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Research on Digital Conversion in Management Accounting of Small and Micro-Small Enterprises in Hanoi

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Abstract

In the modern era, digital transformation is no longer an option but a necessity for all businesses. However, each enterprise approaches and achieves digital transformation differently, influenced by various factors such as financial capacity, industry, and business objectives. This diversity is particularly evident when comparing businesses of different sizes and sectors. This research addresses the following questions: What is the current state of digital transformation in management accounting practices among small and micro enterprises in Hanoi? How does digital transformation impact the quality of management information and business performance of these enterprises? This study employs a descriptive statistical method combined with primary and secondary survey data through a linear regression model to identify the digital transformation factors affecting management accounting in small and micro enterprises.

Keywords: digital transformation, management accounting, small and micro enterprises

1. INTRODUCTION

Accounting is an essential and indispensable part of every business, whether large or small, including production and business activities in any field. In particular, management accounting is a popular branch of accounting and is becoming a new trend in modern accounting. Unlike financial accounting, management accounting only provides financial and non-financial information within the internal scope of the enterprise. The information that management accounting provides is highly confidential and meaningful. It has great significance for each administrator in building and adjusting business plans and strategies, operating, and making the right management decisions when operating a business. Management accounting requires highly specialized human resources, and information must be delivered promptly to administrators. With such businesses' vast amounts of information, digital transformation is a golden solution. It is most effective at present.

Digital transformation in the 4.0 industrial era is no longer a strange term for many businesses in Vietnam. Implementing digital solutions is becoming an inevitable trend to improve operational performance and compete in the market. By applying digital transformation, businesses take advantage of new technologies and open up many new development opportunities. From automating production processes to optimizing data management and customer interactions, digital transformation helps companies increase flexibility, efficiency, and creativity in business operations. The fact that companies adapt and innovate through digital transformation is not only in their interests but also has a positive impact on the country's economy. By improving labor productivity, creating value-added products and services, and enhancing competitiveness in the international market, digital transformation is an indispensable part of promoting development—sustainable development of Vietnam's economy.

However, not all businesses have enough resources and financial capacity to apply digital transformation to their operating processes. Depending on each business's capabilities, the application level is also different. With many

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companies ranging from business lines, organizational scales, and forms of operation, it is difficult for us to expressly point out the proportion of the companies that have been applying digital transformation effectively. Comprehensively or partially used, even just at the level of basic research and conversion, such as entering information on a set of documents into an internal computer. Furthermore, there are currently very few studies on digital transformation in management accounting at small and micro enterprises in the Northern region and Hanoi city. Most studies on this topic often focus on large-scale enterprises, foreign-invested enterprises, or enterprises in developed countries such as the US, UK, Germany, and Japan.

Because of the above limitation, the author researched the topic "Digital transformation in management accounting at enterprises" to determine the current status of digital transformation at small and micro enterprises in the locality. Hanoi city desk, thereby providing proposals to promote the digital transformation process in management accounting and the general accounting department.

2. LITERATURE REVIEW

In the Fourth Industrial Revolution era, digital transformation has become an inevitable trend across all sectors, including management accounting. For small and micro enterprises in Hanoi, adopting digital technologies in accounting management is crucial for enhancing operational efficiency and survival in a highly competitive business environment. However, the digital transformation process in management accounting within these enterprises faces numerous challenges, mainly due to limited resources and technological expertise. This literature review explores the current state of digital transformation in management accounting among small and micro enterprises in Vietnam and internationally. By analyzing the challenges these businesses face, this review aims to identify potential strategies and best practices that can support them in optimizing their digital transformation efforts.

2.1 Theoretical Basis of Management Accounting

Accounting is an indispensable part of the organizational structure of businesses. The three main fields most commonly found in accounting include financial accounting, management accounting, tax accounting, and other fields such as cost accounting. Financial accounting is probably an unfamiliar field for business people and accountants. This is a field that is taught throughout universities. Accountants and interns will first come into contact with this field when practicing. Tax accounting is a particular field and often requires highly qualified human resources because being related to taxes also means being related to the obligations of businesses to the state.

In contrast to the two popular fields above, management accounting is not familiar to accountants, even students of economics in general and accounting majors in particular at universities. According to the book "Managerial Accounting" by the trio of authors Ray. Management accounting, H Garrison, Eric Noreen, and Peter Brewer use accounting tools, techniques, information systems, specific methods, and specialized knowledge that help managers perform three important activities - planning, controlling, and decision-making. Management accounting is often focused on foreign and large and medium-sized enterprises because these organizations always have to manage and maintain vast information, complex economic operations, and complex financial activities. High-value transactions, even a small mistake, can damage the business severely. Therefore, every decision an administrator needs to be carefully considered before making, increasing administrators' demand for information quality, and management accounting is always essential. Focus and invest more.

On the contrary, it seems that small and micro enterprises are unfamiliar with the application of management accounting. Although management accounting still exists in these businesses, accountants often work concurrently and perform financial accounting work in parallel because the needs of administrators are not many; the management accounting process is simple.

2.2 Theoretical basis of Digital Transformation

Digital transformation is an issue that is receiving a lot of attention, especially from the government, which is building a smart city, digital government, and businesses with the desire to modernize how they operate. Apply technology to reduce repetitive tasks, create convenience, speed, and timeliness when processing information, and improve competitiveness with competitors. According to Singh and Hess (2017), digital transformation is widely applied in multinational corporations and large companies to upgrade their business information systems, facilitating decision-making processes for administrators and employees. According to Dr. Hoang Thi Tam (2023), digital transformation is a process of overall and comprehensive change of subjects regarding management

organization and production methods based on digital technology. We have many ways to define what digital transformation is. In general, digital transformation represents innovation and modernity in enterprises' production and business activities, thinking, and perception. Of business leaders, administrators, and all employees when realizing that traditional methods such as labor-based production or information management entirely on paper-based bookkeeping systems are no longer suitable. Suitable in the era of Industry 4.0.

Digital transformation success requires many factors for a developing country like Vietnam. According to Chu Ba Quyet (2021), whether or not digital transformation is successfully implemented in Vietnamese businesses depends on seven factors from within the business to the external environment, of which the most influential factors are digital transformation include (1) Legal policies and support from the government, (2) Safety and security of business information, (3) Digitalization process and (4) Digital transformation strategy of the business. Surprisingly, three factors: the enterprise's human resources, the enterprise's organizational structure and business processes, and online customer support services do not have much impact on digital transformation. Thus, when applying to a new field, the government always plays a vital role in encouraging businesses to approach and take action. In addition, it is not enough for businesses to take advantage of modern technology because digital transformation is a long-term process, requiring leaders at all levels to have a clear, long-term vision strategy and analysis of the situation market fluctuations.

Some benefits of digital transformation are as follows:
Digital transformation helps eliminate barriers between people, businesses, and things, allows companies to find effective ways of doing business, facilitates research, innovates, and creates new products and services suitable to consumer needs.
Digital transformation is driving automation across all aspects of business, particularly in accounting. Repetitive and periodic tasks, such as depreciation, warehouse price calculations, and goods purchase and sale operations, are now automatically calculated and updated by software, thereby supporting accountants in their roles.

As accounting processes are transformed digitally, the role of accountants becomes more critical than ever. This is due to the increasing requirements for accountants' qualifications, not only in their professional fields but also in technology and data analysis. In addition to professional knowledge, accountants need to continuously update their knowledge in other fields, such as information technology, data analysis, and prediction, increasing their "sensitivity" to numbers and statistics. Analyzed data has since become a powerful ally of administrators.

Digital transformation helps businesses reduce internal fraud. In the past, fraud or violations always existed because businesses still used paper books for management. However, in the digital technology age, all data are digitized and circulated internally on the business's online information system. Each individual can only access data based on a particular position and authority. All data correction operations are recorded on the system, and the reason must be explained. Approval from superiors is required first when editing.

In addition, according to Minh Le Bui (2021), digital transformation brings businesses some of the following main benefits: Improved operations and business functions: The information connection between different departments in the business is significantly enhanced. High-end software and modern digital platforms help employees easily access the enterprise's information system according to each department, task, position, and authority and exchange and transfer information to departments. Other parts are quicker.

Employees and managers focus on decision-making tasks: Digital transformation helps change how most employees and accountants work. Accounting and statistical software that collects flexible data are used in businesses; accountants will now not waste too much time and effort on "boring, repetitive" tasks. Repeat," such as classifying documents, Manually processing and recording large volumes of economic operations, Updating paper accounting books, etc. Thanks to that, they have more time to participate in tasks that require high expertise and constantly learn, improve knowledge and experience, and improve their skills and expertise.

Overcoming the consequences of the COVID-19 pandemic: The COVID-19 pandemic occurred with a temporary pause button on all production and business activities of businesses, even people's daily lives. Digital transformation measures are applied as a golden solution for businesses: all work and meetings are held online and handled remotely. An automated production line system operates production workshops under the supervision of a few managers to ensure safety during the pandemic.

Enhance the value creation process: The power of a high-tech product production line can increase production productivity many times compared to the productivity of a single worker. That helps businesses ensure delivery time and the ability to meet customer needs at any time.

Levels of digital transformation: Instead of producing products entirely with the labor of thousands of workers, a manufacturing enterprise has now applied modern machines and production lines with high, stable, and suitable capacity. Each business's financial capabilities, while ensuring increased production productivity, are considered a manifestation of digital transformation. On the other hand, enterprises adjust their methods of reaching customers from traditional methods, such as displaying products at stores and arranging product experience counters at supermarkets and shopping centers, to other outreach strategies. More modern things like online marketing and sales are in the form of livestreams. This helps businesses answer all customer questions as quickly and directly as possible, creating a new shopping experience, attracting potential customers, and creating benefits for both businesses and customers. This case is also called digital transformation. So, what are the standards to evaluate a company digitally transforming completely, partially, or just at the beginning of the transformation process? According to Matzler et al. (2016), the stages of comprehensive digital transformation include four stages: (1) Information technology, (2) Data digitization, (3) Process digitization, and (4) Digital transformation.

Information technology: This is the first step in the digital transformation process. To make the conversion, businesses must be equipped with technological machinery, at least a computer with installed internal programs. In addition, businesses often buy software such as accounting software MISA, FAST, etc., to easily record economic operations and monitor, control, and analyze data. Data digitization is how businesses convert information from physical form (on original documents), analog to digital form on software. This is necessary and is becoming a significant trend, especially when the state stipulates in Decree 123/ND-CP and Circular 78/TT-BTC that electronic invoices must be used when Buying and selling goods and services from July 1, 2022. Most small and micro enterprises are in this stage.

Process digitization: This is the next step after a business digitizes data. Processes are maximally integrated with HRMS human resource management software, ERP enterprise resource planning software, IMIS, and other systems to create consistency throughout the company, ensuring smooth operations that are systematic and strictly controlled. In particular, when all processes are digitized, communication tasks such as approval from leadership and internal approval become faster and more accurate, improving productivity. Important departments and decisions are made promptly and effectively.

Digital transformation: This is considered a complete digital transformation step that every business wishes to achieve. During this process, all information and data are processed and provided quickly, and business processes are digitized to help departments work and connect seamlessly with each other and, at the same time, help businesses reduce costs. Operate. For example, software now supports clerical work and paperwork processing instead of needing employees to handle it. In addition, storing information on cloud data helps minimize the amount of paper used in the business; environmental issues are always guaranteed.

Besides the above stages, there are many ways to approach and research the level of digital transformation application in enterprises. According to Le Vu Van and CS (2022), the process by which businesses transform from traditional methods to digital transformation includes four specific steps: (1) Transforming business awareness and (2) Preparing for digital transformation. Digital platform infrastructure, digital data information, information security, (3) Training to improve human resource qualifications, (4) Transforming digital models and operations.

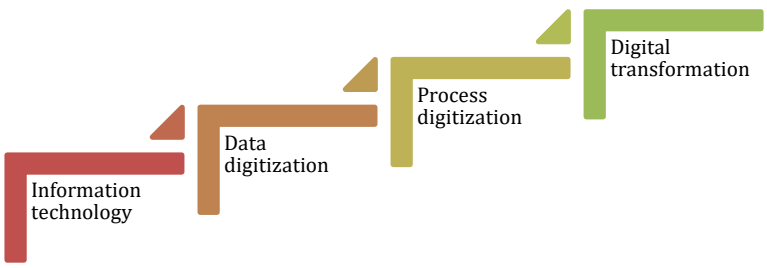

Fig. 1. Levels of digital transformation according to Matzler et al. (2016)

3. RESEARCH MODELS

3.1. Model

When researching digital transformation in management accounting at small and micro enterprises in Hanoi city, based on the digital transformation levels of Matzler et al. (2016), the team collected Data through the survey questionnaire was designed in four aspects: (1) Digital transformation in businesses, (2) Quality of management accounting information, (3) Evaluation of management effectiveness and (4) Evaluate performance.

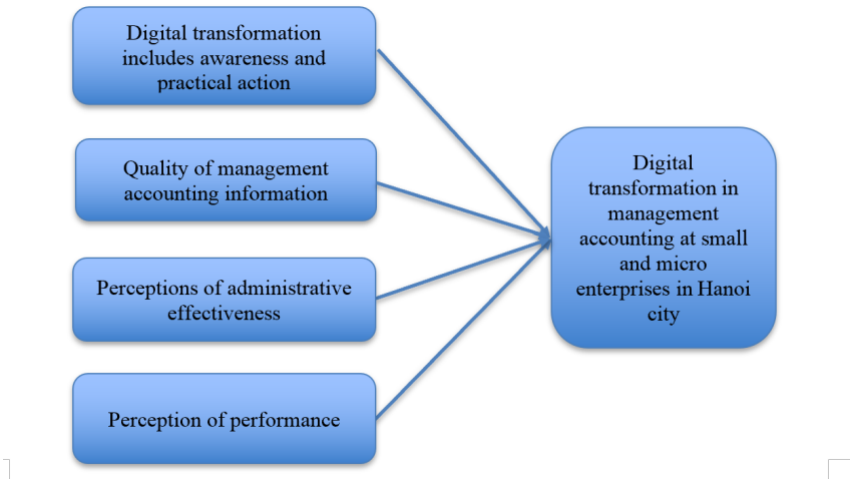

Fig. 2. Research model

In the first aspect of this model - digital transformation, the study conducted a comprehensive survey on the level of digital transformation within the enterprise by surveying the opinions of employees directly involved in the business. Participate and perform tasks related to management accounting and financial accounting. Usually, in applying a new field and gradually changing the current familiar method, besides the factors of technology and capital, the human factor is considered the starting point. People's interest, focus, and passion for this new field determine how much they are willing to explore, learn, and apply new knowledge to their business practices. This reflects the complex interaction between people and technology in the digital transformation process of businesses.

The research is especially interested in the second aspect of this issue - the quality of management information and how digital transformation affects this quality at each enterprise. The quality of management accounting information varies significantly depending on the scale of the digital transformation process in each organization. In financial accounting, the information provided to businesses is often uniform in quality because it complies with regulations and instructions from decrees, circulars, and laws issued by the state. However, information in management accounting is more prosperous and diverse, depending on the administrator's requirements, financial capacity, and the scale of digital transformation the business is implementing. We use the characteristics of useful information in the Accounting Information System as standards to evaluate the quality of management information: (1) appropriate, (2) accurate, (3) complete, (4) timely, (5) easy to understand, (6) reliable and (7) accessible.

For the last two aspects, perceived management effectiveness and operational efficiency, the research team considered whether, with the output management information provided by modern software and technology, businesses whether the set goals have been achieved or not, as well as changes in profits and market share of the company. The author also observes recognition from the board of directors, managers, partners, and customers for the business's activities to evaluate the feasibility and positivity of this process. Specifically, the author examines whether this recognition reflects improvements in operational performance, management flexibility, and the ability to respond effectively to market and customer needs. At the same time, the author also observes whether the reputation and image of the business in the market have improved, thereby evaluating the positive or negative impact of the digital transformation process on operational efficiency.

3.2. Data

The sample for the study "Research on Digital Conversion in Management Accounting of Small and Micro-Small Enterprises in Hanoi" was drawn from a broader survey conducted by the Vietnam Association of Small and Medium Enterprises. This survey, titled "Survey of Small and Medium Enterprises," was carried out between 2021 and 2023, targeting small and medium-sized businesses across various sectors throughout Vietnam. The data collection was designed to capture a diverse and representative sample, with businesses randomly selected from the manufacturing, services, agriculture, and retail industries.

The survey utilized a structured questionnaire distributed via Google Forms, ensuring easy access and encouraging broad participation. This method allowed for collecting quantitative data through closed-ended questions and qualitative insights through open-ended questions. For the specific study on digital conversion in management accounting, 700 valid responses were gathered from small and micro enterprises operating in Hanoi. This sample's random sampling approach and broad industry representation provide a comprehensive view of how these enterprises adapt to digital transformation in their accounting practices.

The questionnaire for this study was meticulously designed to align with the research objectives of exploring digital conversion in management accounting among small and micro enterprises in Hanoi. It was structured to capture a wide range of relevant data, including both quantitative and qualitative insights.

The questionnaire was divided into several key sections: the first section gathered general information about the business, such as size, industry, and years of operation. The second section focused on the current state of digital adoption in management accounting, including the types of digital tools being used, the extent of their integration, and the challenges faced during implementation. The third section delved into the perceived benefits and barriers of digital transformation in accounting, asking respondents to evaluate the impact on efficiency, accuracy, and decision-making processes. Finally, the questionnaire included open-ended questions to gain deeper insights into these enterprises' specific needs, concerns, and expectations regarding digital conversion in management accounting. The design of the questionnaire ensured that the data collected would be comprehensive and directly relevant to the study's objectives, providing a solid foundation for analysis and conclusions.

4. RESEARCH RESULTS

4.1 The Small and Micro Enterprises in Hanoi

According to information from Finance Magazine, as of December 31, 2022, the number of small and medium-sized enterprises (SMEs) in Hanoi Capital reached about 351,000, accounting for 97.2% of the total active businesses. Of these, 29.6 thousand new companies were established during the year, an increase of 23% over the same period last year. At the same time, 9.8 thousand businesses are returning to operation, an increase of 1.5% compared to 2021, due to the stable epidemic situation and policies to support businesses in general and small and medium-sized enterprises in particular. It has been practical; domestic and foreign markets have prospered. According to the 2023 Vietnam Business White Book, in 2021 - 2022, micro, small, and medium-sized enterprises will be the majority of businesses in Vietnam, precisely 97.4% of the total number of enterprises. Enterprises nationwide), especially the dense trend in micro, small, and medium enterprises, is most clearly shown in 2016 - 2021.

Although micro and small-scale businesses make up most of Vietnam's population, these organizations place the most minor emphasis on digital transformation applications. This is common sense because the workload in micro and small enterprises is only average or small, the operations that arise are relatively common, and there are few tricky situations. In addition, personnel, especially those in the accounting department, consist of only a few people. Accountants often take on many other company jobs, so these businesses choose accounting services. The budget spent on digital transformation solutions is relatively tiny in outsourced accounting.

Based on the collected data, survey participants mainly work in enterprises with fewer than 100 employees, accounting for 46% of the total survey sample, followed by enterprises with fewer than 100 employees. Employees from 100 to 200 people account for 35%. Half of the businesses in the survey sample have been in business for 5 to 10 years, which shows that these businesses have had a specific position in the market and a stable customer base.

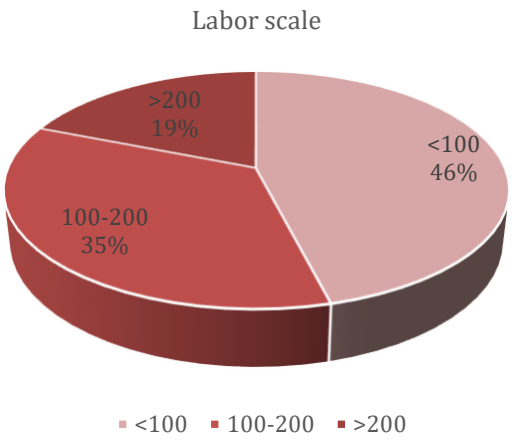

Fig. 3. Labor size

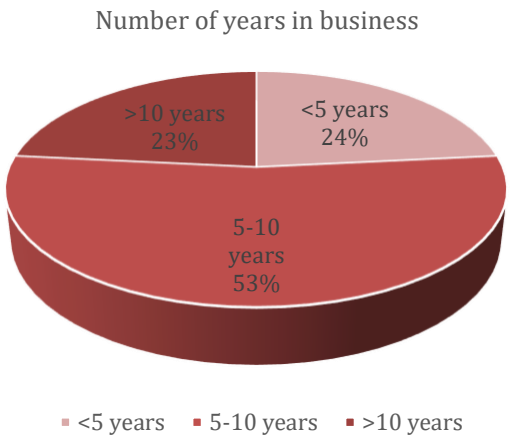

Fig. 4. Number of years in business

In addition, the enterprises in this survey are mainly private enterprises doing business in commerce and services, accounting for 73% and 59% of the total number of enterprises in the survey, respectively. This shows the difficulty in proactively applying digital transformation because these businesses still react passively to market changes and do not make efforts to transform digitally. This can be explained because these organizations often do not have enough financial capacity, do not have foreign investment capital, and do not inherit the infrastructure and corporate policies of parent companies located abroad.

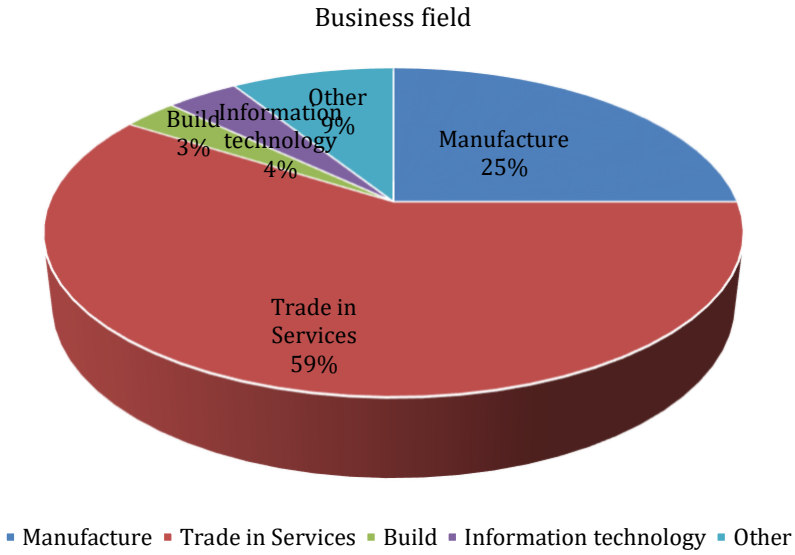

Fig.5. Business field

In addition, the enterprises in this survey are mainly private enterprises doing business in commerce and services, accounting for 73% and 59% of the total number of enterprises in the survey, respectively. This shows the difficulty in proactively applying digital transformation because these businesses still react passively to market changes and do not make efforts to transform digitally. This can be explained because these organizations often do not have enough financial capacity, do not have foreign investment capital, and do not inherit the infrastructure and corporate policies of parent companies located abroad.

4.2 Research results according to linear regression model

To confirm the above statistical results, the research team conducted a multivariate regression analysis to determine the relationship between three dependent variables: (1) management accounting quality and (2)

management performance efficiency. Value and (3) production and business performance with 13 independent variables, specifically:

Table 1. Summary of 13 independent variables on digital transformation in linear regression analysis

Ký hiệu	Biến độc lập
CĐCa	1.1 We aim to digitize everything possible in accounting-related work.
CĐCb	1.2. We aim to exchange information digitally.
CĐCc	1.3 Using digital technology, We aim to create a stronger connection between business processes and accounting processes.
CĐCd	1.4 We collect vast amounts of data (Big Data) from various sources to serve accounting reports.
CĐCe	1.5 We use accounting software to update accounting operations.
CĐCf	1.6 We use digitized documents (receipts, payments, payroll) from the software.
CĐCg	1.7 We use electronic signatures and conduct online transactions.
CĐCh	1.8 We are promoting the processing and analysis of accounting information based on cloud computing technology (online accounting software).
CĐCi	1.9 We are promoting the processing and analysis of accounting information based on Blockchain technology (accounting software, invoices).
CĐCk	1.10 We are promoting the processing and analysis of accounting information based on an artificial intelligence (AI) platform.
CĐCl	1.11 We are promoting the integration of digital technologies such as cloud computing, Big Data, Blockchain, and AI for reporting and information analysis.
CĐCm	1.12 We are using digital accounting as an effective tool to allocate assets and resources.
CĐCx	1.13 We are using digital accounting to optimize the decision-making process.

4.2.1. The impact of digital transformation on management accounting quality

According to the above results, the adjusted R-squared value is 0.709, which means 70.9% of the variation in management accounting quality is explained by 13 independent variables; this is a very high rate showing the Differences in management when carried out by traditional methods and by digital methods. With the Sig.<0.000 value, the model is consistent with actual data. In addition, Durbin-Waston coefficient dW=1.872, look up the table dU = 1.765; dL = 4-1,765 = 2,235 (n=100; k=12), from which we have: 1,765<dW<2,235. The autocorrelation phenomenon between the dependent variable's values at different levels does not exist in this model. However, the accuracy of the estimates and statistical tests is still guaranteed.

Table 2. Testing the fit of model and the autocorrelation phenomenon

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,865a	,747	,709	,3854249	,747	19,582	13	86	,000	1,872

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37,817	13	2,909	19,582	,000b
	Residual	12,775	86	,149		
	Total	50,592	99			

With VIF < 10, the multicollinearity phenomenon does not exist in the model. Considering the 10% significance level, we see that the value Sig. of appropriate CDCd and CDCh factors, large data volumes (Big Data), and cloud computing technology (online accounting software) have the most significant impact on the quality of management accounting. Indeed, according to the statistical results described above, businesses are now collecting and using large volumes of data to develop business and create value for customers. They often collect data from different sources, such as mobile applications, internal databases, social networks, and other digital platforms. This process helps them better understand the market, consumers, and their business, but also helps them optimize business processes, predict market trends, enhance customer experience, and make strategic decisions. However, managing and analyzing massive data requires investment in robust technology infrastructure and advanced data analytics tools, leading to businesses promoting information processing. Accounting information using technology (cloud computing) because it brings many benefits, such as cost savings, increased flexibility, high security, and automatic updates.

Table 3. Test the phenomenon of multicollinearity and determine the impact of factors

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,862	,218		3,957	,000	,429	1,296					
	CDCa	,058	,103	,069	,567	,572	-,146	,262	,723	,061	,031	,199	5,031
	CDCb	,095	,093	,118	1,031	,306	-,089	,280	,733	,110	,056	,225	4,451
	CDCc	,070	,104	,089	,672	,503	-,136	,276	,723	,072	,036	,169	5,919
	CDCd	,179	,089	,225	2,004	,048	,001	,357	,772	,211	,109	,232	4,308
	CDCe	,075	,085	,094	,892	,375	-,093	,243	,682	,096	,048	,264	3,786
	CDCf	-,011	,099	-,015	-,115	,908	-,209	,186	,733	-,012	-,006	,171	5,854
	CDCg	,019	,083	,025	,230	,819	-,145	,183	,661	,025	,012	,249	4,024
	CDCh	,197	,096	,241	2,056	,043	,007	,388	,769	,216	,111	,213	4,699
	CDCi	,076	,108	,097	,698	,487	-,140	,291	,751	,075	,038	,153	6,535
	CDCk	,079	,067	,115	1,190	,237	-,053	,212	,679	,127	,065	,313	3,197
	CDCl	-,001	,098	-,001	-,010	,992	-,197	,195	,685	-,001	-,001	,164	6,088
	CDCm	-,009	,100	-,011	-,087	,931	-,207	,190	,722	-,009	-,005	,189	5,289
	CDCx	-,025	,083	-,034	-,303	,763	-,189	,139	,703	-,033	-,016	,229	4,373

a. Dependent Variable: Management accounting quality **(**CLKTQT)

4.2.2. The impact of digital transformation on management performance

The adjusted R-squared value of 0.539 shows that 13 independent variables explain 53.9% of the variation in management activities. The Sig.<0.000 value makes the model consistent with actual data. Autocorrelation also does not exist in this model due to the Durbin-Waston coefficient dW=1.938 (1.765<dW<2.235). According to the results of Figure 2.5, the multicollinearity phenomenon also does not exist in the model (VIF<10). Considering the 10% significance level, Sig. of the appropriate CDCf, CDCi, and CDCx factors, meaning that businesses use digital documents from software, promoting the processing and analysis of accounting information based on Blockchain technology (accounting software). accounting, invoicing) and using digital accounting to optimize the decision-making process are the three factors that have the most substantial impact on management efficiency.

This is reasonable because the input process of management accounting work is data information digitized, extracted, synthesized, and presented in financial and management reports from various departments. Accounting Software. Digitizing data processes and using digital accounting is no longer complex thanks to policies, regulations, incentives from the state, and the rapid development of accounting software, which helps people use data processing and reporting using pre-established formulas and processes.

Table 4. Testing the fit of model and the autocorrelation phenomenon

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,774a	,599	,539	,4814249	,599	9,893	13	86	,000	1,938

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,808	13	2,293	9,893	,000b
	Residual	19,932	86	,232		
	Total	49,740	99			

Table 5. Test the phenomenon of multicollinearity and determine the impact of factors

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
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CDCb	,095	,093	,118	1,031	,306	-,089	,280	,733	,110	,056	,225	4,451
CDCc	,070	,104	,089	,672	,503	-,136	,276	,723	,072	,036	,169	5,919
CDCd	,179	,089	,225	2,004	,048	,001	,357	,772	,211	,109	,232	4,308
CDCe	,075	,085	,094	,892	,375	-,093	,243	,682	,096	,048	,264	3,786
CDCf	-,011	,099	-,015	-,115	,908	-,209	,186	,733	-,012	-,006	,171	5,854
CDCg	,019	,083	,025	,230	,819	-,145	,183	,661	,025	,012	,249	4,024
CDCh	,197	,096	,241	2,056	,043	,007	,388	,769	,216	,111	,213	4,699
CDCi	,076	,108	,097	,698	,487	-,140	,291	,751	,075	,038	,153	6,535
CDCk	,079	,067	,115	1,190	,237	-,053	,212	,679	,127	,065	,313	3,197
CDCl	-,001	,098	-,001	-,010	,992	-,197	,195	,685	-,001	-,001	,164	6,088
CDCm	-,009	,100	-,011	-,087	,931	-,207	,190	,722	-,009	-,005	,189	5,289
CDCx	-,025	,083	-,034	-,303	,763	-,189	,139	,703	-,033	-,016	,229	4,373

a. Dependent Variable: Management performance (HDQT)

4.2.3. The impact of digital transformation on production and business performance

Table 6. Testing the fit of model and the autocorrelation phenomenon

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,716a	,513	,439	,5324526	,513	6,968	13	86	,000	2,211

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25,681	13	1,975	6,968	,000b
	Residual	24,381	86	,284		
	Total	50,062	99			

According to the above results, the adjusted R-squared value is 0.439, meaning 43.9% of the change in production and business performance is explained by 13 independent variables. The proposed model fits accurate data (Sig.<0.000) and does not occur autocorrelation due to the Durbin-Waston coefficient dW=2.211 (1.765<dW<2.235).

Table 7. Test the phenomenon of multicollinearity and determine the impact of factors

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	1,830	,301		6,077	,000	1,231	2,429					
CDCa	,176	,142	,209	1,239	,219	-,106	,457	,572	,132	,093	,199	5,031
CDCb	-,085	,128	-,106	-,666	,507	-,340	,169	,532	-,072	-,050	,225	4,451
CDCc	,109	,143	,139	,762	,448	-,176	,394	,568	,082	,057	,169	5,919
CDCd	,369	,124	,467	2,990	,004	,124	,615	,597	,307	,225	,232	4,308
CDCe	-,118	,117	-,148	-1,009	,316	-,350	,114	,368	-,108	-,076	,264	3,786
CDCf	-,142	,137	-,188	-1,034	,304	-,415	,131	,423	-,111	-,078	,171	5,854
CDCg	-,013	,114	-,017	-,115	,909	-,240	,214	,391	-,012	-,009	,249	4,024
CDCh	-,140	,132	-,173	-1,060	,292	-,404	,123	,444	-,114	-,080	,213	4,699
CDCi	,263	,150	,339	1,760	,082	-,034	,561	,600	,186	,132	,153	6,535
CDCk	,159	,092	,232	1,727	,088	-,024	,342	,566	,183	,130	,313	3,197
CDCl	-,081	,136	-,110	-,595	,553	-,351	,189	,562	-,064	-,045	,164	6,088
CDCm	-,056	,138	-,070	-,405	,687	-,330	,218	,536	-,044	-,030	,189	5,289
CDCx	,095	,114	,130	,828	,410	-,132	,322	,570	,089	,062	,229	4,373

a. Dependent Variable: Production and business performance (HQHDSXKD)

With VIF<10, multicollinearity does not occur in the model. Considering the 10% significance level, Sig. of the appropriate CDCd, CDCi, and CDCk factors. Once again, Big Data and Blockchain technology (accounting and invoicing software) strongly impact the efficiency of production and business activities. On the other hand,

promoting using artificial intelligence platforms to process and analyze data also dramatically affects production efficiency and enterprises' business activities. AI helps accountants input data from documents and paper invoices into software and perform repetitive tasks such as accounting, data entry, cost allocation, depreciation, calculation, reporting, and automatic generation. Product codes, new object codes (customers, suppliers), tracking receivables, payables, etc. From there, AI uses algorithms to advise and issue user warnings about fraud and violations. Blockchain and AI technology, when combined in accounting work, especially management accounting, will increase security, optimize work, increase working capacity, and keep accounting information transparent. It can be trusted, easily compared, and valuable for administrators' decision-making process.

5. CONCLUSION

Of the 13 independent variables under consideration, the giant data factor (Big Data) and cloud computing technology (online accounting software) impact the quality of management accounting and accounting factors most. Digital mathematics (digitized documents, Blockchain technology in accounting software, invoices) strongly affects management efficiency. Finally, production and business activities are influenced by significant data factors, blockchain technology, and artificial intelligence (AI) platforms in data processing and analysis. The remaining factors have low influence because they are daily activities occurring within accounting work (recording, confirming, exchanging information, performing transactions) and small and super enterprises. Small businesses have limited financial capacity to integrate and use more advanced digital transformation solutions to serve accounting and the entire enterprise.

The research team surveyed all four aspects and received many positive opinions (both agree and strongly agree). These opinions accounted for nearly 90% of the total survey votes. In comparison, average opinions accounted for less than 20% of the total survey votes, and opposing (both strongly disagree and disagree) only accounted for less than 5%. The above results are evenly distributed in all charts in the four research aspects. This shows that small and micro businesses are implementing digital transformation well at the level of digitizing data and processes, and they feel satisfied because this level effectively supports management accounting work. , promptly meeting the needs of administrators at the enterprise. However, this level of transformation is the level that most businesses today have completed, with higher levels of transformation or more advanced technology infrastructure serving accounting work at Businesses such as Blockchain technology, AI, Big Data, and cloud computing only at the stage of planning and setting promotion goals.

The biggest reason for the above situation is that employees and accountants lack in-depth knowledge of digital transformation in general and accounting in particular; they do not understand the benefits of digital transformation. This is possible because workers' qualifications in small and micro enterprises are often at a basic level; they rarely actively learn about a new field unless it is a mandatory job. Or it affects their income. In addition, according to Minh Le Bui (2022), business employees often resist change and apply new digital technology because they feel unfamiliar with new processes and requirements during the transition process.

Furthermore, having to take on more work and the pressure from being busy due to the large daily workload also makes them feel worried when assigned more work; they do not want to learn and take on many related tasks. Related to newly applied digital technology. The second reason is that some small and micro businesses may be skeptical about the benefits of digital transformation. They feel uncertain about whether investments in new technology are truly worth it and whether those investment costs can be recouped through improvements in performance or revenue. At the same time, they often prioritize and value benefits that directly impact revenue over the future benefits of digital transformation. This hesitation and concern is reasonable because the financial capacity of these businesses is limited, employees are not adequately trained or lack understanding of new technology, and there is a risk of technical problems when integrating new technology solutions into the business's current systems. The third reason is that administrators do not have a high demand for management information in information processing and analysis. Economic operations in small- and micro-sized enterprises are often simple, mainly revolving around buying and selling goods, providing services, and collecting and spending money. Therefore, applying advanced digital transformation solutions to analyze data is not necessary.

The observed impact of Big Data, cloud computing, and Blockchain technology on management accounting quality and efficiency aligns with the theories of digital transformation, emphasizing the role of advanced technologies in enhancing decision-making and operational effectiveness. This is consistent with previous studies highlighting how these technologies can lead to more accurate and timely financial reporting, thereby supporting strategic business decisions. The results also resonate with the resource-based view (RBV) theory, suggesting that while small and micro enterprises may have limited resources, leveraging digital technologies can provide a competitive advantage by optimizing resource allocation and improving operational efficiency.

Moreover, the findings reveal a significant gap in adopting advanced digital technologies like AI and Blockchain among small and micro enterprises, which can be linked to the Diffusion of Innovations theory. This theory posits that adopting new technologies follows a specific pattern, where early adopters and innovators lead the way, while others may lag due to barriers such as lack of knowledge, resources, or perceived value. The low level of adoption in this study indicates that many small and micro enterprises are still in the early stages of this adoption curve, hindered by financial constraints and limited technical expertise.

The practical implications of these findings are significant for small and micro enterprises, policymakers, and practitioners in management accounting. For small and micro enterprises, the results underscore the importance of gradually investing in digital transformation, starting with essential digital tools that can immediately enhance management accounting processes. These businesses should prioritize training and development to build internal capacity, enabling them to understand better and utilize digital technologies.

Policymakers are critical in facilitating this transition by creating supportive environments through financial incentives, training programs, and infrastructure development. For instance, offering tax breaks or subsidies for digital investments could alleviate some of these businesses' financial burdens. Additionally, implementing policies that encourage the development of digital skills among workers will be essential in overcoming the knowledge gap identified in this study.

For practitioners in the field of management accounting, these findings highlight the need to focus on practical, accessible solutions that can deliver immediate benefits to small and micro enterprises. This could involve developing and promoting accounting software tailored to smaller businesses' needs and constraints, providing scalable options for incremental adoption of more advanced technologies as the company grows.

In conclusion, while small and micro enterprises face considerable challenges in fully embracing digital transformation, the findings of this study offer a roadmap for gradually integrating these technologies to improve management accounting practices. This study provides a deeper understanding of the dynamics at play by linking the results to established theories and existing literature. It offers actionable insights for enhancing the digital maturity of these enterprises.

To increase awareness and digital transformation capabilities in the accounting field of small and micro businesses, support is needed from government organizations, non-profit organizations, and service providers. Technical service. At the same time, it is necessary to create training programs and financial support to help these businesses access and deploy digital technology effectively.

Create training and guidance programs: Governments and organizations can create free or low-cost training and guidance programs to help small and micro businesses grasp and use new technology. Training can focus on basic skills such as online accounting software, data management, or website development and management.

Providing grants and financial support: Governments and donor organizations can provide special grants and financial support packages to small and micro enterprises so they can invest in technology information. These programs may include loans at preferential interest rates, investment, or risk capital support.

Developing digital infrastructure: The government can invest in developing digital infrastructure such as internet networks, electronic payment systems, and cloud computing services. This helps small and micro businesses have easier access to information technology and online business solutions.

Building a technology-friendly business environment: The government can promote a technology-friendly business environment by reducing complex regulations, creating incentives, and supporting policies. Support the use of technology and encourage innovation and creativity in the technology sector.

Encourage collaboration and knowledge sharing: Governments and organizations can create forums and networks to encourage collaboration and knowledge sharing between small and micro enterprises. This helps them learn and support each other during the digital transformation process.

Promote innovation and creativity: The government can promote innovation and creativity by organizing competitions, events, and seminars on technology and startups. This helps create a dynamic and creative business environment, encouraging small and micro businesses to apply digital transformation actively.

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