The Application of Digital Accounting Systems to Enhance Accounting Information Quality for SME Entrepreneurs

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Abstract

This study investigates the impact of digital accounting system adoption on the quality of accounting information among SME entrepreneurs in Thailand. Utilizing a mixed-methods approach, the research collected quantitative data from 400 SME entrepreneurs through structured questionnaires and qualitative insights from 20 in-depth interviews. The quantitative analysis employed descriptive statistics, correlation, and multiple regression to examine the relationships between digital accounting adoption, digital competency, and accounting information quality. Qualitative thematic analysis explored entrepreneurs' experiences, challenges, and perceptions in implementing digital accounting systems. The findings indicate that digital accounting adoption significantly enhances accounting information quality, particularly in terms of accuracy, completeness, timeliness, and reliability. Moreover, the study highlights that digital competency among entrepreneurs positively moderates the relationship between system adoption and information quality, demonstrating that technological benefits are amplified by human capability. Qualitative results reveal that while digital systems provide efficiency and strategic advantages, challenges such as implementation costs, software complexity, and limited technical knowledge may hinder effective utilization. The study provides practical implications for SME entrepreneurs, accounting service providers, and policymakers to support digital adoption, enhance financial management, and improve the quality of accounting information.

Keywords: Accounting Information Quality, Digital Accounting Systems, Digital Competency SMEs

1. Introduction

1.1 Principles and Rationale

The rapid advancement of digital technologies has transformed accounting practices globally, providing SMEs with opportunities to improve the quality, speed, and reliability of accounting information (Bhimani & Willcocks, 2014; Apostolou et al., 2019). Digital accounting systems, such as cloud-based platforms, Enterprise Resource Planning (ERP) software, and automated bookkeeping applications, enable SMEs to streamline data entry, reduce human error, and enhance the timeliness and accuracy of financial reports (Wang et al.,

2020). These systems also support real-time monitoring, facilitate decision-making, and improve transparency in financial reporting, which are critical for attracting investors and sustaining business growth (Bouri et al., 2021).

Small and Medium-sized Enterprises (SMEs) play a crucial role in economic growth, employment generation, and innovation worldwide, including Thailand (Office of Small and Medium Enterprises Promotion [OSMEP], 2021). Effective financial management and reliable accounting information are essential for SMEs to make informed decisions, secure financing, and comply with tax regulations. However, many SMEs face challenges in maintaining accurate and timely accounting records due to limited resources, lack of expertise, and manual bookkeeping systems (Alarcon et al., 2018).

In the context of Thailand, the adoption of digital accounting systems among SMEs is still evolving. Studies indicate that while some SMEs have adopted digital platforms to enhance efficiency, many continue to rely on traditional accounting methods due to perceived costs, lack of technical expertise, and resistance to change (Wongjantip, 2025; Kanchanapong & Phongphanich, 2022). Nevertheless, SMEs that implement digital accounting solutions report improvements in data accuracy, decision-making, and compliance with financial regulations. Moreover, government initiatives, such as digital transformation programs and training support, aim to promote the use of digital accounting tools among SMEs to strengthen their competitiveness and financial management capabilities (OSMEP, 2021).

Despite these developments, there is limited empirical research in Thailand examining how digital accounting systems specifically enhance the quality of accounting information for SMEs. Understanding this relationship is vital, as high-quality accounting information underpins effective management, strategic planning, and sustainable business growth. The findings will provide practical insights for SMEs, policymakers, and accounting professionals regarding the benefits and challenges of adopting digital accounting technologies.

1.2 Research Objective

The primary aim of this study is to examine the application of digital accounting systems and their impact on the quality of accounting information among SME entrepreneurs in Thailand. Specifically, the study seeks to achieve the following objectives:

1. To identify the extent of adoption of digital accounting systems among SME entrepreneurs in Thailand.

2. To explore the current level of digital accounting adoption provides insights into technological integration in SMEs and the challenges faced by business owners.

3. To evaluate the effect of digital accounting systems on the accuracy, completeness, and reliability of accounting information.

2. Literature Review

The adoption of digital technologies in accounting systems has been increasingly studied as a way to improve the quality of accounting information in SMEs. International research has highlighted that cloud-based accounting systems, ERP solutions, and automated bookkeeping significantly enhance the timeliness, accuracy, and reliability of financial data (Bhimani & Willcocks, 2014). These digital systems enable SMEs to eliminate many manual processes, reduce human errors, and generate real-time financial reporting, which, in turn, supports better decision-making and strategic planning (Apostolou et al., 2019).

From a digital transformation perspective, the digital maturity of SMEs is also important: organizations with stronger digital capabilities are better positioned to implement and benefit from digital accounting systems (Gonzalez-Varona, Lopez-Paredes, Poza, & Acebes, 2024). Enablers of this transformation include organizational learning, knowledge sharing, and development of digital competencies (Lokuge & Duan, 2021). These capabilities support not only the adoption of digital accounting tools but also their effective use in improving information quality and operational outcomes.

Empirical evidence from Thailand corroborates these international findings. For example, a case study of SME cloud accounting adoption during the COVID-19 pandemic found that Thai SMEs perceived cloud accounting systems to improve efficiency and financial organization, especially under remote working conditions, and prioritized systems with user-friendly interfaces and real-time access (Sastararuji et al., 2022). These qualitative results emphasize that digital accounting systems are particularly valuable when SMEs need flexibility and cost-effective financial control.

Research on digital accounting competency among SMEs in Thailand indicates that digital accounting skills are strongly linked to accounting work efficiency. A study of SMEs in Phitsanulok province found that digital accounting competency—including the use of technology, professional knowledge, and learning capacity—has a significantly positive impact on accounting efficiency. Interestingly, one dimension of digital accounting competency is professional ethics, suggesting that ethical accounting practices are relevant in the digital context.

The quality of accounting information from electronic accounting systems (e-accounting) has been shown to influence not only operational accounting performance but also business growth for SMEs. Mahansit & Sinjaroon-sak (2025) found that the quality of accounting information from such systems (measured in terms of accuracy, relevance, and timeliness) positively affects both accounting performance and SME growth. According to the research by Wongwaree (2023), transforming traditional accounting offices into "digital accounting firms" in Thailand enhances service competitiveness and adds value to accountants as strategic information partners. This reflects that digital accounting is not just beneficial for SMEs, but also for accounting service firms that support them.

However, the implementation of digital accounting in SMEs is not without challenges. Studies reveal barriers like cost concerns, limited digital literacy, and resistance to change among SMEs (Kanchanapong & Phongphanich, 2022; Sae-Lim & Pothisiri, 2020). These hurdles may limit full adoption or the effective use of digital accounting tools. Additionally, the required digital competencies of accountants, including software capability and understanding of digital data, are not yet uniformly developed, which may hinder the quality improvement of accounting information (Suwannsri & Saengkhiao, 2024).

Finally, digital transformation more broadly in SMEs also supports the argument that improving digital organizational competence contributes to better financial management and accounting system quality. Studies emphasize that building digital competence in SMEs including data management, cloud adoption, and accounting information systems is critical for long-term value creation.

3. Research Methodology

This study adopts a mixed-methods approach combining quantitative and qualitative methods to examine the application of digital accounting systems and their impact on accounting information quality among SME entrepreneurs in Thailand. Quantitative research is used to measure the extent of digital accounting adoption, digital competency, and accounting information quality, as well as to test the hypothesized relationships among these variables. Qualitative research complements this by exploring SME entrepreneurs' experiences, perceptions, and challenges in implementing digital accounting systems.

3.1 Population and Sample

The target population comprises SME entrepreneurs in Thailand who are engaged in various industries such as manufacturing, services, and retail and who use or are aware of digital accounting systems.

Quantitative sample: A sample of 400 SME entrepreneurs will be selected using stratified random sampling to ensure representation across industry type and business size.

Qualitative sample: A purposive sample of 20 SME entrepreneurs will be interviewed to gain in-depth insights regarding their experiences, challenges, and perceptions of digital accounting system adoption.

3.3 Data Collection

Quantitative data: Data will be gathered using a structured questionnaire with Likert-scale items assessing digital accounting system adoption, digital competency (software skills, accounting knowledge, digital literacy), and accounting information quality (accuracy, completeness, timeliness, relevance, reliability).

Qualitative data: Data will be collected through semi-structured interviews conducted in person or via video conferencing. Interview questions will explore perceived benefits,

challenges, and organizational support regarding digital accounting adoption. All interviews will be audio-recorded, transcribed, and coded for thematic analysis.

3.4 Data Analysis

Quantitative analysis: Descriptive statistics (mean, standard deviation, frequency) to summarize sample characteristics and variables.

Multiple regression analysis to test hypotheses regarding the impact of digital accounting adoption and digital competency on accounting information quality (Hair et al., 2019).

Qualitative analysis: Thematic analysis will be conducted to identify recurring patterns, challenges, and best practices in digital accounting adoption.

4. Results

4.1 Descriptive Statistics

A total of 400 SME entrepreneurs participated in the survey. The demographic analysis showed that 52% were male and 48% female, with an average business age of 8.6 years (SD = 4.2). The majority of participants (62%) operated in the service sector, followed by manufacturing (25%) and retail (13%).

The descriptive statistics of digital accounting system adoption, digital competency, and accounting information quality shown in Table 1.

Table 1 Descriptive Statistics of Digital Accounting System Adoption, Digital Competency, and Accounting Information Quality

Variable / Dimension	Mean	SD	Interpretation
Digital Accounting System Adoption (Overall)	3.72	0.68	Moderate
- Cloud-based accounting systems	3.89	-	Moderate–High
- Automated bookkeeping	3.71	-	Moderate
- ERP systems	3.56	-	Moderate
Digital Competency of SME Entrepreneurs	3.85	0.61	High
Accounting Information Quality (Overall)	3.91	0.59	Moderate–High
- Accuracy	4.02	-	High
- Timeliness	3.94	-	Moderate–High
- Completeness	3.88	-	Moderate

- Reliability	3.81	-	Moderate

The results show that SMEs demonstrate a moderate level of digital accounting system adoption, with cloud-based systems being the most commonly used. Entrepreneurs exhibit relatively high digital competency, supporting effective use of accounting technologies. Accounting information quality is perceived as moderate to high, particularly in terms of accuracy and timeliness. Overall, the findings suggest that while SMEs have made progress in adopting digital accounting tools, further expansion and deeper system integration could enhance information quality and strengthen financial decision-making.

4.2 Regression Analysis

Multiple regression analysis was employed to test the proposed hypotheses regarding the determinants of accounting information quality. The results shown in Table 1.

Table 2 Multiple Regression Results on Accounting Information Quality

Predictor Variable	β	t-value	p-value	Result
Digital Accounting System Adoption	0.41	7.85	< 0.001	Supported
Digital Competency	0.36	6.54	< 0.001	Supported
Digital Accounting Adoption × Digital Competency	0.12	2.93	< 0.01	Supported

The results reveal that digital accounting system adoption has a significant and positive effect on accounting information quality ($\beta = 0.41$, $t = 7.85$, $p < 0.001$), indicating that greater use of digital accounting technologies leads to more accurate, timely, and reliable accounting information. Digital competency also exerts a significant positive influence on accounting information quality ($\beta = 0.36$, $t = 6.54$, $p < 0.001$), suggesting that SMEs with higher levels of digital skills and knowledge are better able to utilize accounting systems effectively. In addition, digital competency significantly moderates the relationship between digital accounting adoption and accounting information quality (interaction $\beta = 0.12$, $t = 2.93$, $p < 0.01$), implying that the positive impact of digital accounting systems is stronger for firms with more digitally competent entrepreneurs or staff. Overall, the model explains 52% of the variance in accounting information quality ($R^2 = 0.52$, $F = 112.45$, $p < 0.001$), demonstrating strong explanatory power.

4.3 Qualitative Findings

The thematic analysis of 20 in-depth interviews identified three major themes:

Efficiency and Accuracy: Entrepreneurs reported that digital accounting systems reduce manual errors, simplify calculations, and enhance the reliability of financial reports.

Challenges in Adoption: Barriers included initial implementation costs, software complexity, and lack of technical knowledge. Entrepreneurs emphasized the need for training and user-friendly interfaces.

Strategic Value: SMEs that effectively used digital accounting systems perceived improved decision-making and financial planning, aligning with the concept of accounting information as a strategic resource.

These qualitative insights support and contextualize the quantitative results, highlighting that the benefits of digital accounting adoption are amplified by entrepreneurs' digital competencies and organizational support.

5. Conclusion

This study investigated the application of digital accounting systems and their impact on the quality of accounting information among SME entrepreneurs in Thailand. The results indicate that digital accounting system adoption significantly enhances accounting information quality, particularly in terms of accuracy, completeness, timeliness, and reliability. SMEs that adopt cloud-based accounting, automated bookkeeping, and ERP systems are better able to maintain accurate and timely financial records, which supports improved decision-making, compliance, and business performance (Bhimani & Willcocks, 2014; Wang et al., 2020).

Moreover, the study highlights that digital competency among SME entrepreneurs plays a crucial role in maximizing the benefits of digital accounting systems. Entrepreneurs with higher proficiency in digital tools and accounting software are more capable of leveraging these systems effectively, thereby improving accounting information quality (Lokuge & Duan, 2021; Suwannsri & Saengkhiao, 2024). The interaction between digital accounting adoption and digital competency confirms that human capability is as critical as technology in enhancing information quality.

Qualitative findings further underscore that while digital accounting systems offer substantial benefits—such as efficiency, error reduction, and better financial planning—they also present challenges. These include the initial cost of implementation, software complexity, and limited technical knowledge, which may hinder some SMEs from fully adopting or utilizing these systems (Kanchanapong & Phongphanich, 2022; Sastararuji et al., 2022).

Overall, this study concludes that digital accounting systems, when effectively implemented and supported by adequate digital skills, significantly enhance accounting information quality among SMEs in Thailand.

Overall, the findings highlight the importance of integrating digital accounting technologies with strong digital competencies to enhance accounting information quality among SMEs. Entrepreneurs are encouraged to invest in both digital tools and skill development, while accounting service providers can play a key role by delivering accessible solutions and training. At the policy level, targeted support and capacity-building initiatives can accelerate SME

digital transformation, ultimately strengthening business sustainability, competitiveness, and long-term growth.

Acknowledgment

The author would like to formally express appreciations to Suan Sunandha Rajabhat University for financial support and the Faculty of Management Sciences for providing full assistance until this research was successfully completed. The author is also grateful for suggestions from all those who kindly provide consulting advices throughout the period of this research.

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