Factors Impacting Digital Accounting Systems Trend: Empirical Evidence from An Emerging Market

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Abstracts: This study aims to investigate the factors that influence the digitalization of accounting systems applications in Vietnamese firms. The research focuses on the impact of Top Management Teams (TMTs), innovative corporate culture, Big Data, and Information Technology (IT) Infrastructure on the adoption of accounting systems applications. A comprehensive review of relevant literature reveals that TMTs play a critical role in driving digitalization initiatives, including accounting systems applications. Additionally, an innovative corporate culture can foster the adoption of digital technologies, leading to increased efficiency and accuracy of accounting systems. Moreover, the study identifies Big Data as a crucial resource for accounting systems, while IT Infrastructure is essential for successful implementation. Employing a quantitative survey methodology, the study collects data from 285 Vietnamese companies using purposive sampling techniques. The research findings provide insights into the factors that affect the digitalization of accounting systems applications in Vietnamese firms, which is beneficial for both practical management and theoretical perspectives.

Keywords: Digital Accounting Systems applications, Top Management Teams, Innovative Corporate Culture, Big Data, Information Technology (IT) Infrastructure.

1. INTRODUCTION

In recent years, digitalization has become an increasingly prevalent trend in various industries and sectors around the world, and accounting is no exception. Digital accounting refers to the use of computer technology and software to perform accounting functions and manage financial information. The rise of digital accounting has revolutionized the field of accounting, making it more efficient, accurate, and accessible than ever before. Digital accounting systems have replaced traditional manual bookkeeping methods, reducing the risk of errors, increasing speed and efficiency, and providing real-time access to financial data. In essence, digital accounting systems enable users to access applications and real-time data from various locations, as and when required. This convergence of information technology efficiency and business agility provides a powerful framework for organizational success [17], [10].

The use of digital accounting software has become increasingly common in both small and large businesses, with many organizations opting for cloud-based solutions that allow for remote access and collaboration. Digital accounting tools also enable the automation of routine tasks such as data entry, invoicing, and financial reporting, freeing up time for accounting professionals to focus on more strategic tasks such as financial analysis and planning. Consequently, digital accounting has been deemed as a valuable organizational framework that facilitates the production of superior financial reports, enhances the usefulness of accounting information, and enables support for strategic decision-making processes [25], [22].

As digital accounting continues to evolve, it has also opened up new opportunities for innovation and collaboration. Blockchain technology, for example, has the potential to transform accounting and auditing processes by enabling secure and transparent transactions and data sharing. Moreover, digital accounting represents a significant shift in the accounting profession, offering numerous benefits in terms of accuracy, efficiency, and accessibility. The advent of digital technology is bringing about significant changes to workplaces and workflows within the accounting profession at large. These developments are creating novel opportunities while also necessitating advanced technological competencies from employees [13], [16]. As such, it is increasingly important for accounting professionals to have a strong understanding of digital accounting tools and techniques in order to remain competitive in today's rapidly evolving business landscape.

In Vietnam, the digitalization of accounting systems has been gaining momentum, with many businesses and organizations embracing this trend to streamline their financial operations and improve their overall efficiency. This trend has been driven by a variety of factors, including advances in technology, changing consumer behaviour, and increasing pressure to reduce costs and increase profitability. However, there are few studies on digital accounting systems in Vietnam have been conducted. Only [21] sampled 323 accountants in Vietnamese small and medium enterprises and concluded that there was an associated impact of perceptiveness on digitalizing accounting applications.

In this paper, we will explore the trend of digitalizing accounting systems in Vietnam, analyzing its drivers, benefits, and challenges. We also examine some of the potential factors that are positively associated with digitalizing accounting systems implementation and provide suggestions for enhancing the implementation of digitalizing accounting systems based on research findings.

2. LITERATURE REVIEW

2.1. Top management teams and digitalizing accounting systems application

The Upper Echelons Theory, initially postulated by [14], posits that senior executives perceive their circumstances through their own distinctive perspectives and that the traits and characteristics of upper management significantly impact an organization's performance. While it is reasonable to assume that executive characteristics would be reflected in a company's outcomes, the reality is that certain executives possess more sway over their firms than others. Expanding upon the Upper Echelons Theory, the concept of managerial discretion has implications for a variety of phenomena, such as executive compensation, succession planning, and governance practices. The theory identifies observable characteristics, such as age, prior professional experience, and educational background, which should be taken into consideration. For example, [24] posits that younger managers tend to make more daring financial decisions, resulting in greater use of financial leverage. He argued that a CEO's past experience boosts the company's operational efficiency and viability. [15] contend that the CEO's educational background is a crucial element in corporate policies since better-educated CEOs are more willing to take risks and be bolder in their use of financial leverage. Furthermore, [6] and [23] suggest that highly educated CEOs are more likely to acquire new knowledge and engage in more investment opportunities.

H1: Top management teams have a positive association with digitalizing accounting systems applications.

2.2. Innovative Corporate Culture and digitalizing accounting systems application

As per [19] definition, the concept of corporate culture pertains to the shared values and norms that establish expectations for appropriate attitudes and behaviour among members of a group. Scholars have inferred that corporate culture plays a substantial role in the implementation of digitalized accounting systems, employing this interpretation. For instance, in cultures that prioritize innovation and outcomes, personnel are more likely to embrace creative accounting and non-accounting practices with minimal resistance [4], [5]. Within this cultural context, workers are eager to dedicate their time and resources to exploring novel business activities, including the application of digitalized accounting systems. They are comfortable and respond positively to the incorporation of fresh knowledge. Furthermore, they are also expected to exhibit a greater commitment to engagement, providing the necessary infrastructure to execute and derive benefits from such practices.

H2: Innovative Corporate Culture has a positive association with digitalizing accounting systems applications.

2.3. Big data and digitalizing accounting systems application

The notion of "big data" has garnered substantial attention and has been extensively deliberated with several interpretations in the professional realm. According to certain specialists, big data pertains to voluminous datasets that cannot be processed manually or via conventional methods, such as spreadsheets. The origins of this data are diverse and may include social media, business operations, live sports events, weather forecasts, and comparable channels. Furthermore, big data is thoroughly analyzed and employed in an agile and dynamic business milieu.

The three fundamental features of big data, recognized as the 3 Vs, were identified by [3] and include volume, velocity, and variety. Volume pertains to the massive amount of generated data, while velocity refers to the rate at which data is produced and transmitted. Finally, variety encompasses the various types of data, both structured and unstructured. Conversely, other specialists view big data not as a technical term but as a cultural transition within organizations towards data-driven decision-making, as [12] have emphasized. Presently, big data is characterized by several attributes, including the 3 Vs of volume, velocity, and variety, as well as veracity, value, variability, and valence. Alongside the three fundamental characteristics, veracity pertains to the quality, uncertainty, and imprecision of data, while value denotes the competitive advantage of data.

The integration of technology is crucial for the digitalization of accounting systems. The use of big data has become a common practice among enterprises. Enterprises can achieve a feasible and effective digitalization of accounting systems by investing in the necessary technology infrastructure and utilizing unique datasets to develop an integrated information system. Therefore, organizations must have an integrated information system to ensure the feasibility and effectiveness of innovative accounting tools in the digitalization of accounting systems. Moreover, research has indicated that it is imperative to be flexible in implementing different strategies for big data and analytics. Both large and small to medium-sized enterprises can successfully undertake big data and analytics projects with the aid of skilled technical teams [11].

H3: The big data has a positive association with digitalizing accounting systems applications

2.4. Information Technology (IT) Infrastructure and digitalizing accounting systems application

[1] has analyzed the internal and external variables associated with Information Technology (IT) and its potential to facilitate the redesign of digital accounting systems. The successful direction and implementation of these changes depend on a combination of internal and external factors. In the last two decades, the accounting environment has undergone significant transformations, driven primarily by the complexity of manufacturing operations and the advancements in IT [2]. Researchers in the field of accounting have concluded that the functioning of digital accounting systems is considerably influenced by both the organizational structure and IT. Additionally, IT advancements and increased competition have been identified as factors that impact digital accounting systems [20], [8], [9].

H4: Information Technology (IT) Infrastructure has a positive association with digitalizing accounting systems applications.

Model research might be built as below:

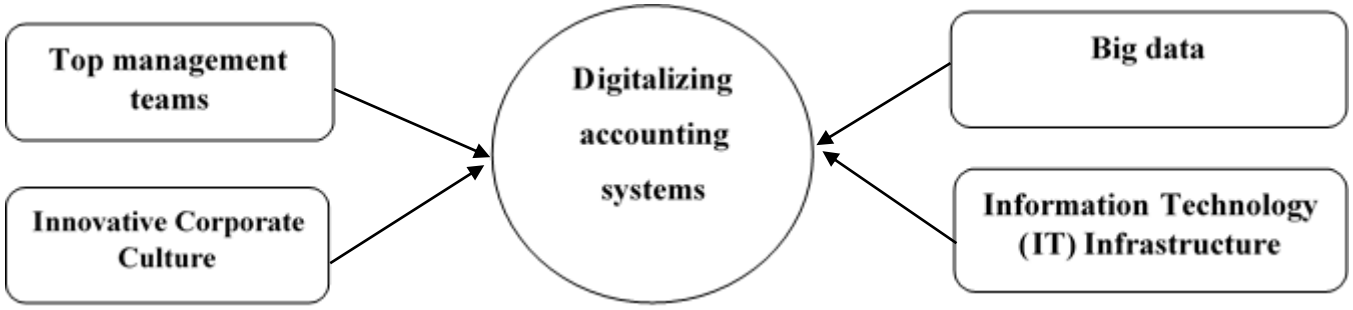

Figure 1. Overview of the research model

3. MATERIALS AND METHODS

3.1. The Research Model Development

The constructed model was established upon four hypotheses to evaluate the impact of four independent

variables on the dependent variable DIAS, which represents the application of digitalized accounting systems.

The present model is explicated as follows:

$DIAS_i = \alpha + \beta_1 TMT_i + \beta_2 CUL_i + \beta_3 BIG_i + \beta_4 ITS_i$

Where

DIASi: represents digitalizing accounting systems application factors.

- α: constant term

- βi: coefficient of variables

- εi: Residual

The variables included TMT, CUL, BIG and ITS, which stand for Top Management Teams, Innovative Corporate Culture, Big Data and Information Technology Infrastructure. The factors under investigation are anticipated to have a correlated effect on the implementation of digitalizing accounting systems in Vietnamese enterprises

The sample size was determined by applying Green's (1991) formula, which stipulates that a minimum sample size of 50 + 8p should be utilized, where p represents the number of independent variables. Given that the study comprises four independent variables, a minimum sample size of 82 was calculated. The survey questionnaire was dispersed to directors, chief accountants, managers, and accountants in Vietnamese companies, with 400 questionnaires disseminated. The survey garnered 285 valid responses, yielding a response rate of 71.3%. All questions were assessed utilizing a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Exploratory Factor Analysis (EFA) was employed to execute the research model, theoretical model, and hypothesis testing, facilitated by SPSS 24.0 software.

3.2. Measurements' Development

The survey questionnaire was constructed by extracting relevant information from the literature and comprised of three distinct sections. The initial section aimed to gather demographic data of the participants, including directors, chief accountants, and accountants. The second part sought to elicit information regarding the characteristics of the enterprises, while the final section was specifically designed to acquire data on the factors influencing the application of digitalized accounting systems in Vietnamese companies. To ensure the questionnaire's clarity, content validity, and user-friendliness, a draft version was evaluated by numerous experts in questionnaire development, who offered feedback on its wording, content, and presentation. Following the necessary revisions, the survey was administered to the targeted respondents, including directors, chief accountants, and accountants employed in Vietnamese enterprises.

4. RESULTS AND DISCUSSION

The following research outcomes were obtained via SPSS 24.0-assisted EFA model testing:

Table 1. The results of the reliability and validity test.

Name of Scale	**Corrected Item-Total Correlation**	***Cronbach's Alpha (Number of Observed variables)***
Top Management Teams (TMT)	0.703–0.903	0.918 (04)
Innovative Corporate Culture (CUL)	0.590–0.753	0.861 (05)
Big Data (BIG)	0.369–0.505	0.695 (05)
Information Technology (IT) Infrastructure (ITS)	0.573–0.760	0.822 (04)
Digitalizing accounting systems (DIAS)	0.596–0.716	0.823 (04)

The Cronbach's Alpha values of all scales were greater than 0.6, denoting their suitability for analysis, as demonstrated in Table 1. The scales consisted of 22 variables, comprising 18 independent variables and 4 dependent variables. The test results, as depicted in Table 2, indicate that the KMO value was greater than 0.5 but less than 1, and Bartlett's Test was statistically significant with a P-value lower than 0.05. These outcomes signify that the application of the Exploratory Factor Analysis (EFA) model was appropriate for assessing the scale values of the independent variables.

Table 2. KMO and Bartlett's Test.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.772
Bartlett's Test of Sphericity	Approx. Chi-Square	2743.899
	df	153
	Sig.	.000

As presented in Table 3, the analysis outcomes indicate that the observed variables accounted for a variance of 63.75%, which exceeded 50%. Hence, the EFA model was considered appropriate, leading to the acceptance of the scale.

Table 3. Total variance explained.

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.891	21.616	21.616	3.891	21.616	21.616
2	3.019	16.771	38.387	3.019	16.771	38.387
3	2.593	14.407	52.794	2.593	14.407	52.794
4	1.972	10.957	63.752	1.972	10.957	63.752

To ensure the reliability of the factors in the four groups of independent variables, the researchers carried out a factor analysis test utilizing the 18 observed variables. The results of this test are presented in Table 4:

Table 4. Matrix of rotational factors.

Rotated Component Matrix[a]				
	Component			
	1	2	3	4
TMT1		.844		
TMT2		.946		
TMT3		.807		
TMT4		.942		

CUL1	.723			
CUL2	.870			
CUL3	.850			
CUL4	.825			
CUL5	.729			
BIG1				.674
BIG2				.672
BIG3				.744
BIG4				.680
BIG5				.575
ITS1			.741	
ITS2			.885	
ITS3			.826	
ITS4			.783	

The researchers performed a factor analysis test on the 18 observed variables to ensure the reliability of the four groups of independent variables. The groups were renamed as F1-CUL (including CUL1, CUL2, CUL3, CUL4, and CUL5), F2-TMT (comprising TMT1, TMT2, TMT3, and TMT4), F3-ITS (including ITS1, ITS2, ITS3, and ITS4), and F4-BIG (comprising BIG1, BIG2, BIG3, BIG4, and BIG5).

Table 4 presents the results of the Exploratory Factor Analysis (EFA) conducted to verify the reliability of these factors. The analysis showed that all factor loadings for the observed variables were significant, with values exceeding 0.5. The EFA model produced four factors that were consistent with the initial hypothesis concerning the measurement variables for each factor.

Table 5 presents the adjusted R2 coefficient, which indicates the proportion of variance in the dependent variables that can be explained by the independent variables. The coefficient value of 48.2% signifies a moderate degree of variation in the dependent variables that can be attributed to the independent variables**.**

Table 5. Summary of the regression model.

Model Summary[b]							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.699[a]	.489	.482	.72000358	.489	66.959	4

The ANOVA results presented in Table 6 indicate that the F-test was statistically significant with a Sig. value less than 0.05, validating the appropriateness of the model. Six independent variables accounted for 48.9% of the variation in the dependent variable DIAS.

Table 6. ANOVA results.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	138.847	4	34.712	66.959	.000[b]
	Residual	145.153	280	.518		
	Total	284.000	284			

Following the regression analysis presented in Table 7, all variables (F1 to F4) have been deemed acceptable based on their Sig. values, which were found to be lower than 0.01.

Table 7. Regression weighting.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.752E-16	.043		.000	1.000
	REGR factor score 1 for analysis 1	.400	.043	.400	9.351	.000
	REGR factor score 2 for analysis 1	.436	.043	.436	10.207	.000
	REGR factor score 3 for analysis 1	.345	.043	.345	8.065	.000
	REGR factor score 4 for analysis 1	.143	.043	.143	3.341	.001

The detailed results in Table 7 below provide the regression equation:

DIAS = 0.436 * TMT + 0.400 * CUL + 0.345 * ITS + 0.143 * BIG.

In this study, there are some implied conclusions. Firstly, based on the results above, Top Management Teams are most vital in impacting digitalizing accounting systems applications. Top Management Teams (TMTs) play a crucial role in the digitalization of accounting systems applications in organizations. According to previous research, TMTs' vision, strategic direction, and support are critical factors that influence the success of digitalization initiatives. TMTs must have a clear understanding of the potential benefits and challenges of digitalizing accounting systems and must provide the necessary resources to support the implementation process. Additionally, TMTs must ensure that the organization's culture and structure are conducive to digitalization. Prior studies found that TMTs that

prioritize innovation and have a positive attitude toward digital transformation are more likely to achieve successful digitalization of accounting systems applications. Therefore, the support and leadership of TMTs are essential in driving digital transformation in accounting systems applications in organizations. It is consistent with prior findings of [7], [26].

Secondly, Innovative corporate culture can have a significant impact on digitalizing accounting systems applications. A culture that encourages and supports innovation can lead to the adoption of new technologies and processes, such as digital accounting systems. When employees are encouraged to think creatively and take risks, they may be more likely to embrace new technologies and seek out more efficient and effective ways of working. Additionally, a culture of innovation can foster collaboration and communication among team members, which can aid in the successful implementation of digital accounting systems. Studies have shown that companies with innovative cultures are more likely to invest in and adopt new technologies, leading to improved business performance. Therefore, companies that prioritize creating an innovative culture may be more successful in their efforts to digitalize their accounting systems applications. This observation aligns with the previously reported results presented by [5].

Thirdly, the emergence of Big Data has significantly impacted the digitalization of accounting systems applications. Big Data refers to vast amounts of structured, unstructured, and semi-structured data that are generated by various sources, such as social media, sensors, and business transactions. The ability to collect, store, and analyze Big Data has led to the development of new technologies, including Artificial Intelligence (AI), Machine Learning (ML), and Data Analytics. These technologies provide opportunities to improve accounting processes, such as forecasting, fraud detection, and risk management, and enable organizations to make better-informed decisions. Big Data also enables the integration of diverse data sources, which allows for more comprehensive and accurate analysis. Consequently, organizations that adopt Big Data analytics in their accounting systems applications can gain a competitive advantage in the marketplace. This is also supported by prior studies, such as [11].

Fourthly, the role of Information Technology (IT) infrastructure in digitalizing accounting systems applications cannot be overstated. The IT infrastructure serves as the backbone of digital accounting systems, providing a platform for the integration of various software applications and tools. It also ensures the smooth flow of data between different accounting modules and helps to prevent data redundancy and inconsistencies. With the increasing complexity of accounting systems, a robust IT infrastructure is necessary for efficient data management, processing, and analysis. An agile IT infrastructure can enhance the reliability, security, and accessibility of accounting data, enabling management teams to make informed decisions. The use of cloud-based technology and virtualized environments further enhances the scalability, flexibility, and cost-effectiveness of IT infrastructure for digital accounting systems applications. Therefore, organizations must invest in robust and agile IT infrastructure to support their digital accounting systems applications. The assertion is further bolstered by earlier investigations, exemplified by the research conducted by [2].

5. CONCLUSION

In conclusion, digitalizing accounting systems applications is a crucial process for modern businesses to optimize their financial management. The success of digitalization depends on various factors, including Top Management Teams (TMTs), innovative corporate culture, Big Data, and Information Technology (IT) Infrastructure. TMTs play a critical role in providing strategic direction, allocating resources, and supporting digitalization efforts. An innovative corporate culture fosters creativity and openness to new technologies, which are essential for successful digitalization. Big Data can provide valuable insights for decision-making, while an efficient IT infrastructure can support the implementation and maintenance of digital accounting systems. Therefore, organizations should invest in these factors to ensure the successful implementation and utilization of digital accounting systems.

The research has some limitations such as the limited time and resources that prevented the examination of other factors that impact digitalizing accounting systems applications. Further studies should investigate other

factors like government support, costing of digitalizing accounting systems applications, competency human resources etc. that were not covered in this study.

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