

# The Implementation of Management Accounting Practices Influencing the Success of Construction Enterprises within the Medium and Small Business Sector in the Northeastern Region

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## Abstract

The main objectives of this study are to evaluate the implementation of managerial accounting, assess business success, and explore the factors influencing the success of construction businesses operated by Small and Medium Enterprises (SMEs) in Thailand's Northeastern region. The research targeted SMEs participating in the "Productivity Improvement Loan" program offered by the Small and Medium Enterprise Development Bank of Thailand across 15 provinces. A total of 400 samples were involved, determined using Taro Yamane's technique at a 95% confidence level. Research tools included a checklist questionnaire and a 5-level rating scale. Quantitative data analysis employed descriptive statistics, frequency, percentage, mean, standard deviation, t-test, and multiple regression analysis. Findings revealed high opinions on the application of managerial accounting and success levels in the construction business. Additionally, a positive relationship was found between managerial accounting application and the success of construction businesses within SMEs in the Northeastern Region of Thailand. Variables contributing to success in these construction businesses included planning, control, decision-making, and cost management, all statistically significant at the 0.05 level.

**Keywords:** Management Accounting, Northeastern, Construction Enterprises

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## Introduction

The impact of COVID-19 on the Thai and global economy has led to various consequences. Most construction businesses are unlikely to experience significant negative effects in the short term due to existing construction contracts. Consequently, these businesses can continue their operations as usual outside of curfew hours. However, certain private clients in industries such as hotels, tourism, and recreation may face direct consequences from the crisis. This could result in the postponement or alteration of new construction projects, with a shift towards renovation projects rather than new construction work for private ventures. This adjustment is in response to the economic situation and the need to absorb remaining residential units in the market, particularly in the condominium sector, where there is a decreasing trend in new project openings. Nevertheless, ongoing construction projects are accelerating their progress to expedite completion. There is also the challenge of labor shortages, with workers returning to their home provinces or countries after lockdown measures are lifted. Additionally, disruptions in the supply chain of imported construction materials are currently a short-term issue. The overall situation for entrepreneurs in the construction industry is comparatively better than some other sectors. Nonetheless, this situation underscores the importance of construction operators adapting quickly. This includes budget control, cash reserves, and strict financial discipline. In the event of a prolonged crisis or a new outbreak in the coming year, projects currently underway should be managed according to budget constraints. While private construction work has slowed somewhat, government-initiated economic stimulus measures are expected to play a crucial role. These measures are set to include government construction investments in infrastructure projects vital for national development, encompassing public health, transportation, and irrigation. Such investments are expected to generate a multiplier effect on the economy by creating employment opportunities across various sectors, from laborers to suppliers of construction materials and related consumer products. In light of these considerations, government construction projects and mega projects, including public-private partnership (PPP) initiatives, are anticipated to be the primary drivers of the construction industry in 2020-2021. This is expected to result in intense competition for public sector tenders, as well as budget concentration in specific ministries or construction categories. Competition may also arise from foreign contractors entering into joint ventures.

To address the challenges that construction business operators may face, the following steps are recommended:

1. Carefully review contract conditions from employers, as project owners may seek termination or contract term changes. Government contracts may offer more stability.
2. Strengthen financial preparedness, ensuring liquidity for bidding and project execution.
3. Adapt management systems to incorporate technology, enabling remote work and timely access to decision-making information. Implement detailed cost control, invest in construction efficiency, use technology to reduce construction timelines, manage labor and material costs, and uphold construction quality standards to minimize rework tasks (Siam Commercial Asset Management Company Limited, 2021).

Small and medium-sized construction businesses in the Northeastern region are embarking on a journey towards growth and expansion, aiming to transform into larger enterprises. To navigate this path successfully, effective management is indispensable, encompassing both personnel management and financial stewardship, each playing a pivotal role. This involves formulating operational strategies that remain aligned and adaptable in response to the ever-evolving market dynamics. Notably, management accounting information emerges as a critical resource in this endeavor, serving as a foundation for strategic planning and enabling businesses to contend with competitors and the myriad challenges that lie ahead (Waraporn N. and Somyos A., 2015). Presently, management accounting has become integral to the decision-making processes of construction business executives, distinguishing itself from conventional financial accounting. Financial accounting primarily focuses on assembling, categorizing, and reporting historical financial data to external parties in need of financial information. In contrast, managerial accounting centers on providing financial insights to internal stakeholders within the business, facilitating planning, monitoring, and decision-making across various facets of operations. The flexibility of managerial accounting is a defining feature, allowing it to tailor information according to the specific requirements of users, ultimately maximizing the utility of data for effective management (Kochakorn Chalermkanchana, 2009). For executives, having access to relevant data is paramount when evaluating business performance across multiple dimensions. Of particular significance, executives can swiftly access and utilize

information from the accounting system, leading to both time and cost savings (Peeyapat P., 2020). This efficient utilization of data not only grants businesses a competitive edge but also exerts a profound influence on their operations, contributing to sustainable growth and success in the future.

In light of the preceding context, our research team sought to investigate the impact of implementing management accounting practices on the success of small and medium-sized construction contracting businesses in the Northeastern region. Management accounting's application has the potential to significantly enhance the efficacy of business administration, facilitating adept problem-solving and bolstering operational support. Its ultimate aim is to foster success within business operations, with a particular focus on enhancing the suite of services that underpin sound business management. These services encompass vital functions such as strategic planning, command, decision-making, control, and cost management. It is incumbent upon business executives and supervisors to actively incorporate management accounting into their operational framework. This integration serves as an invaluable source of information, guiding informed decision-making, aiding in comprehensive planning, facilitating effective control over operations, and catalyzing sustainable business growth. The application of management accounting not only streamlines operations but also optimizes efficiency, ensuring the attainment of business objectives. This strategic approach equips executives to navigate competitive landscapes with resilience, ensuring their continued success in the marketplace.

### **Research's objective**

1. To assess the extent to which management accounting is employed within small and medium-sized construction contracting businesses operating in the northeastern region.
2. To evaluate the degree of success achieved by small and medium-sized construction contracting businesses in the northeastern region.
3. To investigate the factors within the realm of management accounting application that exert influence on the success of small and medium-sized construction contracting businesses in the Northeastern region.

### **Hypothesis**

Examination of the Impact of Management Accounting on the Success of Small and Medium-Sized Construction Contracting Businesses in the Northeastern Region.

## Conceptual framework

The research team synthesized various academic concepts pertinent to the application of management accounting, encompassing key aspects such as 1.) planning, 2.) control, 3.) procurement, 4.) decision-making, and 5.) cost management, all of which play critical roles in achieving business success in terms of 1.) goal attainment, 2.) resource procurement and utilization, 3.) operational processes, and 4. stakeholder satisfaction. The analysis of these interconnected concepts and related theories serves as a crucial means to attain the research objectives, as illustrated in Figure 1.

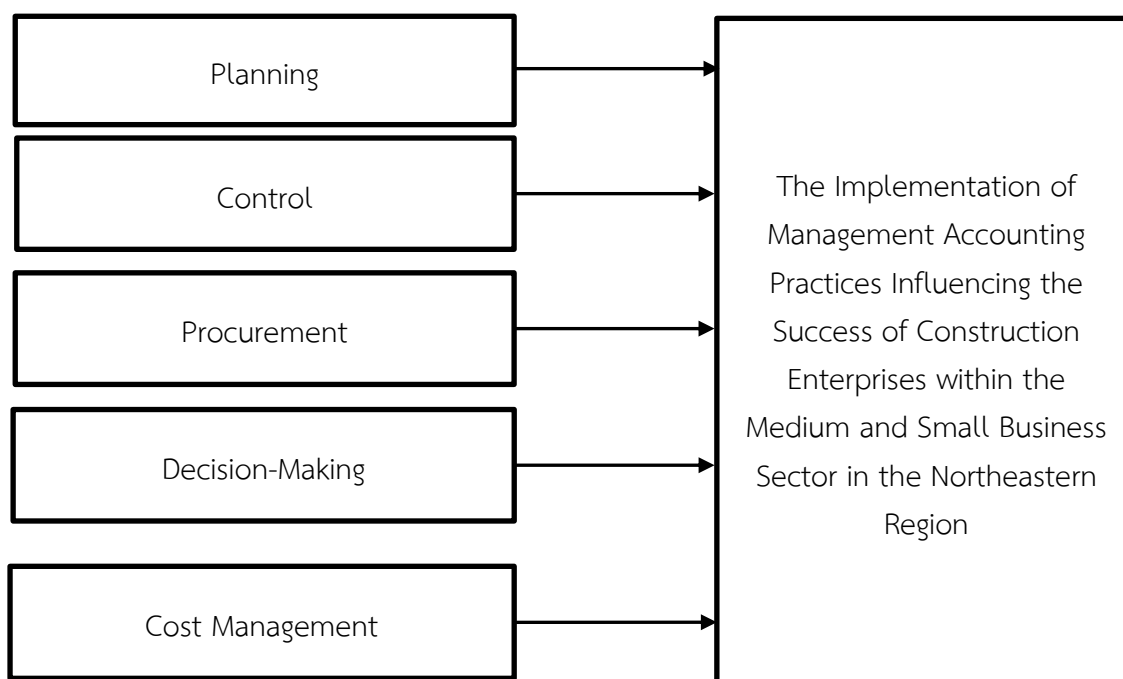


Figure 1 Conceptual framework

## Literature review

The concept of applying management accounting in the construction industry, Scholars in the field of management accounting have contributed valuable insights and concepts that are highly relevant to the application of management accounting in the construction business. These concepts encompass various aspects of financial and strategic management that are critical for achieving success in

construction projects. Here is a comprehensive summary of these concepts (Accounting Professions Under the Royal Patronage, 2016):

1. Planning: Planning is a fundamental concept in management accounting for construction. It involves the development of comprehensive project plans, which encompass budgeting, resource allocation, and scheduling. Effective planning sets the foundation for project success by ensuring that all necessary resources are available when needed.

2. Controlling: Controlling is the process of monitoring project performance and comparing it to the established plans. It involves tracking expenses, managing budgets, and identifying deviations from the initial plan. By exercising control, construction businesses can take corrective actions promptly to keep projects on track.

3. Ordering: The concept of ordering pertains to procurement and supply chain management. It involves making informed decisions regarding the acquisition of materials, equipment, and services. Efficient ordering practices help optimize resource utilization, reduce costs, and enhance project efficiency.

4. Decision-making: Management accounting provides valuable data and analysis to support decision-making in construction projects. Decisions related to project scope, resource allocation, risk management, and more rely on financial information and cost-benefit analysis. Informed decision-making is critical for project success.

5. Cost Management: Cost management is at the core of management accounting in construction. It encompasses cost estimation, budgeting, and control. Controlling costs throughout a project's lifecycle is essential to prevent overruns and ensure profitability.

6. Business Success - Achievement of Goals: The ultimate goal of applying management accounting in construction is to achieve project and business success. This success is measured by the attainment of project goals, which may include completing the project on time, within budget, and meeting quality standards. Management accounting provides the tools to assess progress toward these goals.

7. Business Success - Procurement and Utilization of Resources: Another dimension of business success involves the efficient procurement and utilization of resources. This concept emphasizes optimizing resource allocation to maximize productivity and minimize waste. Effective resource management contributes to the overall success of construction projects.

8. Business Success - Operational Process: Successful construction projects require streamlined and efficient operational processes. Management accounting aids in identifying process bottlenecks, inefficiencies, and areas for improvement. By enhancing operational processes, construction businesses can deliver projects more effectively.

9. Business Success - Satisfaction of All Parties: Satisfying all stakeholders involved in a construction project, including clients, contractors, and suppliers, is essential for long-term success. Management accounting helps assess stakeholder satisfaction by tracking project performance and ensuring that expectations are met.

In conclusion, scholars have illuminated various key concepts related to the application of management accounting in the construction business. These concepts collectively contribute to the effective planning, execution, and success of construction projects. By integrating these concepts into their practices, construction businesses can improve project outcomes, control costs, and ultimately thrive in the dynamic construction industry.

## Methodology

### 1. Research method

This research was structured as a quantitative study, specifically falling into the category of survey research with a descriptive nature. The research team synthesized various academic concepts pertinent to the application of management accounting, encompassing key aspects such as 1.) planning, 2.) control, 3.) procurement, 4.) decision-making, and 5.) cost management, all of which play critical roles in achieving business success in terms of 1.) goal attainment, 2.) resource procurement and utilization, 3.) operational processes, and 4. stakeholder satisfaction. The analysis of these interconnected concepts and related theories serves as a crucial means to attain the research objectives.

### 2. Population and sample

The research population for this study comprises small and medium enterprises that are clients of the Small and Medium Enterprise Development Bank of Thailand and are participants in the "Credit to develop production productivity (Productivity Improvement Loan)" project offered by the Small and Medium Enterprise Development Bank of Thailand (SME) across all 19 provinces in the Northeastern region (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, Sisaket and Ubon Ratchathani). According to data from the Office of Small and Medium Enterprises Promotion (2016), there are a total of 18,961 construction business customers fitting this criterion.

The sample size was determined using the sampling method developed by Taro Yamane (1973), considering a 95% confidence level and an accepted error rate of 5%. As a result, the sample size was set at 400 individuals. These individuals constitute an ideal sample population for data collection in this research due to their specific business locations, ensuring easy accessibility for data collection purposes and facilitating direct communication with the operators.

### **3. Research instruments**

In this research, a questionnaire served as the primary data collection tool, specifically designed in three distinct parts:

Part 1: Respondent Business Information This section gathers demographic information about the respondents, including gender, age, education level, job title, current registered capital of the company, annual income, and business model. Respondents answered single-choice multiple questions designed to provide comprehensive business profiles.

Part 2: Opinions on Management Accounting Application This segment sought the opinions of respondents regarding the application of management accounting in the construction business. The questionnaire employed a Likert rating scale with five levels. A higher score indicated a more significant level of management accounting application, with an average score of 4.51 - 5.00 signifying the highest level and 1.00 - 1.49 denoting the lowest level of application.

Part 3: Opinions on Construction Business Success This section focused on gathering insights into the perceived success of construction businesses. Similar to Part 2, it employed a 5-level Likert rating scale. Here, a higher score implied a higher level of success, with an average score of 4.51 - 5.00 representing the highest level and 1.00 - 1.49 signifying the lowest level of success.

The questionnaire's reliability and validity were assessed using the alpha coefficient criterion, with a value of 0.928, indicating a high degree of reliability and validity. This level of reliability ensured that the questionnaire effectively collected data from the sample groups, aligning with established research practices (Kajornattthapol et al., 2020).



#### 4. Data collection

While fulfilling their duties and analyzing data, the research team has persistently carried out research by administering questionnaires to sample groups, selecting a manageable number for data recording and subsequent compilation of statistical information. The process of summarizing and discussing the research findings will also involve the collection of additional data to support future research endeavors.

#### 5. Data analysis

The research team has established appropriate and aligned statistical methods to address the research objectives effectively. These statistical techniques were employed to conduct descriptive analyses using specialized software, focusing on the personal characteristics of the survey respondents. This involved elucidating the properties and features of the variable data distribution, including computations such as calculating the mean, percentage, and standard deviation. Furthermore, for hypothesis testing purposes, the research utilized multiple regression analysis. This sophisticated analytical approach was applied to elucidate the outcomes of the analysis concerning the influence of management accounting application variables on the success of small and medium-sized construction contracting businesses in the northeastern region.

### Results

In the general information section of the research questionnaire involving 400 respondents, key findings emerged. The majority of participants, constituting 80.00 percent, were male (320 individuals), while a significant proportion, 71.25 percent (285 individuals), fell within the age range of 40-59 years. Additionally, a substantial 75.00 percent (300 individuals) possessed bachelor's degrees, and a significant 54.32 percent (217 individuals) worked in accounting and finance roles. Regarding the current registered capital, 37.00 percent (148 businesses) fell within the 5 million baht - 15 million baht range. Similarly, 80.00 percent (320 businesses) reported annual incomes ranging from 5 million baht - 15 million baht. Finally, 95.00 percent (380 companies) were registered under various business models.

When analyzing the opinions regarding the application of management accounting, it is evident that the overall level was notably high (Mean=4.15, Standard Deviation=0.52). Specifically, several key components exhibited high levels, including planning (Mean=4.12, Standard Deviation=0.83), decision-making (Mean=4.11, Standard Deviation=0.63), command (Mean=4.08, Standard Deviation=0.67), control (Mean=4.01,

Standard Deviation=0.58), and cost management (Mean=3.98, Standard Deviation=0.71), as illustrated in Table 1.

**Table 1** Presents the Mean Values, Standard Deviations, and the Overall Level of Opinions Concerning the Application of Management Accounting within Small and Medium-Sized Construction Contracting Businesses in the Northeastern Region.

The Application of Management Accounting within Small and Medium-Sized Construction Contracting Businesses in the Northeastern Region	$\bar{x}$	S.D.	Opinion Level Regarding the Application of Management Accounting
1. Planning	4.12	0.83	High
2. Control	4.01	0.58	High
3. Procurement	4.08	0.67	High
4. Decision-Making	4.11	0.63	High
5. Cost Management	3.98	0.71	High
<b>Overall Level</b>	<b>4.15</b>	<b>0.52</b>	<b>High</b>

The analysis of opinions regarding the success of small and medium-sized construction contracting businesses in the Northeastern region reveals an overall high level of success (Mean=4.15, Standard Deviation=0.76). When examining each aspect in descending order, it becomes evident that the investment decision aspect achieved a notably high level (Mean=4.35, Standard Deviation=0.36). Similarly, other aspects such as operational processes (Mean=4.18, Standard Deviation=0.79), procurement and resource utilization (Mean=4.15, Standard Deviation=0.53), and stakeholder satisfaction (Mean=4.07, Standard Deviation=0.24) also exhibited high levels of success, as presented in Table 2.

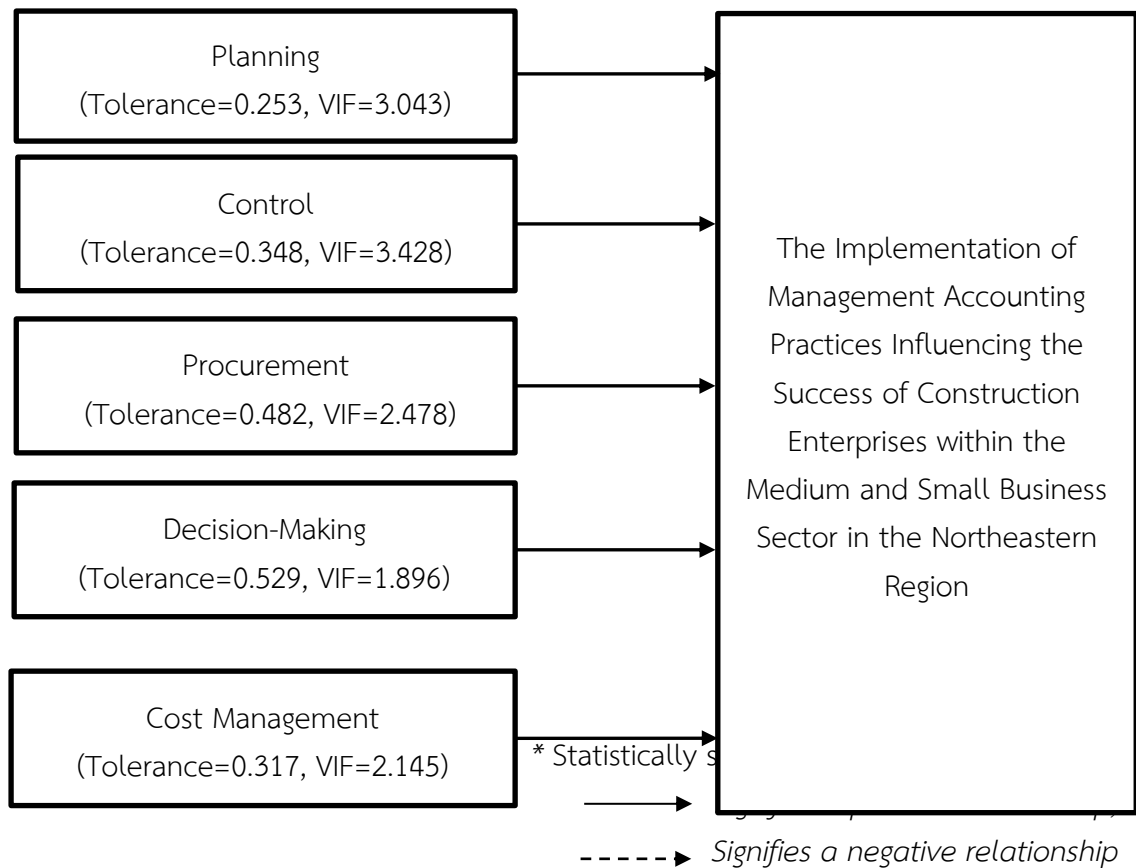
**Table 2** Displays the Mean Values, Standard Deviations, and the Overall Level of Opinions Concerning the Success of Medium and Small Construction Businesses in the Northeastern Region.

The Success of Medium and Small Construction Businesses in the Northeastern Region	$\bar{x}$	S.D.	Opinion Level Regarding the Success of Construction Businesses
1. Attainment of Objectives	4.07	0.24	High
2. Resource Procurement and Utilization	4.18	0.79	High
3. Operational Processes	4.35	0.36	Highest
4. Stakeholder Satisfaction	4.15	0.53	High
<b>Overall Level</b>	<b>4.15</b>	<b>0.76</b>	<b>High</b>

In testing the factors of management accounting that influence the success of medium and small construction businesses in the Northeastern region using multiple regression analysis, certain preliminary assumptions were considered. One critical aspect was assessing the presence of multicollinearity, which examines the relationships between variables. To investigate this, the research team utilized Pearson's Correlation Coefficient (Pearson's Product-Moment Correlation Coefficient). The analysis revealed coefficients for the application of management accounting affecting the success of construction contracting businesses among small and medium-sized enterprises in the Northeastern region. These coefficients ranged from 0.399 to 0.777, all indicating a positive relationship and were statistically significant at the 0.05 significance level. To further clarify the relationships between independent variables, the research team examined the Tolerance and Variance Inflation Factor (VIF) values. It was essential that the Tolerance values exceeded 0.10 (Foxall and Yani-de-Soriano, 2005), while the VIF values remained below 10 (Belsley, 1991).

In the statistical analysis of Tolerance for planning, control, command, decision-making, and cost management, it was observed that the Tolerance values ranged from 0.253 to 0.529, all exceeding the critical threshold of 0.10. Additionally, the VIF values ranged from 1.896 to 3.428, comfortably staying below the multicollinearity threshold of 10. This indicates the absence of multicollinearity issues. Furthermore, the

independent variables underwent stepwise multiple linear regression analysis, revealing no autocorrelation within the data, as depicted in Figure 2.



**Figure 2** Provides a Summary of the Hypothesis Results Derived from the Statistical Analysis of Tolerance.

The analysis of management accounting factors impacting the success of medium and small construction businesses in the Northeastern region, specifically focusing on planning, control, decision-making, and cost management, yielded statistically significant results at the 0.05 significance level. These four variables collectively accounted for 82.40 percent of the variation in the success of small and medium-sized construction contracting businesses in the Northeastern region ( $R^2=0.824$ ), as detailed in Table 3.

**Table 3** Presents an Analysis of Management Accounting Factors Impacting the Overall Success of Small and Medium-Sized Construction Contracting Businesses in the Northeastern Region

Variable	B	Beta	t-value	p-value
Constant	0.367		2.729	0.019
1. Planning	0.524	0.198	5.698	0.000*
2. Control	0.325	0.241	3.945	0.315
3. Procurement	0.109	0.081	2.101	0.000*
4. Decision-Making	0.254	0.298	4.651	0.000*
5. Cost Management	0.301	0.304	3.549	0.000*
<i>R= 0.918</i>		<i>R<sup>2</sup>= 0.824</i>		<i>F= 198.451</i>

## Discussion and conclusions

Research on the application of management accounting influencing the success of medium and small construction businesses in the Northeastern region addresses three key issues, as outlined below:

### Opinions on the Application of Management Accounting

The research consistently indicated a high level of management accounting application across various facets, including planning, command, decision-making, control, and cost management. These findings echo prior research, exemplified by Nixon & Burns (2012), underscoring management accounting's pivotal role in furnishing decision-makers with critical insights and elevating operational efficiency across diverse industries. Proficient management, facilitated by adept management accounting, substantively contributes to overall business performance. Executives' effectiveness in attaining organizational objectives serves as an illustrative barometer of their success. In concurrence with Waraporn N. and Somyos A. (2015), this study discerned distinct approaches to management accounting utilization among business operators in the manufacturing sector within the central region, contingent on their varied business characteristics. Furthermore, this research delineated a nexus between the internal business environment and the integration of management accounting. Noteworthy, variables pertaining to planning, command, control, decision-making, and cost management exhibited substantial influence on the operational accomplishments of manufacturing industry businesses in the central region.

2. Opinions on the Success of Small and Medium-Sized Construction Contracting Businesses in the Northeastern Region Overall, the research identified a high level of success within the construction contracting businesses. When examining various aspects in descending order, it was evident that the investment decision-making aspect consistently achieved a high level of success. These aspects encompassed operational processes, procurement and resource utilization, satisfaction of all stakeholders, and goal achievement. These findings align with the research of Peeyapat Puengklay, (2019), who also identified four key aspects of construction business success, including operational processes, procurement and resource management, stakeholder satisfaction, and goal attainment. This information serves as valuable guidance for businesses aiming to enhance their operations. By identifying deficiencies or shortcomings within each area, it facilitates problem analysis and formulation, aiding in addressing operational shortcomings or deviations from objectives and promoting continuous improvement within the business.

3. Analysis of management accounting's impact on the success of small and medium-sized construction contracting businesses in the Northeastern region reveals significant findings. The study indicates that certain variables significantly support the success of these businesses, including planning, control, decision-making, and cost management, with statistical significance at the 0.05 level. These results align with Yadpirun Singhad, (2016) research on the relationship between management accounting information application and SME operational success in the southern region, demonstrating a positive correlation between information application and operational success. Additionally, Peeyapat Puengklay, (2019) study corroborates the positive impact of management accounting in planning, control, decision-making, and cost management on construction business success, with a notable 72.50% ( $R^2 = 0.725$ ) impact on goal achievement, 63.80% ( $R^2 = 0.638$ ) on procurement and resource utilization, 63.10% ( $R^2 = 0.631$ ) on operational processes, and 62.70% ( $R^2 = 0.627$ ) on stakeholder satisfaction. These findings underscore the significance of management accounting in business success. However, they contrast with Orasa Mangsakul, (2018) findings, which did not find a significant impact of accounting information management on operational efficiency, particularly in smaller, already efficient businesses that did not necessitate extensive command and control.

## Recommendation

### 1. Recommendations for implementing

1.1 Enhancing management accounting proficiency in financial ratio analysis to facilitate performance evaluations and offer insights for addressing internal and external

business challenges. This entails the ability to promptly convey analytical findings to stakeholders, enabling informed decision-making across diverse scenarios and mitigating operational risks.

1.2 Advancing expertise in break-even analysis and pricing strategies within budgeting. This encompasses an examination of investment opportunities aimed at bolstering the application of management accounting, ultimately driving business success through enhanced efficiency, effective operations, and adept problem-solving.

## 2. Future research direction

Future research should explore topics such as the influence of management accounting application efficiency on the operational success of various business sectors. This comparative analysis can offer valuable insights and guidance for enhancing the efficiency of management accounting application, which in turn impacts overall business management effectiveness.

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