ASEAN International Sandbox Conference 2026 AISC Proceedings, Volume 8, 2026
http://aseansandbox.org

How Do Accounting Information Systems Shape Firm Performance in Small and Medium Enterprises in Transition Economy?

Hoang Phuong Thao[1], Vu Thi Thanh Binh[1*], Hoang Le Thao Vy[1]
[1]VNU University of Economics and Business, Hanoi, Vietnam
*Corresponding author, Email: vttbinh@vnu.edu.vn

Abstract

Accounting information systems play a critical role in providing timely and reliable information to support managerial decision-making and control. This study investigates how the components of accounting information systems: people, procedures and instructions, software, data, information technology (IT) infrastructure, and internal controls influence the non-financial performance of Vietnamese small and medium enterprises (SMEs). The sample comprises 208 valid respondents from SMEs, collected through a structured survey. The measurement quality test reveals that the data and software components are integrated into a single construct, referred to as a database in the digital transformation context. The regression analysis indicates that the five AIS components have positive effects on SMEs' non-financial performance. The database demonstrates the strongest influence, followed by IT infrastructure and internal controls. These findings contribute to the literature in transition economies by highlighting the predominance of technological resources over human-related factors, which contrasts with some prior studies. From a practical perspective, the results suggest that SMEs should prioritize investments in database management, software systems, and IT infrastructure, alongside the development of appropriate internal control mechanisms, to enhance non-financial performance across customer, internal process, and learning dimensions.

Keywords: *Accounting information systems, firm performance, non-financial performance, SMEs*

1. Introduction

Vietnam is experiencing a significant digital transformation wave, driven by the government's National Digital Transformation Program to 2025 with orientations toward 2030, which aims to position Vietnam as a digital country with a stable and prosperous digital economy. This transformation is particularly crucial for small and medium enterprises (SMEs), which constitute approximately 97.6% of all operating businesses in Vietnam, according to the white paper on businesses in Vietnam published by the (MPI, 2017). Digital transformation has become a crucial driving force for the high-quality development of businesses (Chen, Moretto, Jia, Caniato, & Xiong, 2021). With the continuous emergence of technologies such as artificial intelligence, blockchain, cloud computing, and big data, digital capabilities are gradually becoming essential competitive factors for enterprises (Nicoletti & Appolloni, 2024).

Accounting information systems (AIS) represent a vital component in this digital landscape. According to Wilkinson, Cerullo, Raval, and Wong-On-Wing (2000), AIS can be understood as an indispensable structure in any organization that transforms financial-accounting transaction data into useful information serving stakeholders' needs. Romney and Steinbart (2015) further explain, AIS comprises people who use the system, procedures and instructions, data, software, information technology infrastructure, and internal control and securities measures that collect and store data, then transform data from business activities to generate valuable information for management and decision-making and provide controls to ensure the assets in firms. The significance of AIS for SMEs is particularly pronounced, as scholars have established that AIS plays an important role in supporting these businesses to effectively manage short-term operational issues such as revenue, expenses, and cash flow through improved monitoring and control capabilities (Mitchell, Reid, & Smith, 2000).

Research on the impact of AIS on firm performance has gained considerable attention globally. Several studies, e.g., Gelderman (1998) and Ismail and King (2007), have explored the relationship between AIS and non-financial performance, finding positive relationships between user satisfaction with information systems, information technology (IT) strategy alignment, and organizational performance. In Vietnam, few studies like Le (2023) and Vu and Nguyen (2022) show a successful implementation of AIS positively affects both financial and non-financial performance. Despite considerable research, gaps remain. Most studies focus on specific industries rather than on evaluating across an entire industry segment in an emerging-economy context. Additionally,

research in Vietnam is still limited regarding the comprehensive impact of AIS on non-financial performance metrics, particularly for SMEs.

2. Objectives

This research investigates the impact of accounting information systems on SME performance in Vietnam, with an emphasis on non-financial performance. The study seeks to propose solutions to improve AIS implementation and enhance firm performance. The Vietnamese government's focus on digital transformation provides a favorable environment for this investigation, as digital initiatives increasingly facilitate AIS adoption and advancement among SMEs, potentially leading to improved business outcomes and sustainable competitive advantages.

3. Materials and Methods

3.1. Firm Performance

Firm performance is the core goal that all organizations aim for in their business production process. It's a multidimensional concept, and the approach to this term can vary depending on the research context, time factors, and specific objectives of each organization. From an economic perspective, Samuelson (1989) defines performance as the most effective use of economic resources to satisfy human needs. Firm performance is understood as the ability to use minimal resources to achieve desired goals or to maximize benefits derived from a certain amount of resources. Firm performance reflects the ability to use resources such as personnel, finance, and facilities to achieve organizational goals effectively (Tran, Binh, & Loan, 2025). In general, firm performance is indeed a critical economic metric that reflects an organization's ability to effectively utilize resources to achieve its objectives, or in other words, it is the output result of the organization (Taouab & Issor, 2019).

Firm performance includes two main aspects: financial performance and non-financial performance. Non-financial performance is understood as a business's current and future potential in optimizing available resources (Do & Mai, 2022). This concept is founded on management theories, notably the resource-based view (RBV), which suggests that a business's resources are finite, making traditional financial indicators insufficient to comprehensively reflect an organization's long-term development capacity. Several models have been developed to measure non-financial performance, such as the performance prism model (Neely, Adams, & Crowe, 2001) and particularly the balanced scorecard (BSC) (Kaplan & Norton, 1992). BSC is a planning and performance evaluation method aimed at transforming an organization's vision and strategy into specific objectives, measurements, and clear targets. Kaplan and Norton (2005) built an integrated evaluation framework for non-financial performance, encompassing aspects: Customer satisfaction aspect, internal business process aspect, and learning & growth aspect. The non-financial performance indicators help businesses achieve long-term stability and enhance financial performance (Refmasari & Supriyono, 2019). Customer satisfaction reflects the growth rate of revenue from existing customers, the increase in total sales to new customers, and the increase in the customer satisfaction rate. The internal process aspect represents reduced time to develop new products, increased efficiency in internal operations, and reduced internal process costs. And learning and development are reflected in an increased employee satisfaction rate and a higher number of employees achieving personal goals. This study uses this approach to adopt the previous measure of non-financial performance.

3.2. Accounting information systems in enhancing firm performance

AIS is an indispensable structure in any organization, playing the role of transforming data from financial-accounting transactions into useful information, serving the needs of relevant subjects (Wilkinson et al., 2000). Hall (2011) emphasizes that AIS is a set of software systems, designed to support the recording of economic transactions, while processing both internal data (serving management) and information from outside such as customers, suppliers, government agencies, or creditors. AIS is a comprehensive system including people, processes, and information technology (Gelinas, Sutton, & Hutton, 2005). This system takes on important functions such as collecting, storing, and processing data arising from business production activities, to transform them into useful information serving management and decision-making. By nature, AIS include people, procedure, data, software, hardware, and internal control (Romney & Steinbart, 2015). In a business's management information system, accounting information system plays the role of an important subsystem.

According to the RBV theory, businesses can build and maintain competitive advantages through implementing strategies that leverage internal strengths, while capturing opportunities from the external environment. Barney (1991) suggests that a business can only create a competitive advantage when its resources ensure 4 factors, including valuable, rare, difficult to imitate or copy, and non-substitutable. Applying the RBV theory to the context of accounting information systems shows that when businesses invest reasonably and adequately in resources for accounting information systems, it will create a positive impact on overall firm performance. Specifically, factors belonging to accounting information systems such as the quality of human resources, information technology infrastructure, as well as business processes all have direct and indirect effects on business performance. As introduced about theories on the influence of accounting information systems on business performance and an overview of previous studies. Some key studies show that AIS has a strong influence on the performance of enterprises. According to research by Binh, Tran, Thanh, and Nga (2020), accounting resources have a significant positive impact on the quality of AIS at Vietnamese SMEs. The study proves that the competence of the accounting team, including qualifications, experience, and skills, directly affects the effectiveness of AIS implementation and operation. Similarly, Bình and Luân (2016) shows that accounting resources and accounting team capabilities have a significant positive impact on the quality and effectiveness of AIS at enterprises. Hypothesis H_1 is proposed below:

Hypothesis H_1: People who use the system have a positive effect on the non-financial performance of SMEs.

Procedure & instructions are understood as all instructions and standardized steps to perform accounting activities in a business. Procedure & instructions are crucial components in the corporate accounting information system (Gelinas et al., 2005) that must be integrated into AIS software. Moreover, the procedure need to be trained to employees and be consistent in implementation to ensure AIS operates effectively and external audit (Almasria, Airout, Samara, Saadat, & Jrairah, 2021). Documenting procedures is essential in AIS, and accountants traditionally used system flowcharts, now supplemented by various modern documentation tools, to analyze and understand internal controls. The hypothesis H_2 is postulated:

Hypothesis H_2: Procedures & instructions in the AIS have positive effect on the non-financial performance of SMEs.

Data is understood as all information collected, stored, and processed in the accounting information system. Bình and Huyền (2016) shows that data quality and data management methods positively affect the effectiveness of AIS. The effectiveness of an AIS depends primarily on the quality of its input data; when data are accurate, timely, and reliable, the system can operate at a higher level of performance and better prevent errors, theft, or fraud (Haje, Arystanbaeva, Oralbaeva, & Kupenova, 2019). The study proposes hypothesis H_3.

Hypothesis H_3: Data factors in accounting information systems have a positive effect on the non-financial performance of SMEs.

IT infrastructure understood as all physical devices that support the operation of an accounting information system, constitutes a fundamental component of the information technology infrastructure for an accounting information system (Jasim & Raewf, 2020). Previous studies have shown that information technology infrastructure (hardware, network, etc.) is a critical determinant of AIS quality and effectiveness (Bình, 2018; Bình & Huyền, 2016; Puspitawati, Herliani, Agustin, & Fauzan, 2024). Hypothesis H_4 is below:

Hypothesis H_4: Information technology infrastructure of the AIS has a positive effect on the non-financial performance of SMEs.

Software refers to the set of applications and computer programs that support and automate accounting processes within an AIS. Prior studies (e.g., Bình and Huyền (2016), Binh, Tran, Thanh, and Pham (2020)) indicate that accounting software is a core component of information technology infrastructure, enabling organizations to process data accurately, consistently, and in compliance with accounting standards in different business sectors. High-quality software enhances the reliability, timeliness, and integration of accounting data, thereby improving the overall performance of the AIS (Jorjafki, 2024). Moreover, well-designed software reduces human errors and strengthens internal controls through built-in validation and audit-trail functions (Ramdany, 2015). Accordingly, it is expected that more advanced and reliable accounting software will contribute positively to the corporate performance. Hypothesis H_5 is below:

Hypothesis H_5: Software in the AIS have positive effect on the non-financial performance of SMEs.

Internal control is understood as all mechanisms, measures, and regulations to ensure the operation of AIS complies with regulations and achieves efficiency. Teru, Idoku, and Ndeyati (2017) and Monteiro, Cepêda, Da Silva, and Vale (2023) affirm that internal control has a direct impact on the quality of the performance of businesses. Fitriati and Susanto (2017) prove that internal control plays a positive mediating role between AIS quality and financial performance. Thus, hypothesis H_6 states that:

Hypothesis H_6: Internal controls of the AIS have a positive effect on the non-financial performance of SMEs.

The theoretical model is presented in Figure 1.

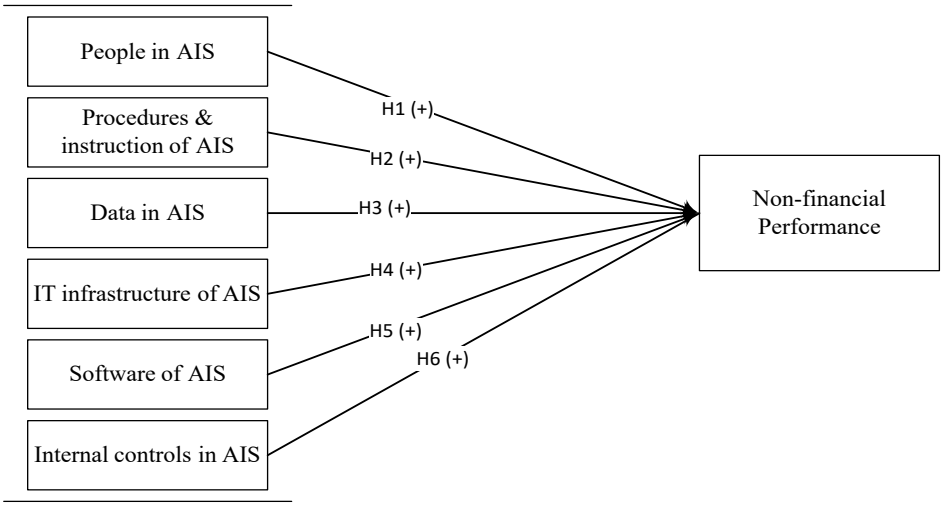

Figure 1 Theoretical research model

3.3. Research methods

Regarding sample size, based on Hair, Black, Babin, and Anderson (2014), for exploratory factor analysis, the minimum sample size needs to be five times the number of construct's items. The minimum sample are 145 observations based on the total of 29 items. The primary data was collected by an online survey with convenience sampling. The quantitative data was gathered through the Google Forms that were delivered to managers, chief accountants, and accountants of SMEs in Hanoi. The study obtained 210 responses. Subsequently, two responses were eliminated due to all items in the questionnaire being marked with the same value on the 5-point Likert scale, indicating an invalid response pattern. The final sample therefore consisted of 208 valid responses (Table 1). The data responses concentrate in the northern region (62%), central region (10%), and southern region (28%). By sector, industry and construction dominate with 60.5%, followed by trade and services sector with 29.2%, agriculture sector with 5.6%, and other sectors (4.6%). The sample consists of well-established businesses with diverse operations. The study used quantitative methods to analyze multiple regression using SPSS 26.

Table 1 Demographic of respondents (N=208)

Criteria	%	Detailed information	Criteria	%	Detailed information
Location	63%	Northern region	Number of employees	50%	Under 50 employees
	10%	Central region		35%	From 50 to 100 employees
	28%	Southern region		15%	From 100 to 200 employees
Business sector	58%	Industry and construction	Type of enterprise	57%	Joint-stock company
	33%	Trade and services		31%	Limited liability company
	5%	Agriculture sector		7%	Private company
	5%	Others		5%	Partnership

4. Results and Discussion

Descriptive statistics indicate that most item groups were evaluated at a moderate to high level. The NFP group recorded the highest mean scores (from 3.30 to 4.06) with low standard deviations, suggesting strong consensus among respondents regarding non-financial performance. Procedures and instructions (PROC) and software (SOFW) also showed relatively high mean values. People (HUMA), data (DATA), and IT infrastructure (HARD) were rated at moderate levels. Overall, the variation in standard deviations across groups suggests differing levels of agreement, but no severe dispersion concerns were observed.

Table 2 Results of descriptive statistics and reliability test (N = 208)

Variables	Mean	Std. Dev.	Corrected Item – Total Correlation	Cronbach's Alpha if Item Deleted
People – HUMA		**Cronbach Alpha = 0.820**		
HUMA1	3.25	0.921	0.695	0.749
HUMA2	3.85	1.087	0.583	0.810
HUMA3	3.24	0.803	0.584	0.801
HUMA4	3.28	0.973	0.735	0.728
Procedures and instructions – PROC		**Cronbach Alpha = 0.783**		
PROC1	3.91	1.130	0.626	0.716
PROC2	3.35	0.940	0.651	0.680
PROC3	3.41	0.913	0.608	0.725
Data - DATA		**Cronbach Alpha = 0.799**		
DATA1	3.33	0.983	0.631	0.740
DATA2	3.30	0.922	0.624	0.746
DATA3	3.38	0.956	0.677	0.690
Software – SOFW		**Cronbach Alpha = 0.802**		
SOFW1	3.35	1.029	0.640	0.737
SOFW2	3.27	1.006	0.688	0.688
SOFW3	3.92	1.080	0.617	0.763
IT infrastructure – HARD		**Cronbach Alpha = 0.717**		
HARD1	3.49	0.862	0.561	0.625
HARD2	3.40	0.911	0.596	0.601
HARD3	3.35	0.909	0.615	0.589
HARD4	3.48	1.086	0.303	0.791
Internal controls – INCO		**Cronbach Alpha = 0.825**		
INCO1	3.87	0.874	0.694	0.757
INCO2	3.44	0.837	0.656	0.776
INCO3	3.85	0.909	0.625	0.792
INCO4	3.38	0.808	0.625	0.790
Non-financial performance – NFP		**Cronbach Alpha = 0.868**		
NFP1	3.35	0.692	0.632	0.851
NFP2	4.00	0.726	0.606	0.854
NFP3	3.46	0.708	0.624	0.852
NFP4	3.32	0.686	0.643	0.850
NFP5	4.06	0.700	0.592	0.855
NFP6	3.39	0.686	0.586	0.856
NFP7	3.32	0.685	0.616	0.853
NFP8	3.30	0.686	0.669	0.847

Measurement quality testing uses Cronbach's alpha and exploratory factor analysis (EFA). The reliability analysis shows that all variable groups achieved satisfactory Cronbach's Alpha coefficients, ranging from 0.717 to 0.868, indicating acceptable to high internal consistency (Vaske, Beaman, & Sponarski, 2017). Across all

constructs, the corrected item-total correlations exceed the commonly accepted threshold of 0.30, confirming that each item contributes meaningfully to its respective construct. Additionally, the values of "Cronbach's Alpha if item deleted" were either lower than or only marginally different from the overall Cronbach's Alpha of each group, suggesting that removing any item would not improve the reliability of the scales. Although HARD4 displays the lowest item-total correlation, it remains above the minimum requirement and does not significantly increase Cronbach's Alpha if deleted. Overall, the results indicate that all items meet the reliability criteria and are appropriate to retain for subsequent analyses.

The EFA is to evaluate the validity of measurement scales for independent variables and dependent variable. The EFA employed principal component analysis with Varimax rotation. The results are summarized in Table 3.

Table 3 Results of exploratory factor analysis

KMO and Bartlett's Test		**Independent variable**	**Dependent variables**
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.852	.886
	Approx. Chi-Square	1596.865	635.822
Bartlett's Test of Sphericity	df	153	28
	Sig.	0.000	0.000
EFA Explained Variance		69.506%	52.12%

The EFA for independent variables was conducted on the six initial AIS constructs, including people, procedures & instructions, IT infrastructure, software, data, and internal controls. The results showed that five factors were retained after applying the loading threshold of 0.50 (KMO = 0.852, $sig._{Bartlett's\ test} = 0.000$). Notably, the items representing the software and data constructs loaded together on the same factor, indicating that respondents perceived these elements as a single underlying dimension. This outcome is theoretically consistent with the AIS literature, in which software applications and organizational data are often jointly classified as core information resources that support the processing, storage, and use of accounting information (Bodnar & Hopwood, 2004; Romney & Steinbart, 2015). Therefore, the merged factor was named Information Resources. The remaining constructs, including people, procedures & instructions, IT infrastructure, and internal controls, retained distinct factor structures, confirming their discriminant validity within the AIS framework. The EFA for the dependent variable with KMO = 0.886 and $sig._{Bartlett's\ test} = 0.000$, indicating the factor loading into one group with cumulative extraction that explains 52,12% of variance. The analysis incorporated five independent variables, coding as DATABASE, HUMAN, CONTROL, HARDWARE, and PROCEDURE, along with the Non-Financial Performance (NFP) outcome variable to examine their relationships within the research model.

4.3. Hypothesis testing

Correlation analysis and multiple regression are used to test hypotheses. The correlation analysis is shown in Table 4.

Table 4 Result of correlation analysis

	DATABASE	**HUMAN**	**CONTROL**	**HARDWARE**	**PROCEDURE**	**NFP**
DATABASE	1					
HUMAN	.346**	1				
CONTROL	.295**	.176*	1			
HARDWARE	.366**	.235**	.235**	1		
PROCEDURE	.421**	.396**	0.118	.265**	1	
NFP	.650**	.432**	.335**	.571**	.573**	1

Table 4 shows that non-financial performance (NFP) has positive and statistically significant relationships with all independent variables. The correlation coefficients were 0.650 (DATABASE), 0.432 (HUMAN), 0.335 (CONTROL), 0.571 (HARDWARE), and 0.573 (PROCEDURE), respectively, with p-values < 0.05, confirming the statistical significance of these relationships. The multiple linear regression is presented in Table 5.

Table 5 Regression analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0.953	0.148		6.438	0.000		
DATABASE	0.216	0.031	0.344	6.916	0.000	0.697	1.435
HUMAN	0.062	0.028	0.105	2.246	0.026	0.793	1.261
CONTROL	0.072	0.030	0.106	2.400	0.017	0.888	1.126
HARDWARE	0.213	0.030	0.319	6.990	0.000	0.828	1.208
PROCEDURE	0.174	0.029	0.290	6.024	0.000	0.743	1.346
R square = 0.652		Adjusted R Square = 0.644		Durbin-Watson = 2.020			
F test = 75.767		Sig. = 0.000					

The multiple regression results indicate that the research model has strong explanatory power. The coefficient of determination (R-square) is 0.652, while the adjusted R^2 reaches 0.644, suggesting that approximately 65.2% of the variance in non-financial performance (NFP) is explained by the accounting information system components included in the model. This adjusted R-square reflects the suitability of the selected independent variables in capturing the key determinants of non-financial performance among Vietnamese SMEs and indicates that the model provides a robust representation of the underlying relationships. The overall adequacy of the regression model is further confirmed by the F-test results. The model is statistically significant at the 1% level (F = 75.767, Sig. = 0.000), indicating that the independent variables jointly exert a significant influence on non-financial performance. In addition, the Durbin–Watson statistic equals 2.020, which falls within the acceptable range, confirming the absence of autocorrelation in the residuals. These diagnostic results collectively demonstrate that the regression model satisfies the key assumptions and is appropriate for hypothesis testing.

Five independent variables exhibit statistically significant positive effects on non-financial performance, though their magnitudes differ considerably. Database, representing the combined influence of accounting software and data quality, emerges as the most influential factor ($\beta = 0.344$, $t = 6.916$, $p < 0.001$). This finding is consistent with prior studies by Bình and Huyền (2016) and Haje et al. (2019), which emphasize that accurate, timely, and reliable data are fundamental to AIS effectiveness. The strong impact of database supports the argument that information resources constitute a critical strategic asset, enabling SMEs to improve decision-making, internal processes, and organizational learning, particularly in the context of digital transformation. IT infrastructure (HARDWARE) ranks second in importance ($\beta = 0.319$, $t = 6.990$, $p < 0.001$), demonstrating a strong positive relationship with non-financial performance. This result aligns with previous empirical evidence reported by Bình (2018) and Puspitawati et al. (2024), who identify IT infrastructure as a key determinant of AIS quality and operational effectiveness. Adequate hardware and networking facilities provide the technological foundation that allows accounting software, data processing, and procedural controls to function efficiently, thereby enhancing overall firm performance. Procedure and instructions (PROCEDURE) also exhibits a strong and statistically significant effect on non-financial performance ($\beta = 0.290$, $t = 6.024$, $p < 0.001$). This finding corroborates the arguments of Gelinas et al. (2005) and Almasria et al. (2021), who emphasize the importance of standardized and well-documented accounting procedures in ensuring consistency, reducing errors, and supporting effective internal control. The substantial impact of procedures and instructions suggests that SMEs can achieve meaningful performance improvements by formalizing accounting workflows and ensuring consistent implementation across the organization.

In contrast, organizational factors show more modest, though still statistically significant, effects. The Human factor demonstrates a positive relationship with non-financial performance ($\beta = 0.105$, $t = 2.246$, $p = 0.026$), supporting prior studies by Binh, Tran, Thanh, and Nga (2020), which highlight the role of accounting staff competence in enhancing AIS effectiveness. The coefficient observed in this study suggests that, in the current stage of development, improvements in human capabilities alone may yield limited performance gains unless accompanied by adequate technological and system support. Similarly, internal control exhibits a statistically significant but comparatively weaker effect on non-financial performance ($\beta = 0.106$, $t = 2.400$, $p =$

0.017). This finding is consistent with earlier research by Teru et al. (2017) and Monteiro et al. (2023), which demonstrates that internal controls contribute to organizational performance primarily by ensuring system reliability, compliance, and risk mitigation. While internal control mechanisms may not serve as direct performance drivers, their significance underscores their essential role as safeguarding elements that support the sustainable operation of AIS in SMEs. The results provide strong empirical support for all proposed hypotheses and are largely consistent with prior studies and the RBV framework. The dominance of technological and information-related AIS components reflects the current stage of digital transformation in Vietnam, where investments in data quality, software, hardware, and standardized procedures generate more immediate and substantial improvements in non-financial performance, while human resources and internal controls function as complementary and enabling factors.

5. Conclusion

Based on the empirical results, this study concludes that accounting information systems play a significant role in enhancing the non-financial performance of SMEs in a transitioning economy. All examined AIS components, database, IT infrastructure, procedures and instructions, human resources, and internal controls, exert statistically significant positive effects on non-financial performance, although their relative impacts differ considerably. Technological and information-related components, particularly database quality, IT infrastructure, and standardized procedures, emerge as the most influential drivers, suggesting that SMEs derive substantial performance benefits from investments in digital resources and system formalization. These findings highlight that effective AIS implementation extends beyond financial reporting and contributes meaningfully to improvements in customer satisfaction, internal process efficiency, and organizational learning.

This study makes several important contributions to the existing literature. First, it extends the RBV by empirically demonstrating that AIS components function as strategic internal resources capable of generating non-financial performance advantages in SMEs operating in a transitioning economy. Second, by integrating multiple AIS dimensions into a single empirical model, the study provides a more comprehensive and comparative assessment of their relative importance, addressing a gap in prior research that often examined these components in isolation. Third, the findings offer empirical evidence from the Vietnamese SME context, thereby enriching the limited body of literature on AIS and performance in emerging and transitioning economies, where digital transformation dynamics differ substantially from those in developed markets.

From a practical perspective, the results offer clear implications for SME managers and policymakers. Managers should prioritize investments in accounting software, data quality, and IT infrastructure, as these components yield the most immediate and substantial improvements in non-financial performance. At the same time, formalizing accounting procedures and ensuring their consistent implementation can significantly enhance operational efficiency and system reliability. Although human resources and internal controls exhibit relatively smaller direct effects, they remain essential enabling factors that support the effective utilization of technological investments. For policymakers, the findings suggest that support programs aimed at promoting digital accounting systems, improving data management capabilities, and strengthening AIS infrastructure can play a critical role in enhancing the competitiveness and sustainability of SMEs in transitioning economies.

Acknowledgement

The authors gratefully acknowledge financial support from the Research Project No. QG.24.41, funded by the VNU Science and Technology Development Fund, Hanoi, Vietnam.

References

Almasria, N., Airout, R. M., Samara, A. I., Saadat, M., & Jrairah, T. S. (2021). The role of accounting information systems in enhancing the quality of external audit procedures. *Journal of Management Information and Decision Sciences, 24*(7), 1-23.

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management, 17*(1), 99-120. https://doi.org/10.1177/014920639101700108

Bình, V. T. T. (2018). *Research on factors affecting the level of information technology equipment of enterprise accounting information systems.* Hội thảo khoa học quốc gia Nghiên cứu và đào tạo Kế toán, kiểm toán, Đại học Công nghiệp Hà Nội, Hà Nội, 124-136.

Bình, V. T. T., & Huyền, C. T. (2016). Nghiên cứu các nhân tố ảnh hưởng đến hiệu quả của hệ thống thông tin kế toán trong các doanh nghiệp trên địa bàn Hà Nội [A study of factors influencing the effectiveness of accounting information systems: context of enterprises in Hanoi]. *Tạp chí Khoa học & công nghệ - Trường Đại học Công Nghiệp Hà Nội, 34*, 91-98.

Bình, V. T. T., & Luân, Đ. T. (2016). *Ảnh hưởng của năng lực đội ngũ kế toán đến hiệu quả của hệ thống thông tin kế toán tại các doanh nghiệp.* Paper presented at the Kỷ yếu hội thảo quốc gia – Kế toán, kiểm toán VN trong điều kiện hội nhập, tham gia vào các hiệp định thương mại thế hệ mới Đại học Công nghiệp Hà Nội.

Binh, V. T. T., Tran, N.-M., Thanh, D. M., & Nga, N. T. H. (2020). Impact of accountant resource on quality of accounting information system: Evidence from Vietnamese small and medium enterprises. *ACRN Journal of Finance and Risk Perspectives, 9*, 1-14. https://doi.org/10.35944/jofrp.2020.9.1.001

Binh, V. T. T., Tran, N.-M., Thanh, D. M., & Pham, H.-H. (2020). Firm size, business sector and quality of accounting information systems: Evidence from Vietnam. *Accounting, 6*(3), 327-334. https://doi.org/10.5267/j.ac.2020.2.002

Bodnar, G. H., & Hopwood, W. S. (2004). *Accounting Information System (Ninth Edition)*: Pearson Prentice Hall.

Chen, L., Moretto, A., Jia, F., Caniato, F., & Xiong, Y. (2021). The role of digital transformation to empower supply chain finance: current research status and future research directions (Guest editorial). *International Journal of Operations & Production Management, 41*(4), 277-288. https://doi.org/10.1108/IJOPM-04-2021-838

Do, T. T., & Mai, N. K. (2022). Organizational learning and firm performance: A systematic review. *International Journal of Productivity and Performance Management, 71*(4), 1230-1253. https://doi.org/10.1108/IJPPM-02-2020-0051

Fitriati, A., & Susanto, A. (2017). The accounting information system quality improvement through internal control and top management support effectiveness. *Journal of Theoretical & Applied Information Technology, 95*(19), 5003-5011.

Gelderman, M. (1998). The relation between user satisfaction, usage of information systems and performance. *Information & Management, 34*(1), 11-18. https://doi.org/10.1016/S0378-7206(98)00044-5

Gelinas, U. J., Sutton, S. G., & Hutton, J. E. (2005). *Accounting information systems*. Cincinnati: South-Western College Publishing.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis: 7th Edition*. Essex: Pearson Education Limited.

Haje, P., Arystanbaeva, A., Oralbaeva, Z., & Kupenova, Z. (2019). The role and importance of accounting information system in the context of digitalization. *Farabi Journal of Social Sciences, 5*(1), 64-73. https://doi.org/10.26577/CAJSH-2019-1-s8

Hall, J. A. (2011). Accounting Information System. In: Western Publishing Co.

Ismail, N. A., & King, M. (2007). Factors influencing the alignment of accounting information system in small and medium sized manufacturing firms. *Journal of Systems and Small Business, 1*(1-2), 1-20.

Jasim, Y. A., & Raewf, M. B. (2020). Impact of the information technology on the accounting system. *Cihan University-Erbil Journal of Humanities and Social Sciences, 4*(1), 50-57.

Jorjafki, A. P. S. (2024). Examining the Impact of Accounting Software on Enhancing the Accuracy and Timeliness of Financial Reports. *Business, Marketing, and Finance Open, 1*(2), 141-149. https://doi.org/10.61838/bmfopen.1.2.12

Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard: measures that drive performance. *Havard Business Review*, 71-79.

Kaplan, R. S., & Norton, D. P. (2005). *The balanced scorecard: measures that drive performance* (Vol. 70). Boston, MA, USA: Harvard Business Review.

Le, T. T. H. (2023). Impact of successful accounting information systems on the performance of manufacturing businesses in Vietnam. *Tạp chí Tài Chính, 10/2023*, 127-129.

Mitchell, F., Reid, G. C., & Smith, J. (2000). *Information system development in the small firm: The use of management accounting*. United Kingdom: CIMA Publishing.

Monteiro, A., Cepêda, C., Da Silva, A. C. F., & Vale, J. (2023). The relationship between ai adoption intensity and internal control system and accounting information quality. *Systems, 11*(11), 536.

MPI. (2017). *Sách trắng: Doanh nghiệp nhỏ và vừa Việt Nam*.

Neely, A., Adams, C., & Crowe, P. (2001). The performance prism in practice. *Measuring Business Excellence, 5*(2), 6-13. https://doi.org/10.1108/13683040110385142

Nicoletti, B., & Appolloni, A. (2024). *Artificial Intelligence in Support of Warehousing 5.0 and the EU Green Taxonomy.* Paper presented at the International Conference on Current Issues in Business and Economic Studies.

Puspitawati, L., Herliani, H. R., Agustin, N., & Fauzan, R. R. (2024). Information Technology on Accounting Information System. *International Journal of Research and Applied Technology, 4*(1), 126-132. https://doi.org/10.34010/injuratech.v4i1.14121

Ramdany. (2015). Influence The Quality of Accounting Information Systems and The Effectiveness of Internal Control On Financial Reporting Quality *Research Journal of Finance and Accounting, 6*(6), 143-152.

Refmasari, V. A., & Supriyono, R. A. (2019). The effect of non-financial performance on financial performance moderated by information disclosure. *Journal of Economics, Business, and Accountancy Ventura, 22*(2), 248-263.

Romney, M. B., & Steinbart, P. J. (2015). *Accounting information systems*: Pearson Boston, MA.

Samuelson, P. A. (1989). The judgement of economic science on rational portfolio man. *Journal of Portfolio Management, 16*(1), 4-12. DOI: 10.3905/jpm.1989.409238.

Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal, 15*(1), 93-106. http://dx.doi.org/10.19044/esj.2019.v15n1p93

Teru, S. P., Idoku, I., & Ndeyati, J. T. (2017). A review of the impact of accounting information system for effective internal control on firm performance. *Indian Journal of Finance and Banking, 1*(2), 52-59.

Tran, T. N., Binh, V. T. T., & Loan, N. T. T. (2025). Linking Corporate Governance Mechanisms to Firm Performance: Evidence from Vietnam. *International Journal of Economics and Financial Issues, 15*(5), 139–147. https://doi.org/10.32479/ijefi.19882

Vaske, J. J., Beaman, J., & Sponarski, C. C. (2017). Rethinking internal consistency in Cronbach's alpha. *Leisure Sciences, 39*(2), 163-173. https://doi.org/10.1080/01490400.2015.1127189

Vu, Q. T., & Nguyen, T. T. L. (2022). Factors affecting the accounting system of trade unions in Tien Giang province. *Tạp chí Công Thương, 19*.

Wilkinson, J. W., Cerullo, M. J., Raval, V., & Wong-On-Wing, B. (2000). *Accounting Information Systems: Essential concepts and Applications.* : Network: John Wiley and sons.