4	I learned new skills through collaborating with other members of my team on social media
	KQ5	I'm interested in collaborative learning in an online environment
	KQ6	I have more experience in the social media environment than in the face-to-face environment
Student satisfaction (HL)	HL1	I enjoy the collaborative learning experience with team members
	HL2	I love the collaborative learning experience with the instructor
	HL3	I am satisfied with the cooperation and cohesion obtained
	HL4	I find that collaborative learning in my group works
Keep using (YD)	YD1	I plan to continue using social media to study, research, collaborate
	YD2	I plan to recommend my friends to use social media for collaborative learning
	YD3	I plan to use social networks to improve my study and research tasks

5. CONCLUSION

On the basis of the research science of the topic, together with the practical context of collaborative learning in the university environment, the research develops a research model to study the role of social networks in collaborative learning at the University from the theory of use and gratification (UGT) and acceptance of technology (TAM) in which the collaborative learning outcome factor is directly and indirectly affected by seven factors. Specifically, the collaborative learning outcome factor is directly affected by four factors that are the level of interaction between students and students, the level of interaction between students and lecturers, the cohesion of students and teachers. individual with collaborative learning group and learning resource element. In addition, indirect factors through mediating factors include factors of using social networks, perceived usefulness and perceived ease of use. All seven factors in the model are hypothesized to have a direct and indirect impact on collaborative learning outcomes.

6. ACKNOWLEDGMENTS

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THE IMPACT OF THE COVID-19 ON THE EXPORTS OF TEXTILE AND GARMENT BUSINESS IN VIETNAM

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Research purpose:

The study's objective is to analyze the impact of the Covid-19 pandemic on the exports of textile and garment enterprises in Vietnam and propose the econometric model for further research.

Research motivation:

Over time, the Covid-19 pandemic has seriously affected Vietnam's socio-economic, production and trade activities. In particular, the textile and garment industry has to face many difficulties and challenges when the supply chain of input materials is interrupted, the demand for consumption and export of products decreases.

Research design, approach, and method:

The research examines the situation of export, cost of raw materials, and labor source and proposes the the econometric model to analyze the impact of the Covid-19 pandemic.

Main findings:

Covid-19 affects the commercial ability of Vietnamese enterprises, and the constantly increasing cost of input materials puts pressure on production capacity. In addition, the labor force is also affected by the Government's policies such as isolation, social distancing.

Practical/managerial implications:

The study offers several solutions to help businesses overcome difficulties and prepare the best contingency plans in a volatile world.

Keywords: Covid-19, export, textile and garment business

1. INTRODUCTION

The Covid-19 pandemic has severely affected the global socio-economic, production, and trade activities in recent years. Vietnam is accelerating the process of international economic integration, and companies actively participate in the global supply chain, so it is not outside the scope of influence. Industries and fields strongly affected by the Covid-19 epidemic can be mentioned as Aviation, Tourism, and import/export.

In particular, the textile and garment industry faces many difficulties and challenges when the supply chain of raw materials from other countries is interrupted, and consumer demand and product exports decline. The author has analyzed the impact of the Covid-19 epidemic on Vietnamese textile and garment enterprises, thereby offering solutions to improve the performance of companies in the coming time and propose the econometric model for further research

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. The impact mechanism of Covid-19 on the economy

To fully realize the negative impact of Covid-19 on the export market, it is first necessary to understand the mechanism of Covid-19's impact on the economy.

According to Reeves M. et al. (2020) and Carlsson-Szlezak et al. (2020), there are three mechanisms of influence: First, direct impact, Covid-19 leads to a decrease in consumption of goods and services. If the epidemic is prolonged and social distancing measures can reduce consumer confidence, they will be more conservative with their spending and pessimistic about the long-term economic outlook. Second, indirect effects through shocks in financial markets. The decrease in household asset holdings gives them an incentive to increase savings, leading to a further decrease in consumption. Third, on the supply side,

when Covid-19 leads to the cessation (or suspension) of production, it will negatively affect the supply chain, labor demand, and employment, leading to a prolonged shutdown time and increasing the unemployment rate.

In addition, Baldwin (2020) describes the impact of Covid-19 on income flows in the economy: First, household income decreases, so they reduce consumption and savings. Reducing savings reduces investment and ultimately reduces capital reserves. Second, households reduce their consumption of imported goods, thereby reducing the income of the rest of the world and leading to a decrease in the country's exports. Third, shocks from the supply/demand side disrupt domestic and international supply chains. Fourth, all previous shocks and disruptions lead to reduced output, reducing the use of factors of production. In this case, labor suffers more than capital due to reduced working hours or layoffs, resulting in lower earnings.

2.2. The impact of Covid-19 on exports and imports

The WTO report (2020) asserts that the Covid-19 pandemic increases the costs of trade between countries, causing damage to both exporting and importing countries.

For exporting countries, the spread of Covid-19 forced the Government to issue containment measures such as isolation, social distancing, and production suspension. These measures limit people's ability to move to work, closing schools and forcing some workers to take time off to care for their children. More dangerously, prolonged illness can lead to death, directly affecting the workforce. These changes reduce the supply of goods, shifting the country's aggregate supply curve upward, steeper, and less elastic in price. As a result, orders are disrupted, and the transportation system is delayed, leading to increased transportation costs. So the impact of Covid-19 is to reduce production scale, leading to a decrease in export supply. However, the degree of impact on sectors is different; for those that produce essential goods, the impact is less than for others. This is because countries work hard to maintain supplies of essential products, and shutdown orders often do not apply to businesses that produce these products.

For importing countries, the impact of Covid-19 related to trade mainly comes from a decrease in the country's aggregate demand, accompanied by an increase in the cost of transporting goods and services (Hayakawa & Mukunoki, 2021). Contrary to adverse supply-side effects, demand-side shocks can reduce spending on durable goods rather than other commodities. Therefore, industries that supply durable goods such as rubber, leather, wood, textiles, footwear, plastic/glass, precious/primary metals, and machinery are suffered (Baldwin & Tomiura, 2020). In contrast, the complicated development of the epidemic, along with

the panic and anxiety of the people, led to an increase in the hoarding of some essential goods, especially rice and sanitary products (Adewopo et al., 2021; Hezam, 2021).

2.3. Empirical Research

In other countries

Fuchs et al. (2020) studied the export of medical goods from China. In particular, they focus on countries' economic and political relationships with China. The results showed that countries with good economic relations with China will be given priority to importing many critical medical products.

Hayakawa and Mukunoki (2020) assessed the impact of epidemic prevention policies on trade using world trade data for the first six months of 2020. Research indicated that social distancing policies association, the policy of closing offices and workplaces negatively impacted business activities.

Maliszewska et al. (2020) simulated the potential effects of Covid-19 on GDP and trade using a general equilibrium model. The model included factors such as optimal labor and capital productivity, international trade costs, demand for tourism services, and the need to switch to other activities.

Kazunobu and Hiroshi (2020) focused on understanding the early signs of the impact of Covid-19 on the global trade situation based on data from 186 countries for the first quarter of 2020. The study found a negative impact of the pandemic on trade, but only on exports from developing countries and countries.

Hayakawa and Mukunoki (2021) assessed the impact of Covid-19 on international trade. The study found adverse effects of the pandemic on international trade, both in exporting and importing countries, but this effect was offset to some extent after the initial outbreak. The degree of influence on industries was different and uneven.

Hieu et al. (2020) surveyed 16 companies to determine the impact of Covid-19 on the business activities of companies in the North of Vietnam. Research results showed that companies face significant production difficulties, supply disruptions, financial difficulties, and unstable human resources.

Minh (2020) assessed the advantages and disadvantages that Vietnam faced before the change of the global supply chain under the impact of Covid-19. The study also addressed what Vietnam needs to do to benefit from bringing manufacturing activities into the global market.

In Vietnam

Hoang et al. (2020) analyzed the impact of the Covid-19 pandemic on Vietnam's tourism industry based on a survey of 95 companies in the hotel and tourism sectors. The study presented different scenarios for the impact of the Covid-19 epidemic depending on the evolution of the disease and the response of the

Government and the tourism industry. Therefore, the author proposed solutions to limit and minimize negative impacts, specifically for the three phases of maintaining the existence of enterprises and employees, restructuring, and preparing for the return of the tourism business.

Chapter (2020) projected the impact scenarios of the Covid-19 pandemic on the Vietnamese economy and, from there, made some policy recommendations to limit the negative impacts on the economy.

Nguyen Hoang Nam (2021) investigated the impact of the Covid-19 pandemic on economic activity in Vietnam. The author analyzed the impact of Covid-19 using variables such as the total number of cases, deaths, exchange rate, gold price, oil price, silver price, copper price, and VN-index. Research showed that Covid-19 harms gold and oil prices, while Covid-19 positively impacted exchange rates and silver and copper prices. The VN-index had no impact on the total number of cases, but information on the total number of deaths hurts this index.

The Vietnam Chamber of Commerce and Industry (VCCI) and the World Bank (WB) reported "The Impact of the Covid-19 Pandemic on Businesses in Vietnam" (2020) identifying the impact of the pandemic on production and operations in Vietnam, learn about the ability of enterprises to respond to and evaluate the support policies of the State. This study was conducted as a sample survey and received responses from 10,197 companies, including 8,633 private companies and 1,564 foreign-invested companies (FDI) nationwide.

There are many studies that have been done to investigate the impact of the Covid-19 on the economies of Vietnam and other countries. However, there is a few of research focusing on the textile and garment industry - the Vietnam's strength in the field of export.

3. THE CURRENT SITUATION OF THE TEXTILE AND GARMENT INDUSTRY

The Covid-19 pandemic, with complicated developments, has caused many difficulties for the textile industry in the world. In 2020, many textile factories closed when the Covid-19 pandemic broke out, affecting the ability to supply raw materials to global textile and garment enterprises. Besides, consumers are gradually tightening their spending, buying only necessities, providing financial backup for an unstable economy. The isolation and social distancing to prevent the epidemic also significantly contributed to the decline in consumer demand worldwide.

3.1. Situation of the textile and garment industry in the world

According to research by the International Labor Organization (ILO), imports from significant textile customers exporting countries in Asia have decreased by 70% in the first half of 2020. The reason is due to

consumer demand. There has been a sharp reduction in consumption, disruption of the supply chain of input materials, and blockade measures of countries in the complicated situation of the epidemic. According to the textile and garment industry report 2021 of VCBS (Foreign Commercial Bank Securities Company Limited), the total market share of the ten largest garment importing regions/countries in 2020 decreased significantly compared to 2019 (71% and 88%). The export/import value decreased to only about 80% - 87% of the pre-epidemic value.

China and the EU are the two largest garment exporters in the world (141.6 and 125.3 billion USD), and Vietnam ranks third with 28.6 billion USD in 2020. EU, the US, and Japan are the three largest importers, accounting for 62% of the total value of global apparel imports (a sharp decrease compared to 2019, 75%) (Tran Minh Hoang, Le Duc Quang, 2021).

3.2. Situation of Vietnam's textile and garment industry

Vietnam's textile and garment industry is also not outside the influence of the Covid-19 pandemic. The complicated development of the epidemic caused the production and business processes of textile and garment enterprises to be severely affected, which can be mentioned as disruption of the supply chain of input materials and high cost of raw materials. Consumer demand plummeted, and import markets were closed to control the epidemic. Many factories were forced to close to implement social distancing. However, by the end of 2020, when the epidemic situation was gradually under control, businesses actively changed their products to adapt to the market's needs, and production and business results gradually improved. According to the General Statistics Office, the index of industrial production (IIP) of the textile industry in the first 11 months of 2020 decreased by 0.4% compared to the same period last year, of which September IIP decreased by 6.3%; October decreased by 5% and by November had increased again by 1.3%.

According to a report by the Vietnam National Textile and Garment Group (Vinatex), Vietnam's textile and garment export turnover in the first quarter of 2020 reached US\$8.4 billion, down 2.02% over the same period in 2019. Particularly in March / 2020. In 2020, Vietnam's textile and garment export turnover will decrease by 7.42%. However, by the end of 2021, enterprises' textile and garment production has been restored. Export turnover of the textile and garment industry reached 39 billion USD, equivalent to 2019, of which garments reached 28.9 billion USD, up 4% compared to 2020; fiber and yarn are expected to reach 5.5 billion, up over 49%. The largest export market of Vietnam's Textile and Garment is still the US with 15.9 billion USD, up 12% compared to 2020; the EU reached 3.7 billion USD, up 14%; Korea reached \$3.6 billion and China \$4.4 billion, mainly from yarn exports (Pages, 2021).

4. IMPACTS OF THE PANDEMIC ON VIETNAM'S TEXTILE AND GARMENT

4.1. Exports

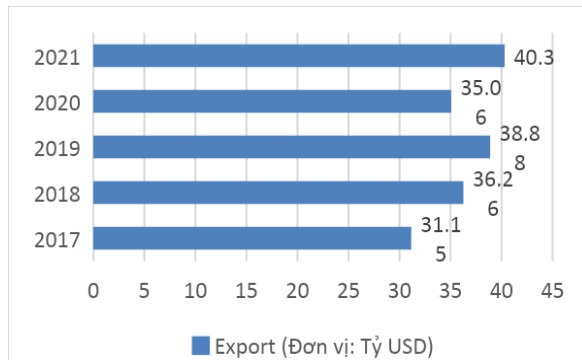


Fig. 1. The textile and garment export

Source: General Department of Vietnam Customs

In the early period of 2020, the epidemic broke out in China. The exportability of textile and garment enterprises has not been affected much because the orders have been prepared in advance. However, the disease began to spread after that time to many other countries worldwide, including Vietnam's largest export market, the US, and the EU. Governments of other countries have begun to apply many measures to prevent the epidemic, implement social distancing, and control imported goods. This substantially impacts demand, gradually short orders, high inventories, and pressure to pay for labor, making it difficult for textile and garment enterprises. Textile and garment export turnover in 2020 only reached 35.06 billion USD, down 9.8% compared to 2019, the lowest since 2018 until now.

Faced with difficulties, garment and textile enterprises have adapted to manufacturing medical products such as masks, protective clothing, etc., to earn more orders partly and partially limit their losses brought by the pandemic. Besides, along with the Government's supportive policies, the introduction of the Covid-19 vaccine has helped countries gradually stabilize the situation, reopen and allow the import of goods. The Vietnam - EU Free Trade Agreement (EVFTA), which took effect on August 1, 2020, also had a positive impact on helping Vietnamese textile and garment enterprises expand their markets.

By 2021, countries worldwide have also returned to a new everyday life thanks to high vaccination rates and a gradual return of consumer demand. Enterprises make good use of the opportunities that free trade agreements bring, and benefit from the supply factor (countries such as India, Bangladesh, and Cambodia... are ravaged by the epidemic), so export turnovers Textile and garment exports in 2021 grew again, reaching 40.3 billion USD, up 14.9% compared to 2020.

4.2. Cost of raw materials



Fig. 2. World cotton price in the period of 01/2020 - 12/2021 (USD/pound)

Source: macrotrends.net

Currently, Vietnam's textile and garment industry is still dependent on input materials imported from abroad and has not been able to supply actively, which China is the largest supplying market. Therefore, when the Covid-19 pandemic broke out in China, Vietnam's textile and garment industry suffered a lot due to insufficient supply and high import prices of raw materials. By the end of 2020, the epidemic spread to other countries, increasing imported materials' prices. Although, by 2021, the epidemic situation has been gradually controlled, prices continue to increase. Looking at the chart, we can see that cotton prices worldwide increased continuously from January 2020 to December 2021 and showed no sign of cooling down. The cause may come from the world cotton crop being affected, and low inventory should promote continuously high prices (Report of the Vietnam Cotton and Yarn Association, 2020).

4.3. Labor source

According to the Vietnam Textile and Apparel Association, the Textile and Footwear industries are the two most labor-intensive industries in the current economic sector, with more than 3.5 million industrial workers. However, due to the impact of the Covid-19 epidemic and the outbreak of the new strain Delta, the whole country implemented distance and blockade according to Directives 15 and 16, and many textile and garment enterprises had to close and reduce production, and many workers lost their jobs. The fear of infection and complicated life has led millions of workers to leave big cities and industrial zones to return to their hometowns. When the epidemic is under control, businesses face labor shortages, the risk of supply chain disruptions, and difficulties in finding replacements.

5. PROPOSING ECONOMETRIC MODEL

The gravity model of international trade in international economics is a model that, in its traditional form, predicts bilateral trade flows based on the economic sizes and distance between two units. The model was first introduced in economics world by Walter Isard in 1954. The basic model for trade between two countries (i and j) takes the form of: $F_{ij} = G \frac{M_i M_j}{D_{ij}}$

In which:

G: a constant

F: trade flow between country i and j

D: distance between country i and j

M: economic dimensions of the countries i and j

Since the gravity model for trade does not hold exactly, in econometric applications it is customary to specify:

$$F_{ij} = G \frac{M_i^{\beta_1} M_j^{\beta_2}}{D_{ij}^{\beta_3}} \eta_{ij}$$

F_{ij} : trade flow between country i and j

M_i : GDP of countries i

M_j : GDP of countries j

D_{ij} : distance between country i and j

η_{ij} : error term with expectation equal to 1

Other characteristics affecting trade flows such as tariffs, language... are considered control variables. This model is estimated by taking the logarithm of both sides and then using the OLS (Ordinary least square) regression method. However, according to Disdier & Marette (2010), Feenstra (2004) argues that the GDP components in equation (1) are unnecessary because they are less related to trade flows as are the macro factors. Therefore, the recent trend when studying trade flows using the gravity model is that the GDP variable is excluded from the model (Burger et al., 2009). On the other hand, Santos Silva and Tenreyro (2006) warn that using the OLS method to estimate model will lead to serious problems as the estimated coefficient will be biased. Furthermore, in case the dependent variable has a value of zero, the conversion to logit is not feasible. In practice, zero trade data is very common, so the estimation results will be biased.

On the basis of gravity model, this study proposes the following model and estimation method:

$$\begin{aligned} \text{export}_{VNjt} = \exp\{\beta_1 \text{covid}_{VNt} + \beta_2 \text{covid}_{jt} \\ + \beta_3 \text{dist}_{VNj} + \beta_4 \text{tariff}_{VNjt} + \delta_t \\ + \lambda_{ij}\} \epsilon_{VNjt} \end{aligned}$$

In which:

export_{VNjt} : export value of textiles and garments from Vietnam (VN) to country j in period t

covid_{VNt} : the current situation of Vietnam's Covid-19 pandemic in the period t

covid_{jt} : the current situation of the Covid-19 pandemic in country j in period t

dist_{VNj} : distance between Vietnam and country j

tariff_{VNjt} : tariff of country j applied when importing Vietnamese textiles and garments in period t

Santos Silva and Tenreyro (2006) estimate the

parameters in the model above using the Poisson pseudo maximum likelihood (PPML) method. However, the PPML method requires the assumption that the variance and the expectation of the dependent variable must be equal (Cameron & Trivedi, 2010). In practice, with this assumption, the trade data is often unsatisfactory, and there is often an overdispersion of variance. Therefore, the negative binomial distribution (NB) is often used to estimate this phenomenon (Burger et al., 2009).

The study will use monthly data and variables about the current situation of Covid-19 will be measured using the Government Response Stringency Index (GRSI) of the Government's Covid-19 pandemic response policies calculated by Oxford University and has a value from 0 to 100 (100 being the strictest). This is a composite index calculated based on three components: control and shutdown when a pandemic occurs, the response of the economy, and the state of the health system of each country (Hale, T. et al., 2021)

6. CONCLUSION

The recovery of production and business in 2022 will depend heavily on the possibility of an outbreak of the disease and the vaccination rate against Covid-19. Herd immunity will be challenging to achieve in the short term, and the emergence of new virus strains with widespread transmission remains a significant risk. The Government needs to give full play to its role in disease control, thoroughly prevent and prevent the spread of the disease, and be transparent in providing information about the disease. The Government should set up a special committee to help businesses in difficult times, facilitate access to capital and credit...; review and cut administrative procedures and costs of enterprises. Consider tax cuts for businesses struck by the epidemic.

The Government needs to direct ministries and sectors to search for distributors, manufacturers, and exporters of foreign materials and accessories to inform domestic manufacturing industries, develop supporting industries, and implement support solutions. Support to develop the production of goods as input materials, ensuring the stability of enterprises.

Enterprises should limit labor cuts because, in the long run, this will cause difficulties in recruitment and training when production activities return to normal. Instead, businesses need solutions to prevent infection and arrange working locations to reduce risks; operations in other departments can continue if there are infected employees. Develop a complete and scientific disease prevention process

Enterprises need to diversify import-export markets, avoid risks, and at the same time ensure the requirements on rules of origin of free trade agreements, especially the EVFTA, the Agreement on Foreign Trade and Investment. Comprehensive and Progressive Trans-Pacific Partnership CPTPP.

The Covid-19 pandemic is still causing adverse

effects on the socio-economics of all countries worldwide. With its export strength, the textile and garment industry is still facing many difficulties and challenges. The supply of raw materials is interrupted, export contracts are canceled or postponed, it is difficult to ensure the contract progress, and the risk of having to stop or close production to prevent epidemics. However, with the experience gained in the past time, textile and garment enterprises need to prepare themselves with adaptive solutions and solutions and flexible change with the change in the global economy, and the danger of the pandemic is not over yet.

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SHORT FOOD SUPPLY CHAINS IN VIETNAM SITUATION AND SOLUTIONS

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Short food supply chains (SFSCs) are currently a potential trend that Vietnam is pursuing and promises to be a big step forward for the country's agriculture. However, up to now, the short food supply chain is still a new concept and has not received much attention in Vietnam yet, but in developed countries, this method is way more popular and has achieved great success in many fields. Based on synthesizing and developing domestic and foreign studies and articles, this paper was written to focus on analyzing the current situation of the supply chain in general and the short food supply chain in Vietnam, particularly. Thereby, this article proposes some recommended solutions to help this short food supply chain develop and become more accessible in Vietnam in the coming time.

Research purpose:

The article aims to give the most overview of the current situation of applying the short food supply chain model in Vietnam. Thereby, the article proposes some potential solutions to help this supply chain model be developed and spread in Vietnam.

Research motivation:

Vietnam has agricultural-driven economics, yet people still have not been provided with high-quality products at considerable prices. By practicing an alternative supply chain, everyone from farmers to consumers will obtain greater benefits. Therefore, to contribute to the formation of complete short food supply chains, we decided to write this paper.

Research design, approach, and method:

To achieve the research purpose, an in-depth multiple case study is performed. In this study, many research papers, reports, and analyses on short food supply chains (SFSCs) are selected such as research or articles about SFSCs in France, Italy, Vietnam, etc. They spoke to the prevailing reality, as well as suggested some useful solutions to the problem.

Main findings:

It is revealed that businesses in Vietnam have initially adopted the short food supply chains (SFSCs) model to overcome the trust and product quality issues that manufacturers often encounter. However, there are many issues with this procedure. It also demonstrates that the adoption of development strategies by the government, as well as active participation from businesses, farmers, and consumers, is a crucial first step to a well-developed short food supply chain.

Practical/managerial implications:

The article offers some manageable implications: firstly, the article evaluates the benefits of applying the short food supply chain model in developed countries such as France, Italy, etc. Thereby assessing and discovering challenges and difficulties in developing that model in Vietnam. Secondly, the article also gives some suggestions for building a short food supply chain in Vietnam. On the state side, the government needs to promulgate, revise relevant documents, and offer several support policies for businesses and people. On the business and farmer's side, they need to raise awareness about applying information technology to production and capturing information. As for consumers, they need to be more proactive in traceability, they also should trust and support products in the short food supply chain.

Keywords: *Challenges, food safety, recommendations, short supply chains, sustainable development, Vietnamese agriculture.*

1. INTRODUCTION

Vietnam is a dynamic market with a population of more than 90 million people, most of whom are of working age, so the demand for food is enormous. According to Euromonitor International, Vietnam's food consumption maintained a growth rate of 11.4% between 2014 and 2018. However, an alarming circumstance is that never before has the need for safe food for people across the country been as urgent as it is today and never before have consumers lost trust in Vietnam's agricultural products so much.

In addition, the production and distribution of agricultural products in Vietnam still have a "bottleneck" that has not been resolved on a large scale. One of the biggest known weaknesses is that the current food supply chain still mainly follows the traditional model with many layers and intermediate stages, making it impossible for consumers to interact directly with the producer. At the same time, the competitiveness of domestic and foreign food products is still becoming a big challenge for Vietnam's food supply chain. The current context, when the pressure from consumers' demand for safe food is increasing, along with the pressure from global integration, has created unprecedented development opportunities for food supply chains, in which short food supply chains are one of the necessary ways to encourage development.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The agricultural product supply chain has received more and more attention from researchers and policymakers around the world.

In the view of the European Network for Rural Development, the short agricultural product supply chain not only focuses on the distance between the farm and the final consumer but also on the number of links in the supply chain. The goal is to reduce these links as much as possible, and the shortest option is to sell directly from the producer to the end consumer. In other words, a short supply chain means a drop in the number of intermediaries needed to deliver agricultural products to the final consumer (EC, 2015).

According to Ilbery and Maye's opinions (2005), the short agricultural product supply chain is built based on the direct connection between agricultural producers and consumers. This relationship is developed based on the process of broadening knowledge and changing perceptions from production to consumption for producers. Besides, it also requires a change in how consumers think when consuming products based on the value and meaning of the product, instead of just focusing on the mere product exchange.

In Feenstra's (1997) view, a short supply chain of agricultural products is a supply chain that aims to bring

economic efficiency to farmers and consumers, using good production practices and ecologically rational distribution, promoting social justice and democracy for all members of the local community.

In the European Union area, there is no official definition so far able to provide a clear explanation of "short supply chain" and "local food system" that is reasonably applicable and suitable for a variety of production systems, processing, marketing, and distribution of local agricultural products in EU-27 member countries. Marsden et al. (2000). Instead, the concepts introduced only ensure that the evaluation criteria are interpreted flexibly according to the territory, as well as the context in which these initiatives were applied. The short agricultural product supply chain can exist alongside traditional supply chains or be considered as an alternative in the production and distribution of agricultural products by traditional models.

Accordingly, the short supply chain is analyzed and interpreted as a strategy to improve the resilience of family farms with the support of consumers, local communities, and civil society organizations. Short agricultural supply chain is considered as one of the "alternative modes of food supply and consumption", and "conventional industrial modes" Marsden, T.K. et al (2000) or "alternative food chains" Le Velly, et al (2015), "alternative food networks" Goodman, (2009) and are trending explosively, which accounts for a large share in the agricultural commodity market, has been considered by policymakers and institutionalized into legal regulations. The development of short agricultural supply chains is seen as a driving force to change rural areas, creating sustainable development both in the agricultural and rural systems.

The concept of Short Food Supply Chains (SFSCs) was introduced by Marsden in 2000, then completed by Renting in 2003. Short food supply chain is a term that describes a method of supplying agricultural products that includes many activities including the production, distribution, and consumption of food such as farmer's markets, farm shops, collective farmers' shops, community-supported agriculture, a system that connects producers and consumers in the local food system more closely by allowing consumers to subscribe to buy produce from a harvest of a farm or a certain farm group; solidarity purchase groups; etc. According to EU Regulation No. 1305/2013, "a food short supply chain is a supply chain that has a minimum number of economic agents, is committed to cooperation and local economic development, and there is a close social and geographical relationship between producer and consumer".

Thus, the concept of "short" describes the interaction between producers and consumers, pointing out the nature and differences between SFSCs and traditional supply chains and value chains. Theoretically, there are

three main types of SFSCs, namely: i) Direct sales by individuals: This is the simplest form of short supply chain involving direct transactions between farmers and consumers. With this model, farmers open their stores to sell their products or sell other farms' products; ii) Collective direct sale: Farmers, farms, and cooperatives cooperate to sell their products directly, and iii) Consumer - Producer - partnership is carried out through the signing agreements of product consumption between consumers and producers (Galli and Brunori, 2013).

In Vietnam, at present, SFSCs are almost a new concept and have not attracted much attention. The number of scientific research projects on short supply chains is extremely limited, making it difficult to apply the model in practice effectively and scientifically. This raises the issue that there is a need for a comprehensive document and the most general assessment of the current situation of short food supply chain development in Vietnam, from which to develop appropriate research directions and solutions that are closest to practical needs.

3. CURRENT SITUATION OF SHORT FOOD SUPPLY CHAIN DEVELOPMENT IN VIETNAM

3.1. Great potential in Vietnam to develop short food supply chains

3.1.1. Vietnam is on the verge of international integration

Since the early 90s of the twentieth century, international economic integration has become a trend of the times, taking place strongly in many aspects with the emergence of many economic and trade blocs. For a long time, our Party has considered economic integration as a major policy of the country and assessed it as an important part of the renovation process. Therefore, along the way of nation-building, comprehensive international economic integration has become an important driving force for economic growth as well as creating synergy to improve competitiveness and affirm Vietnam's position. During the 35-year journey of continuous renovation and improvement, Vietnam is on the verge of joining the strong flow of international integration.

In the process of integration with the world, Vietnam has actively and actively participated in multilateral and regional economic institutions. As a country with a rice civilization, with such expanding opportunities, Vietnam needs to promote the export of agricultural products, one of the strengths of our country, in order to contribute to economic development and industrialization, and modernization of the country. For example, the Eu-Vietnam Free Trade Agreement (EVFTA), which came into effect in August 2020, has created a very important opportunity in promoting Vietnam's agricultural exports to the EU market. Under this agreement, 71% of Vietnam's exports to the EU

market will be duty-free and increase to 99% in the next 7 years. However, in addition, Vietnamese enterprises and cooperatives are also facing many challenges related to the requirements set out in EVFTA such as Standards on food safety, phytosanitary measures, rules of origin, protection of geographical indications, etc. Therefore, improving the quality of agricultural products through food supply chains is considered an effective solution in creating agricultural products that meet the requirements set by EVFTA. Thereby contributing to bringing Vietnam's agriculture to a higher position when exporting to the international market, especially for countries that require high product quality.

3.1.2. SFSCs is gradually spreading in Vietnam

According to the Deputy Director of the Institute of European Studies, in Europe, some of the particularly successful short agricultural supply chain models in the world can be mentioned as the Italian Campagna Amica chain, as of May 2016 has established 10,199 direct selling points, including Sales base of farms, agritourism restaurants, small shops. The Gruppi di Acquisto Solidale- Italy chain, between 2004 and 2014 attracted more than 2,000 participating groups and achieved average annual sales of 90 million euros. Flavor and Provenance chains', Pays de la Loire, string 'Le goût d'ici', Bretagne, France; Finnish website Aitojamakuja.fi website; local food system, Szekszárd, Hungary; The NEBUS Network, Flanders of Belgium etc. is achieving growth in turnover and scale that is constantly expanding over the years.

The short supply chain model is increasingly being replicated not only in developed countries such as Europe but also in developing countries, because of its positive economic, social, and environmental impacts. This trend also meets expectations for policymakers to contribute to more than the goals of the United Nations 2030 Agenda for Sustainable Development. In particular, the expected effects of SFSCs initiatives can contribute to responsible consumption and production, social issues, especially the goal of poverty alleviation, gender equality, and reduction of environmental pollution.

Facing these opportunities, in Vietnam, the development of a short supply chain with increasingly high-quality agricultural and food products in the domestic market is gradually spreading under the impact of international and regional economic integration in increasing the production of high-quality agricultural and food products. Since then, not only large enterprises but also small and medium-sized farmers and farms participate in this chain, both improving income and at the same time making them develop production in a modern direction, meeting the requirements of technical barriers in trade (TBT), Agreement on Animal Sanitary and Phytosanitary Measures (SPS).

3.1.3. SFSCs are contributing to changing the face of rural areas in Vietnam

The development of the short supply chain of agricultural products in Vietnam is being seen as a driving force to change rural areas, improve incomes for a large number of farmers and narrow the development gap between urban and rural areas, ensuring fast and sustainable development both economically, society and environment are fully aligned with Vietnam's inclusive growth strategy for the period up to 2030.

Economically, SFSCs have created many economic benefits for producers, consumers, and localities. For producers in Vietnam, especially smallholder farmers, participating in this short food supply chain has contributed to increased production as well as revenue while creating a stable source of income for them. Many farmers have noticed that, since joining SFSCs, the price of their products has increased by two to three times compared to the price sold in traditional markets. A farmer in Long Bien district, Hanoi shared that: "In the past, I grew vegetables that were often harvested, devalued, or priced while the crop failed. In addition, input prices are high, and output prices fluctuate or fall by traders. Many times, they cannot sell goods, they have to use vegetables to raise cattle such as chickens, pigs, and cows. Since joining this SFSC, I have focused on production to ensure product quality and not have to worry about selling and stable prices. My income is much improved. I and about 40 farmers are very pleased to participate in this chain of links. We feel good."

Socially, SFSCs have created more stable jobs for farmers. In the past, farmers when harvesting, they often encountered a decrease in the selling price of traders. This makes the output price low while the input price is high, so farmers suffer many losses and many farmers are discouraged and want to stop their current jobs and go to the city to earn a living. Since joining this supply chain, despite having to work harder and higher production costs, they can get higher output prices, easier products to sell, and higher income.

In addition, the development of SFSCs contributes significantly to improving livelihoods for ethnic minority farmers. From existing studies, ethnic minorities benefit from participating in SFSCs, such as the Tay and Dao ethnic groups in the northern province; the Ede and Nung people in the central part of the province; and the Khmers in the southern province of Vietnam. In addition to increasing production, ethnic people here also organize activities to promote the culture of their products to serve the export to the international market.

Environmentally, SFSCs are contributing to improving farmers' efficiency and thinking of green, organic, and clean production. To participate in the SFSC, farmers must strictly comply with production standards, including regulations on the safe use of veterinary drugs, protective chemicals, preservatives,

food hygiene supplies, and phytosanitary.

These production models have provided safe agricultural products, ensuring food hygiene for customers. More importantly, farmers themselves benefit from reduced exposure to chemicals, so their health is safe, and their habitat, including air, soil, and water environments are healthier, and guaranteed. Society also gains benefits through ensuring biodiversity, minimizing habitat destruction, and reducing soil and water pollution caused by pesticides and excessive fertilizers.

A farmer participating in a short vegetable chain in Duong Xa commune, Gia Lam District, Hanoi city said: "To participate in this short supply chain of safe vegetables, members must understand and practice the proper food safety and hygiene standards, ensuring the use of the right types, at the right time, the right doses of safe and appropriate fertilizers and pesticides. Previously, we did not know well, used inappropriately or used too many chemicals, so many species have disappeared such as leeches, insects, etc. Human health is also affected, many suffer from skin diseases or breathing problems. By joining this chain, we use chemicals properly, the living environment is guaranteed, and everyone's health becomes improved."

3.2. Challenges in adopting a short food supply chain in Vietnam

Although the benefits of short food supply chains from economic, social, and environmental perspectives have been demonstrated. However, some of the challenges and barriers that still exist that need to be addressed at the community level as well as in EU member states are reflected in some of the points below.

In fact, successful models in this short food supply chain require new management skills, establishing networks of collaboration and cooperation in the business of many manufacturers together; the developing of trust strategies in business as well as the development of forms of cooperation with public support organizations and community organizations are lacking. Not only that, but the government has also been confused in determining how to support farmers, and the form of revision and ratification of legal frameworks has not been agreed upon and spread. Moreover, the short supply chain model requires consumers to be provided with full information about the product such as production process, brand, product origin, product quality etc. This is also considered one of the challenges in developing this supply chain.

In summary, in most European Union member states in recent times, the short food supply chain has grown strongly and achieved certain achievements. However, facing difficulties and barriers in developing short food supply chains in developed countries is also inevitable.

For Vietnam, when traditional markets, including wholesale markets, are still playing a key role, are

popular in the local agricultural and food supply system, and are important outputs of farmers, typically the agricultural production method in the supply chain in Moc Chau still has the characteristics of the supply chain model. Traditionally, many intermediaries, leading to the low added value that producers obtain, and the application of short food supply chains into life while solving the challenges posed to the state, businesses, farmers, and consumers is really a difficult problem.

Firstly, in terms of the state, currently short food supply chains (SFSCs) are a new concept in Vietnam and have not attracted much attention. Like European Union countries, although our country has had the initial implementation of the short supply model, the lack of legal framework, mechanisms, and policies leads to the above models developing in spontaneous forms, and there is no agency with specific responsibility for management. Specifically, our state still lacks monitoring guidelines, research, and risk analysis across the chain to determine critical control points and control methods suitable to the production and socio-economic situation of localities. fostering professional expertise on food safety is currently not methodical, and not focused, there is no specialized training system on food safety management, investment in communication, raising awareness of society, and publicizing and transparency of missing and weak food safety information. Moreover, although local government support for the establishment of supply chains has been carried out quite often, some criteria such as information technology infrastructure and support for pesticides have not met expectations.

Secondly, regarding enterprises, the new situation will create opportunities as well as pressure for Vietnamese enterprises to gradually internationalize the supply chain and value chain of agricultural and food products to ensure competition and expand exports to foreign markets. At the same time, try not to lose or fall behind in the domestic market. Competition for food quality and food supply is a major challenge in today's global economy. This is especially true for short food supply chains, which are critical for both exports and domestic sales.

A preliminary assessment of the competitiveness of the supply chain in general, including the short supply chain of local agricultural and food products compared to international and regional, will be based on *competitiveness indexes*, *logistic costs* as well as *the level of mechanization*, *technological innovation capacity*, or the application of new trends of the industrial revolution 4.0 as digitizing the economy.

Vietnam's competitiveness index in the past period has improved faster than ASEAN countries, but due to its low starting point, if compared to RCEP, potential competitors for the domestic agricultural and food market all have outstanding competitiveness indexes

such as China ranked 18th; 23rd Malaysia; 32nd Thailand; Indonesia is 36th and Vietnam is 55th (2017). In terms of labor productivity, in 2019 Vietnam was only 19.5% of Malaysia, 37.9% of Thailand, 45.6% of Indonesia, and 56.9% of the Philippines, a long way to catch up in a short time.

Logistics costs are too high, and the level of mechanization is too low, reducing the competitiveness of Vietnamese agricultural products not only in the world market but also in the domestic market. Transport infrastructure in Vietnam is patchy and outdated, logistics costs account for 12% of the cost of seafood products, account for 23% of the cost of furniture, account for 29% of the cost of vegetables and fruits, accounting for 30% of the cost of rice. Logistics costs for agricultural development in Vietnam are 6% higher than in Thailand, 12% higher than in Malaysia, and 300% higher than in Singapore.

The level of mechanization in agriculture is still low, and the capacity of transportation and storage is still limited, so the rate of loss of agricultural products in the stage of production, harvesting, preservation, packaging, and transportation is still high. The average loss rate in agriculture is currently between 25 and 30%, of which seafood is 35%, and vegetables and fruits can be up to 45%.

Regarding innovation capacity, although science and technology are important drivers for rapid and sustainable development, including in agriculture and rural areas, investment in science and technology is still too low in our country. According to the World Bank (WB), Vietnam invests in agricultural research and development equivalent to 0.2% of GDP, while as a country in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), Brazil, the investment is 1.8% of GDP and in a major competitor that is creating very strong competitive pressure in agricultural products, China. also reached 0.5% of GDP.

In addition to the pressures on competitiveness, the challenges, and difficulties in quality assurance, especially on food hygiene and safety (food safety), are even greater for food suppliers in Vietnam when agricultural products must meet Global GAP standards when exporting and must compete with imported products of the same standard. such quality standards in the domestic market.

With the EU-Vietnam Free Trade Agreement (EVFTA), food safety and health control are considered a top priority of import management agencies in the EU market. Therefore, to meet the integration requirements and in line with the development trend, immediately after joining the WTO, in 2008, the Ministry of Agriculture and Rural Development (MARD) issued the Good Agricultural Production Practice Process (Viet GAP) for safe fresh vegetables and fruits, safe fresh tea and safe pig breeding, safe poultry, safe dairy cows, safe

bees in Vietnam. Viet GAP sets criteria for each product, and product group to guide manufacturers to apply to ensure production techniques, food safety, food traceability, environmental protection, and health. However, after more than ten years of implementation, the results achieved are not positive, the proportion of agricultural products produced according to sustainable quality standards is still low. In 2017, the total area granted Viet GAP certification reached 21,096 hectares, accounting for only a very small percentage of the total agricultural land area. For example, the Viet GAP-certified vegetable area accounts for only 0.41% of the total vegetable and fruit growing area of 1.43%. Viet GAP is also mainly applied in the cultivation of fruit and vegetable crops of all kinds, in which, Viet GAP certified fruit trees are 66.5%, vegetables are 17%, tea is 8.1%, rice is 8.0% and coffee is 0.5%.

In addition, there are a series of restrictions from the state's food safety support and control policies such as: there are too many legal documents related to food safety (about 400 documents issued by the government and central ministries and agencies, about 1000 documents issued by local authorities) leading to overlap and lack of clear focus and agencies specific responsibilities; the task force of quality management staff is still thin; the traceability method suitable for small farmers has not been implemented, the communication on access to food safety management and the monitoring system has not been implemented, so it is limited to the ability to participate in monitoring through information transparency of social agents is not good; Viet GAP certification is implemented quite slowly and unfeasible for smallholder farmers, the certification cost is high, but the resale price does not increase compared to non-certified goods; at the same time due to lax management, the quality does not really meet the certification criteria.

Thirdly, regarding farmers, the outstanding challenges are reflected in the following points: First, the link between farmers and businesses, and agricultural cooperatives are weak, leading to access to knowledge about farmers' production according to safety standards, product marketing, and advanced technology etc. often restricted. Second, the average age of farmers participating in the supply chain is quite high compared to the average age of the whole country. As a result, the ability to respond to crises and negative impacts is still low, producers do not want to change production methods as well as apply science and technology to agricultural production. In addition, the low level of education of people is also the cause of sustainability in the supply chain. Many households have participated in many training courses on production processes associated with food safety and supply chain, but the efficiency is not high. In the context of implementing EVFTA, households have heard of this agreement, however, to deeply understand the specific regulations on food safety, and export

packaging etc. they don't know yet. Although they do not know the regulations on exporting to the EU market, most people think that their products are not up to the standards for export.

Fourth, regarding consumers, the reality shows that many consumers in Vietnam are still quite permissive in buying and selling, lacking awareness of the food supply chain. Most consumers have the convenient habit of buying, cheap is okay and rarely care about the origin. We can see an example in Hanoi because consumers often buy Moc Chau products through merchants and wholesale centers, so they do not know the production process, the impact of the chain on people's income, or the participation in the chain has a positive impact on environmental issues. The biggest desire is to have a convenient selling point for shopping.

4. SOME PROPOSALS TO PROMOTE THE POTENTIAL AND OVERCOME LIMITATIONS IN BUILDING A SHORT SUPPLY CHAIN IN VIETNAM

4.1. On the State side

The most important role of the State is to manage and create a transparent legal corridor for people and businesses to enjoy doing business under the new model.

Create legal corridors and policies to support businesses and citizens

In order to improve the efficiency of the short supply chain of agricultural products, it is necessary to join hands and support state management agencies in developing and promulgating a policy framework on short supply chains, allowing farmers and smallholders to sell their products directly to consumers, facilitate support in marketing information networks, technical infrastructure, initial capital investment in branding, product promotion, logistics, training and guidance for agricultural producers to raise awareness to ensure product quality. In addition, in order to increase product prices through short supply chains, State management agencies need to train farmers to understand the regulations and certifications on food safety Global GAP, 4c, UTZ to increase the quality of products, thereby making money to let eligible products be exported to the world.

Improve the planning and development of areas producing strong agricultural products for short supply chains

Provinces and localities need to review and finalize regulations on agricultural production planning based on assessing market demand, promoting regional advantages, using land effectively, as well as improving planning quality, and meeting the requirements of production, processing, and consumption of agro-forestry and fishery products in the context of integration to promote compare benefits and quickly

improve product competitiveness. The short supply chain model has been shown to have growing impacts across economic, social, and environmental perspectives. In the current context, when the demand of local consumers is still weak, consumers do not pay much attention to local products because the quality of agricultural products has not met expectations. Therefore, a planning strategy for the development of reasonable specialized areas will create momentum for the locality to exploit the advantages in agricultural production. For localities whose products are not only aimed at the domestic market but are potentially exported to fastidious markets such as the European Union, it is necessary to have their planning policies, from which there are specific action programs such as need-based training, support the development of specialized areas, increase investment in infrastructure, etc, so that people can expand production scale, apply science and technology, build a rural tourism model associated with the supply chain, as well as easier to link to supply large quantities of goods with high quality.

Improve regulations, ensure consistency in management on traceability; unify and standardize the form, content of tags, stamps, labels, or formatting by an appropriate method

Traceability has become mandatory for EU member states, requiring goods put on the market to be labeled appropriately for traceability. EU regulations on traceability for agricultural products specify regulations on encryption, labeling, and external information that apply mandatorily to products circulating on the market, products encoded in a specific format using a code, barcodes, electronic chips, or other methods but should be guaranteed to be mounted on each physical shipment. In the cultivation process, agricultural farms must properly and appropriately use plant protection products and biocides and traceability to ensure export products are traceable. In fact, it has been shown that households and cooperatives in the chain have not paid much attention to product traceability stamps. The effect of traceability has not been properly understood, people have not complied with the logging process in the process of manufacturing, preserving, and processing products.

4.2. On the side of businesses, cooperatives, and farmers

Strengthening the role of cooperatives

The supply model of short-chain products in countries such as Poland and France has shown that the function of non-profit organizations plays an important role in managing and promoting supply chain development. Starting from the Context of Vietnam, the cooperative will be a non-profit organization that both operates and connects producers and consumers and is responsible for the authenticity of the product. In addition, the cooperative plays a central role in the supply chain, taking care of purchasing, preserving,

packaging, labeling, consuming, and finding markets, etc. In order to do those tasks well, the Cooperative Management Board needs to know how to use information technology applications in those processes. The application of information technology in the short supply chain will have the effect of increasing customer confidence in agricultural products as well as making chain management easier and more efficient.

Spreading knowledge to farmers and consumers

To participate in the short supply chain, farmers need to follow good production practices at least apply VietGap standards. Priority is given to direct training programs related to improving the quality of agricultural products in general and improving the quality of agricultural products in the short supply chain, to directly contribute to changing production habits and forming new production organizations in accordance with the short supply chain agricultural production model. Authorities should develop EVFTA training programs for farmers, focusing on the contents of agricultural product quality management standards. In addition, the State and enterprises need to join hands to disseminate basic knowledge about the food short supply chain to consumers to motivate them to trust products from this supply chain.

Promote communication, and bring products closer to consumers

Developing the idea of organizing cultural and culinary festivals, in order to attract tourists from home and abroad, is an opportunity for parties in the supply chain to interact with each other. For producers, this is an opportunity to introduce products, and collect consumer views on products, etc. For consumers, such events will also create an opportunity for them to experience using local products, and better understand this product, thereby giving comments and suggestions for better completion of the chain.

Application of information technology to each household

When applying standards of good agricultural production practices, farmers need to know how to use technology applications, especially QR codes so that consumers can know the process of producing and processing agricultural products. Cooperatives should invest in and encourage farmers to participate in short supply chains using smartphones. Because today's smartphones have better processing capabilities that allow supporting many applications, easy to use to be able to "contribute" to farming. Accordingly, the use of these personal devices will help producers to manage both the production process and product storage in accordance with the regulations set by the cooperative.

5. CONCLUSION

Short supply chains of agricultural products (SFSCs) are one of many new forms of agricultural product

supply that exist alongside traditional supply chains. The application of short supply chains in practice will bring good results for agricultural producers, consumers, and local communities in major ways such as economic, social, cultural, and environmental. Therefore, currently, this form of supply has been developed rapidly around the world with many different forms of existence suitable to the characteristics of each country and region.

In Vietnam, there have been some initial forms of short supply chains of agricultural products. However, the gap in the legal policies of the state, the lack of knowledge of production lines, food safety of farmers, and limited information technology application of consumers have prevented this form of food supply from forming and effectively operating as it has been in developed countries around the world.

There are many difficulties and challenges, so it requires us to have appropriate and timely solutions to bring the short supply chain into people's lives. In the process of developing a short supply chain, the State acts as a game maker by creating a transparent legal corridor for farmers and businesses to freely do business in the new model. In addition, creating opportunities for agricultural supply chains to directly access investment capital is an important priority of the State. Farmers - the most important factor of the supply chain need to gain knowledge and support in applying information technology to production and quality control. Finally, it is necessary to improve regulations, ensure consistency in the management of traceability; unify and standardize the form, as well as the content of cards, stamps, labels, or in any appropriate formats.

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POLITICAL CONNECTION, BEHAVIOR AND PERFORMANCE AT FIRM LEVEL: AN EMPIRICAL RESEARCH FROM A TRANSITION ECONOMY

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Research purpose:

This study explores mechanism and impact of the political relatedness on firm performance.

Research motivation:

The study focuses on following research motivation and objectives: (1) Identify determinants of the committee firms to figure out which firm's characteristics are generally connected with the local party committee. (2) Examine decision making behaviours of the committee firms relating to labor, dividend issues and management reforms. (3) Test relationship between the committee firms and improvement in corporate governance. (4) Investigate relationship between the committee firms and accounting performance indicators.

Research design, approach, and method:

This research is empirical research. We utilize well-known methods including OLS, multi-variable regression, IV regression and Propensity score matching method.

Main findings:

We find that the committee firms seem less considering the interest of labour. The committee firms relate to lower corporate governance conditions, which leads to the assumption that the committee is afraid of erosion of its comprehensive political leadership. Moreover, we provide evidence that the committee firms demonstrate higher performance.

Practical/managerial implications:

The study sheds more lights on the subjects of effects, behavior and performance of political party and its government at firm level.

Keywords: *Communist Party, political connection, corporate governance, firm performance, transition economy, Vietnam*

THE IMPACT OF THE COVID-19 PANDEMIC ON HIGHER EDUCATION IN VIETNAM

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Research purpose:

Through the presentation, the author wants to analyze and evaluate the opportunities and challenges posed by the COVID-19 pandemic that have affected Vietnamese higher education in order to find effective solutions to help teachers Vietnamese higher education develops and better adapts to future crises

Research motivation:

The COVID-19 pandemic has severely affected Vietnamese higher education. Compared with world education, higher education in Vietnam is still underdeveloped. Therefore, through the research process, the author wants to contribute to proposing some solutions to help Vietnam's higher education develop and approach the quality of world education.

Main findings:

Assess opportunities and challenges posed by the pandemic on Vietnamese higher education. Propose some basic solutions to develop higher education in Vietnam in the coming time

Practical/managerial implications:

Through solutions to help universities, lecturers and students can apply to improve the quality of higher education

Keywords: Covid-19, higher education in Vietnam, opportunities, challenges.

1. INTRODUCTION

According to UNESCO (2020), by April 2020, Covid-19 affected 1,576,615,423 students worldwide, accounting for 91.3% of the total number of current students. 191 countries, including powerful ones such as the US, the UK, Canada, Russia, and China, closed all schools. In that context, higher education in Vietnam was accordingly affected. How did COVID-19 impact higher education? Necessary solutions for higher education in Vietnam to make timely responses to the difficulties and challenges made by future pandemics are profoundly theoretical and practical.

2. METHODOLOGY

2.1. Approach

To achieve the research purpose, the author has access to articles and reports assessing the impact of the COVID-19 pandemic on higher education of competent organizations and agencies. This is an important basis for the author to have arguments to propose solutions to develop higher education in the future.

2.2. Research Methods

To solve the topic that the thesis posed, the author uses a combination of research methods specialized in

social sciences such as: logical and historical methods; analysis and synthesis; compare and contrast, systematize domestic and international documents, summarize reports of functional agencies such as the Ministry of Education and Training, and the Ministry of Health. In particular, the author consulted the survey results of the National Economics University with the topic: "Report on assessing the impact of Covid 19 on the economy and policy recommendations" on Google doc. From April 9 to 11, 2020, with 826 research samples, the survey subjects were officials and lecturers of Vietnamese universities. From the above-mentioned synthesis studies, it is the scientific basis for the author to assess the opportunities and challenges of the COVID-19 pandemic to Vietnamese higher education. From that basis, the author interprets and proposes solutions to develop higher education, better adapt to difficulties and challenges in the future.

3. RESULTS AND DISCUSSION

3.1. New development opportunities for higher education in Vietnam during the COVID-19 pandemic

In Vietnam, as of April 2020, all 63 provinces and cities allowed students to stay at home to follow the

nationwide social distancing order to prevent the spread of coronavirus; people were advised to stay at home. In the face of the complicated and unpredictable occurrence of the COVID -19 pandemic, the education sector advocated for students to “stop coming to school but not stop studying” and promptly promulgated many policies and documents to respond urgently to the pandemic. In that context, the COVID-19 pandemic also brought new development opportunities for higher education in Vietnam as follows:

Firstly, the COVID-19 pandemic facilitated the acceleration of applying information technology in all school activities such as teaching, scientific research, and digitization of learning materials and management information to develop a smart university. It created opportunities for universities in Vietnam to promote the digitization of learning materials so that all lecturers, students, and management staff exploited the positive factors in the application of information technology to management and teaching and learning activities, the flexible arrangement of time and space anytime and anywhere, especially the online teaching-learning activities. In 2020 and 2021, most universities, including public, non-public, and private universities, must stop in-person teaching and learning. They actively implemented online teaching and training to reduce the gathering of people and limit the spread of the pandemic in the community. Lecturers and students must learn and adapt to the situation of online teaching and learning; otherwise, they would be dismissed.

As a result, online teaching has become an inevitable trend to adapt to any similar situation in the future. With the recognition of the importance of online teaching, under the leadership and direction of the Government and the fierce, responsible, and effective participation of the whole political system, the education and training sector in Vietnam in general and higher education in particular have undergone many innovations, promoted the application of information technology, improved teaching facilities and equipment; changed and adjusted teaching activities, organized online teaching to contribute to the development of the capacity for using information and communication technology in teaching and learning, strengthened digital transformation in education and training; expanded access to education to make students’ learning available anytime and anywhere and ensured COVID-19 pandemic prevention and control, and adaptation. In addition to online teaching and learning, based on the guidance of the Ministry of Education and Training, higher education institutions also applied online course assessment and project defense and assessment on the basis of ensuring honesty, fairness, and objectivity like in-person assessment. The online assessment of learning outcomes shall be fully recorded in video and audio and archived for inspection and accreditation of education quality if required.

Secondly, the COVID-19 pandemic contributed to training students’ sense of self-study, offering a new learning channel for their exploration and study. When online teaching activities were done in the whole system of higher education in the country, students must improve their discipline, initiative, and self-motivation in their learning activities at home. Accordingly, students pursued their interests and formed a habit of searching for online classes to improve their knowledge and skills when the Covid pandemic was gone. This has been the general development trend of higher education in the world today which helps students in Vietnam integrate into the world trend of higher education and form the qualities of a global citizen.

Thirdly, the COVID-19 pandemic created a bond between the family and higher education institutions. Through students’ online learning process at home, parents had the opportunity to follow and monitor students’ progress and observe their classes in person to learn about their learning contents, thereby understanding their learning better. At the same time, they could assess the teaching-learning quality of the training institutions that their children have studied at.

Fourthly, the COVID-19 pandemic created opportunities for universities to confirm their capacity for innovation, especially in unusual situations requiring the preparation of many solutions. Dynamic higher education institutions quickly found solutions to respond in time to the pandemic and accelerated digital transformation to serve the training process in the new context. At the same time, this was also an opportunity for some universities to recognize their weaknesses to find ways to overcome, adjust and adapt to the occurrence. Depending on the specificities of different training disciplines, these opportunities will be seized and developed according to universities’ capacity to respond to the COVID-19 pandemic and promote their development.

3.2. Challenges for higher education in Vietnam during the COVID-19 pandemic

During the Covid-19 pandemic, as other sectors, the education sector and universities in Vietnam have been facing several difficulties and challenges as follows:

Firstly, the Coronavirus posed several challenges to teaching and learning activities of lecturers and students. In the first period, because universities in Vietnam did not anticipate the rapid spread, complicated developments, and severe consequences of the COVID-19 pandemic, they were still confused about the implementation of online teaching. To implement online training, most universities organized courses of technical training/ instruction for involved people (lecturers, students, support and management staff). However, most of them only coped with or they had to study by themselves to be able to participate in online classes.

The infrastructures for online teaching-learning activities were not synchronized between universities and students. Universities lacked appropriate learning resources, experience, and management processes for online training. The software applied in online teaching at universities was extremely diverse, depending on the financial preparation and conditions of each university. In which, Microsoft Teams, Zoom, Google Meet, E-Learning were most used by universities. However, because online teaching and learning activities depended on the international internet connection, they were occasionally affected by cable breaks. In addition, accessing online software in the same time by several users sometimes caused internet congestion. Several universities faced difficulties in controlling cybersecurity. During the teaching process, some malware attacked online classes. For lecturers, some older lecturers at universities faced difficulties in using information technology (IT). Therefore, some lecturers had to hand over classes to the Department. The Specialized Management Department had to assign lecturers who are better at using technology to replace them. The work overload of lecturers with good IT skills is a problem which several universities are experiencing. For students, the major barrier was the lack of terminals (smartphones, computers). Besides, internet systems and connections in localities did not reach all families; Opportunities to access the internet were very different among families, students, especially families in difficult circumstances, remote areas, and islands. On the other hand, although terminals and internet systems were available, students who were not proficient in IT also reduced the effectiveness of online teaching and learning activities.

Secondly, the Coronavirus posed challenges to the innovation in online teaching methods. For teaching organization, several universities switched to online teaching to take and promote advantages of this form, such as transferring learning materials, discussion questions, tests, and lectures on the online platform to students, making it easy for students to access them anytime and anywhere. However, the implementation of online learning faced difficulties, requiring students and lecturers to change their methods, learning habits, self-awareness, sense of innovation and proactive adaptation. The innovation in teaching methods and forms was not focused on by some lecturers and educational management staff. Traditional management and organization of teaching methods still existed. They only focused on one-way knowledge transfer and did not apply the achievements of the industrial revolution 4.0 to the organization of learning activities for students helping them can apply what they have learned to reality.

Thirdly, the Coronavirus posed challenges to the management of higher education quality. The inspection and assessment of learning outcomes in the context of online learning were still confused, with potential risks

of fraud in quality testing and assessment. Admission and graduation of universities were also changed and adjusted. At the same time, education quality accreditation was not as planned. Many external assessment teams had to postpone the direct assessment at universities. Therefore, the plan for accreditation of study programs and universities fell behind schedule compared to the quota of some plans and projects.

Fourthly, the Coronavirus posed challenges to the financial matters of universities. The pandemic also revealed the weaknesses and unsustainability in the financial structure of universities. The revenue from the tuition fees of universities has not been done. The service revenues from other sources were reduced while other expenses still had to be ensured, such as salaries for teaching staff and management staff; operating costs, ground rent; costs incurred for detoxification, disinfection, and prevention of pandemic for quite a long time affected the financial resources of universities. On the other hand, to reduce financial costs, many universities gave staff, lecturers, and employees a reduction in working hours, even leaving off work. This not only affected the financial resources of universities, but also the material and spiritual life of universities' staff and lecturers.

3.3. Proposing some solutions to promote the development of higher education in Vietnam

From the situation in the last three years, it can be seen that higher education in Vietnam has gradually adapted and promptly responded to the difficulties and challenges of the COVID-19 pandemic. To promote the further development of higher education in Vietnam in the era of the industrial revolution 4.0 and globalization, being able to be "immune" to future changes, higher education in Vietnam should implement the following comprehensive solutions:

- For the Ministry of Education and Training

Firstly, the Ministry of Education and Training should develop a scenario and submit the Government a strategy to develop the digitization of higher education comprehensively in accordance with the orientation of the digital economy and the digital government of the Party and the State. It is proposed to promote the progressive application of the industrial revolution 4.0 in the training process, build a smart university model, and integrate into the world's development trend to train "global" human resources. Promoting the autonomy of higher education for universities to develop their own goals and paths under the supervision and management of the Ministry of Education and Training and legal institutions.

Secondly, the Ministry of Education and Training should identify online training as the main, common, and parallel form with in-person training in the future. Online training has become the inevitable global education trend since the twenty-first century.

Therefore, the Ministry should develop and complete statutes on undergraduate training, which clarify the regulations on the application of in-person and online training methods, to maximize the advantages of science and technique in the training process. Currently, the legal basis and regulations for the application of online training in the country are lacking, leading Vietnamese universities to be concerned when using this training method for the formal training system. As a result, the Ministry of Education and Training should adjust and supplement the 2018 Law on Higher Education, in order to clarify the regulations on quality assurance, examination forms, evaluation of learning outcomes in online training, regulations on learning data and copyright in digital learning materials, regulations on ensuring cybersecurity when implementing online training forms. The complement of legal provisions for online training will help universities in Vietnam to be flexible in the training process and ensure and improve the quality of higher education constantly. At the same time, the Ministry of Education and Training should evaluate the effectiveness of the online training model over the past three years in some universities to develop more effective investment strategies for universities in developing infrastructure for online training. It is possible to establish an investment fund to develop an information technology platform for online training and management to support universities in developing this form publicly and transparently soon.

Thirdly, the Ministry of Education and Training should review, grasp and manage the outstanding and effective models of online training universities in the country. Thereby the Ministry introduces and scales it up in the education system by organizing online conferences for these universities to share experiences in organizing, implementing, and managing online training. It creates opportunities for other universities to learn from experience and implement effectively in the near future. At the same time, the Ministry should strictly review, criticize and punish higher education institutions with weak management and training, especially monitoring the quality of online training.

- For universities

For the universities: *Firstly*, universities in Vietnam should find solutions and select a digital platform for online teaching and learning. There should be financial development plans for investing and buying online teaching licenses from global technology companies; sign with major domestic internet suppliers such as Viettel, FPT, and Vinaphone; use uniform copyright software throughout the university to ensure information security and cybersecurity issues. A well-managed digital platform will allow the university to better protect its trademark copyright as well as control and evaluate the teaching process of lecturers and students. *Secondly*, universities should quickly digitalize the entire database for training and

management into the national digital system to be public, transparent, and affirm the commercial copyright. Through the transformation process, curricula, lectures, materials for teaching and learning of lecturers and students will be digitized. At the same time, it is necessary to strengthen the links between national and international libraries in order to diversify the resources for the training process. *Thirdly*, universities should quickly develop and improve the system of regulations on online training and use digital learning materials and technology software in teaching to ensure legality. It is necessary to conduct the inspection, evaluation, and recognition of learning outcomes, online testing, and examinations to ensure the requirements of education quality accreditation. *Fourthly*, the school should have policies to support and train lecturers to improve their professional skills, information technology skills and online teaching methods. Those lecturers who do not meet the criteria should be transferred to suitable jobs, avoiding affecting the overall development progress of the university. *Fifthly*, schools should study policies to support students with difficult physical conditions to participate in online learning and access to open learning resources for better learning to ensure the right to education of students at the university.

For lecturers: *Lecturers* are the subjects, an important factor in creating a connection with students to ensure the success of the teaching-learning process. Each university lecturer should constantly learn, improve professional knowledge and skills in information technology and foreign languages, explore and expand the resources to enrich their teaching process in order not to lag behind and be left behind in the technology race for online training in particular and the Industrial Revolution 4.0 in higher education in general. *Secondly*, lecturers should innovate teaching methods and adapt psychology to online training requirements to inspire students in the learning process.

- For students:

In order to adapt to future crises and master knowledge, skills, and strive to become "global" citizens in the twenty-first century, each student should learn to improve and gain knowledge, skills, especially foreign language, informatics, communication and problem-solving skills, etc. Therefore, they have a good preparation for future. *Secondly*, each student should improve their sense of self-study in any condition and circumstance. The family, the school and teachers cannot follow each step of the students, so they should be self-conscious of learning by different means and forms to accumulate and enrich themselves with knowledge and skills. *Thirdly*, each student needs to develop an expenditure plan, allocate appropriate financial resources to devote a budget to better equipment and means of learning, and register to participate in online courses to expand and improve

knowledge and skills besides the curricula of university training programs.

4. CONCLUSION

Over the past 3 years, Vietnamese higher education has gradually adapted to the COVID-19 pandemic, and universities have overcome difficulties and challenges, and at the same time, took advantage of opportunities brought by the pandemic, applied achievements of the Industrial Revolution 4.0 into the university training process, helping to eliminate the spatial distance and approach the quality of world higher education. In order for Vietnam's higher education to develop and better cope with future difficulties and challenges, the above solutions need to be synchronously implemented by relevant organizations and individuals, in order to create strength, synthesize and promote the development of Vietnam's higher education.

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HUMAN RESOURCE DEVELOPMENT TO ENSURE LIVELIHOOD FOR THE KHMER IN THE SOUTHWEST REGION OF VIETNAM

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Research purpose:

Suggesting solutions to improve human resources of Khmer people on the basis of assessing the current situation of human resources of Khmer people in the Southwest region of Vietnam

Research motivation:

The quality of human resources of the Khmer people in the Southwest region is still low and has a long distance from the general level of the whole country. Studying the human resources of the Khmer people will contribute to improving their livelihood plans

Main findings:

Research results show that human resources of the Khmer people in the Southwest region of Vietnam are still limited. Therefore, in order to improve the quality of human resources for Khmer people, the author proposes a number of solutions that can be implemented

Keywords: *Human resource development, livelihood, Khmer, Southwest region*

I. INTRODUCTION

Developing human resources, including the human resources of ethnic minorities, is one of the three strategic breakthroughs of the country, which is further confirmed in the Resolution of the 13th National Congress of the Communist Party of Vietnam. The Southwest region - where most of the Khmer is - has always been concerned by the Party, the State, and authorities at all levels. Over the years, with their attention, the Khmer human resources have gradually been developed, contributing to promoting economic growth, improving material and spiritual life, and reducing the poverty rate in the region and the whole country.

The country is comprehensively and synchronously developed, innovated, industrialized, modernized, and internationally integrated. In that context, in addition to its achievements, the Khmer human resources in the Southwest region also show the following limitations: the majority of the Khmer labor is in the agricultural sector; the proportion of labor with technical qualifications and training is low; there are shortcomings in the behavior and discipline; the number, structure, and quality of staff have not kept pace with to the development and practical requirements; the awareness of some localities on the Khmer human resource development is inappropriate,

etc. This is one of the factors hindering the increase of labor productivity and income for the Khmer. Therefore, to improve the material and spiritual life of the Khmer, the Party, State, and authorities at all levels are required to pay more attention to fostering and developing the Khmer human resources so that they can rise out of poverty and enrich their family and society.

2. METHODOLOGY

2.1. Approach

To satisfy the research objectives, the paper approaches sustainable livelihoods (DFID, 1999) to explore the factors that promote or hinder Khmer households to develop and implement livelihood strategies to achieve these results. expected livelihood outcomes. Consider the impact of human resources on livelihood activities to develop their livelihood diversification strategies to achieve expected livelihood outcomes

2.2. Research Methods

To serve the research on the current status of education level of Khmer people, the author used sociological survey method, conducted a survey of Khmer households with a total of 150 votes, in My Tu districts., Tran De, My Xuyen, Nga Bay town of Soc Trang province, the main residence of Khmer people

In addition, the author also uses the method of meta-analysis to generalize about the current situation of human resources to ensure the livelihoods of the Khmer people in the Southwest region in order to offer feasible solutions.

Methods of collecting documents and data, methods of description, information processing, methods of statistics, analysis, synthesis, use of graphs... are used to clarify the research object in practice. Compare it with the theoretical framework to objectively assess the current situation of human resource development to ensure livelihoods for Khmer people in the Southwest region of Vietnam

3. RESULTS AND DISCUSSION

3.1. The current quality of the human resources of the Khmer in the Southwest region

The Southwest region, the southernmost part of the country, consists of 13 provinces and cities with more than 17.4 million people (General Statistics Office, 2021), of which more than 8% are ethnic minorities. They are mainly Khmer labor, contributing to the region's socio-economic development. Although the Party and the State have many guidelines and policies to invest in and develop the education and training of human resources in areas with crowded ethnic minorities, particularly in the Southwest region, the quality of Khmer human resources is still low compared to the national average. In detail:

Regarding the educational background, according to the survey results on the actual socio-economic situation of 53 ethnic minorities in 2015, the percentage of literate adults of the Khmer was 73%, lower than that of other ethnic groups in the Southwest. In particular, the Hoa's was 90.6%, and the Cham's was 78.6% (Ethnic Committee, General Statistics Office, 2015). To study the Khmer's actual educational background, the author conducted a survey with a total of 150 sheets in districts of Soc Trang Province, such as My Tu, Tran De, My Xuyen, and Nga Bay Town, where the majority of the population is Khmer. The results indicated that the average number of illiterate people in households was 20%, higher than that in the whole province, whereas the proportion of people with upper secondary education only accounted for 11.3% (Tuyet, et al, 2022).

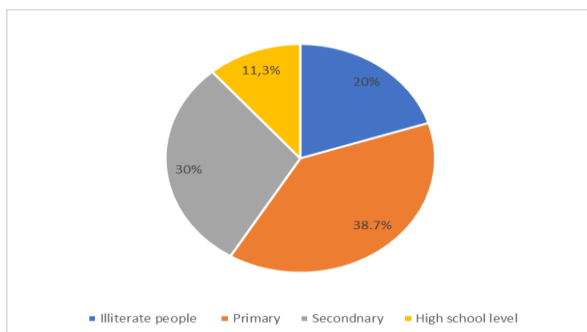


Figure 1: Education level of Khmer people in the survey area

(Source: survey data, 2022)

Regarding the professional qualifications, according to the survey results of the socio-economic situation of 53 ethnic minorities in 2019 obtained by the General Statistics Office. The human resources of ethnic minorities were primarily untrained, contributing to 89.5%. In particular, the percentage was 98.7% for the Mong, 97.7% for the Khmer, 94.6% for the Thai, and 95.95% for other ethnic groups. The trained labor force from ethnic minorities had low qualifications. The quality of professional training was poor, and the industry structure was unreasonable: the primary level at 2.54%, the intermediate level at 4.8%, the college level at 1.43%, and the university from 4.81%. College and university graduation rates by ethnic minorities were very low: the Thai at 1.6%, the Khmer at 1%, the Mong at 0.2%, and other ethnic minorities at 1.5% (Khiet, 2022).

The above situation shows that the quality of human resources in areas with ethnic minorities, particularly the Khmer in the Southwest, is very low. Thus, the majority of labors mainly work in the agricultural sector, which is mostly unskilled and untrained; their awareness, life skills, and adaptability to the new environment are limited; the labor behaviors and disciplines of the Khmer are still inadequate; the number, structure, and quality of ethnic minority staff do not keep up with the current development and practical requirements.

The limitations and weaknesses of the Khmer human resources mainly come from their remote living areas, being far away from the major traffic routes; they suffer from multidimensional poverty: lack of economic and technical infrastructure and lack of infrastructure; Due to low education level, the abilities to access information and apply advanced science and technology to production are very difficult. Accessing medical services, health care, education, and training are limited, and several outdated procedures still exist.

In addition, the management of human resources training and development for the Khmer, especially the development of vocational training policies, has not been focused on. Several shortcomings and insufficient quantity and quality in the system of vocational training institutions still exist. On the other hand, because vocational training institutions have not actively linked training to job creation, some people still cannot find jobs, causing a waste of social resources.

3.2. Solutions for human resource development to ensure the livelihood of the Khmer in the Southwest region

Firstly, promoting economic development and improving material and spiritual life for the Khmer to eradicate hunger and poverty.

It is considered as a foundational and strategic solution to improve the quality of the Khmer human resources because the economy is the key factor in

human resource development. If the Khmer have a full material life, they will pay attention to their health care and education as well as their children's. Therefore, the quality of the Khmer human resources will be improved.

Secondly, implementing education policies for the whole people, encouraging and mobilizing the Khmer to send their children to school at the right age.

The Mekong Delta is the deprived region in Vietnam on educational targets, with the highest dropout rate for children in the country. Therefore, it is necessary to strengthen communication to promote the role of non-governmental organizations and the participation of organizations and individuals in mobilizing and supporting scholarships for students from disadvantaged backgrounds to attend school. Promoting policies of recruiting Khmer children to attend boarding schools for ethnic minorities, universities, colleges, and intermediate professional schools. This is an extremely important policy to nurture and train human resources for the Khmer, facilitating Khmer students to raise awareness and knowledge to seek and transform their livelihood activities. On the other hand, recruitment of Khmer students to universities, colleges, etc. is given priority to training qualified human resources with the professional knowledge to promote the local socio-economic development for the Khmer (Ly, 2017)

In addition, it is necessary to implement policies of tuition exemption for children of ethnic minorities, particularly the Khmer, at the age of high school education and below. It is proposed to actively implement tuition exemption and reduction policies for children of ethnic minorities who are attending universities. Applying a loan policy to support children to study at the university level and higher. The most important thing in implementing the education policy for the whole people is to change the awareness of the Khmer about the role of education and promote advocacy to help the people realize that sending their children to school is the best way to change their children's future.

Thirdly, vocational training policies need to be focused to facilitate the Khmer to transform their livelihoods.

To improve the quality of the Khmer human resources, one of the other important issues is to promote vocational training, vocational training policies of the government, non-profit organizations and social organizations effectively implemented, linking efforts to improve the quality of resources with sustainable development of the Khmer's livelihoods. Taking the goal of sustainable livelihood transformation as a nucleus for the training plan. Each training plan must be synchronized and well prepared so that participants can be successful, avoiding the "disbursement" view in training. It is necessary to promote training in business for women and expand bilingual teaching which uses mother tongue as the root. Selecting and building

leadership capacity for local ethnic minorities in the machinery of government. For Khmer households lacking productive land, vocational training is extremely necessary to help them earn their incomes from non-agricultural activities.

Fourthly, improve the level, vocational skills, and knowledge of the Khmer people's agricultural and handicraft science and technology. Preserving cultural values creates a predominance in developing specific livelihood models of the Khmer community.

By all means, it is necessary to improve the knowledge of agricultural techniques and handicraft skills to serve the production and business activities to feed themselves and their families.

- Increase investment as well as rationally and effectively organize agricultural and industrial extension activities through on-the-job, "learning by doing" training courses; build, maintain and develop long-term models; transfer to the people the cultivation techniques, plant varieties, and livestock that are appropriate for each locality. Agriculture and technology promotion must help Khmer households master new techniques, thereby improving their income and maintaining effective business models by applying new techniques. If that is the case, the agricultural and industrial extension funding must be allocated appropriately to both of these objectives. It should be prevented from funding block grants, building pilots, and then evading responsibilities.

- Strengthen the local vocational institution system by signing training contracts for programs according to the needs of employers or farmers. Force training institutions to upgrade vocational training programs to meet the requirements of the people and be close to the main professions that can last in the locality to equip knowledge, skills, and positive professional attitude for the people.

- Mobilize and use resources effectively to support vocational training for the people, especially resources from vocational training programs of enterprises, social-political organizations, religious organizations, and projects with international funding. Select some Khmer households with the capacity and experience to train them, then encourage them to transmit the technical knowledge and professional skills to other families, increasing the positive impact of training by project.

Fifthly, increase the quantity and quality of training by improving the qualifications of cadres, civil servants, and public employees of ethnic minorities (Khmer), especially cadres of wards and communes.

It is necessary to standardize professional skills for each title of ward and commune staff and to be consistent in views on the long-term use of professional staff. It is to develop a workforce with ethnic and vision in the management related to ethnic minorities in general, ward and commune staff in particular, reducing

part-time staff. Prioritize the training of ethnic minority (Khmer) juniors and encourage them to return to their localities for work. Only when the ethnic minority juniors have a voice in the locality will that change the people's mind set and encourage them to send their children to school.

4. CONCLUSION

Research shows that human resource development to ensure the livelihood of the Khmer people is a significant and urgent issue for the authorities of the Southwest provinces. The low quality of human resources is a fundamental factor preventing Khmer people from seeking and transforming suitable livelihood models in the face of adverse impacts on nature and society. In order to ensure sustainable livelihoods for the Khmer people in the Southwest, the authorities should study solutions to overcome the above difficulties and continue to implement policies and guidelines on ethnic issues that the Party and the State have issued, especially policies on training and human resource development. Then, the Khmer people have the opportunity to raise awareness, professional

qualifications, and knowledge for socio-economic development in the locality.

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PERSONAL DATA AND LEGAL RISKS FROM DIGITAL CONVERTER PROCESS IN E-COMMERCE VIET NAM

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Research purpose:

This article analyzes and evaluates the current situation in order to recommend improvement of regulations governing personal data, legal risks from the digital transformation process in e-commerce today in Vietnam.

Research motivation:

The issue of protecting personal data has become one of the important contents of the law governing e-commerce in the current digital economy. Vietnam's law is gradually being perfected, however, the regulations still have many shortcomings, inadequacies, and have not kept up with the rapid development of e-commerce.

Research design, approach and method:

The article uses methods of systematization, analysis, interpretation, qualitative and quantitative methods, ... which are common methods in social science research and jurisprudence research to analyze the given content.

Main findings:

In order for the protection of personal information in e-commerce to be seriously and effectively implemented, one of the first main evaluation criteria must have a clear and synchronous legal system. Therefore, this article has introduced theoretical issues such as: Personal data and the right to protect personal data; principles of the protection of personal data; E-commerce and legal risks of personal data in the digital transformation of e-commerce. In addition, from practice, the article also provides requirements and issues for the law from the digital transformation process in e-commerce in Vietnam and gives suggestions to improve the legal contents. It is necessary to adjust personal data in the process of digital transformation in the rapidly growing logistics sector in Vietnam today.

Practical/managerial implications:

Reviewing and analyzing practical problems and problems related to the provisions of the law governing data and the mechanism for protecting personal data in e-commerce activities. From there, make recommendations and propose contents that need to be adjusted and supplemented to effectively cover personal data protection mechanisms in current e-commerce in Vietnam.

Keywords: *Personal data, E-commerce, Vietnamese law*

1. PERSONAL DATA AND THE RIGHT TO PROTECT PERSONAL DATA

1.1. Personal data concept

Personal data also known as personal information is any information related to the identity of a particular person in society and now data is considered a new resource.

According to the European Union's Personal Data Protection Law (GDPR): "*Personal data is any information relating to an identifiable individual or to an identifiable individual*" (European Union, 2018). Accordingly, personal data is any information that is relevant to a particular individual or helps to identify a particular individual.

According to the provisions of the CPTPP Agreement: "*Personal information is any information, including data, about an identified or identifiable natural/natural person*" (CPTPP, Article NN.1).

In Vietnam, the term personal information appeared for the first time in legal documents as Decree No. 64/2007/ND-CP dated April 10, 2007 of the Government on the application of information technology in business activities. The action of state agencies is as follows: "*personal information is information sufficient to accurately identify an individual, including at least the following information: full name, date of birth, occupation, title, contact address, email address, phone number, identity card number, passport number*".

The Law on Cyber Information Security 2015 stipulates that the concept of personal information means “*information associated with the identification of a particular person*” (Law on Cyberinformation Security 2015). In addition, in some other legal documents, “personal information” has been recorded in many forms such as “personal secrets”, “family secrets”, “information about private life”, “confidential correspondence, telephone, telegraph and other forms of private communication”. This information is inviolable and protected by law.

Thus, the concept can be given: *Personal data is information about an individual or related to the identification or identification of a particular individual, through which information can distinguish, identify that individual in society, community.*

In addition, personally identifiable is understood as an identifiable individual if we can distinguish that individual from other members of the human community. *The data subject* is the individual reflected by the personal data.

Based on the nature of classification into basic and sensitive *personal data*: *Basic personal data* : Includes information related to personal history such as: Full name, date of birth, blood type, place of birth registration, place of permanent residence, current residence, hometown, contact address, email address, education level, ethnicity, nationality, phone number; Numbers of people's identity cards, passports, citizen identification numbers, driving licenses, license plates, personal tax identification numbers, social insurance; Marital status, Data reflecting activity or history of cyber activity; *Sensitive Personal Data* : Includes personal data about political views, religion, health status, genetics, biometrics, gender status, lifestyle, sexual orientation education, crime, finance, position, social relationships.

1.2. Overview of the right to protect personal data

Protection of personal data is to prevent, detect, prevent and handle violations of the provisions of the law on personal data. The right to personal data protection/right to privacy with respect to personal data is an essential part of a person's right to privacy. Privacy is understood as the limited right of individuals to their information to determine for themselves when, how and to what extent the information is communicated to others. Privacy is a fundamental right of individuals, individuals are respected and protected by law. Privacy about personal information is an aspect of privacy, understood as the ability of people to control when their personal information is collected and used. The collection and disclosure of information and documents about an individual's private life must be consented to by that person. Letters, telephones, telegrams and other forms of electronic information of individuals are guaranteed to be safe and confidential.

According to countries, the right to protect personal data is a right to privacy and is protected by law in many aspects, such as ensuring the right to autonomy, privacy and preserving the honor and reputation of each individual., helps individuals better control issues in life, strengthens trust in society and is one of the important factors promoting the right to express opinions and freedom of expression.

Thus, *the right to protect personal data is an individual's right to exercise or request agencies, organizations and individuals to respect, protect and take specific measures to protect personal data. his own.*

Information about private life is protected by law. Article 21 of the 2013 Constitution stipulates as follows: “*Everyone has the inviolable right to privacy, personal secrets and family secrets; have the right to protect their honor and reputation*”. The 2015 Civil Code regulates privacy in such articles as: Article 32 on the rights of individuals to images; Article 35 The right to donate and receive human tissues and organs and to donate and take corpses; Article 38 right to private life, personal secrets and family secrets; Article 39 Moral rights in marriage and family...

The rights of a personal data subject include: *First*, the right to own personal information, including the ability to request the holder to correct to ensure the integrity and accuracy of personal information. mine; *Second*, the right to allow third parties to access your personal information. Agree or disagree for personal data processors, third parties to process your personal data, unless otherwise provided for by law. *Third*, the right to require relevant subjects to ensure the confidentiality of information. Request the personal data processor to stop processing personal data, restrict access to personal data, stop disclosing or permitting access to personal data, delete or close data collected by individuals, except for cases prescribed by law; *Fourth*, the right to demand compensation from the holder when there is an illegal act of infringing information, causing damage to the individual. Claim compensation in accordance with the law when there are grounds to believe that your personal data has been infringed.

1.3. Principles of personal data protection

Personal data protection activities must ensure 8 principles as follows:

Legal principle: Personal data is only collected in cases where it is necessary in accordance with the law.

Principle of purpose: Personal data is only processed in accordance with the registered purpose, the statement about processing personal information. Personal data may only be collected for the purposes determined in accordance with the provisions of law.

Principle of minimum: Personal data is collected only to the extent necessary to achieve the defined purpose.

Principle of restriction of use: Personal data is only used with the consent of the data subject or with the permission of a competent state agency in accordance with the law.

Principles of data quality: Personal data must be updated, complete to ensure the purpose of data processing.

Security principles: Personal data protection measures are applied during the processing of personal data. Personal data managers have an obligation to protect the personal data they store with reasonable security and safety measures to prevent any risk to personal data.

Principles of individual participation: Data subjects are made aware of and receive notifications about their personal data processing activities. In addition, data subjects are granted access to the data relevant to them and have the right to request correction of inaccurate or misleading information.

Privacy Principle: Personal data must be kept confidential during data processing. Security measures must be in place to protect personal data against unauthorized disclosure or destruction.

2. LEGAL RISKS OF PERSONAL DATA IN THE PROCESS OF DIGITAL TRANSFORMATION IN THE FIELD OF E-COMMERCE

2.1. E-commerce and personal data in e-commerce

In Vietnam, the concept of e-commerce has been recognized in legal documents, according to which “*E-commerce is the conduct of a part or all of a commercial activity by electric means connected to the Internet, telecommunications networks or other open networks*” (Government, 2013). E-commerce includes activities of buying and selling goods and services via electronic means, delivery of digital content online, electronic money transfer, electronic stock trading, electronic bill of lading, commercial auction, design collaboration, networking resources, public procurement, online marketing to consumers, and after-sales services. E-commerce is not a service industry but a method of carrying out commercial activities, so e-commerce can include many commercial activities, as long as it is done through electronic “channels”.

The difference between e-commerce and traditional commerce is based on criteria such as *transaction forms, market issues, participants and commercial information networks*. In addition to the above characteristics, we have You can refer to the comparison table between e-commerce and traditional commerce of UNESCAP organization as follows (VCCI, 2005):

Aspect	Ecommerce	Traditional trade
Sales Channel	DN => Internet => Customers	Manufacture=>Wholesale=>Retail=>Customer
Sales time/area	Sales 24h x 7 days / Sales worldwide	Limited time sale Limited sales locations
How to sell?	Online sales space Sales based on information, images	Sales at the store Selling actual display goods
Collect customer information	Collecting customer information over the Internet Numeric data, no need to re-enter	Collect customer information through market survey and sales staff Information needs to be re-entered
Marketing activities	1:1 marketing through two-way communication	One-way marketing to customers
Customer support	Online support for customer needs Capture customer needs directly	Time lag in customer demand support Time lag in capturing customer needs
Investment	Small	Great

(Source: VCCI (2005), *E-commerce handbook for businesses*, Hanoi)

Stemming from the diversity and abundance of e-commerce activities, the law has not been perfected, so there have been a number of violations such as trading in goods of no origin, tax evasion, etc. Therefore, the level of e-commerce application of enterprises is still not really uniform. Applications for online purchase and sale transactions, customer information management, orders by automated databases on the network, etc. still account for a low percentage, especially in retail stores SMEs.

According to the Vietnam E-Commerce White Paper, in 2019, the whole country had 39.9 million online shopping participants, an increase of 11.8% compared to 2018 and nearly doubled after only 3 years. With a growth rate of about 30% per year, it is forecasted that by 2020, e-commerce revenue in Vietnam will reach about 15 billion USD. Along with the strong growth trend of e-commerce, recently, the issue of personal data protection has become a top concern of enterprises, state management agencies and consumers (Bui Thi Quynh Trang, 2020). Up to now, “*more than 80 countries have issued legal documents on the protection of personal data such as the US, Australia, Canada, France, Germany, Israel, Japan, Korea, Singapore...*” (Van Anh, 2020)

Obligation to protect personal data digital platform providers must take measures to protect the privacy and personal information of users in accordance with the law on protection of personal data and meet specified data security requirements. Besides, is responsible for complying with regulations on personal data in the collection, processing and sharing of personal data in the process of providing services on digital platforms.

2.2. Legal risks of personal data in the process of digital transformation in the field of e-commerce

Digital transformation is the use of data and digital technology to comprehensively and completely change the way of life, working and production methods of individuals and organizations. Digital technology is the technology of artificial intelligence (AI), deep machine learning (Deep learning), big data (Big Data), blockchain (Blockchain), cloud computing (Cloud), internet of things. (IoT),... And e-commerce is a part of digital transformation, is one of the pioneering areas of the digital economy, where advanced technologies of the fourth industrial revolution are widely applied. to increase the efficiency of the business cycle, contribute to modernizing the distribution system, improve the competitiveness of enterprises, and promote the development of domestic and export markets.

In Article 4.12 of the EU GDPR, the definition of a data breach is defined as follows: *Personal data breach means a breach of security that results in the accidental or unjustifiable destruction, loss, alteration or disclosure of data. or unauthorized access to the DLN being transmitted or stored or processed.*

Personal data in this field becomes an input material for exploitation in other fields, so the situation of buying, selling and exchanging data warehouses between fields is complicated. More and more subjects are involved in the process of collecting, analyzing and processing personal data for different purposes but do not notify customers or cause a breach of personal data protection. The consequences can seriously affect the health, finance, psychology, private life of individuals. Therefore, it is time for state management agencies, organizations, businesses and especially people to be aware of the importance of personal data protection when participating in the use of services. in cyberspace.

Information and communication technology, including mobile technology connected to the Internet and other information systems, allows people to collect, store and access information from anywhere in the world. These technologies bring many economic and social benefits to individuals, businesses, the state and the whole society, diversify the range of choices of consumers, help businesses expand markets, improve labor productivity, educational innovation, product improvement, etc. Modern technologies allow people to connect, collect and use a huge amount of information, but it does not support identification of identities. characteristics of those participating in those activities.

As a result, it is difficult to take measures to manage personal data, and people are becoming more and more concerned about the damage that can result from misuse or misuse of their personal data (Ministry of Industry and Trade, 2008).

Practice shows that the protection of personal data in cyberspace is still limited and inadequate. From the user's side, there is no sense of self-protection of their personal data. The status of social network users publicly posting a lot of their own sensitive personal information such as biometric information, personal background, emotional relationship, health status, finance, ... conditions for automated network applications to secretly collect user information.

In addition, many activities of collecting, exploiting and analyzing personal information and data such as social networks, online payments, e-commerce, online games,... but there is no mechanism. Secure user data management. As the Internet enters all aspects of social life, the negative effects of illegal use of personal information also increase, which is the illegal collection and use of email addresses as advertising. or acts of stealing personal account information for profit, spreading private information and images, ATM card fraud, etc.

Agencies, organizations and enterprises do not have synchronous and effective information security measures. The system of storing and processing personal information still has security holes that are easy for hackers to exploit, attack and cause great damage. Then the phenomenon of revealing, leaking, stealing, and trading personal information openly in cyberspace also often takes place, challenging law enforcement agencies. For example: *"From July 8, 2022, a hacker named 'meli0das' has offered to sell the data of 30 million records and each record is the data of a Vietnamese person. This person claimed to have collected this large amount of data from "a popular website about education" in Vietnam. To increase trust, "meli0das" posted photos of about 70 people, most of them teachers"* (Linh Chi, 2022).

3. LEGAL ISSUES ARISING FROM THE DIGITAL TRANSFORMATION IN E-COMMERCE VIETNAM

In order for the protection of personal information in e-commerce to be seriously and effectively implemented, one of the first main evaluation criteria must have a clear and synchronous legal system. In Vietnam, there is now a basic legal framework for the protection of personal information and data. The 2013 Constitution and the legal system of Vietnam in general have created the necessary foundation to protect the rights to information and data of individuals.

In the current Vietnamese legal system, there is still no specific document stipulating the right to personal data. The application will be based on personal

information protection regulations and cyber security regulations. There is no separate law on the protection of personal data and there is no regulation explaining what personal data is. Regulations on protection and confidentiality of personal information are scattered in many different legal documents, depending on the subject and scope of regulation related to the collection, use, provide, exchange, correct, change, publicize personal information data and handle violations of personal information.

The Vietnamese legal system does not use the phrase "personal data", so there is currently no specific definition of personal data. Legal documents use a number of terms and concepts with different interpretations such as: "*personal information*"; "*private information*", "*private information*"; "*personal information in the network environment*"; "*secret private information*"; "*information about private life, personal secrets, family secrets*"; "*consumer information*"... Personal data is considered as "information about private life, personal secrets, family secrets" used in the following documents: Constitution 2013, Civil Code 2015, Law on Access to Information 2016, Law on Children 2016 and many other legal documents such as decrees, circulars...

According to Article 46 of the Law on Electronic Transactions 2005, there is a general principle, according to which "*Agents, organizations and individuals may not use, provide or disclose information about private life secrets or information of agencies, organizations and individuals. other organizations and individuals that they have access to or control in an electronic transaction without their consent, unless otherwise provided for by law*" (Law on Electronic Transactions 2005).

The Law on Cyber Information Security (and related laws) also has a number of regulations on the obligation to apply appropriate management and technical measures to protect personal information; comply with standards and technical regulations on assurance of network information security; the obligation to formulate and publicly announce measures to handle and protect personal information; the obligation to coordinate with competent state agencies in personal data protection activities and the obligation not to provide, share, or distribute personal information that they have collected, accessed, and controlled. to a third party, except with the consent of the subject of that personal information or at the request of a competent state agency.

In addition, measures to protect personal data need to ensure the ability to prevent and prevent acts and activities that are intentionally harmful or incidents that are likely to occur, causing consequences for personal data. lawful rights and interests of organizations and individuals. Under current law, sanctions are relatively mild, while the consequences of an invasion of privacy

can be very serious, which can lead to high-tech fraud, as well as other illegal activities. other. Therefore, there should be legal provisions that are enough to deter violations of the law on protection of personal data. When agencies and organizations violate regulations on protection of personal data, depending on the severity, they may be administratively sanctioned or criminally handled, additional penalties shall be applied as prescribed by law.

The scope of personal data protection under current law in Vietnam currently only stops at the protection of compromised personal data and information within the territory of Vietnam. In fact, in the digital economy, the use of data in general and personal data is no longer limited to the country, it is borderless. Performing commercial transactions such as ordering goods, participating in international financial markets, etc., the disclosure of personal information and data is unavoidable. However, at present, the legal regulations have not provided the contents as well as protection measures if the violator is not located in the territory of Vietnam.

The digital economy and sharing economy have been developing constantly in countries around the world and in Vietnam, the issue of personal data needs to be fully legalized. Compared with many countries, Vietnam is lacking a separate law governing matters related to personal data to protect human rights, privacy in general or the right to personal data in particular, limiting the loopholes and overlaps of the current legal system (Pham Thị Hien, 2021).

4. SOME SPECIFIC COMMENTS AND SUGGESTIONS

With the goal of building a digital government, digital economy, digital society, digitizing all personal information of citizens, including sensitive private information, personal information is a mandatory requirement. for state agencies to manage and provide electronic public administrative services. Electronic documents to serve for electronic transactions between state management agencies and citizens in all areas of social life. At the same time, in other social activities such as business, commerce, direct transactions between organizations, businesses and individuals will gradually switch to electronic transactions.

Faced with that fact, the fact that the regulations on protection and confidentiality of personal information are scattered in many different legal documents will not meet the requirements on protection and confidentiality of personal information, especially sensitive information. To centralize regulations on protection and security of personal information into a system, create a unified legal corridor for the collection and processing of personal information and create favorable conditions for the enforcement of rights protection laws. The constitutional privacy of citizens needs to develop a

Law on Industrial Tourism Protection in the Vietnamese legal system as a specialized law.

Firstly, the concept of personal data protection and privacy of personal information in the electronic environment is still a relatively new issue for Vietnam. Therefore, it is necessary to introduce a concept to unify the understanding of “personal data” and “personal data protection”. From there, the terms of personal data were formed in e-commerce activities. When building content for the concept of "personal information", "personal data" will promote the protection of personal information and data in e-commerce activities.

Secondly, it is necessary to develop and set out criteria for personal data to support the protection as well as exploitation and use of personal information more effectively in e-commerce activities. Such personal data is not allowed to be collected, shared, used without the consent of the subject; what data may be collected, shared and used subject to conditions; What personal data is allowed to be shared or disseminated publicly.

To ensure each individual's legitimate right to privacy, mechanisms need to be developed protect personal data to prevent unauthorized use of information. Specifying specific responsibilities for the collection, use and transfer of personal data, taking into account the damage that may result from the unauthorized use of information, and developing regulatory measures. appropriate funds for the extent of possible damage (Ministry of Industry and Trade, 2008).

Third, the legal system regulating personal data protection is not uniform, scattered in many areas with many legal documents, and the sanctions are not synchronized and not strong enough. to deter and prevent acts of infringing upon rights; Therefore, the effectiveness of law enforcement is not high in practice. Therefore, it is necessary to complete the legal framework on the protection of personal data in e-commerce, referring to foreign models. It is necessary to improve the law on information security and personal information protection to protect citizens against the harmful use of personal information; Building a legal corridor to build trust and promote e-commerce development...

Fourth, it is necessary to enact a Law on Data Protection covering the scope and general governing issues as follows: (i) *Concept, definition of information and Privacy*; (ii) *Conditions for collection lawfully collect and process Personal Data*; (iii) *Rights of Data Subjects and Cases of Restriction of Rights*; (iv) *Responsibilities and obligations of the Party collecting and processing Data*; (v) *Independent monitoring institution of the Government Authority and coordination among the relevant Agencies*; (vi) *Cross-border data transfer*; (vii) *Sanctions and sanctions*. This is also a common trend in the world today as well as the promulgation of a separate law on the protection of

personal data. Continue to improve legal provisions on information security and personal information protection to protect citizens against the use of personal information for harmful purposes, contributing to building trust and promoting e-commerce. develop.

Fifth, perfect the legal framework for digital transformation and e-commerce activities. Especially the issue of customer information security, ensuring safety and reliability for e-commerce transactions, ensuring privacy; protect consumers; contractual issues; requirements for the form of documents, signatures, original documents; time and place of sending and receiving electronic messages. From there, creating the trust of SMEs and consumers to promote further development of SME activities through e-commerce.

Sixth, it is necessary to learn and study the personal data protection laws of countries around the world so that lessons can be drawn in the process of developing and perfecting the law on data protection. personal data. Since then, to develop and promulgate the Law on Protection of Personal Data and a system of legal documents in order to create a legal basis for the effective implementation of the inviolable rights to private life and personal secrets. Human rights are stipulated in the 2013 Constitution of Vietnam.

Seventh, for e-commerce businesses. It is necessary to pay attention to building a system, regulations on classification and control of internal information use. Having an appropriate security mode in transactions with customers, statistics on unusual activities and transactions arising in the system. Apply important security measures to ensure the safety and security of the e-commerce website. In addition to the need to develop internal regulations on personal data protection, businesses actively comply with the law and prevent illegal intrusion and appropriation activities. Encourage consumers to stay proactive in protecting their own data. Inform consumers in detail about the reason and purpose of use when enterprises collect information. Instruct and warn consumers how to identify suspicious behavior on the site so they can respond quickly if something goes wrong.

Ninth, customers themselves, need to raise their awareness of protecting personal information. The protection of personal data, in addition to the responsibility of the agency that is keeping and managing the data, also belongs to the responsibility of self-protection of the individual who has the information. Only provide information to organizations with clear and transparent personal data protection regulations... When providing or disclosing information to others, each person must determine whether it is necessary, for what purpose, and whether the individual or organization receiving that data ensures its reputation in management and security. protect your data or not. Always be proactive in protecting your data, instructing and warning on how to identify suspicious behavior on

the site. website so that they can quickly respond if something goes wrong, informing consumers in detail about the reason and purpose of use when businesses collect information.

5. CONCLUSION

The issue of protecting personal data is increasingly becoming a difficult problem for any company, because the larger it is, the more it will face the risk of being attacked to steal information. Therefore, businesses need to have both strong human resources and technology to keep customers' data safe. In addition to technology issues, we need to be concerned about regulations and rules about data protection and use. Personal data and the law on personal data protection need to be disseminated to each person, so that everyone has a sense of how to give information safely and appropriately.

The State needs to attach importance to promulgating regulations and guidelines to deal with legal issues and aspects in order to protect personal information in general and personal data in particular, but also create favorable conditions for the implementation of the law. favorable for the development of e-commerce activities. In addition, law enforcement agencies and personal information management agencies need to be more proactive in protecting personal information, inspecting and monitoring the activities of owners. may collect, share and use personal data for the purpose of preventing illegal acts of collecting, trading and distributing personal data./.

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BUDDHISM ECONOMICS AS AN ANTI-CONSUMERISM SOLUTION IN THE WORLD OF UNCERTAINTIES

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Research purpose:

The study presents solutions to modern consumerism, namely Buddhist economics. This solution has recently been considered sustainable, interesting, and recently well-researched in Asian economic circles. This economic model has been deployed in many Asian countries, some of which have a relatively similar economic and political background to Vietnam. Studying this approach can provide the Vietnamese government with a non-European economic perspective that can be applied to other countries.

Research motivation:

Modern consumerism is increasingly attacked by economic researchers, the consequences of which are increasingly uncomfortable for many governments around the world. Many approaches to anti-consumerism have been proposed, but very few have been applied, and especially have been largely politicized due to the temporary nature of solutions in that direction. Buddhist economics, recently considered as a suitable solution for many countries in Asia, has been studied very little in Vietnam.

Research design, approach, and method:

The study wants to show the real nature of consumerism, and the relevance of Buddhist economics in dealing with consumerism at the national level. The study also points out the basic theoretical premises of Buddhist economics, and finally, provides a discussion of one of the Buddhist economic models in which it has been applied, in a Southeast Asian country which is very similar in nature to the situation of contemporary Vietnam, Thailand.

Main findings:

Research points to the economic nature of the problem of consumerism. Since then, analysis of the compatibility of Buddhist economics in dealing with consumerism, as distinct from other anti-consumerism movements, has failed. The study provides a detailed discussion of a Buddhist economic model that has been applied in Thailand, a country that is relatively similar in economic terms to Vietnam, hoping to provide the necessary experience.

Practical/managerial implications:

This study provides the basic tenet of Buddhist economics, and its relevance in dealing with modern consumerism in practical application. The study also provides discussions on how to apply the Buddhist economic model in practice in a country with a similar economy to Vietnam, in order to provide practical experiences in implementing this theory.

Keywords: *Buddhism economics, anti-consumerism, world of uncertainties, new economy systems, new economic thinkings*

1. CONTEMPORARIAL CONSUMERISM

In the early days, Consumerism referred to the socio-political and economic trends that encouraged the increase of products and services in supply and consumption as a measure of civilization. Born in the middle of the 20th century, along with the development

of the industrial revolution, pushed the negative side of Consumerism to a new level, leading to a new definition with its whole reverse side, the mass production leads to overproduction, which exceeds user demand, leading to a disturbance attack, by advertising, entertainment and psychological measures, on consumers, in order to

increase product consumption and service.

Regarding this term, there are two widely recognized, contradictory and conflicting layers of meaning. Before the 70s-80s of the 20th century, there was a positive definition of the term, as the freedom of consumers to choose and make informed decisions during the shopping process in the market, where the push to get to know users to meet their diverse needs. On the other hand, Consumerism promotes regulation, market interaction in the most beneficial way for producers and consumers, in the sense that both benefit in a market that ensures social justice. through its own constraints in its economic activity. This definition is recognized by the achievements and benefits of Consumerism at that time, to rebuild the world after the war and the problems of the cold war. After the 80s-90s, with the collapse of the socialist system led by the Soviet Union, which led to the end of the cold war, Consumerism gradually revealed its outrageous and negative characteristics and its definition gradually shifts back to the promotion of high consumption, which is often wasteful or completely detrimental to humanity, is the selfish and frivolous consumption of products, in stark contrast to thinking and ethical way of life, which destroys the foundations of morality through the cult of material values, and with its impact on culture and society, marks the era of moral and unethical decadence.

The origin of Consumerism appeared only in the late 17th century, then flourished in the 18th and 19th centuries, and became a key trend in the 20th century until the 21st century and has not ended. The emergence of consumerism is considered by historians to have originated in London with the New Exchange shopping center opened in 1609 by Robert Cecil, where for the first time shopping was as luxurious as going to the theater. In 1660 with the reconstruction of London, the rows of luxury houses advertised the social position of the architects Nicholas Barbon or Lionel Cranfield; and not to mention the introduction of Bernard Mandeville's *Fable of the Bees*, with the thinking that the prosperity of the nation ultimately lies in the individual interests of the consumer (Peck, 2005).

In the end, Josiah Wedgwood, with the first thought and practice of marketing by manipulation and manipulation of tastes, became a model source for all commercial circles of the time, becoming the father of consumer advertising.

The Industrial Revolution in the 18th century increased the availability of consumer goods, which directly fueled the growth of Consumerism. The birth of the department store represents a radical change in the paradigm of the shopping experience, for the first time, customers have the concept of comparing the selection of goods with a wide variety of products, in the same place, and the act of going shopping became a popular leisure activity for the first time.

The competition in the industrial revolution created

an unprecedented situation, goods with outstanding quantity and variety, low prices due to competition, and almost every middle-class family could participate in that shopping process. Henry Ford, whose industrial application of assembly line systems provides incredible productivity and minimal cost, and Frederick Winslow Taylor sums them up in a complete theory of Management Science, marking the final step of consumerism becoming the mainstream of the world (Ryan, 2007)

This fact caused consumerism to break away from pure capitalism altogether, rather than being merely a capitalism rooted in it, which, in 1932, Earnest Elmo Calkins had observe that the technique of enticing consumption is to use only what we are allowed to use, or generalized on the basis of the 1929 theory by the economist Christine Frederick that consumption must be free and even even creative waste; in a word, is to let consumers use only what is directed by the manufacturer and still think that they are free to choose products and services (Dery, 2009).

Consumerism developed at the same time as the indispensable growth of the middle class, a class that had enough assets to consume luxury, but lacked the power to become more important in terms of class, making sensations and the need for material cults become important, since then, the use of luxury products and services has become a way of life, to demonstrate class superiority, above necessity. necessary in terms of use or function. On the other hand, Consumerism reflects the reality of social life, when basic needs are satisfied, it is inevitable that more advanced needs will appear, especially luxury goods and services that were once limited by the aristocracy, now supplanted and demanded by the bourgeoisie. The rise of Consumerism was both a source and a result of the bourgeois revolutions, through which the aristocracy's hold on luxury products and services was removed, and it also contributed to the freedom in the supply and production of products and services leading to free competition, the foundations of capitalism are considered to have begun (Cross, 2002).

The manifestations of the metamorphosis in consumer choice promoted by Consumerism were actually pointed out by Thorstein Veblen in the late 19th century in *The Theory of the Leisure Class*. later developed in the concept of conspicuous consumption, i.e. excess, excess consumption, the origin of the credit system, or more commonly known by the term "Credit Debt Trap". Its consequence is productivism. Anyway, the impact of advertising in this period was not great, because it still depended on the classes of letters, and the problem of illiteracy was still a problem at that time, so that the harmful effects of socialism consumption is still not properly understood.

The advent of the media, first television, then the

internet, and now social networks, dealt the ultimate blow to society. Television was born in the 1950s, creating a tradition of visual advertising, which for the first time worked directly in the mind of the user. It no longer depends on the literacy status of the population, but directly attacks the ears and eyes, similar to the traditional transmission, "word-of-mouth". The visual imagery that advertising provides promotes the thinking that consumption reflects the level of social status of consumers, fostering a culture of over-consumption firmly rooted in social culture (Miller, 1990).

Emulation is a core component of Consumerism, whereby consumers seek to chase the lifestyles of those who are superior to them in the social hierarchy. The poor imitate the rich, the rich imitate celebrities and idols. The fact that a celebrity uses a certain product as an endorsement of the product is evidence of the upper class, and the desire of consumers to own that product or service will remain in the mind of consumers for a long time, which will gradually change the personality of the whole society. That in the long run forms a new culture, destroys the old traditional culture and builds around it a socio-political system compatible with it (Levine, 2007).

The decadence caused by fearsome Consumerism is that it links up with the ruling classes, in the contemporary era, the international mega capitalist companies, to make economic policies mixed with political policy, so indistinguishable today, to promote consumption. It is this that makes Consumerism no longer simply an economic theory, but also a political theory, even considered mainstream in the contemporary era.

Consumerism officially becomes a cultural ideology, when the cultural ideology, political institutions, and economic structure all point in the same direction, and that direction is consumerism, it is very difficult to get out of it with only economic ideologies. Therefore, since its inception, Buddhist economics, with its non-European background, is expected to be an effective solution to this problem of the contemporary period, which the study will clarify in the following sections.

2. RESEARCHS ON BUDDHISM ECONOMICS

Buddhist economics refers to the Buddhist approach to economics. The definition of an economic theory from the Buddhist point of view is beyond the scope of the term, as it includes both idealistic thinking and possibly contradictory practices, at present. With what has been achieved, it should only be temporarily considered as an investigation of human psychological characteristics (concerns, aspirations, emotions) that promote economic activities. It was E.F. Schumacher, the creator of the term, said that this approach to economics should not be based solely on theory and models but on the power of perception, insight, and

restraint (Schumacher, 1994).

The concept of Buddhist economics is relatively vague, the reason being that the Buddha never built an economic model, and also, because of the difference between what the Buddha preached, most of which belonged to the Buddha. his congregation, and what is actually possible. Ven. Payutto defines it as demarcating arguments and clarifying what is harmful and beneficial in human activity in relation to production and consumption, and above all to make people morally mature (Payutto, 1994). E.F. Schumacher defines that the ideal of Buddhist economics is to find a middle way between a purely mundane society and an ideal immovable society (Schumacher, 1995). Clair Browne defines Buddhist economics as finding people interdependent and with nature (Brown, 2017). The economist Neville Karunatilake defines that the Buddhist economic system is based on the development of cooperative effort and harmony in a collective way of life (Karunatilake, 1976).

It is a fact that, as mentioned above, the Buddha never gave any so-called economic model from a Buddhist perspective, so all that deduced from the Buddha's theory should be considered to be unique creations of the present day. Likewise, any criticism of the utopia of this model should not, and must not be directed at the Buddha, but primarily at those who develop this theory in practice. This is not to say that the Buddhists came up with this economic theory out of nowhere, it was based on some foundation that the Buddha built in his foundation.

Those foundations, which are used as the building material for Buddhist economics, include: issues developed from Right Livelihood in the Noble Eightfold Path, teachings on the four necessities (eating, clothing, shelter, care), lessons on monarchy or republic. These original texts should have been enumerated and thoroughly analyzed in part of this essay, in order to clarify how the connections between these lessons correspond to the realities of economics, but within the 20-page limit of the essay according to the association's regulations, further research will be done in the future. The Buddhist approach, with its ethical concerns, is easily confused with the economic approach of other religions, if only superficially. Buddhism is not purely a religion in the conventional sense, or from a Western perspective.

It is close to an experimental science, in the sense that people have to compare its assumptions with their own actual experience to confirm the facts (one or more) that are considered to be true, the experiencing of this experimental science, as a way of life or way of life, is called the middle way, which lies between ascetic thinking (in the religious sense like Christianity or philosophical meaning like Stoicism) and hedonistic thinking (in the lifestyle meanings such as hedonism or philosophical meanings such as materialism).

Although, the theory of Buddhist economics has only been born recently, from the point of view of Westerners, especially the economist E.F. Schumacher. However, the history of Buddhist economics must be traced back to the reign of the Buddhist emperor Ashoka in India (268-232 BC) whose economic policies were heavily influenced by Buddhism with the philanthropic processes, public policies and works, the system of hospitals, dormitories, people's parks and nature reserves following this king's sustainable thinking.

The first person who coined the term was E.F. Schumacher in 1955, when he returned from a trip to Burma at the invitation of prime minister U Nu, as an economic development adviser. The essay was originally titled *Buddhist Economics*, later published in *Asia: A Handbook*, and finally included in chapter 4 of the famous book. His book was published in 1973 under the title *Small Is Beautiful* (Schumacher, 1994). Economists who were later influenced by this way of thinking included Prayudh Payutto, Padmasiri De Silva and Luang Por Dattajivo.

Some time earlier, the idea of using a Buddhist perspective to regulate the economy instead of Western economic philosophies had emerged before E.F. Schumacher's book became famous in 1973. King of Bhutan Jigme Singye Wangchuck and the government of Bhutan, based on Buddhist spiritual values, promoted the concept of Gross National Happiness (GNH) in 1972, as a yardstick to measure development of a country, rather than according to the Gross Domestic Product (GDP) of the economic systems of Western countries (Oxford, 2020).

In 1976, Neville Karunatilake proposed economic models based on the policies of Ashoka the Great, which he considered suggestive in his book *This Confused Society*. Karunatilake thinks that the problems of the times lie in discord and conflict, and Buddhist economics can be the way out. In 1999, economist Clair Browne incorporated a Buddhist perspective into Amartya Sen's capacity approach (Sen, 1999), into a Buddhist economic model, in which economic performance is assessed based on the level of the economy, brings a higher quality of life for everyone, including the environment (Browne, 2017).

Colin Ash considers Buddhist economics to be the most harmonious path between happiness and economics (Ash, 2007). Kanoksak Kaewthep examines the ideal Buddhist nation of Ashoka (Kaewthep, 2007). Joel C. Magnuson discusses the kind of economy in which there is genuine awakening (Magnuson, 2007). Apichai Puntasen asserts the necessity of Buddhist economics for the well-being of society, especially the difference between Buddhist economics and classical economics (Puntasen, 2007).

Most recently, in 2020, economists Laszlo Zsolnai and Clair Brown launched the first book series on Buddhist economics called *Studies in Buddhist*

Economics, Management, and Policy. By the time this paper was written, this series of books, registered under the prestigious Springer publishing house, has been published in three volumes, *Introduction to Buddhist Economics - The Relevance of Buddhist Values in Contemporary Economy and Society*. *Buddhist Studies*) by Ernest C. H. Ng; *The Value Orientations of Buddhist and Christian Entrepreneurs - A Comparative Perspective on Spirituality and Business Ethics* by Gabor Kovacs and *The Dharma and Socially Engaged Buddhist Economics The Social Body of Buddhist Economics*) by Joel Magnuson. This is the most famous series of scholarly books in Buddhist economics recognized by the economic research community.

Interest in Buddhist Economics has grown year by year. Statistics of this research are conducted using the tool on Academic.edu show a strong growth of articles on this topic increasing to more than 9000 articles, mainly in English (accounting for more than 90%), of which mainly books and newspapers.



The variation of the number of articles on the topic of Buddhist Economics according to Academic.edu statistics in the last 5 years.



The variation of the number of articles about the term Buddhist Economics according to Academic.edu statistics in the last 20 years.

This demonstrates a commitment to building an economy that serves Bhutanese culture based on Buddhist spiritual values instead of serving material development, following the Western way of life.

Vietnam approaches Buddhist economics quite conservatively. In 2006, in the International Conference on Buddhism in the New Era, Opportunities and Challenges, held in Vietnam, a number of articles on Buddhist Economics appeared, such as *Buddhist Economics: Sutras Buddhism* by S.R. Batt (Batt, 2006), *Buddhist Economics - A Comprehensive Solution* by

Thich Tam Duc (Thich Tam Duc, 2006), *The Fundamentals of Economics from a Buddhist Perspective* by Tue Si (Tue Si, 2006), *Economics from a Buddhist Perspective* by Thich Nhat Tu (Thich Nhat Tu, 2006). In 2010, there was a small article on Buddhist Economics by monk Thich Explain Hien. In 2012, Quan Nhu Pham Van Minh's "*Kinh Tế Phật Giáo*" book published by Culture and Arts Publishing House in 2012 was Vietnam's first book on this topic (Pham, 2012). In 2014, the Vietnam Buddhist Academy in Ho Chi Minh City made Buddhist Economics an official subject. Most recently, one of Clair Browne's book, published by monk Thich Thien Chanh under the title "*Kinh tế học Phật giáo - Một hướng đi minh triết cho ngành kinh tế chính trị*", published in 2020 (Browne, 2020), is the first book to be translated into Vietnamese. on this topic.

Although the application of Buddhist economics is different in the social economy, but at least not very different in concept, it can be asserted that Buddhist economics has been applied at least in Vietnam. national policy in the following three countries: Thailand, Bhutan and the Yogyakarta Special Region of Indonesia. The policies of three other countries are affected at the macro level: Japan, Sri Lanka and India. However, it must be admitted that Buddhist Economics is still very new, and there are many challenges in applying it in real life.

3. METHODOLOGY

Contrary to most religions in the world, which view business as a corruptible act, the Buddha had a relatively open view of business. Most of the Buddha's teachings are focused on ethics, the condition for any of the Buddha's teachings to become some kind of economic philosophy, in the sense of economic ethics. This, unfortunately, makes it more difficult to establish what is essential in building the Buddhist economic system. This essay will review the main views offered by Buddhist economists, with great differences, but can be part of the overall picture of Buddhist economics.

According to E.F. Schumacher, most Western economists suffer from a disease called metaphysical blindness, assuming that all the sciences they study are absolute and unchanging truths without any prior assumptions, the inevitable way forward. Modern materialism leads to modern economics and, of course, its corollary. This is easily seen in the theory extolled in Adam Smith's *Wealth of Nations*.

The most important views is from a production perspective. In this view, the basic source of wealth creation is labor, which sadly is considered the most hated point of the production and business process: the owner wants the product without the employee; and workers want income without labor. As for Buddhism, labor has three functions, giving people the opportunity to use and develop their own abilities, helping them

overcome self-centered thinking by using others to participate in public affairs, and bringing goods and services to their own comfortable lives.

With such a view, organizing labor in a stressful way for employees or fighting attitude of workers to work elegantly are all attitudes that have no understanding of life, labor and work. Active and idle are two complementary parts in the process of living and cannot be separated from the joy of work and leisure without affecting life. Thus, Buddhist economics is of course different from the economics of modern materialism, because the essence of civilization is not the increase in the production of goods by labor but the growth of the good character of people through work, what E.F. Schumacher calls it purity and innocence.

The good character of each person will be formed in work, as long as the work is done in conditions where dignity and freedom are respected, as well as respect for the products made. It is not entirely in Buddhist economics that the Indian philosophical economist J.C. Kumarappa is cited by E.F. Schumacher, that if the nature of labor is properly appreciated and done, it nourishes and helping man to contribute good to the world according to his ability, leading man's will in the right direction, and using discipline to train his animal nature to enter the path of progress, thereby creating a great basis for people to realize their full worth and develop their personality.

Another scholar cited by E.F. Schumacher, that there is a distinction between mechanization which develops human skill and power; and a mechanization that turned people into machines and slaves to service; i.e. there is a subtle difference between a machine and a tool, for example a carpet loom is a tool, for it is the technique of keeping the fabric bent for weaving with the fingers of a craftsman, while a loom is a machine or a tool, because it only performs the main part of human labor and does not support creativity. Modern thinking holds that success is simply the sum of the goods over a certain period of time.

The problem of worker labor is not important to modern economists, in the sense that it is merely a dependent factor relative to commodities. Modern economists delve into the details of creating just enough jobs to be more profitable and economic than underemployment, in order to ensure a greater flexibility in labor and more stable wages. Even worse, to the extent that economists create some degree of steady unemployment for the sake of stability, it is possible to provide the unemployed with goods sufficient to sustain their low living standards, according to E.F. Schumacher's quote of Galbraith's observations.

This view is certainly in stark contrast to the Buddhist view, which holds that it is people who are the most important factor instead of goods. The difference

of a Buddhist economic plan is the plan so that everyone has a job, ensuring their own labor needs, not creating the maximum number of jobs or maximum output. And when modern economics shifts attention from workers to workers' products, it also means a shift from the human to the inhuman, the surrender to crime. Another view of Buddhist Economics is to produce moderately according to local resources, or in other words, to live mainly on subsistence production.

This interesting point entails another progressive view of resource use. E.F. Schumacher cites the French political philosopher, Bertrand de Jouvenel when talking about modern economics, that is modern economics does not consider everything as a cost, except human effort, does not think that it has wasted how much minerals are wasted, how many organisms are destroyed, as long as there are economic benefits to a certain community; modern economics does not think that humans are part of an ecosystem, driven by a monopolistic mindset, blocked from view by cities, where people are cut off from all forms of nature, thus failing to arouse the feeling that one is also part of the world ecosystem.

For actual economic theories, there is no difference between renewable and non-renewable materials, since it is concerned only with price by the quantification of everything in terms of money, the only admitted difference being relative cost of mining equivalent units. Meanwhile, from the Buddhist point of view, the difference between reincarnation and non-rebirth is a particularly important issue, and is carefully considered for preservation because according to Buddhism, use without consideration or thought, not having "proper attention" is an act of violence, and will have bad consequences. That is the production perspective.

E.F. Schumacher argues that the effort to ensure a lifestyle follows the consumption-optimal model of consumption much less than the consumption-maximum fulfillment model, and this explains the strain in life pressures in the Buddhist countries like Myanmar are much lighter than their US counterparts while the rate of use of machinery to reduce labor in Myanmar is very small compared to the US. Thanks to the optimal consumption model, according to E.F. Schumacher, it still highly satisfies human needs but with a relatively low consumption level, helping people to avoid stressful pressures for life and easy to fulfill their promises. The Buddha's command is to avoid doing evil, to increase doing good.

4. IMPLEMENTATION IN THE REALITY: DISCUSSION ABOUT SUFFICIENCY ECONOMY APPROACH OF THAILAND

The Sufficiency Economy is Thailand's approach to development, seen as part of the essential economic philosophy (SEP) of the late King Bhumibol Adulyadej of Thailand, recognized by Thai scholars and

government, is widely adopted and has the support of the Thai population (UNOSSC and MDAT, 2017). Upon his accession to the throne in 1946, the king traveled around the country and showed great interest in rural development and established many royal projects to help the poor in the countryside, and has partially apply this philosophy.

But it was not until 1974, with a speech to students of Kasetsart University and Khon Kaen University, that this principle was officially published and declared, in that its main concept was to provide and promote the most essential things in stages, and gradually raising them with maximum cost savings, gradually developing those essentials to enhance prosperity and setting the economic standard to the next level, each specific stage (Thailand Human Development Report, 2007).

The main idea that sets it apart from European-oriented economic policies is that it does not consider rapid or excessive economic growth a thing worth doing, but rather a safe development, all slowly. This was supported during the economic crisis of 1997 by European-oriented policies showing its dangerous weaknesses, the new perspective of the monarch's approach to the Buddhist way widely known in his speech to national television, he argued that hastily built factories, the goal of becoming an economic tiger were not as important as an economy enough to feed the people, not to follow the massive economic development (Thailand Human Development Report, 2007). The influence of E.F. Schumacher on this philosophy of the king was so great that, when he learned of it, he was moved to translate it into Thai for publicity, despite E.F. Schumacher being a Christian, which might influence the king's reputation (Secretariat of the Prime Minister, 2000).

The Thai government organization with the highest responsibility for implementation is the National Economic and Social Development Board (NESDB), which is realized in a document called the National Economic and Development Plan. The new constitution after the 2006 coup declared that promoting this policy was one of the fundamental roles of the state. In addition, the Office of the Prime Minister, under royal support, launched a royal initiative called Phi Thong Lang Phra (Gold on the back of Buddha) to promote rural development by building on the economy according to the king's philosophy, established in 2008. The project has progressed to the third phase, in a 5-year cycle, which is said to have yielded 285 million baht in income, and received 1.5 billion baht from the Office of the Prime Minister (Theparat, 2019).

The concept of essential economic philosophy is not really clear, but is similar to philosophical philosophy, it consists of two conditions and three components: two conditions are "knowledge" and "morality"; The three components are "rationality", "moderation", and "prudence". It is not difficult to see how this

philosophy is influenced by the "middle way" philosophy of Buddhism. The ideal implemented in a business is that instead of maximizing profits for the benefit of shareholders, emphasis is placed on maximizing the interests of all stakeholders in harmony and moderation. Meaning focus more on long-term benefits instead of short-term profits (UNOSSC and MDAT, 2017).

In the case of national development, the implementation philosophy is that national economic development must be based on moderation, prudence and social immunity, based on knowledge and ethics as the direction of operation, anything on the contrary to that is harmful in the long run to the national economy, no matter how great of a formal benefit it may be (Chaipattana Foundation, 2022). This philosophy is not an economic philosophy that is too specific in the direction of making actions or how national policies work, but mainly guides to choose decisions that are beneficial for long-term development. economy of a country (Mongsawad, 2010).

Essential Economics emphasizes the Middle Way philosophy as a leading principle for economic problems that applies both to individuals as people, higher as businesses, and at the national level as to economic policies. This philosophy applies to behavior from the family to the community and finally to the national level in terms of development and governance National Economic and Social Development Board (2020). Weakness means moderation, rationality, and the need for self-immunity to protect oneself from external and internal influences, and at the same time, to strengthen morality, especially civil servants, scholars and businessmen. People at all levels accept to abide by the principles of honesty and integrity (UNOSSC and MDAT, 2017).

Patience, perseverance, diligence, prudence, prudence are infallible in creating balance and responding appropriately to the challenge of changes in the world. The Essential Economy philosophy provides the idea of limiting production to protect the environment and conserve resources, production is aimed at private consumption, excess quantities are used to sell, the rich can spend money on consuming as they like as long as they are debt free, the poor consume freely so that they do not need to borrow, the Essential Economy concept with a strong emphasis on sustainability at its core, is believed to be an important contributor to the goal development of the United Nations (Oxford Business Group, 2016).

However, the Essential Economy philosophy is plagued with problems and criticisms. The U.S. Embassy, in a leaked message, attributed the tenets of the essential economy described as vaguely malleable, that its success was largely contrived to support the kings (Thai Cables, 2020). Most economists are confused with the idea of the economy being self-

sufficient. Standard & Poor's country ratings director admits that no one knows what this philosophy really means economically. The practical ambiguity of the philosophy can be distorted by anyone, especially by government officials, when they are always trying to abuse power, especially when the interest is related to foreign investment (Crispin, Shawn, 2006). Most domestic criticisms are rarely made public for fear of being prosecuted for nefarious crimes (Lèse-majesté), most daring to criticize ineffective practices rather than raise disagreements about principles (Farrelly, 2010). Foreign scholars often criticize two basic problems: first, this philosophy does not match the reality of life (or, to a lesser extent, Thailand's), second, this philosophy is too vague in terms of practice and explanation, in the sense, that no one understands what it really means in terms of operation (Walker, 2008 and Farrelly, 2007).

5. CONCLUSION

Consumerism, from a Buddhist point of view, maximizes greed (the desire to own products and services to satisfy enjoyment), hatred (the desire to equal or exceed over others in society in the same class, and disdain for enjoyment below one's own when in a different caste), delusion (endless passion for the enjoyment of products and services without feeling any more rational sense), driving people to the end of corruption. Then, in the end, people indulge in wasteful, wasteful, irresponsible spending to buy products and services that are outrageous, exceed usage and needs, and then consume on the credit of other financial instruments in the globalization of capitalism, which has now become a component of modern consumerism.

The paper presents new interesting solutions to contemporary consumerism, namely Buddhist economics. This solution, very newly appeared, has been considered sustainable, and recently well-researched in Asian economic circles. The study wants to show the real nature of consumerism, and the relevance of Buddhist economics in dealing with consumerism at the national level. The study also points out the basic theoretical premises of Buddhist economics, and finally, provides a detailed discussion of a Buddhist economic model that has been applied in Thailand, a country that is relatively similar in economic terms to Vietnam, in the hope to provide the necessary experience to apply in Vietnam.

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FACTORS AFFECTING STOCK INVESTMENT DECISIONS OF GEN Z IN THE COVID-19 PANDEMIC: A STUDY IN VIETNAM

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Research purpose:

The main purpose of this research is to determine factors affecting stock investment decisions of Gen Z in Vietnam during the COVID-19 pandemic.

Research motivation:

The COVID-19 pandemic does not only affect the economy but all aspects of life. According to the General Statistics Office (2021), the labor market is facing a serious crisis with a series of negative records being set. Millions of workers have lost their jobs, and others' incomes have been cut. Making money through online platforms is becoming a trend, especially for young people.

Singh and Dangmei (2016) have claimed that Generation Z is "the most ethnically diverse and technologically sophisticated generation". According to Long Nguyen & Hoang Thuy (2021), youngsters are familiar with the Internet and tend to invest in securities.

In Vietnam, according to the Vietnam Securities Depository (2022), in the first 11 months of 2021, the number of new registered securities accounts was 1.3 million, which increased by 230% compared to this number in 2020. The number of young investors also witnessed a significant rise. There have been several studies on factors affecting stock investment decisions around the world. However, these studies are very limited and have not focused on one specific generation.

Research design, approach, and method:

The research has been conducted with 210 Gen Z investors in Vietnam through online survey methods from March 2022 to May 2022. All data collected is analysed by SPSS 22.0.

Main findings:

There are three factors that influence stock investment decisions of Gen Z in Vietnam during the COVID-19 pandemic, which are: financial literacy, herding behavior, and heuristic variables.

Practical/managerial implications:

Theoretically, the paper has systematically studied the factors affecting stock investment decisions of Gen Z in Vietnam during the COVID-19 pandemic. From the research results, the authors have made some recommendations for improving stock investment decisions of Gen Z investors.

Keywords: *stock investment decisions, Gen Z, individual investors, COVID-19 pandemic, Vietnam.*

THE INFORMAL ECONOMY IN SOUTHEAST ASIAN COUNTRIES: CAUSES AND RECOMMENDATIONS

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Research purpose:

This study focuses on elucidating the influence of taxes on the hidden economy while simultaneously providing the reasons for the existence of the informal economy in Southeast Asian countries. From there, the authors propose solutions that policymakers in these countries can apply to reduce the size of the informal economy.

Research motivation:

Although tax research on the informal economy is not new, previous studies have mainly focused on quantitative analysis to measure the impact of taxes, with little focus on other causes. Some studies only focus on the small- and medium-sized enterprise system or in a particular country or group of countries, so it cannot be considered a representative case for the entire informal economy, especially in Southeast Asia, with many specific characteristics and differences.

Research design, approach, and method:

This study inherited Tanzi's econometric model (1983), which used tax burden to measure this factor's effects on the informal economic scale through the money supply ratio NM/BM. To clarify the bases and evidence derived from the results of the research model, we will establish the relationship between tax policy and law and the size of the informal economy by analysing and studying this model.

Main findings:

Solutions that policymakers in these countries can apply to reduce the size of the informal economy refer to adjusting tax rates, restricting cash transactions, reducing tax compliance costs, and completing tax policies and laws.

Practical/managerial implications:

The results of the research model are the initial basis for determining the tax burden that significantly impacts the size of the informal economy in Southeast Asian countries. Complexities and overlaps of tax laws and regulations that indirectly affect the tax burden and the economy's growth are anticipated to be resolved. Simultaneously, the solutions strive to provide more transparent and appropriate tax legislation with more vigorous enforcement and reduce the tax gap between formal and informal economies in Southeast Asian nations.

Keywords: FEM analysis, hidden economy, informal economy, Southeast Asian, tax burden, underground economy

1. INTRODUCTION

In many nations, the informal business sector, which includes small-scale retailers, street sellers, private tailor shops, self-employed craftspeople, scrap collectors, etc., is larger than the regular business sector (Ngo, 2020). The informal economy, which dominates in underdeveloped countries, provides the vast majority of employment opportunities. The global economic crisis also set the stage for increasing the weight of the

informal sector due to job losses in other economic sectors (Cling & Roubaud, 2012). According to the statistics of Medina & Schneider (2019), the period 1991-2015, the informal economy in Southeast Asian countries accounted for 33.4% of the region's GDP. This data is much higher than the average of 21.2% in the broader East Asia region, including China, Korea, and Japan, and well above the global average of 31.9%. Besides, the underground economy poses many

challenges for countries in this region; besides corruption, tax evasion is a widespread problem.

The tax burden is not only the first reason for tax evasion but also a barrier that causes actors to ignore the benefits of the formal economic market to participate in the informal economy, especially in Southeast Asian countries, where the underground economy operates at a “sustainably high” level. For developing countries in general and Southeast Asian countries in particular, taxes are always the primary and vital source of finance to serve the spending needs of the growth period. Therefore, according to Schneider et al. (2010), it should be recognised that taxes on the informal economy is an essential and long-term revenue-generating channel for every government because the informal sector makes up a significant percentage of GDP in many countries. Although the absence of the informal economy is likely to “bring the whole Southeast Asian economy to a halt”, according to a statement in the Financial Times, nor we can deny the negative impact on each country, which is proportional to the size of the informal economy, is a potential tax loss. According to World Bank (2018), if the size of the underground economy is 1% less than GDP, the tax loss rate is 0.125% higher than GDP.

Most previous studies on the informal economy have shown that an increase in taxes is the most important cause of an increase in the size of the informal economy (Schneider & Enste, 2000; Tanzi, 1999); so nearly everyone participates in the underground economy to avoid taxes (Alm et al., 2006; Torgler & Schneider, 2009). In addition, there have been many studies evaluating the benefits as well as disadvantages of taxes on the size of the informal economy. Murphy (2012), when looking at the size of budget deficits in 16 EU countries, found that state budget revenue was damaged by tax evasion due to the operation of the underground economy. In Denmark and Finland, this loss exceeds 300%, while in Belgium, Hungary, Italy and Malta, it is more than 200%. This result is also basically consistent with the data collected by Taiebna & Mohammadi (2008) when demonstrating that changes in taxes can lead to a change in the informal sector’s share of the economy.

On the other hand, some views expressed concern about the benefits and efficiency of taxation in the informal economy when the actual revenue of those operating in this area is mostly low. Significantly, the costs to collect taxes in this area will be very high and certainly higher than the official sector because it includes the costs of collecting data and monitoring actors performing in this sector. As for Fox & Pimhidzai (2011) & Keen (2013), those operating in the informal economy are often low-income and taxing small businesses in this sector is also tricky. Even so, efforts to exploit taxes in the informal economy may create an additional environment for the proliferation of corruption among tax officials. Concerns are even more

valid for studies in Southeast Asia, where the tax policy and law system have many loopholes as well as tax evasion and corruption are pretty complex.

Referring to the solution to the informal economy, Fajnzylber et al. (2011) & McKenzie & Seynabou Sakho (2010) presented some tools or methods of tax control in the informal sector in different countries of the world. Cortellese (2015), in the study of finding a balance between the informal economy and tax rates, said that taxes are costs aimed at companies and people, so the lower, the better. This author also proposed reducing tax rates to reduce tax compliance costs.

In general, the study of taxes on the informal economy is not new, but previous studies have mainly measured the impact of taxes. Some studies focus only on the small and medium-sized enterprise (SME) system in a particular country or group of countries; they cannot be considered representative of the entire informal economy, especially in the Southeast Asia region with various characteristics. Therefore, this study will focus on elucidating the influence of taxes and some factors related to the underground economy through a quantitative model. To clarify the bases and evidence derived from the research model, we will establish the relationship between tax policy, law and the size of the informal economy through the process of analysing and studying this model. Concurrently, the data from previous studies will also be applied to provide the reasons for the existence of the informal economy in Southeast Asian countries. From there, the authors also suggest solutions that policymakers in these countries can apply to reduce the size of the informal economy.

2. EMPIRICAL STUDY ON THE IMPACT OF TAX BURDEN

This study inherited Tanzi’s econometric model (1983), which used tax burden in order to measure the effects of this factor on the informal economic scale through the money supply ratio $\frac{NM}{BM}$. When researching the informal economy, it is difficult for researchers to estimate the data because this type of data is an unanticipated parameter. Especially the subjects operating in the informal sector are individuals and businesses who try to hide their activities. Hence, recent measurement studies were applied in this research, such as papers of Schneider et al. (2010), Elgin & Oztunalı (2012), Alm & Embaye (2013), which developed informal economy estimation methods, since then, it could reinforce the high reliability of this study. According to Elgin & Oztunalı (2012), data of the informal economy was measured by using two general equilibrium areas adjusted by macro variables. The estimation model of Elgin & Oztunalı (2012) was used in the method presented earlier by Schneider et al. (2010), which showed the correlation of these estimation methods was up to 0.99, and it was stated to be the same as the estimation result.

In order to estimate the equation, this study used the FEM technique to look at country-specific characteristics in the model. However, it came with a very strict assumption that particular characteristics must be updated and fixed over time. Compared to the previous Pooled ordinary least squares (OLS) method, the FEM method is better because it is assumed that the error variance must be uniform, and there is no autocorrelation phenomenon for estimation. Hence, the number of parameters would be stable and not be biased (Wooldridge, 2010), and it would overcome data constraints by providing a variety of degrees of freedom in estimating the monetary demand equation. This allows the implementation of informal economic scale measurement studies of some countries that have been missed due to a lack of data. Before the regression, the defects of the model, such as multi-collinear phenomena and the stationarity of errors, would be tested. After that, the research would perform the regression model below to test the research hypotheses:

$$\ln\left(\frac{NM}{BM}\right)_t = \gamma_0 + \gamma_1 \ln\left(\frac{NM}{BM}\right)_{t-1} + \gamma_2 \ln(1 + TB)_t + \varepsilon_{i,t}$$

Where:

(1) The Money Supply Ratio $\frac{NM}{BM}$: The ratio of the amount of money circulating NM (Narrow Money = M1) over the money supply BM (Broad money = M2). The amount of money in circulation NM is not the amount of money stored in commercial banks, financial institutions or central banks yet the amount of cash used directly in transactions between the seller and the buyer. The amount of money in this circulation is a part of the money supply BM and accounts for a large proportion of the money stored in savings and current accounts. The money supply is indicated by the symbol BM.

(2) The Tax Burden TB: Total tax revenue over gross national income GNI.

The government income from taxes includes all of the mandatory tax payments paid to the government for public purposes except fines and social insurance contributions. This ratio is measured by the level of personal consumption PC on gross national income GNI. The index measuring personal consumption includes actual consumption and personal estimates of goods and services that are continuous and discontinuous.

Due to the limitation of continuous data from 2000 to 2017, and all data must be matched with the choice of Tanzi's econometric model (1983), this paper chose some groups of variables, including Money supply ratio, Tax burden (TB), Personal consumption on GNI, Interest rate (r), and GDP per capita. Based on the gap in previous research, which focused mainly on OECD countries, Africa, Nepal, etc., the authors decided to choose the Southeast Asian region, including Indonesia,

Malaysia, Philippines, Thailand, and Vietnam.

The results in Table 1 indicate that the regression model can be analysed with high significance when the time series data is stationary.

Table 1. The summary of unit root tests for variables

Variables		LN_1_TB		LN_NM_BM_	
		t-Statistic	Prob.*	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.368	0.863	-2.316	0.421
Test critical values	1% level	-4.07		-4.07	
	5% level	-3.464		-3.464	
	10% level	-3.158		-3.158	
Variables	Y	t	P-value (Significant level is at 0.1)		
$\ln\left(\frac{NM}{BM}\right)_{t-1}$	0.8908692	21.84	0.000		
$\ln(1 + TB)_t$	1.087348	2.89	0.005		

Based on the findings, we can form the regression function (2) as:

$$\ln\left(\frac{NM}{BM}\right)_t = -1.437 + 0.890 \ln\left(\frac{NM}{BM}\right)_{t-1} + 1.087 \ln(1 + TB)_t + \varepsilon_{i,t}$$

As a result, it can be seen that the supply of cash directly used in transactions between sellers and buyers in the informal economy is primarily affected by tax pressures. This may explain why there are existing informal economic sectors in the five mentioned countries in the Southeast Asian region that are not under the states' control or incurred any tax charges. Moreover, these transactions are entire in cash which makes the control of taxes even more difficult. From equation (2), TB is assumed to be 0, and the other variables are held constant. Then, the data of the variables, in turn, are entered into equation (2) to estimate Ln. Similarly, the author estimates NM_tax from the data of BM (NM_tax is the amount of money held when existing in the informal economy). The same method has been done to estimate NM_notax over the years (NM_notax is the amount of money held without the informal economy). The gap between NM_tax and NM_notax indicates how much money is held and caused by taxes. Thus, the size of the underground economy may be determined by taking the estimated amount of informal money multiplied by the money conversion cycle. Applying the mentioned calculation for other countries, we finally have the size of the informal economy of the five Southeast Asian countries

within the period 2000-2017. From this, it cannot be denied that there is significant existence of the informal economy in each country and in different countries with different economic conditions, there will be differences in the size of the region.

Table 2. The informal economy size of Southeast Asian countries (% of GDP)

Nations	The informal economy size (%GDP)		
	Min	Average	Max
Indonesia	12.94	22.21	24.90
Malaysia	25.63	28.70	31.26
Philippines	28.14	34.30	40.30
Thailand	40.43	46.23	53.43
Vietnam	13.79	17.19	23.31

Table 2 shows the scale of the informal economy of some Southeast Asian countries in the period 2004-2017 (% of GDP). The results indicate that Thailand has the largest informal economy in the region, with the size ranging from 40% of GDP to 47% of GDP. Malaysia and the Philippines are similar, with the size of underground economies being from 30% of GDP to 40% of GDP, but this level is still considered to be quite high. In comparison, Vietnam has the lowest underground economy, with the size being from 15% of GDP to 20% of GDP. Finally, the informal economy of Indonesia has shown signs of an increase in the last few years.

Thus, it can be concluded that although the mentioned emerging countries in Southeast Asia have recently experienced rapid economic growth, this trend does not diminish the size of the informal economy. Therefore, whether they like it or not, they should consider the informal economy to be part of the economy of nature and need to manage it more effectively instead of rigidly controlling it.

3. HOW TAX BURDENS SHAPE THE INFORMAL ECONOMY

The results received from the research model are the initial basis for determining the fact that the tax burden has a significant impact on the size of the informal economy in Southeast Asian countries. This result is considered to have certain similarities with some related conclusions of previous studies on the factors affecting the underground economy.

Schneider & Enste (2000) asserted that the most significant cause leading to the emergence of the underground economic system is the pressure to pay taxes and contribute to social security. The higher the tax rate in the formal economy, the greater the propensity to participate in the informal economy and the lower the morale to pay taxes (Alm et al., 2006; Torgler & Schneider, 2009). However, that does not

mean that we can blame the tax morale or the tax-paying ethics of the workforce in the informal or semi-formal economy. This issue has to be considered based on whether the majority of people feel that the services provided by the state are commensurate with their tax contributions. As Schneider (2016) has demonstrated, taxpayers tend to be honest in paying their taxes if they receive the corresponding public services.

Tax evasion being a common problem in Southeast Asian countries, does not mean easy to identify. There are quite a lot of views on tax evasion given by different studies. To the extent that the subject is a business, Feld & Schneider (2010) state that businesses evade taxes because they want to avoid payment of income, value-added or other taxes, avoid paying social security contributions, avoid certain legal standards of the labour market, and avoid some administrative obligations. More generally, Danopoulos & Znidaric (2007) argue that tax evasion includes the avoidance of taxes on wages and profits and direct or indirect taxes that should be legally collected and remitted to the state.

The tax rate alone is not enough to assess the full size of the informal economy because recording the tax rate at a specific number depends on the tax policies and laws of each country at a certain stage. Regardless of the approach, researchers basically consider the essence of tax evasion as illegal, intentional actions of subjects participating in economic activities for the purpose of avoiding part or all of their tax obligations. Therefore, the higher the tax rate, the larger the gap between the informal and formal economic sectors and the more reasons and motivation for actors to move or choose to operate in the informal sector.

3.1. Tax burdens forming the informal economy through the habit of cash transactions

The heavy pressure from taxes motivates the actors involved in the economy to conduct commercial transactions in cash to avoid the evidence being kept for taxation, even if cashless services are always available. A study by Awasthi & Engelschalk (2018) also agreed with this statement and stated that the greater the use of electronic payments or formal payments, the smaller the size of the hidden economy.

According to a report by Standard Chartered (2019), in 6 Southeast Asian countries, including Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam, cash still prevails despite the development of alternative means of electronic payment. Specifically, the usage of cash occupies more than 70% of every transaction in the Philippines and Indonesia, while this figure in Singapore is 43%. For online shopping, while other countries in the region have the percentage of consumers using cash on delivery (COD) range from 50-60%, in Vietnam, more than 90% of consumers choose to pay by this form. Concurrently, Vietnam is also the country with the lowest volume of non-cash transactions in Southeast Asia (only 4.9%), and the

percentage of people using credit and debit cards (4.12% and 26.74%, respectively) is only higher than Indonesia and the Philippines.

It is important that most cash transactions for goods and services in these countries are not in-voiced and are beyond the control of the government. This increases the risk of tax evasion and creates an environment for the informal economy in countries in this region to develop.

3.2. Tax burden forming the informal economy through the loopholes in the tax law and policy system

Although operating in the informal sector can avoid the formal tax burden, there are still many “informal taxes” that individuals must pay. However, the choice is always found to favour the “softer” side, even if it is not protected by law. In some cases, the influence of tax policy and tax legislation on the informal economy is more important than whether the tax rate is high or low (Friedman et al., 2000; Ngoi, 1997; Soto, 1989).

A survey conducted by Everest-Phillips (2008) in Sierra Leone, Liberia and Madagascar shows that a large proportion of enterprises in the informal sector have at times tried to move to the formal sector, but they are hindered by institutional barriers. Similarly, Araujo-Bonjean & Chambas (2004), with their study, also provide evidence that the complexity of tax laws affects the effort to enter the formal economy. Their survey also found that the existence of enterprises in the informal economy is often due to a lack of understanding of tax laws rather than deliberate evasion.

That said, the tax policy and law system are really important in the process of minimising the size of the underground economy because only it is powerful enough to adjust the tax rate difference between the formal and informal economic sectors. In other words, simplifying and minimising regulations on mandatory processes and procedures in the implementation of tax obligations is the key to reducing tax compliance costs and contributing to reducing the tax burden. Indeed, Hassan & Schneider (2016) note that as long as countries establish a proper institutional framework, high tax rates will not be the main cause of the informal economy. Schneider & Enste (2000) also argue that an increase in the number of regulations will reduce the participation of individuals in the formal economy. According to Johnson et al. (1997), if other factors are excluded, the economy of a country with more inclusive regulations will receive a higher contribution of the hidden economy to GDP.

Feld & Schneider (2010) also argue that an overly burdensome or inefficient regulatory system can increase the cost of entering the formal economy. This means that the legal tax corridor being too complicated will lead to the risk of increasing the tax burden because of the increase in costs of complying with a series of cumbersome regulations. Hence, the suitability of the tax law and policy system will help make the

institutional environment strong enough to effectively control and handle tax evasion and simultaneously manage loopholes to minimise the misuse or “circumvention of the law” to avoid tax liability. If governments can establish tax fairness and competitiveness for the formal economy, it will attract participation in the formal economy and indirectly shrink the informal sector.

4. POLICY RECOMMENDATION AND CONCLUSION

The results of many studies show that the increase in taxes is the most important cause leading to the increase in the size of the underground economy (Schneider & Enste, 2000; Tanzi, 1999); and most people join the underground economy to avoid taxes (Alm et al., 2006; Torgler & Schneider, 2009). Therefore, partially legalising the informal economy and attracting the shift of actors from the informal economic sector to the formal economic sector are said to be effective solutions to manage the hidden economy in some Southeast Asian countries.

The scope of the informal economy mentioned in this article is a place where individuals, households, and small and micro enterprises whose income is enough to pay taxes but for some reason, they intentionally do not pay taxes, evade the implementation of legal procedures, administrative procedures, and social responsibilities. For some countries in Southeast Asia, if legalisation is raised to manage some prohibited industries (such as betting, gambling, prostitution, etc.) may result in more positive outcomes in terms of increasing tax revenue and reducing the size of the informal economy.

There are four related issues that need to be solved synchronously to minimise the size and effectively manage the underground economy: tax rates, cash transaction culture, tax compliance costs, tax policy and legislation.

4.1. The necessity of adjusting tax rates

The tax imbalance between the two areas (informal and formal) will lead to discontent among individuals or small and medium-sized businesses operating in the formal economy. This dissatisfaction can lead to the individuals of the formal economy ceasing their efforts and stopping activities altogether, especially those who are in a difficult situation that forces them to cross the line between tax compliance, ethics, social responsibility and survival. Alm et al. (2006) & Torgler (2003) also suggested that unfair tax rates between these two economic sectors can generally reduce tax morale and reduce the tax compliance consciousness of larger firms.

Kenyon & Kapaz (2005) argue that taxing the informal economy, if it does not bring immediate benefits to growth, certainly does not hinder growth.

Obviously, choosing to operate in the informal economy can help actors avoid formal taxes and certain tax compliance costs and procedures; but conversely, it hinders their ability to access the credit system, legal protection, and policies and opportunities provided by the government. Therefore, first of all, the government should be bolder in issuing regulations related to informal business activities. Even rules on tax arrears discovered through transactions carried out in the informal economy need to be tougher. This will somewhat discourage or make those doing business in the hidden economy feel more insecure and hesitant in activities taking place in this economic sector. Thereby, individuals and businesses are expected to gradually realise the benefits derived from official operations in the formal economy.

Another solution that should also be considered is to reduce the direct and indirect tax rates to reduce the tax burden on the formal economic sector. Research by Cortellese (2015) has demonstrated that the reduction of corporate tax rates, by 9% and 10% in Germany and Canada, respectively, have helped companies reduce tax compliance costs, thereby helping them to reduce the burden of taxes on business costs. This solution is also supported by Schneider (2016) when he proposed to reduce indirect taxes through the incentive to exempt value-added tax on labour-intensive products temporarily. However, it is necessary to have careful consideration based on the specific situation and priority goals of each country in certain periods.

An example of an effort to reduce the size of the informal economy through tax rate reduction is shown in the ILO report (2014). This report indicates that some countries have initially obtained positive signs when creating special tax regimes for businesses through a combination of reducing tax rates, flat tax and integrating multiple taxes in one payment. Also, according to ILO (2014), Brazil's IME Law allows personal accounts of employees with annual turnover up to a certain ceiling will pay a fixed monthly amount in place of social security contributions and certain taxes, and they are also tax exempt.

4.2. Restricting cash transactions

Schneider & Buehn (2018) argues that transactions are made in the form of cash payments so as not to leave a trace for the authorities. Other studies on cash transactions, such as Cagan (1958) & Tanzi (1980, 1983), also agree that an increase in the size of the hidden economy will increase the demand for cash and vice versa. Therefore, limiting cash transactions by requiring the use of credit and debit cards in all activities, such as income receiving, paying for consumption and interest, and so on, as an alternative to cash would make transactions in the informal economy more difficult. We also think that this is a very important solution for economies with a strong habit of using cash

in most transactions like Southeast Asia, and restricting cash transactions is even more valuable for the effective management of the underground economy in these countries.

Indeed, the mandatory adoption of electronic payments for wages and earnings in some countries has shown positive results in reducing the size of the informal economy (Prince & Fantom, 2014). EY (2019) also estimates that the size of the underground economy will decrease by about 0.28% of GDP in Poland; 0.13% of GDP in the Czech Republic; and 0.1% of GDP in Bulgaria when these countries adopt the regulation of payment of salaries through bank accounts. Compulsory electronic payments in pensions could reduce the size of the hidden economy by about 0.59% of GDP in Poland; 0.47% of GDP in the Czech Republic; 0.45% of GDP in Slovakia; 0.31% of GDP in Croatia; 0.18% GDP in Slovenia and 0.16% GDP in Bulgaria. Compulsory electronic payment of unemployment benefits could also reduce the size of the informal economy by 0.013% of GDP in Slovakia and 0.011% of GDP in the Czech Republic (State Treasury Web Portal, 2019).

Therefore, we believe that restricting circulation and holding cash can be implemented through compulsory payment by electronic payment gateways for goods and services purchase and sale transactions, for salary and other income, and for social security payments. This will save detailed documents, making those transactions not as easy to conceal as cash payments. At the same time, it also binds the actors involved in the economy by stricter tax compliance responsibilities, increasing tax fairness and thus having an effect on reducing the size of the informal economy.

4.3. Minimising tax compliance costs

Given the costs of tax compliance in the formal economy (including those in the form of corruption and fees incurred as a result of cumbersome procedures), Hirschman (1970) argues that people chose to "get out" from the formal economy instead of "speak up" demanding more appropriate changes. Hence, reducing compliance costs and complexity in business registration and tax compliance process is seen as important in removing barriers to the partial formalisation of the informal economy (Joshi et al., 2014).

In the same opinion, the World Bank (2018) makes recommendations to increase the size of the formal economy by simplifying business registration and reforming the business environment. We believe that the active application of automatic registration and electronic tax payment services will significantly save costs and time to comply with tax procedures and reduce tax administration costs, thereby reducing the tax burden for taxpayers.

4.4. Completing tax policies and laws

After all, the above-mentioned causes of the tax

burden, tax compliance costs or cash transaction pressure all stem from the macro issue of tax policy and law. Joshi et al. (2014) once concluded that more or less the cost of tax compliance really lies in the complexity of tax laws. Schneider & Buehn (2018) also identified the factors affecting the hidden economy as the tax and regulatory policies of the state, which, if increased, would increase the size of this economic sector. According to the International Monetary Fund (IMF), the informal economy usually thrives in economies with many legal regulations (but weak management mechanisms). In contrast, the size of the hidden economy is often much smaller in countries with low taxes, few regulations, and strict and effective management mechanisms. Therefore, it can be considered that perfecting tax policy and law is a dual solution because it protects and facilitates the development of the formal economy on the one hand and on the other hand, is the most powerful tool for dealing with tax evasion and other violations.

The research results we have in some Southeast Asian countries are quite similar to the previous studies in that if other factors are not taken into account the country with more inclusive legislation, the higher the underground economy's contribution to GDP (Johnson et al., 1997, 1998). It is clear that an increase in the number of legal regulations will narrow individuals' choices in the formal economy (Schneider & Enste, 2000). Thus, it is the cumbersome and fragmented system of tax laws and policies that make people afraid to participate in the formal economic market and tend to avoid that trouble by operating in the informal economic sector.

The evidence is that in Germany, policies and regulations from the government have increased the cost of labour in the formal economy, leading to the fact that business owners have to face high labour costs and they have to seek the way to reduce the number of workers (Vo & Ly, 2014). This gives workers and even businesses an incentive to switch to working in the hidden economy and increase the size of this sector in this country.

A strong and effective system of policies and laws will provide a stable framework for economic activities (Easterly & Levine, 1997; North, 1990). In order to perfect tax policies and laws, the state must first build a system of regulations with a small number but with sufficient and clear adjustment content. Legislative laws in some Southeast Asian countries, typically Vietnam, only allows people to comment on laws, while sub-law documents have almost no participation from individuals or business. Therefore, it is necessary to have specific policies to encourage subjects directly affected by tax laws to participate in the legal development process to ensure the feasibility of such documents.

In summary, these solutions are expected to solve

the complexities and overlaps of tax laws and policies that are indirectly affecting the tax burden and the size of the economy. At the same time, these solutions also aim to build neater and more appropriate tax legislation with higher enforcement and to minimise the tax gap between the two economies, formal and informal, in Southeast Asian countries.

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FINANCIAL TRANSPARENCY IN GOVERNMENT AND INDUSTRY: DETERMINANTS AND IMPLICATIONS IN INDONESIA

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Research purpose:

The purpose of this paper is to identify financial transparency practices in both government and industry. This paper also analyzes the factors that influence the realization of financial transparency and explains about the current practice of financial transparency.

Research motivation:

The motivation of this paper is to add the study of literature related to financial transparency and its practice in government and industry.

Research design, approach, and method:

This research contributes to improving the study of financial transparency and its practice in government and industry. This journal is a qualitative literature study with data sources from fifty journals with additional sources from the internet and infographic websites..

Main findings:

We find that a high level of transparency reduces information asymmetry between management and stakeholders. In addition, there are three main dimensions of transparency, such as disclosure, clarity, and accuracy which are the main keys in our research so that we can compare two retail companies in Indonesia with those abroad, namely Hypermart and Target. The results of this study indicate that the practice of transparency in Indonesia is good and is planned to continue to increase and in accordance with applicable regulations. In addition, it is proven that although there are still few, many companies in Indonesia are transparent and not only as compliance but because they feel responsible to the public.

Practical/managerial implications:

This paper will show the differences between existing transparency practices in government organizations and industrial companies both from a legal perspective and from their implementation in Indonesia. This paper will also show a comparison of disclosures made by retail companies in Indonesia and abroad from the perspective of the annual report.

Keywords: *Transparency, Disclosure, Information Asymmetry, Financial Statements, Agency Theory, Signal Theory.*

THE EFFECT OF BIG DATA ANALYTICS CAPABILITY ON SUPPLY CHAIN PERFORMANCE AND MODERATING EFFECTS OF PARTNERSHIPS

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Research purpose:

This study investigates the effect of big data analytics capability (BDAC) on supply chain performance and the moderating effect of supply chain partnerships.

Research motivation:

The COVID-19 pandemic has brought about fundamental business changes. However, businesses recently benefited from the Industry 4.0 phenomenon, which has expanded and forced companies to utilize digital technology to survive the crisis. There needs to be a study to ensure that digital technology, namely big data analytics capability (BDAC), can improve the company's supply chain performance.

Research design, approach, and method:

This study employs a quantitative approach using a survey and obtained 130 respondents representing various manufacturing companies in Indonesia. Data were analysed using hierarchical regression analysis.

Main findings:

Of the three dimensions of BDAC, only two improve supply chain performance, namely human resources and intangible capabilities, while the third element, tangibles, is not. In addition, partnerships with supply chain partners directly improve performance but do not affect the relationship between BDAC and firms' supply chain performance.

Practical/managerial implications:

This research suggests that managers improve supply chain performance through BDAC implementation, especially the human resources and intangibles capabilities.

Keywords: *Big data analytics capability, Industry 4.0, Supply chain partnerships, Supply chain performance.*

THE EFFECT OF LOGISTICS SERVICE QUALITY ON CUSTOMER SATISFACTION WITH DEMOGRAPHIC FACTORS AS A MODERATING VARIABLE

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E-commerce is one of the factors which has the biggest opportunity due to pandemic COVID-19. Indonesia generates the highest growth of e-commerce in the world. On the other hand, speed and convenience become more important to consumers. When they buy products online, consumers expect a quick delivery, various shipping options, and updated information regarding their order. To meet consumers' needs, e-commerce needs to adapt and carry out a new strategy by developing a new model named quick commerce. One of the important keys that could be a competitive advantage to a company is logistics service quality, consisting of personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order discrepancy handling, and timeliness. Furthermore, this research used demographic factors as moderator.

Research purpose:

This study aims to determine the factors of logistics service quality which improve customer satisfaction. Moreover, this study examines demographic factors which have a moderating role in relationship between logistics service quality and customer satisfaction.

Research motivation:

Quick commerce is a new resolution of e-commerce that might be growing as time goes by. However, research related quick commerce in Indonesia is still limited.

Research design, approach, and method:

The sample size is 349 respondents which have used quick commerce minimum three times for the past six months and live in Java Island. JASP version 16 is used to process data.

Main findings:

The findings show that Logistics service quality positively affects customer satisfaction for quick commerce in Java, especially personnel contact quality, order release quantities, information quality, ordering procedures, order conditions, and timeliness. This study also indicates that age has a significant effect as a moderating variable of the relationship between logistics service quality to customer satisfaction.

Practical/managerial implications:

Companies can increase customer satisfaction based on several logistics service quality factors, such arrange courier training regarding how to treat customers, provide recommendations for similar products if the particular product is not available, assure the order will be arrived in customer's hand in a short time and safely.

Keywords: *logistics service quality, personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order discrepancy handling, timeliness, demographic factor, gender, age, income*

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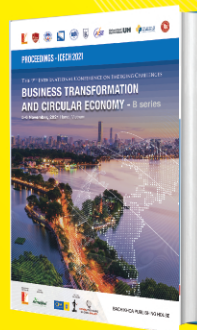
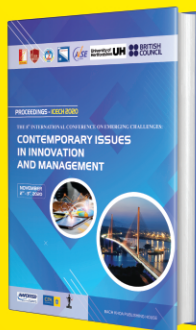
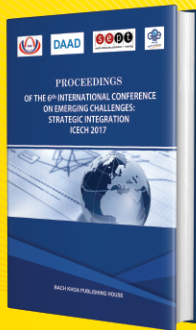
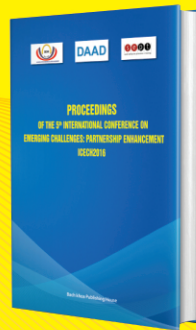
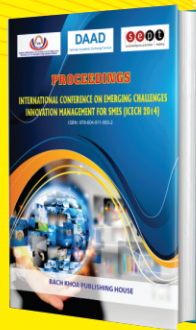


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