

Using Digital Technology in Corporate Management Accounting: Evidence in Vietnam

Oanh Thi Tu LE¹; Nhung Thi Hong PHAM²; Linh Thi Tu LE³

^{1*,3}University of Labour and Social Affairs, Hanoi, Vietnam

²Joint Stock Commercial Bank For Foreign Trade of Vietnam, Hanoi, Vietnam

Date of Submission: 15-10-2023

Date of Acceptance: 25-10-2023

ABSTRACT

The study aims to evaluate the current state of digital transformation in management accounting of Vietnamese businesses according to criteria including (1) Digital transformation strategy, (2) Digital infrastructure and technology, (3) Digital experience for customers, (4) Digital operations, (5) Digital transformation of corporate culture, (6) Data and digital information assets for decision making. The research was conducted by a survey questionnaire sent to accountants and business managers in Hanoi City, Vietnam. Data were analyzed with descriptive statistics from 320 valid questionnaires. The results show that businesses are making efforts to implement digital transformation in management accounting to adapt and develop. Basic accounting transactions using technology such as electronic invoices, digital signatures, electronic payments, electronic declaration, and payment of social insurance taxes are implemented by 100% of businesses. Higher levels of digital transformation in management accounting with advanced technologies such as Blockchain, data, and AI are activities that businesses are promoting, while comprehensive digital transformation such as automating transactions with customers and partners, exploiting internal and external data, analyzing and predicting market capacity and demand for advanced technologies are also strategic goals for businesses in the future.

Keywords: Digital transformation, Management accounting, Vietnam.

I. INTRODUCTION

In the face of constant fluctuations and changes in the economy due to the impact of epidemics, wars, and energy crises, the choice of digital transformation and the use of artificial intelligence in business operations of Enterprise is inevitable. According to the World Economic

Forum, the COVID-19 pandemic creates a very strong impetus for the digitalization of the business world: more robots and Artificial Intelligence, fewer manual tasks. About 77% of companies and projects related to digital transformation had to be overhauled because of the COVID-19 health crisis (Feghali, K. et al., 2022). Accounting is one of the fields greatly affected by the digital transformation trend. Management accounting plays the role of providing information to make the best decisions in the future of organizations. Digital transformation of management accounting will help managers increase organizational performance by clearly assessing economic impacts and appropriate decision-making.

Digital transformation in business is the process of applying digital technology to a business's operations, to change the way it operates, and the business model and bring customers new products and services - the best. Digital transformation is a process of changing existing methods and models using the latest information technology to generate real-time information for quick decision-making (Zeltser et al., 2019). Digital transformation requires businesses to always be creative and innovate processes to quickly access modern trends. Digital transformation accounting refers to creating and transferring information in the form of electronic data instead of using paper. All accounting transactions are conducted in an electronic environment. Technological advances have enhanced accountants' ability to interpret and report with faster, more efficient data (Troshani et al., 2019). Therefore, digital transformation in management accounting is the application of digital technologies to provide accounting information to business administrators to make the information faster, more appropriate, and effective while also optimizing the information, saves manpower, time, and costs for businesses.

On December 13, 2021, the Minister of Information and Communications of Vietnam issued Decision No. 1970/QD-BTTTT Regulating the index to evaluate the level of enterprise digital transformation. According to this Decision, the index to evaluate the level of enterprise digital transformation is structured according to 06 pillars: (1) Digital experience for customers, (2) Strategy, (3) Digital infrastructure and technology, (4) Operations, (5) Digital transformation of corporate culture and (6) Data and information assets. In this article, we review the current status of digital transformation in the management accounting of

businesses in Hanoi, Vietnam according to criteria including (1) Digital transformation strategy in enterprise management accounting; (2) Infrastructure and digital technology in collecting and receiving information, making reports and storing; (3) Digital experience for customers through exchanging accounting information such as electronic invoices and reports; (4) Digital operations related to the process and content of collecting and processing accounting data; (5) Digitally transforming corporate culture through technology use and investment; (6) Data and digital information assets for decision making.

II. RESEARCH METHODS

Research process

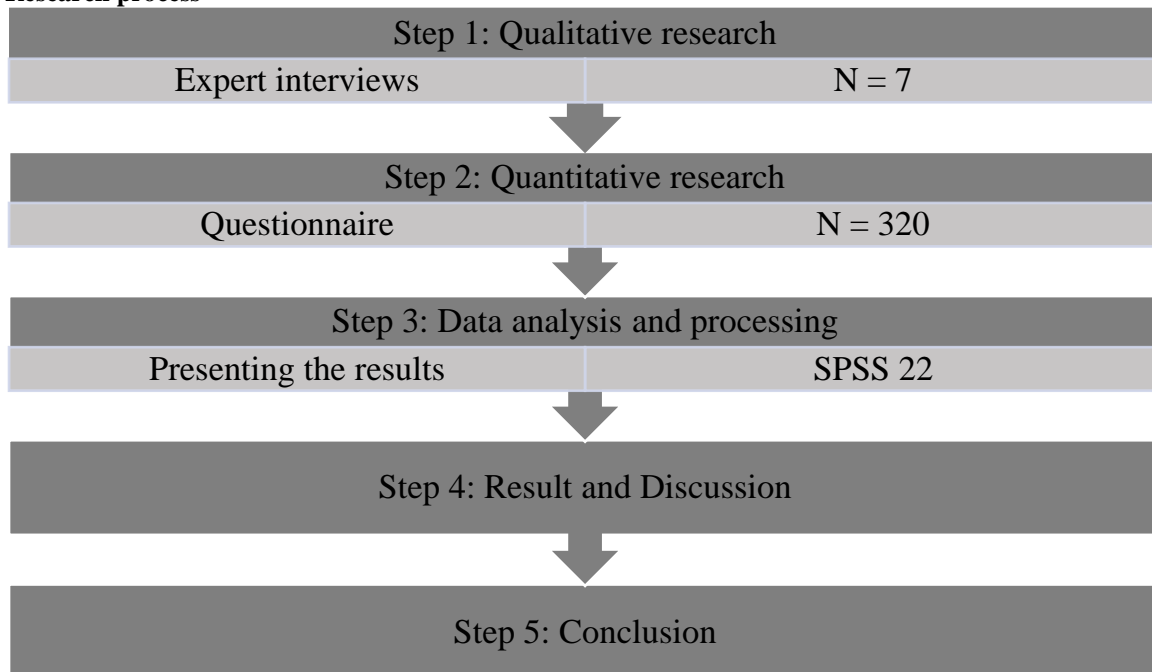


Fig.1. Research process

(Source: Prepared by authors, 2023)

The stages of implementation from data collection, and processing to analysis are as follows:

Step 1: Based on the set of indicators to evaluate the general level of digital transformation of Vietnamese enterprises and inheriting the measurement scales of previous studies on digital transformation in accounting, we built a questionnaire on Google Forms, Conducted discussions with experts, including 02 business directors, 02 chief accountants of the business and 02 scientists who are lecturers at the University of Labor and Social Affairs. Based on the results of the discussion, we have adjusted the measurement scale to conduct an official survey. The official questionnaire was sent to accountants and business

managers in Hanoi City via email using a convenient sampling method from friends, relatives, and partners...

Step 2: Data collected 320 votes. After encoding and cleaning the data, these votes are valid for analysis.

Step 3: Analyze data on SPSS 22 software to analyze descriptive statistics according to the built indicators and scales.

Step 4: Analyze and discuss research results

Step 5: Conclusion

Research scale

The questionnaire is designed to evaluate digital transformation in enterprise management

accounting based on the set of indicators to assess the general level of digital transformation of enterprises according to Decision No. 1970/QĐ-BTTTT dated December 13 /2021 by the Minister of Information and Communications of Vietnam. To have a more specific basis for evaluation in the field of management accounting, we consider and selectively inherit 04 scales of Nasiri, M. et al. (2020). Additionally, Nwankpa and Roumani (2016) adapted a scale based on three items from Aral, S. and Weill, P. (2007). The study by ShehadehM., et al. (2023) adapted both sets of scales above and presented a revised scale for digital transformation based on seven items because previous scales were insufficient to explore the broad concept of digital transformation. In this study, we synthesize the scales inherited from ShehadehM., et al. (2023) and add additional scales in the study of Hasan, M. S. (2023); Phornlaphatrachakorn, K., and Khajit, N. K. (2021); Feghali, K., Matta, J., & Moussa, S. (2022). The scales of "Digital transformation in management accounting" aim to address the research objective of assessing the current status of digital transformation in the management accounting of businesses.

Research sample

Of the total 320 enterprises, there are 170 small and medium-sized enterprises with fewer than 100 employees (53.1%), 85 large-scale enterprises with 100 - 200 employees (26.6%), and 65 large-scale enterprises with over 200 employees (20.3%). In terms of years of operation, businesses

from 5-10 years account for the largest proportion (139 businesses; 43.4%), followed by businesses over 10 years (101 businesses; 31.6%), businesses under 5 years (25%). In terms of ownership form, 256 enterprises are private enterprises (80%), 28 enterprises are state-owned enterprises (8.8%), and 23 enterprises have foreign investment capital (7.2%), other enterprises account for the smallest proportion (4.1%). In terms of business fields, 172 enterprises operate in the field of trade and services (accounting for 53.8%), 53 manufacturing enterprises (16.6%), and 35 enterprises operate in the construction field (10.9%), 18 enterprises operating in the field of information technology (5.6%), and 42 enterprises operating in other fields such as healthcare, education... (13.1%).

III. RESEARCH RESULTS

Digital transformation strategy in management accounting

To evaluate the digital transformation strategy in management accounting, we evaluate whether the business has built, reviewed, and had a digital transformation plan in management accounting. Specific contents include (1) businesses aiming to digitize everything possible in accounting-related work; (2) businesses aiming to exchange information digitally; and (3) businesses wanting to create stronger connections between business processes and accounting processes using digital technology. The results are shown in Table 1.

Table 1. Digital transformation strategy in management accounting

Strategy for using digital transformation	Cod	Percentage(%)					From agree upwards	
		Mean	very disagree	Disagree	Medium	Agree		Very agree
			S1	S2	S3	S4		S5
1. We aim to digitize everything possible in accounting work	DT01	3.94	5.3	.6	15.0	52.8	26.3	79.1
2. We aim to exchange information digitally	DT02	4.04	3.8	2.8	9.7	53.4	30.3	83.8

3. We aim to create a stronger connection between business processes and accounting processes using digital technology	DT03	4.08	4.7	1.9	8.4	50.9	34.1	85.0
--	------	------	-----	-----	-----	------	------	------

(Source: Prepared by authors, 2023)

Table 1 shows that the digital transformation strategies in management accounting of businesses all reach a level of agreement or higher from 79.1% to 85%, corresponding to an average value of 3.94 to 4.08. Businesses have plans for digital transformation with pressure from written regulations promoting digital transformation to awareness to grasp and take advantage of digital transformation in providing information. Business priorities are heavily focused on business processes and accounting processes, while plans to deploy comprehensive digital information and accounting-specific tasks are ranked lower.

Digital technology infrastructure

Digital transformation technology infrastructure in management accounting is considered according to (1) the Internet connection index; and (2) Information technology infrastructure (basic and advanced).

The internet connection index for electronic tax declaration, electronic invoice issuance, electronic tax payment, and financial reporting systems is now mandatory for businesses. According to Decree No. 123/2020/ND-CP, from July 1, 2022, businesses nationwide must apply electronic invoices, except for some cases such as small and medium-sized enterprises and cooperatives. , households and individuals doing business in areas with difficult socio-economic

conditions, especially difficult to conduct transactions with tax authorities by electronic means,... Hanoi is the capital of Vietnam Therefore, the process of implementing the Government's regulations has been implemented. 100% of businesses must convert paper invoices to electronic invoices before December 31, 2021. Therefore, businesses in the city. Up to now, 100% of Hanoi has an internet connection to ensure the implementation of the above basic accounting tasks.

Basic information technology infrastructure includes electronic records storage solutions; Electronic bills; Information sharing solutions; Submitting tax declarations and accounting reports, digital data in accounting is also accepted by 100% of businesses in the city. Hanoi implemented. With basic infrastructure, the work of international accounting is similar, 100% of businesses in the city. Hanoi is assessed for its level of information technology infrastructure response in digital transformation.

Advanced information technology infrastructure includes Cloud computing applications, Blockchain technology applications, Artificial intelligence (AI), and Big data collection. These technological infrastructures applied in business activities of enterprises in general and in accounting work, in particular, are shown in Table 2.

Table 2. Information technology infrastructure for digital transformation

Information technology infrastructure	Cod	Mean	Percentage (%)					From agree upw ards
			Very disag ree	Disagr ee	Mediu m	Agree	Very agree	
			S1	S2	S3	S4	S5	
1. We use accounting software to update accounting operations	DT05	4.14	4.4	1.6	7.5	49.1	37.5	86.6

2. We are promoting the processing and analysis of accounting information based on cloud computing	DT08	3.94	4.1	4.1	12.5	52.8	26.6	79.4
3. We are promoting the processing and analysis of accounting information based on Blockchain technology	DT09	3.91	4.1	5.3	10.9	55.0	24.7	79.7
4. We collect huge amounts of data (Big Data) from many different sources for accounting reports	DT04	3.97	5.0	3.8	13.4	44.7	33.1	77.8
5. We are promoting the processing and analysis of accounting information based on artificial intelligence (AI)	DT10	3.69	4.7	7.2	24.1	42.5	21.6	64.1

(Source: Prepared by authors, 2023)

Table 2 shows that the majority of businesses are using accounting software to collect, process information, and prepare accounting reports, with an agreement level of 86.6% or higher, an mean is 4.14, and a disagreement level is only 6%. All advanced information technology applications such as cloud-based accounting software, processing and analyzing accounting information rely on Blockchain technology, collecting huge volumes of data (Big Data) from many different sources to serve accounting work is focusing on promotion, with the level of agreement upwards from 77.8% to 79.7%, the mean from 3.91 to 3.97. Also promoting the processing and analysis of accounting information based on an artificial

intelligence (AI) platform was approved by 64.1% of businesses or more (mean 3.69), showing that this content will be given less priority by businesses than the above technologies.

Digital experience for customers

To evaluate this content applied to digital transformation in management accounting, we consider four criteria: (1) Frequency of professional interactions with other businesses in the digital environment; (2) Frequency of professional interactions with state agencies in the digital environment; (3) Frequency of using online banking services by businesses; (4) The extent to which businesses shop for goods online.

Table 3. Digital experience for customers

Digital experience for customers	Cod	Mean	Percentage(%)					From agree upwards
			Very disagree	Disagree	Medium	Agree	Very agree	
			S1	S2	S3	S4	S5	
1. We use digitized documents (receipts, payments, payroll) from the software	DT06	4.03	5.3	2.5	9.1	49.7	33.4	83.1

2. We use electronic signatures and conduct online transactions	DT07	4.02	4.4	2.8	10.3	51.3	31.3	82.5
---	------	------	-----	-----	------	------	------	------

(Source: Prepared by authors, 2023)

Regarding the frequency of professional interactions with other businesses in the digital environment, this content of accounting is expressed through sales transactions using electronic invoices. As analyzed in the digital technology infrastructure section, 100% of businesses in Hanoi City must issue electronic invoices from July 1, 2022. Therefore, the frequency of professional interactions With other businesses in the digital environment, it is considered that 100% of businesses are conducted from electronic invoice issuance.

Regarding the frequency of professional interactions with state agencies in the digital environment, implementing the policy of administrative reform, and modernization of tax management, the General Department of Taxation has deployed many information technology applications to serve industry work in general and taxpayer support in particular. On February 9, 2014, the electronic tax payment program was officially launched. Since then, the General Department of Taxation has always actively upgraded infrastructure and information technology so that the electronic tax payment system operates quickly and stably, ensuring safety and maximum support for taxpayers participating in electronic tax payments. death. According to statistics from the General Department of Taxation, as of September 2022, 99.93% of businesses nationwide have made electronic tax declarations. Up to now, interaction with state agencies in the digital environment of businesses in Hanoi city in the field of accounting has been guaranteed by nearly 100% of businesses. In addition, accounting documents such as receipts, and payment slips... are also printed from accounting software by businesses with an agreement level of 83.1% or higher, about 7.8% of businesses have not printed from accounting software math (Table 3).

The frequency of using online banking services by businesses and making online purchases of goods through electronic signatures are widely used by businesses, the level of agreement or higher is 82.5%, about 7.2% of businesses not yet implemented (Table 3).

Digital operation

Evaluate the digital operations of enterprises related to the process and content of collecting and processing accounting data.

Operations in small businesses include the use of digital signatures, electronic invoices, electronic banking, work management, and document recording. Medium and large enterprises implement more broadly such as electronic signing, financial planning, financial analysis, electronic document storage, internal communication... Table 1 shows that 85% of businesses achieved the same level. or more for the assessment of creating a strong connection between business processes and accounting processes using digital technology. Table 2 shows that the majority of businesses use accounting software to update operations with an agreement level of 86.6%. Businesses are also making efforts to promote investment and information processing based on high-tech infrastructure such as cloud computing, Blockchain, and Big data with a level of agreement or higher from 77.8% to 79.7%. The collection of electronic invoices has been done 100% with businesses. Online transactions, electronic signatures with online buying and selling activities, and transactions with banks in Table 3 show that the level of agreement or higher is 82.5%.

Corporation Digital culture

Similar to the above assessments, accounting work is performed by 86.6% of businesses on accounting software, and accounting work is all related to receiving or making electronic invoices and declarations. Electronic taxes as well as financial reports should be considered according to this criterion, the level of digital transformation in accounting in general and management accounting in particular is fully implemented by businesses.

Data and digital information assets for decision-making

Regarding data use and management, according to the analysis of Table 2, businesses use and manage data with basic technologies through accounting software to update (86.6%). Advanced information technologies such as Blockchain cloud computing, Big data, and AI are at a stage where businesses are promoting to process and analyze information with an average value from 3.69 to 3.97. Details of exploiting and using data to analyze data for decision-making will be reviewed in detail in Table 4.

Table 4. Digital information for decision-making

Digital information for decision-making	Cod	Mean	Percentage (%)					
			Very disagree	Disagree	Medium	Agree	Very agree	From agree upwards
			S1	S2	S3	S4	S5	S4&S5
1. We are promoting the integration of digital technologies such as cloud computing, Big Data, Blockchain, and AI for reporting and information analysis.	DT11	3.80	5.6	7.2	16.3	43.8	27.2	70.9
2. We are using digital accounting as an effective tool to allocate assets and resources.	DT12	3.91	4.4	3.8	14.7	50.6	26.6	77.2
3. We are using digital accounting to optimize the decision-making process.	DT13	3.91	5.3	2.8	12.8	54.1	25.0	79.1

(Source: Prepared by authors, 2023)

Table 4 shows the use and management of digital information data in the management accounting of businesses. Businesses that are using digital accounting to optimize decisions and use digital accounting as an effective tool to allocate resource assets account for 79.1% and 77% agree or higher, while the proportion of businesses not ready to implement is less than 10%. The use of digital technologies such as cloud computing, Big data, Blockchain, and AI to serve the preparation and analysis of accounting information is also of interest to businesses with an agreement level of above 70.9%. Not yet prepared to digitize this content accounts for 12.8%. Thus, the use of digital accounting in decision-making has been of great interest to businesses and is promoting the application of high technology to optimize accountants' work and improve decision-making efficiency.

IV. DISCUSSION AND CONCLUSION

Assessing the current status of digital transformation in management accounting of enterprises in the Hanoi city, Vietnam according to criteria including (1) Corporate strategy in management accounting of enterprises; (2) Infrastructure and digital technology in collecting and receiving information, making reports and storing; (3) Digital experience for customers

through exchanging accounting information such as electronic invoices and reports; (4) Digital operations related to the process and content of collecting and processing accounting data; (5) Digitally transforming corporate culture through technology use and investment; (6) Data and digital information assets for decision making. The results show that businesses in the city. Hanoi and Vietnam have both been active in promoting digital transformation in general and digital transformation in international economics in particular.

Regarding digital transformation strategies in management accounting, businesses all rated from 79.1% to 85% agree or higher (mean from 3.94 to 4.08). This shows that businesses have plans for digital transformation due to pressure from written regulations as well as awareness of the benefits of digital transformation to improve the quality of accounting information for decision-making.

Regarding technological infrastructure for digital transformation, basic information infrastructure such as electronic records; Electronic bills; Submitting tax declarations and accounting reports, insurance, and digital data in accounting is also accepted by 100% of businesses implemented. Up to now, 100% of Hanoi enterprises have an internet connection to ensure the implementation of the above basic accounting tasks. With basic

infrastructure, the work of management accountants is similar, 100% of businesses in the Hanoi city is assessed for its level of information technology infrastructure response in digital transformation. Regarding advanced information technology infrastructure such as Cloud Computing Applications, Blockchain, and Big Data to serve accounting work, businesses are focusing on promoting adoption (from 77.8% to 79.7%). Also promoting the processing and analysis of accounting information based on artificial intelligence (AI) platforms is rated lower at 64.1%.

Regarding digital experience for customers, the frequency of professional interactions with other businesses in the digital environment is assessed to be 100% of businesses conducted from issuing electronic invoices according to the provisions of Vietnamese Law. Frequency of interactions with state agencies in the digital environment of businesses in Hanoi city that perform 100% of tax declaration, payment, and financial reporting electronically. Accounting documents such as receipts, and payment slips... are also printed by many businesses from accounting software, with an agreement level of 83.1%. The frequency of using online banking services by businesses and making online purchases of goods through electronic signatures is 82.5%.

Regarding digital operations of businesses related to the process and content of collecting and processing accounting data, 85% of businesses reached an agreement level or higher with the assessment of creating strong connections between processes doing business with accounting processes using digital technology, 86.6% of businesses use accounting software to update and process accounting information. The collection of electronic invoices has been 100% implemented. Online transactions, electronic signatures with online buying and selling activities, and transactions with banks are 82.5%.

Digital transformation of corporate culture in the field of accounting in general and international accounting, in particular, is being strongly implemented through statistics from using accounting software tools at 86.6% and electronic tax payment transactions, electronic banking 100%, electronic banking transactions at 82.5%.

Regarding data and digital information assets for decision-making, businesses mainly use basic technologies through accounting software (86.6%). Advanced information technologies such as Blockchain cloud computing, Big data, and AI are at a stage where businesses are promoting to

process and analyze information (mean from 3.69 to 3.97).

The above results show that businesses in the Hanoi city, Vietnam is making efforts to implement digital transformation in business activities, in accounting in general and in management accounting in particular to adapt and develop. These results correspond to the basic level of digital transformation to perform accounting transactions such as electronic invoices, digital signatures, electronic payments, electronic declaration, and payment of social insurance taxes along with interactions between accounting activities and other management and business activities of the enterprise. Higher levels of transformation digital in accounting to automate data entry, documents, and invoices, connect banks, and electronics, automatically check, and correct invoices, and exchange information and documents with customers. customers... with advanced technologies such as Blockchain, data, and AI are activities that businesses are promoting to achieve. Comprehensive digital transformation such as automating transactions with customers and partners, exploiting internal and external data, and analyzing and predicting capacity and market demand of advanced technologies are also strategic goals for businesses in the future.

The research results open up a picture of the current status of digital transformation in the field of management accounting of businesses in the Hanoi city of Vietnam. Based on this result, businesses as well as Vietnamese authorities will have information from which to evaluate the results achieved from the process of efforts to implement digital transformation for businesses of the Vietnamese Government and at the same time also consider challenges and barriers to this work to take timely corrective measures. To have a basis for proposing solutions, research to evaluate factors affecting digital transformation in the field of management accounting of businesses is a suggestion for further research.

REFERENCES

- [1]. Adıgüzel, Selminaz. (2020). THE IMPACT OF THE NEW WORLD ORDER TRADE WARS ON THE ECONOMY THE İIype Cetinje, Montenegro, isbn 978-9940-46-009-9.
- [2]. Aral, S., & Weill, P. (2007). IT assets, organizational capabilities, and firm performance: How resource allocations and organizational differences explain performance variation. *Organization science*, 18(5), 763-780.

- [3]. Feghali, K., Matta, J., & Moussa, S. (2022). Digital transformation of accounting practices and behavior during COVID-19: MENA evidence. *Accounting and Management Information Systems*, 21(2), 236-269.
- [4]. Hasan, M. S. (2023). The Impact of Digital Transformation on the Quality of Financial Reports a Field Study in a Sample of Banks Listed in the Iraqi Stock Exchange. *American Journal of Business Management, Economics and Banking*, 8, 101-120.
- [5]. Nasiri, M., Ukko, J., Saunila, M., & Rantala, T. (2020). Managing the digital supply chain: The role of smart technologies. *Technovation*, 96, 102121.
- [6]. Nwankpa, J. K., & Roumani, Y. (2016). IT capability and digital transformation: A firm performance perspective. *Thirty Seventh International Conference on Information Systems, Dublin 2016*, 1-16.
- [7]. PHORNLAPHATRACHAKORN, K., & Khajit, N. K. (2020). Strategic management accounting and firm performance: Evidence from finance businesses in Thailand. *The Journal of Asian Finance, Economics and Business*, 7(8), 309-321.
- [8]. PHORNLAPHATRACHAKORN, K., & KALASINDHU, K. N. (2021). Digital accounting, financial reporting quality and digital transformation: Evidence from Thai listed firms. *The Journal of Asian Finance, Economics and Business (JAFEB)*, 8(8), 409-419.
- [9]. Shehadeh, M., Almohtaseb, A., Aldehayyat, J., & Abu-ALSondos, I. A. (2023). Digital Transformation and Competitive Advantage in the Service Sector: A Moderated-Mediation Model. *Sustainability*, 15(3), 2077.
- [10]. Troshani, I., Locke, J., & Rowbottom, N. (2019). Transformation of accounting through digital standardisation: Tracing the construction of the IFRS taxonomy. *Accounting, Auditing & Accountability Journal*, 32(1), 133-162.
- [11]. Vietnamese Information and Communications (2021). Decision No. 1970/QD-BTTTT. Regulating the index to evaluate the level of enterprise digital transformation issued on December 13, 2021. Accessed on 05 October 2023 from <https://thuvienphapluat.vn/van-ban/Doanh-nghiep/Quy-dinh-1970-QD-BTTTT-2021-xac-dinh-Chi-so-danh-gia-muc-do-chuyen-doi-so-doanh-nghiep-497354.aspx>
- [12]. Zeltser, R. Y., Bielenkova, O. Y., Novak, Y., & Dubinin, D. V. (2019). Digital transformation of resource logistics and organizational and structural support of construction. *Science and innovation*, 15(5), 38-51.