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### Factors Influencing Digital Transformation in Accounting at Small and Medium-Sized Enterprises in Thanh Hoa – Viet Nam

Nguyen Thi Canh Hoa

Research Project Leader, Hanoi University of Natural Resources and Environment, Viet Nam

Corresponding Author: Nguyen Thi Canh Hoa

#### Abstract

This study investigates the key factors influencing the adoption of digital transformation in the accounting sector among SMEs in Thanh Hoa City. The findings indicate that several factors significantly impact the adoption process, with the IT competency of accountants emerging as the most

influential factor. Other factors such as the modernity of information systems, corporate culture, and management awareness also play important roles. The study highlights that improving these factors is crucial to enhancing digital transformation efforts in accounting practices.

**Keywords:** Digital Transformation, Accounting, SMEs, IT Competency, Information Systems

#### 1. Introduction

In the context of globalization and the Fourth Industrial Revolution, digital transformation (DT) has become an inevitable trend for businesses seeking to optimize processes, improve operational efficiency, and maintain competitive advantages in the market. According to a study by McKinsey (2021), digital transformation is expected to contribute up to 25% of the GDP of the United States and 36% of the GDP of European countries. In Vietnam, the government has also identified digital transformation as one of the three key pillars in the national socio-economic development strategy for the period 2021–2030. In the accounting sector, digital transformation plays a particularly important role by enabling businesses to automate accounting processes, minimize errors, accelerate data processing, and enhance the accuracy of financial reports. The adoption of advanced technologies such as artificial intelligence (AI), cloud computing, automated accounting software, and big data analytics has significantly optimized workflow processes, thereby creating a foundation for the sustainable development of businesses.

However, the adoption of digital transformation in the accounting sector among small and medium-sized enterprises (SMEs) in Thanh Hoa Province still faces numerous challenges. One of the major barriers is the limited awareness of management regarding the importance of digital transformation. Additionally, financial constraints, a shortage of skilled IT professionals, and underdeveloped infrastructure have also hindered the adoption of digital technologies within these enterprises. This study aims to identify the key factors influencing the adoption of digital transformation in the accounting sector among SMEs in Thanh Hoa Province, evaluate the extent of their impact, and propose practical solutions to enhance the effectiveness of digital transformation implementation in these enterprises.

#### 2. Literature Review

Global studies have extensively recognized the significance of digital transformation (DT) in the accounting sector, highlighting various influencing factors and their differing impacts. In Poland, the study by Arkadiusz Januszewski and Natalia Buchalska-Sugajska (2023)<sup>[1]</sup> examined the role of digital transformation in accounting firms, focusing on process automation using Robotic Process Automation (RPA) and electronic data exchange. The study found that while RPA adoption is relatively successful, the use of electronic data interchange (EDI) remains low. In China, Jie Yang et al. (2024) demonstrated that digital transformation improves the comparability of accounting information, particularly in non-state-owned enterprises and those

with weaker corporate governance. Conversely, Aolin Leng and Yue Zhang (2024)<sup>[2]</sup> reported that digital transformation could reduce audit efficiency, especially in low-tech enterprises or those audited by non-Big4 firms. These findings suggest that international research tends to emphasize the technological and operational aspects of digital transformation, such as automation and data comparability, rather than human or organizational factors.

In Vietnam, studies have primarily focused on human and organizational factors. Trinh Xuan Hung (2020)<sup>[8]</sup>, Chu Ba Quyet (2021)<sup>[3]</sup>, and Pham Quang Huy and Vu Kien Phuc (2021)<sup>[6]</sup> identified key factors influencing digital transformation in accounting, including digital business innovation, human resources and corporate culture, platform-based business models, disruptive technology, digital transformation strategies, management awareness, and IT competency of accountants. Notably, IT competency and management awareness are considered the most influential factors. However, corporate culture remains a contentious issue. Trinh Xuan Hung (2020)<sup>[8]</sup> asserted that corporate culture strongly impacts digital transformation, while Cu Thi Minh Hang and Nguyen Thi Phuong Mai (2023)<sup>[4]</sup> rejected the significance of this factor.

Overall, international studies emphasize technological aspects, such as automation and data comparability, while domestic studies focus more on human resources, management perception, and government support. This contrast reflects differences in economic development stages and business environments between Vietnam and more developed markets.

### 3. Theoretical Framework and Hypotheses

The adoption of digital transformation (DT) in the accounting sector has become an inevitable trend in the rapidly developing digital economy. To explain the factors influencing this process, the study is based on two fundamental theoretical models: the Technology Acceptance Model (TAM) by Venkatesh and Davis (2000)<sup>[9]</sup> and the Technology-Organization-Environment (TOE) model by Tornatzky and Fleischer (1990)<sup>[10]</sup>. According to TAM, the decision to adopt technology is influenced by two key factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). When users perceive that a technology is useful and easy to use, they are more likely to adopt it in their work. Meanwhile, the TOE model highlights three key dimensions influencing technology adoption within an organization: (1) Technology (modernity and compatibility of information systems), (2) Organization (management awareness, employee capability, and organizational structure), and (3) Environment (competitive pressure, customer expectations, and regulatory requirements).

First, the modernity of information systems plays a crucial role in driving digital transformation. According to TAM, modern information systems enhance user access to technology, increasing perceived usefulness and ease of use. The TOE model also suggests that the more modern the information system, the higher the organization's adaptability to technological changes, thereby improving work efficiency and reducing costs and errors in accounting. Empirical evidence from studies by Trinh Xuan Hung (2020)<sup>[8]</sup> and Nguyen Thuy Hang (2023)<sup>[5]</sup> has confirmed that the modernity of information systems has a positive impact on the adoption of digital transformation in businesses.

Second, management awareness is a key factor directly influencing the decision to implement technology within an organization. According to TAM, if managers perceive the usefulness and benefits of technology, they are more likely to promote its adoption. The TOE model also emphasizes that management's role in defining strategies, providing direction, and allocating resources is critical to the success of digital transformation projects. Studies by Pham Quang Huy and Vu Kien Phuc (2021)<sup>[6]</sup> have demonstrated that management awareness is an important factor in the successful implementation of digital accounting systems in Vietnamese SMEs. Managers with an innovative mindset and a willingness to take risks will facilitate more effective digital transformation.

Third, the IT competency of accountants is a core factor in the process of adopting digital transformation. According to TAM, users with strong technological skills are more likely to accept and effectively implement digital accounting software, improving overall work efficiency. The TOE model also recognizes that an organization's ability to adopt technology depends on the internal capabilities of its workforce, particularly the technological skills and expertise of employees. The study by Cu Thi Minh Hang and Nguyen Thi Phuong Mai (2023)<sup>[4]</sup> identified IT competency of accountants as the most influential factor in the successful implementation of digital accounting systems. Accountants with strong IT skills are more proactive in adapting to technological changes and resolving challenges during the digitalization process, thereby ensuring smoother and more efficient business operations.

Finally, Corporate culture can influence digital transformation by shaping the organization's openness to change, risk tolerance, and innovation. Trinh Xuan Hung (2020)<sup>[8]</sup> found a strong impact of corporate culture on digital transformation, while Cu Thi Minh Hang and Nguyen Thi Phuong Mai (2023)<sup>[4]</sup> rejected this view. However, companies with a culture of innovation and adaptability tend to achieve greater success in digital transformation.

Based on the above theoretical framework and analysis, the following four research hypotheses are proposed:

**H1:** The modernity of information systems positively affects the adoption of digital transformation in the accounting sector among SMEs.

**H2:** Management awareness positively influences the adoption of digital transformation in the accounting sector among SMEs.

**H3:** IT competency of accountants has the strongest positive effect on the adoption of digital transformation in the accounting sector among SMEs.

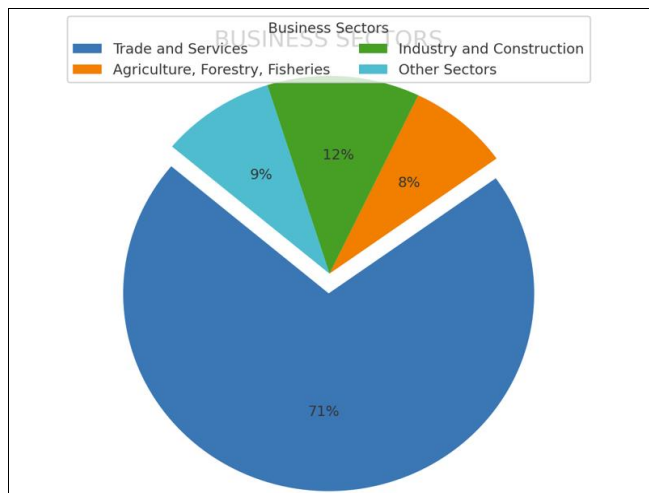
**H4:** Corporate culture positively influences the adoption of digital transformation in the accounting sector among SMEs.

### 4. Data and Research Methods

This study utilizes primary data collected from 107 SMEs in Thanh Hoa Province through online surveys and direct interviews. A convenience sampling method was applied to facilitate easy access to the target businesses. After data collection, the data were processed using SPSS 20. The analysis process included the following key steps: Cronbach's Alpha reliability test to evaluate the internal consistency of the measurement scales, Exploratory Factor Analysis (EFA) to identify underlying factor structures, and

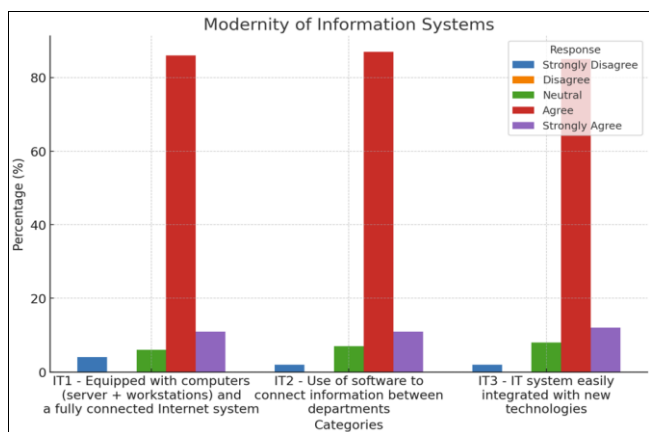
multiple linear regression analysis to determine the extent of influence of the identified factors on the adoption of digital transformation in the accounting sector.

### 5. Results



Source: Compiled from survey data

The statistical results show that among the 107 surveyed enterprises, 76 enterprises (71%) operate in the trade and service sector, followed by 12% in the industry and construction sector, 8% in the agriculture, forestry, and fisheries sector, and 9% in other sectors. Regarding the respondents' positions, 46 respondents (43%) were accountants, 39 respondents (36%) were directors, 8 respondents (8%) were department heads, and 14 respondents (13%) held other positions.



Source: Compiled from survey data

Fig 5.2: Descriptive Statistics of the Modernity of Information Systems Factor

The results show that IT competency of accountants (average score 4.03) and modernity of information systems (average score 3.97) are the two most influential factors in promoting digital transformation in the accounting sector among SMEs in Thanh Hoa City. The highest-rated criteria are accountants' regular IT training (score 4.04) and the use of software to connect information (score 3.98). Management awareness (average score 3.94 to 4.03) and corporate culture (average score 3.77 to 3.98) also play important roles, with the highest-rated factors being IT recruitment programs (score 4.03) and organizational flexibility in adopting new technologies (score 4.06).

Table 1: Reliability Test Results of the Factors

Factor	Cronbach's Alpha	Conclusion
Modernity of information systems	0.690	Good reliability
Management awareness	0.691	Good reliability
IT competency of accountants	0.693	Good reliability
Corporate culture	0.785	Very good reliability

The reliability test confirms that all measurement scales have good reliability, with Cronbach's Alpha coefficients above 0.6, indicating strong internal consistency. Modernity of information systems (0.690), management awareness (0.691), and IT competency of accountants (0.693) all show good reliability. Corporate culture achieved the highest reliability at 0.785, reflecting very strong consistency. These results confirm that the scales are stable and suitable for further analysis.

Table 2: Exploratory Factor Analysis (EFA) for Independent Variables

Criteria	Result
KMO	0.841 → Acceptable ( $0.5 \leq KMO \leq 1$ )
Bartlett's Test	Chi-Square = 805.937; Sig. = 0.000 → The observed variables are correlated within the overall dataset
Number of Extracted Factors	4 factors (Eigenvalue > 1)
Total Variance Explained	70.013% → Explains 70.013% of data variance
Rotation Matrix	Varimax rotation, converged after 5 iterations
Extracted Factor Groups	4 factor groups identified:
- Group 1: Corporate culture	VH1, VH3, NT1, VH2
- Group 2: Modernity of information systems	MD2, MD3, MD1
- Group 3: Management awareness	NT4, NT2, NT3
- Group 4: IT competency of accountants	NL1, NL2

The EFA results show that the observed variables in the study are clearly grouped, meeting the standards for model fit and explanatory power. The total variance explained is 70.013%, indicating that the extracted factor groups effectively explain the data variance. Four key factors were identified, including modernity of information systems, management awareness, IT competency of accountants, and corporate culture - all of which are statistically significant and will be used in subsequent analysis steps.

Table 3: Exploratory Factor Analysis (EFA) for Dependent Variables

Criteria	Result
KMO	0.792 → Acceptable ( $0.5 \leq KMO \leq 1$ )
Bartlett's Test	Chi-Square = 200.675; Sig. = 0.000 → Data is suitable for factor analysis
Number of Extracted Factors	1 factor (Eigenvalue > 1)
Total Variance Explained	70.301% → Explains 70.301% of data variance
Rotation Matrix	Varimax rotation, converged after 5 iterations
Extracted Factor Groups	1 factor group identified:
- Dependent variable group	AD1, AD2, AD3, AD4
Factor Loading Coefficient	Ranges from 0.748 to 0.905 (all > 0.5) → Meets the requirement

The EFA results for the dependent variable show that the KMO value of 0.792 and a significance level of 0.000 indicate strong correlations among the observed variables within the overall dataset. One factor was extracted at an eigenvalue of 2.812, and the total variance explained was 70.301%, suggesting that this factor effectively explains the data variance. All observed variables have a factor loading greater than 0.5, meeting the requirements for statistical significance. These results confirm that the research model for the dependent variable is appropriate and can be used for further analysis.

From the analysis, four key factors were identified:

1. Modernity of information systems
2. Management awareness
3. IT competency of accountants
4. Corporate culture

The Pearson correlation analysis shows that the independent factors have a strong linear correlation with the dependent variable (digital transformation adoption - AD), with all correlation coefficients statistically significant at  $p < 0.05$ . The specific results are as follows:

**Table 4:** Pearson Correlation Coefficient Analysis Results

Independent Variable	Correlation Coefficient (r)	Correlation Strength
Modernity of information systems (MD)	0,549	Moderate correlation
Corporate culture (VH)	0,639	Strong correlation
Management awareness (NT)	0,568	Strong correlation
IT competency of accountants (NL)	0,683	Strongest correlation

The Pearson correlation analysis shows that the independent factors have a positive and statistically significant correlation with the adoption of digital transformation ( $p < 0.05$ ). IT competency of accountants has the strongest correlation ( $r = 0.683$ ), followed by corporate culture ( $r = 0.639$ ), management awareness ( $r = 0.568$ ), and modernity of information systems ( $r = 0.549$ ). These results confirm that all the factors included in the model have a positive influence on the adoption of digital transformation, with IT competency of accountants being the most influential factor. Based on the correlation analysis results, the research model can be summarized by the following equation:

$$AD = \beta_1 * MD + \beta_2 * NT + \beta_3 * NL + \beta_4 * VH + e$$

Where:

- AD** = Adoption of digital transformation in the accounting sector among SMEs in Thanh Hoa City
- MD** = Modernity of information systems
- NT** = Management awareness
- NL** = IT competency of accountants
- VH** = Corporate culture
- e** = Model error term

Model Fit Test

**Table 5:** Model Fit Assessment Results

Model Summary <sup>b</sup>					
Model	R	R <sup>2</sup> square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.805 <sup>a</sup>	.648	.635	.47671	1.796
a. Predictors: (Constant), MD, NT, NL, VH					
b. Dependent Variable: AD					

Source: Data processed using SPSS 20.0

The regression analysis results show that the model has an **adjusted R<sup>2</sup> = 0.635**, meaning that **63.5%** of the variation in digital transformation adoption is explained by the four observed variables. This indicates that the multiple linear regression model is well-fitted and meaningful in analyzing the factors influencing digital transformation.

Analysis of Variance (ANOVA)

**Table 6:** ANOVA Results

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.729	4	10.682	47.007	.000 <sup>b</sup>
	Residual	23.180	102	.227		
	Total	65.909	106			
a. Dependent Variable: AD						
b. Predictors: (Constant), MD, NT, NL, VH						

Source: Data processed using SPSS 20.0

The F-test shows an F-statistic of **47.007** with a significance level (**sig.**) of **0.000** ( $< 0.05$ ), confirming that the regression model is well-fitted to the data and that the independent variables have a statistically significant relationship with the dependent variable.

**Table 7:** Multicollinearity Results

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.350	.276		1.270	.207		
	MD	.255	.067	.252	3.795	.000	.785	1.274
	VH	.223	.067	.251	3.319	.001	.605	1.653
	NT	.199	.065	.216	3.058	.003	.693	1.444
	NL	.284	.065	.333	4.359	.000	.591	1.691

Source: Data processed using SPSS 20.0

The highest VIF coefficient is 1.691 ( $< 10$ ), indicating that there is no multicollinearity among the independent variables, ensuring the stability of the regression model.

Homoscedasticity Test in Linear Regression

**Table 8:** Heteroscedasticity Test Results

		Correlations					
Spearman's rho	ABSZRE	Correlation Coefficient	1.000	.040	.021	-.175	-.088
		Sig.(2-tailed)		.682	.828	.071	.370
		N	107	107	107	107	107
	MD	Correlation Coefficient	.040	1.000	.350**	.165	.377**
		Sig.(2-tailed)	.682		.000	.089	.000
		N	107	107	107	107	107
	VH	Correlation Coefficient	.021	.350**	1.000	.439**	.526**
		Sig.(2-tailed)	.828	.000		.000	.000
		N	107	107	107	107	107
	NT	Correlation Coefficient	-.175	.165	.439**	1.000	.471**
		Sig.(2-tailed)	.071	.089	.000		.000
		N	107	107	107	107	107
	NL	Correlation Coefficient	-.088	.377**	.526**	.471**	1.000
		Sig.(2-tailed)	.370	.000	.000	.000	
		N	107	107	107	107	107

Source: Data processed using SPSS 20.0

The significance value (Sig.) is greater than **0.05**, indicating that the residual variance is constant and the model does not violate the assumption of homoscedasticity.

Based on the regression analysis results, the regression equation for the model is formulated as follows:

$$AD = 0.252*MD + 0.216*NT + 0.333*NL + 0.251*VH + 0.350$$

## 6. Conclusion and Policy Implications

### 6.1 Conclusion

The study identified four key factors influencing the adoption of digital transformation in the accounting sector among small and medium-sized enterprises (SMEs) in Thanh Hoa City, including (1) IT competency of accountants, (2) modernity of information systems, (3) corporate culture, and (4) management awareness. The regression analysis results show that the model has a good fit with an adjusted R<sup>2</sup> of 0.635, meaning that these four factors explain 63.5% of the variation in digital transformation adoption. Among these factors, IT competency of accountants has the strongest impact with a Beta coefficient of 0.333, followed by modernity of information systems (Beta = 0.252), corporate culture (Beta = 0.251), and management awareness (Beta = 0.216). The ANOVA test shows no significant difference in the level of digital transformation adoption based on business sector or respondent position. These results suggest that the adoption of digital transformation in the accounting sector is relatively consistent across different business groups.

### 6.2 Policy Implications

Based on the research findings, several policy implications can be proposed:

**Enhancing IT competency of accountants:** Enterprises should invest in intensive training programs for accountants on accounting software, information security, and financial management systems. Encouraging accountants to stay updated with new technological trends will improve work efficiency and support the digital transformation process.

**Developing modern information systems:** Enterprises should invest in IT infrastructure, including accounting software, data management systems, and automation tools (RPA) to optimize accounting processes and improve accuracy.

### Building a corporate culture that supports digital transformation:

Creating an open working environment that encourages employees to learn and innovate is essential. Enterprises should introduce incentive policies, such as rewarding employees for initiatives in applying technology to accounting, to foster a proactive culture of innovation.

**Raising management awareness:** Business leaders need to recognize the benefits of digital transformation and actively participate in the implementation process. Developing a clear digital transformation strategy and securing management commitment will accelerate the success of the transformation process.

The research findings highlight that a combination of technological capabilities, management strategies, and corporate culture is the key driver for successful digital transformation in the accounting sector. This will help SMEs in Thanh Hoa improve operational efficiency and enhance their competitive advantage in the market.

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