The Effects of Electronic Accounting Information Quality on the Competitive Advantage of Small and Medium-Sized Enterprises in the Northeastern Region of Thailand

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ABSTRACT

This study aims to examine the quality of financial reports, competitive advantage, and the impact of electronic accounting information quality on the competitive advantage of small and medium enterprises (SMEs) in Northeastern Thailand. The population and sample consist of SMEs across 19 provinces in Northeastern Thailand, including Nong Khai, Nakhon Phanom, Sakon Nakhon, Udon Thani, Nong Bua Lamphu, Loei, Mukdahan, Kalasin, Khon Kaen, Amnat Charoen, Yasothon, Roi Et, Maha Sarakham, Chaiyaphum, Nakhon Ratchasima, Buriram, Surin, Si Sa Ket, and Ubon Ratchathani, totaling 400 participants. The sample size was determined using Taro Yamane's formula at a 95% confidence level. The research instruments include a checklist questionnaire and a 5-point Likert scale. Quantitative data were analyzed using descriptive statistics such as frequency, percentage, mean, and standard deviation, as well as multiple regression analysis. The findings reveal that the overall perception of financial report quality and competitive advantage among SMEs in Northeastern Thailand is at a high level. The analysis indicates a positive relationship between the quality of electronic accounting information and the competitive advantage of SMEs. Key variables contributing to the competitive advantage include cost leadership, management efficiency, profitability, and business leadership, all of which show statistically significant relationships at the 0.05 level.

Keywords: Electronic Accounting Information Quality; Small and Medium Enterprises in Thailand; Accounting Information Quality

INTRODUCTION

Small and Medium Enterprises (SMEs) play a crucial role in Thailand's economy, both economically and socially, covering sectors such as agriculture, manufacturing, trade, and services. According to the Office of Small and Medium Enterprise Promotion (OSMEP) in 2018, there were 3,070,177 SMEs, contributing to a Gross Domestic Product (GDP) value of 7,013,971 million Baht, or 43.0% of the country's total GDP (Office of Small and Medium Enterprise Promotion (OSMEP), 2019). The data from OSMEP also highlights that while the industrial sector has seen a gradual decline due to shifts in production and investment structures, driven by factors such as the relocation of production bases and global economic volatility, the trade and services sectors have seen significant growth. SMEs in Thailand play a vital role in GDP, business activity, and employment. The continuous growth in this sector has been a key factor in sustaining Thailand's overall economic growth (Office of Small and Medium Enterprise Promotion (OSMEP), 2019). Factors supporting the ongoing growth of SMEs over the past five years include continuous expansion in trade and services, increased household and private sector consumption, the growth of e-commerce, and the continued expansion of the tourism sector, along with various government policies and measures (Office of Small and Medium Enterprise Promotion (OSMEP), 2019). Therefore, SMEs should be further supported and developed to enhance their efficiency and strengthen the national economy. When examining the situation of small and medium enterprises (SMEs) in the

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Northeastern region of Thailand, data from the Office of Small and Medium Enterprise Promotion (OSMEP) reveals that the majority of SMEs in the region are in the trade and services sectors, which are currently experiencing growth. Trade and service businesses account for 62% of all SMEs in the region, indicating a high potential for these sectors. However, when comparing this data with other regions, it becomes evident that the potential for SME growth in trade is particularly strong in the Northeast. In contrast, the manufacturing and service sectors in the Northeast, although relatively high compared to other regions, show lower growth rates. Despite this, OSMEP reports that the growth rate of SMEs in the Northeast is below the national average for regional growth. Additionally, OSMEP highlights a major weakness among SMEs in the Northeast, which is a lack of understanding and knowledge regarding accounting for revenues and expenses. This deficiency prevents many SME owners from conducting financial transactions or meeting the requirements for securing loans from banks (Office of Small and Medium Enterprise Promotion (OSMEP), 2018).

Accounting practices are crucial for businesses, and business owners or entrepreneurs should have a basic understanding of accounting. This is because accounting information helps assess the financial status of a company in various aspects, such as the profitability of different investments, determining whether the company has sufficient capital, and identifying how much additional funding is needed for further financing or borrowing from financial institutions. Accounting information is essential when applying for loans or dealing with financial transactions. When entrepreneurs have a solid understanding of accounting practices and maintain an effective accounting system, the financial statements they present will reflect accurate and crucial accounting data. This allows the business to use this information for planning, controlling, and decision-making, which lays a solid foundation for future business growth (Olatunji, 2013). On the other hand, if SME entrepreneurs lack accounting knowledge and their businesses do not have an adequate accounting system, it affects the utility of the financial information. Besides using this information for assessing the business situation and capital sufficiency, it may also impact tax planning and tax payments. Incorrect accounting, combined with a lack of understanding, prevents entrepreneurs from keeping up with changes and understanding the complexities of the tax system, which may lead to incorrect tax payments. This could slow down business development. In today's environment, the quality of electronic accounting is extremely important due to the rapid advancement of technology, which requires businesses to improve their online systems to enhance convenience and customer satisfaction. Factors affecting the quality of electronic accounting can be divided into several aspects. When SMEs establish an essential part of their operations—an effective accounting system—it helps the business run efficiently and flexibly, along with proper internal controls to prevent fraud. Since some SMEs operate as legal entities, they must adhere to corporate income tax laws, which are taxes collected on net profits from business operations. Except for businesses that are promoted by the government, owners of SMEs must pay attention to tax compliance and accounting practices to ensure they meet the required standards for financial reporting. The International Financial Reporting Standards for Small and Medium-sized Entities (International Accounting Standards Board, 2015) provide the necessary framework for financial reporting, including financial reporting quality, which is a qualitative characteristic (International Accounting Standards Board, 2015). However, a significant challenge for SMEs is the preparation of financial statements that do not meet standardized requirements, preventing them from accurately reflecting the true performance of the business. According to the Accounting Profession Council (2016), the conceptual framework for financial reporting is essential for preparing and presenting financial statements to external users. The primary objective of financial reporting is to provide useful financial information to investors, creditors, and other stakeholders to aid their decision-making regarding resource allocation to the business. Therefore, if SMEs are supported and encouraged to improve their knowledge and capacity to prepare effective and reliable financial reports, they will be better positioned for success and to achieve their future goals (Zhang, 2008). This will result in the quality of accounting data, which is crucial for stakeholders when making decisions. As a result, there is a need for comprehensive evaluation criteria to ensure that the generated accounting data is of high quality. The accounting data environment, which involves corporate governance, internal controls, and external regulatory frameworks, is becoming increasingly complex. In addition to accounting content, the environment also plays a critical role. Thus, evaluating the quality of accounting data requires appropriate and comprehensive criteria that consider both the data management methods and the presentation of evaluation results. These criteria should reflect the feasibility and adequacy of the accounting data assessment, ensuring it can be used effectively in decision-making and lead to business growth (Li et al., 2017). Business growth is a multifaceted concept that includes not only sales or profits but also factors reflecting overall business development, such as competitive advantage, profitability, market share expansion, and sustainable value creation (Carneiro, 2007).

Creating a competitive advantage helps a business distinguish itself from its competitors by developing strategies that support superior performance, ultimately leading to market leadership in the agricultural industry. Therefore, employing various strategies to exceed competitors' satisfaction and create a competitive edge can be achieved in four key areas: differentiation, cost leadership, niche market focus, and quick response (Healy, Serafeim, Srinivasan, & Yu, 2014). A competitive advantage is what differentiates a business from others, representing its core capabilities. Businesses aiming to create a sustainable competitive advantage can leverage internal strengths and external opportunities (Umawadee D. and Nareerat P., 2018). It was found that factors hindering SMEs from progressing strongly include a lack of financial management knowledge and the belief that investing in complex accounting and financial analysis systems is unnecessary. This leads to a lack of financial credibility, poor financial statements, and low-quality financial reporting, which in turn affects access to financial resources from institutions. Moreover, financial statements that businesses share with the public play a crucial role. Houcine (2017) stated that having high-quality financial reporting positively impacts operations, particularly in the efficient allocation of resources.

Based on the context outlined above, the research team aims to analyze the quality of electronic accounting data and its impact on the competitive advantage of small and medium-sized enterprises (SMEs) in the northeastern region of Thailand. These businesses possess several competitive advantages, but their financial statements do not fully reflect their actual performance or the financial data necessary for effective decision-making. Financial reports, which are essential management tools, require high-quality financial reporting standards to provide value to users for economic decision-making. This information is critical for planning, controlling, and developing the business. The results of this research will contribute to improving the quality of electronic accounting systems and financial data, promoting the stability and long-term growth of businesses. Furthermore, this will support the development of efficient and effective business operations, helping businesses achieve their objectives and enabling managers to compete more effectively.

OBJECTIVES

- 1. To examine the quality level of electronic financial reporting for small and medium-sized enterprises (SMEs) in the northeastern region of Thailand.
- 2. To assess the level of competitive advantage of SMEs in the northeastern region of Thailand.
- 3. To study the impact of electronic financial reporting quality on the competitive advantage of SMEs in the northeastern region of Thailand.

METHODOLOGY

Research Design: This research employs a quantitative research approach, specifically a survey research method, which is descriptive in nature. The researchers synthesized relevant theories from scholars regarding financial reporting quality (Financial Reporting Quality), which includes characteristics such as understandability, verifiability, timeliness, and comparability (Accounting Profession Council, 2016). These characteristics are derived from the electronic financial reports of small and medium-sized enterprises (SMEs) in the northeastern region of Thailand. Additionally, the concept of competitive advantage (Porter, 1985) encompasses elements such as low-cost leadership, managerial capability, profitability,

and first-mover advantage. The theoretical framework analysis is designed to achieve the research objectives.

Population and Sample: The target population for this study consists of small and medium-sized businesses that are customers of the Small and Medium Enterprise Development Bank of Thailand in the northeastern region, covering 19 provinces: Nong Khai, Nakhon Phanom, Sakon Nakhon, Udon Thani, Nong Bua Lam Phu, Loei, Mukdahan, Kalasin, Khon Kaen, Amnat Charoen, Yasothon, Roi Et, Maha Sarakham, Chaiyaphum, Nakhon Ratchasima, Buriram, Surin, Sisaket, and Ubon Ratchathani, totaling 35,953 businesses (Office of Small and Medium Enterprises Promotion, 2021). The sample size was determined using Taro Yamane's formula (1973) with a 95% confidence level and a 5% margin of error, resulting in a sample size of 400 businesses. These businesses are appropriate for the survey as they are established and reachable.

Research Instruments: The research used a questionnaire as the primary data collection tool. The questionnaire is structured with three sections: (1) Demographic information of respondents, including gender, age, work experience, education level, job position, business type, number of employees, asset value, and years in operation (single-choice questions); (2) Opinions on the quality of financial reporting, including understandability, verifiability, timeliness, and comparability; and (3) Opinions on competitive advantage, which includes low-cost leadership, managerial capability, profitability, and market leadership. Sections 2 and 3 employ a 5-point Likert scale for quality ranking (Likert, 1932), where 5 indicates the highest level of agreement and 1 indicates the lowest. The average score ranges from 4.51 to 5.00 for "strongly agree" and 1.00 to 1.49 for "strongly disagree." The reliability coefficient (alpha) is greater than 0.70, indicating acceptable validity and reliability, with an alpha value of 0.827, as validated by Kajornatthapol et al. (2020).

Data Collection and Analysis: The research team collected data using the questionnaires distributed to the specified sample group. The collected data was then analyzed statistically to summarize and discuss the findings, aiming to meet the research objectives.

Statistical Methods: The researchers used descriptive statistics, including percentage, arithmetic mean, and standard deviation, to describe the characteristics of the respondents. For hypothesis testing, multiple regression analysis was employed to assess the influence of managerial accounting practices on the success of small and medium Enterprises in Northeastern Thailand.

RESULTS

The general information from the 400 respondents of this research survey revealed that the majority were male, with 320 respondents, accounting for 80.00%. The age group of 40-59 years had 285 respondents, representing 71.25%. Regarding education level, 300 respondents, or 75.00%, held a bachelor's degree. The position of business owner was reported by 217 respondents, or 54.32%. The majority of businesses had fixed assets valued at no more than 30 million baht, with 148 businesses, accounting for 37.00%. Additionally, 148 businesses (37.00%) were service-oriented. The number of employees ranged from 1 to 15, with 320 businesses (80.00%) being registered as limited companies. Moreover, 380 businesses (95.00%) had been in operation for 10 to 15 years.

The analysis of opinions regarding the quality of electronic financial reporting and its impact on the competitive advantage of small and medium-sized businesses in the northeastern region of Thailand showed an overall high level of agreement (Average=4.05, S.D.=0.79). When considering the aspects individually, ordered from highest to lowest, all areas showed a high level of agreement, including understandability (Average=4.01, S.D.=0.68), comparability (Average=3.98, S.D.=0.87), verifiability (Average=3.97, S.D.=0.32), and timeliness (Average=3.85, S.D.=0.48), as shown in Table 1.

Table 1 shows the mean and standard deviation of the analysis of opinions regarding the quality of financial reporting for small and medium-sized businesses in the northeastern region of Thailand, overall.

Quality of electronic financial reporting in the northeastern region of Thailand	Average	S.D.	Level of Opinion
Understandability	4.01	0.68	High level
Verifiability	3.97	0.32	High level
Timeliness	3.85	0.48	High level
Comparability	3.98	0.87	High level
Overall Average	4.05	0.79	High level

The analysis of the level of opinion regarding the competitive advantage of small and medium-sized enterprises (SMEs) in the northeastern region of Thailand, overall, is at a high level (Average = 4.01, S.D. = 0.86). When considering each factor, ranked from highest to lowest, the level of opinion regarding competitive advantage is high across all aspects, including, 1) Management Capability (Average = 4.02, S.D. = 0.48) 2) Industry Leadership (Average = 3.89, S.D. = 0.74) 3) Low-cost leadership (Average = 3.79, S.D. = 0.53) 4) Profitability (Average = 3.65, S.D. = 0.62)

Table 2 shows the average and standard deviation of the levels of opinion regarding the competitive advantage of SMEs in the northeastern region of Thailand, overall.

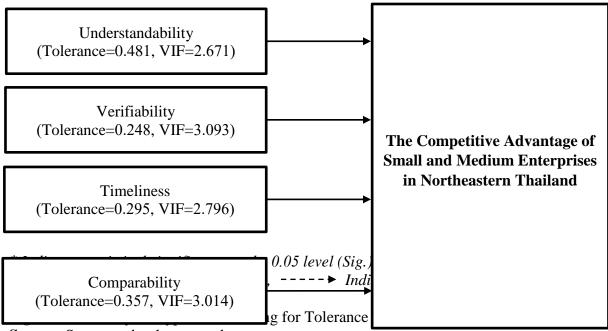
The competitive advantage of businesses in the northeastern region of Thailand	Average	S.D.	Level of Opinion
Low-Cost Leadership	3.79	0.53	High level
Management Capability	4.02	0.48	High level
Profitability	3.65	0.62	High level
Industry Leadership	3.89	0.74	High level
Overall Average	4.01	0.86	High level

The testing of the quality of financial reporting and its impact on the competitive advantage of medium and small businesses in the northeastern region of Thailand was conducted using Multiple Regression Analysis. The preliminary assumptions for this analysis included checking for multicollinearity by analyzing the Pearson's Product-Moment Correlation Coefficient. The correlation coefficients between the quality of financial reporting and the competitive advantage of medium and small businesses in the northeastern region of Thailand ranged from 0.399 - 0.777, with all variables showing a positive and statistically significant relationship at the 0.05 level.

To further clarify the relationship between the independent variables, the researchers examined the multicollinearity status of the predictor variables by checking the Tolerance and Variance Inflation Factor (VIF). The Tolerance value must be greater than 0.10 (Foxall and Yani-de-Soriano, 2005), and the VIF should not exceed 10 (Belsley, 1991).

The statistical analysis of the Tolerance values for planning, controlling, directing, decision-making, and cost management indicated that the Tolerance values were greater than 0.10, ranging from 0.248-0.481. The VIF values were less than 10, ranging from 2.671-30.093, indicating no multicollinearity. Additionally, it was found that the independent variables in the multiple linear regression analysis did not exhibit autocorrelation in the data, as shown in

Figure 1.



Source: Summary by the research team.

The analysis of the financial reporting quality and its impact on the competitive advantage of small and medium-sized enterprises (SMEs) in the northeastern region of Thailand overall found that the variables supporting the competitive advantage of SMEs in this region are cost leadership, managerial capability, profitability, and business leadership. These variables were statistically significant at the 0.05 level. Furthermore, these four variables explained 72.40% ($R^2 = 0.724$) of the variation in the competitive advantage of SMEs in the northeastern region of Thailand, as shown in Table 3.

Table 3 Analysis of the Financial Reporting Quality and Its Impact on the Competitive Advantage of Small and Medium-Sized Enterprises in the Northeastern Region of Thailand, Overall

Variable	В	Beta	t-value	p-value
Constant	0.671		4.265*	0.000*
Understandability	0.025	0.182	0.198	0.072
Verifiability	0.325	0.184	1.956	0.087
Timeliness	0.214	0.082	3.610*	0.000*
Comparability	0.226	0.081	4.597*	0.000*

R = 0.826 $R^2 = 0.724$ F = 86.965 p-value= 0.000

CONCLUSIONS

The research on the quality of electronic accounting data and its impact on the competitive advantage of small and medium-sized enterprises (SMEs) in the northeastern region of Thailand presents 3 key discussion points as follows:

1. The overall level of opinion on the quality of financial reports from electronic accounting in relation to the competitive advantage of SMEs in the northeastern region of Thailand was found to be high. When analyzed by aspect, from highest to lowest, all aspects related to the opinion on quality were ranked high, including understandability, comparability, verifiability, and timeliness. This is consistent with the study by Umawadee D. and Nareerat P. (2018), which examined factors affecting the quality of financial reports and decision-making effectiveness

for companies listed on the Stock Exchange of Thailand. It was found that the timeliness of financial reports positively correlated with decision-making effectiveness. Financial statement preparers should be aware of the importance of producing high-quality financial reports and promoting professional skills among accountants, as well as having appropriate information systems in place to facilitate the preparation of financial reports, which can further assist economic decision-making. This is in line with other studies showing that SME operators have a high level of agreement on the overall quality of financial reports, with the top three aspects being timeliness, verifiability, and comparability.

- 2. The overall opinion on the competitive advantage of SMEs in the northeastern region of Thailand was also found to be high. When considered by aspect, from highest to lowest, all aspects related to the competitive advantage were ranked high, including management capability, business leadership, cost leadership, and profitability. This finding is consistent with the research by Umawadee D. and Nareerat P. (2018), which indicated that SME operators also ranked their competitive advantage high, with the top three aspects being business leadership, management capability, and cost leadership.
- 3. Regarding the relationship between the quality of financial reports and the competitive advantage of SMEs in the northeastern region, it was found that the variables that significantly supported the competitive advantage of SMEs included timeliness and comparability at the 0.05 significance level. This aligns with the study by Wilaiporn C., Kajornatthapol P., Wipawee S., et al. (2023), which identified that environmental factors, business factors, auditor independence, work qualifications, and quality control in audit firms were all correlated with the quality of financial reports of SMEs in northern Thailand (R=0.827). These independent variables explained 68.4% (R2=0.684) of the variation in the quality of financial reports for SMEs in the Bangkok region. The study found that three factors—legal environment, business factors, and audit quality control—had a statistically significant effect on the quality of financial reports for SMEs, with audit quality control having the greatest impact, followed by the legal environment and business factors. Additionally, Carneiro, A. (2007) found that comparability positively correlates with decision-making effectiveness, while professional development in employees enhances financial reporting quality and decision-making effectiveness. Similarly, Zhang, T. (2008) studied the impact of financial report quality on SME decision-making efficiency, finding that comparability was linked to improved decisionmaking and business development, which led to sustained business success. This is consistent with Umawadee D. and Nareerat P. (2018), who found that the number of SMEs in Thailand has increased significantly, and these businesses, which are agile and adaptable to changing competitive environments, are vital to the country's economy. SMEs increasingly rely on financial reports to make economic decisions. Their research concluded that the quality of financial reports positively impacts the competitive advantage, with timeliness and comparability as key variables.

The findings from this study can be used to shape the vision, strategies, and policies for the financial reporting practices of SME operators to achieve a competitive advantage in an ever-changing economic and competitive landscape, ensuring long-term sustainability.

RECOMMENDATIONS

1. Recommendations for Applying Research Findings

The quality of electronic accounting data directly affects the competitive advantage of small and medium-sized enterprises (SMEs) by supporting accurate and timely strategic decision-making. The key aspects of data quality include: 1) Accuracy, Data must be error-free to reduce the risk of incorrect decision-making. 2) Completeness, all necessary data for situation analysis must be included. 3) Timeliness, Data must be current to respond to market changes. 4) Relevance, Data must be aligned with the business needs to be effective. The implementation of electronic accounting also improves cost efficiency, reduces time spent on processes, and enhances transparency and credibility within the organization. The recommendations for implementation are as follows:

- 1.1 Employee Training, organize training sessions to improve employees' knowledge of electronic accounting systems and develop their data analysis skills to support decision-making.
- 1.2 Investment in Technology, use modern, internationally recognized accounting systems, such as ERP (Enterprise Resource Planning), with a focus on ensuring data security to prevent leakage.
- 1.3 Improvement of Reporting Systems, develop accounting reports to align with strategic planning and enhance comparative analysis to assess market competitiveness.
- 1.4 Collaboration Development, establish connections to link accounting data with other sectors, such as banks, government agencies, or financial service providers, supporting SMEs' participation in networks for strategic data exchange.
- 1.5 Monitoring and Evaluation, Define Key Performance Indicators (KPIs) to continuously track the use of electronic accounting systems and evaluate their impact on competitiveness. Effective implementation of electronic accounting systems will enhance the capabilities of SMEs in the northeastern region, enabling them to compete more effectively in the market while ensuring sustainable growth in the future.

2. Suggestions for Future Research

- 2.1 Expanding the Study Area, Study SMEs in other regions to compare the factors contributing to competitive advantage. Additionally, introduce more research variables, such as analyzing the impact of other digital technologies, like AI or Big Data, on data quality and competitive advantage.
- 2.2 In-depth Research on Specific Industries, Focus on industries of particular importance, such as agriculture, tourism, or manufacturing. Develop analytical models using advanced statistical techniques like SEM (Structural Equation Modeling) to analyze causal relationships.

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