

FACTORS INFLUENCING THE APPLICATION OF MANAGEMENT ACCOUNTING AND ITS IMPACT ON BUSINESS EFFICIENCY IN SMES: A BUSINESS STRATEGY IMPLICATION

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Abstract

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This study investigates key factors influencing the application of management accounting (MA) and its impact on business efficiency in small and medium-sized enterprises (SMEs) in Vietnam. Addressing a gap in the literature, the research identifies both internal (firm size, leadership engagement, accountant qualifications) and external (competitive intensity) drivers of MA adoption. A structured questionnaire was distributed to 700 Vietnamese enterprises, with 322 valid responses analyzed using structural equation modeling (SEM) via SPSS and AMOS. The findings reveal that all four factors significantly affect the adoption of MA practices. Moreover, the application of MA has a strong positive impact on business efficiency and mediates the relationship between certain factors, particularly firm size and competitive intensity, and performance outcomes. These results highlight the strategic importance of MA in enhancing decision-making and operational effectiveness in SMEs. The study offers practical insights for business leaders and policymakers aiming to improve SME competitiveness through effective accounting practices. Future research should explore similar models in other emerging markets to support broader generalizability.

Keywords: Vietnamese Enterprises, Management Accounting (MA), Management Accounting Application, Firm Size, Owner/Executive Leader's Engagement, Accountants' Qualifications, Competitive Intensity, Business Efficiency

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1. INTRODUCTION

Recent research in management accounting reveals that various factors influence its practical application in small and medium-sized enterprises (SMEs) (Atici, 2024; Benelifa & Nasfi Salem, 2023; Rieg & Ulrich, 2024). As SMEs increasingly face complex operational and competitive challenges, understanding how management accounting (MA) systems are adopted and utilised becomes essential. This study undertakes a comprehensive examination of the multifaceted dynamics that shape MA implementation in SMEs, with a particular focus on the Vietnamese context as an emerging market. The research aims to identify and analyse key internal and external factors, such as firm size, leadership engagement, accountant qualifications, and competitive intensity, that influence the adoption of MA practices. Furthermore, it investigates how these practices impact overall business efficiency. By integrating empirical evidence, this study sheds light on the strategic value of MA beyond its financial functions, positioning it as a critical driver of performance, adaptability, and competitiveness. In doing so, the research offers a nuanced understanding of the challenges and opportunities faced by SMEs in emerging economies, where practical management accounting can significantly enhance organisational resilience and growth.

In Vietnam, exploring management accounting (MA) applications and their influence on business efficiency has garnered growing attention in academic circles (Dung & Lien, 2024; Oanh et al., 2025; Schmuck, 2024). This research is dedicated to identifying the gaps in the existing literature regarding the application of MA across various contexts, with a specific focus on the Vietnamese business environment. It seeks to answer critical research questions:

RQ1: What are the primary factors that influence the application of MA in Vietnamese enterprises?

RQ2: What is the impact of the MA application on their business efficiency?

The study's theoretical framework is grounded in an extensive review of the literature, which examines the efficacy of MA and its context-specific applications.

This study aims to bridge the theoretical and practical aspects of MA, providing valuable insights for both academic researchers and business practitioners. The research employs a mixed-method approach to achieve a holistic understanding of MA adoption and its effects on Vietnamese firms, integrating qualitative and quantitative analyses.

The key findings of this study contribute to the body of knowledge by pinpointing specific factors that drive the adoption of MA in various Vietnamese business settings and by assessing the impact of MA on organisational performance. These insights have practical implications for business leaders and policy-makers, enriching the understanding of MA's role in enhancing strategic decision-making and operational efficiency.

This paper is structured into four main sections following this introduction. Section 2 presents a comprehensive literature review and the development of hypotheses, laying the theoretical groundwork for the study. Section 3 outlines the research methodology, detailing the methods and approaches employed in this study. Section 4 is dedicated to presenting

the principal findings and engaging in a thorough discussion of these results. Section 5 presents concluding remarks that encapsulate the key insights and implications of the research.

2. LITERATURE REVIEW

2.1. Management accounting and its practical research

Recent research in MA reveals that various factors influence its practical applications in SMEs. A key determinant is the qualifications of accountants, which significantly shape the implementation of management accounting practices within SMEs. Owners of SMEs who have higher academic, professional, and technical qualifications tend to offer a more diverse range of business-related development opportunities to their staff. This relationship between owner qualifications and staff development is noteworthy.

Moreover, the scarcity of highly qualified and value-enhancing accountants in SMEs indicates that such qualifications are rare and add significant value to these enterprises. In response, SMEs often seek accountants with the qualifications and experience to meet specific needs in developing and utilising management accounting systems. This highlights the importance of qualifications in addressing the unique requirements of SMEs.

Large enterprises tend to employ accountants with the qualifications to perform sophisticated tasks, such as report preparation and offering professional advice. This emphasises the importance of qualifications in specialised accounting and finance departments. Furthermore, the level of qualifications held by accounting staff is recognised as a contingent factor that influences management accounting practices in SMEs, thus underlining the impact of qualifications on the application of these practices.

Competitive intensity also plays a significant role in implementing management accounting in SMEs. As competition intensifies, the demand for reliable management accounting information increases, helping firms to compete effectively and make informed decisions. This competitive pressure directs managers' focus towards competitive threats and maximising value from adopted practices, positively influencing the relationship between environmental practices and financial performance.

The competitive environment affects the need for reliable information, the emphasis on addressing competitive threats, crisis management, and the role of accountants in cost control. This underscores the necessity of considering the competitive landscape when implementing management accounting practices in SMEs.

In conclusion, the body of practical research on management accounting in SMEs highlights the complexity of its application and the diverse factors that influence its implementation. The qualifications of accountants and the competitive intensity are among the critical elements that significantly impact the practical application of management accounting in SMEs. These insights are invaluable for SME owners, accountants, and researchers, stressing the importance of considering qualifications and competitive dynamics in effectively implementing management accounting practices in SMEs.

2.2. Firm size and management accounting application

The dimension of an enterprise considerably influences the implementation of management accounting within SMEs. Scholarly investigations, including those by Nguyen et al. (2019), have highlighted the pivotal role of enterprise size in moderating the impact of business characteristics on the adoption of management accounting practices. It is observed that larger enterprises, with their enhanced resources and capabilities, are better positioned to adopt and effectively utilise management accounting methods (Armitage et al., 2016). For example, research by Nguyen and Le (2020) revealed that enterprise size significantly affects the intention to employ management accounting in Vietnamese enterprises, suggesting a higher propensity for larger enterprises to integrate such practices.

Furthermore, Bui et al. (2020) noted that the extent and nature of business management accounting applications vary according to their size and operational duration. Larger SMEs, in particular, are often equipped to implement more complex management accounting techniques, including various costing systems, budgetary control, responsibility centre reporting, and decision-making analysis (Armitage et al., 2016). Additionally, strategic management accounting (SMA) has been positively correlated with company size, indicating a tendency among larger SMEs to adopt SMA practices (Ahmad & Mohamed Zabri, 2015).

The relationship between enterprise size and the adoption of technological innovations, as well as their subsequent impact on management accounting practices, has also been a subject of academic interest. Challenges in technology adoption for SMEs have been highlighted primarily due to resource constraints and market dynamics. Furthermore, the potential of Industry 4.0 to mitigate these technological barriers, thereby enhancing the sustainable business performance of SMEs, has been discussed. This implies that an enterprise's scale may affect its ability to embrace technological advancements, which, in turn, influences its management accounting practices.

In summary, the size of an enterprise is a critical determinant in the application of management accounting within SMEs. Larger enterprises are more likely to employ management accounting practices and possess the capacity to apply more advanced techniques. Additionally, they may have a comparative advantage in adopting new technologies that can significantly influence their management accounting systems. So, the study proposes the first hypothesis:

H1: Firm size has a positive impact on the MA application.

2.3. Owner/executive leader's engagement and management accounting application

The engagement and dedication of the owner or executive leader within SMEs play a fundamental role in implementing management accounting practices. Scholarly research, including findings by Moyo and Mpofu (2019), underscores the profound impact that the commitment and perspectives of owner-managers have on adopting and effectively utilising management accounting methodologies in

SMEs. Specifically, studies have demonstrated that the resolve of the owner or manager significantly affects the incorporation of management accounting practices, as evidenced in the context of SMEs in Zimbabwe. This underscores the critical importance of owner commitment in moulding the landscape of management accounting within these enterprises.

Additionally, the relationship dynamics between external accountants and owner-managers, particularly regarding trust and mutual understanding, play a crucial role in forming strategic partnerships and promoting proactive behaviour among owner-managers in their interactions with accountants. This, in turn, affects the adoption and application of management accounting practices (De Bruyckere et al., 2020). An additional study highlights the impact of SME owners' accounting knowledge on their record-keeping practices, thereby emphasising the direct influence of the owner's expertise and proficiency on accounting practices within SMEs (Madurapperuma et al., 2016).

In conclusion, the interests, commitments, attitudes, and knowledge of enterprise owners or leaders are vital determinants in implementing management accounting in SMEs. Their level of involvement and belief systems significantly influence the adoption, utilisation, and overall effectiveness of MA practices, underscoring the essential role of owner-managers in sculpting the management accounting framework within SMEs. Based on the above review, the study proposes the second hypothesis:

H2: The engagement of owner/executive leaders positively impacts the MA application.

2.4. The accountants' qualification and management accounting application

The qualifications of accountants are a vital determinant in the application of management accounting within SMEs. Research by Weigel and Hiebl (2023) suggests a scarcity of highly qualified and value-adding accountants in SMEs, implying that such qualifications are associated with increased value and rarity, making these accountants a valuable asset in the SME context. This highlights the elevated value and unique contributions that qualified accountants can bring to SMEs.

Moreover, SMEs often seek accountants with relevant qualifications and experience tailored to their needs, especially in developing and applying management accounting systems. This underscores the importance of having appropriately qualified accountants to fulfil SMEs' specific requirements, as noted by Latif et al. (2023).

In larger enterprises, there is a tendency to recruit accountants with the necessary qualifications to prepare reports and offer professional advice. This practice, emphasised by Nguyen et al. (2019), highlights the importance of qualifications in specialised accounting and finance departments.

Additionally, Nugrahani et al. (2023) identified the qualification level of accounting staff as a contingent factor influencing management accounting practices in SMEs. This further underlines the substantial impact of accounting personnel's qualifications on the application of management accounting.

To summarise, the qualifications of accountants play a crucial role in shaping the application of MA within SMEs. These

qualifications impact various aspects, including staff development, value enhancement, the fulfilment of specific needs, the functioning of specialised departments, and contingent factors that affect management accounting practices. Therefore, SMEs stand to gain considerably from employing well-qualified accountants who can effectively contribute to developing and effectively utilising management accounting systems. Thus, the study proposes the third hypothesis:

H3: The accountants' qualifications have a positive impact on the MA application.

2.5. The competitive intensity and management accounting application

The intensity of competition exerts a considerable influence on the application of MA within SMEs. As the competitive landscape intensifies, accurate and reliable management accounting information becomes paramount for SMEs to compete effectively and make informed decisions. This requirement is especially critical to avoid basing strategic plans on flawed information, a concern that Ahmad and Mohamed Zabri (2015) underscored.

Furthermore, research by Tyler et al. (2020) suggests that competitive pressures sharpen managers' focus on potential competitive threats and the necessity to maximise value from adopted practices. This dynamic positively moderates the correlation between adopting environmental practices and financial performance. The competitive milieu also shapes the quality of management accounting practices. Zhou et al. (2018) noted that implementing MA in SMEs can enhance financial management and bolster core competitiveness, underscoring its pivotal role in cost management and business decision-making.

Additionally, the study by Kurschus et al. (2017) draws attention to the specificity of crisis management in SMEs, highlighting the significant influence of qualitative factors, including the quality of management, business environment, competitiveness, and the role of shareholders in the business. The competitive intensity also affects the utilisation of accounting services among SMEs, as Cahyaningtyas and Ningtyas (2020) pointed out, indicating that the competitive environment influences engagement with accounting services.

Moreover, the research by Zehra and Ahmed (2019) emphasises that with rising production costs and escalating local and international competition, accountants within SMEs face the critical task of cost control, further emphasising the impact of competitive intensity on the role of accountants in these enterprises.

Overall, the intensity of competition significantly impacts the application of management accounting in SMEs, influencing the necessity for reliable information, the focus on competitive threats, the approach to crisis management, and the role of accountants in cost management. These factors highlight the importance of considering the competitive context in implementing management accounting practices within SMEs. Based on these empirical findings, the following hypotheses have been formulated:

H4: Competitive intensity has a positive impact on the MA application.

2.6. Management accounting application and business efficiency

Management accounting applications can significantly impact business efficiency in SMEs. Several factors have been identified as influential in the application of management accounting in SMEs. The chief executive officer's (CEO) awareness of MA has been found to have the most substantial impact on the ability to apply management accounting in enterprises (Nguyen et al., 2019). Additionally, the presence of professional accountants in SMEs has been shown to facilitate the application and development of management accounting, thereby enhancing business efficiency (Suryana et al., 2023). Furthermore, the application of management accounting in SMEs has been found to enhance financial management, promote financial management activities, and improve the core competitiveness of SMEs (Zhou et al., 2018). Moreover, the study found that budgeting has a positive influence on the business performance of SMEs, indicating the positive impact of management accounting practices on business performance (Maziriri et al., 2018). Additionally, the application of MA information systems has been shown to impact the quality of MA information, further emphasising the importance of MA applications in enhancing business efficiency (Astuty, 2015). Furthermore, the impact of introducing e-commerce has been found to stimulate SME efficiency by increasing business transactions at an affordable cost, highlighting the role of technological applications in enhancing business efficiency (Parvin et al., 2022). Cloud computing has also been identified as an attractive option for SMEs to reduce costs and improve the quality and efficiency of business processes, further emphasising the impact of technological applications on business efficiency (Olayah, 2019). In conclusion, the application of management accounting, the presence of professional accountants, technological applications such as cloud computing, and the utilisation of e-commerce have been identified as influential factors that can significantly impact business efficiency in SMEs. These findings underscore the importance of adopting and effectively utilising MA applications and technological advancements to enhance the efficiency and performance of SMEs. As such, the following fifth hypothesis has been developed:

H5: The MA application has a positive impact on business efficiency.

2.7. Firm size and business efficiency

The size of an enterprise significantly impacts business efficiency in SMEs. Research has shown that enterprise size is a crucial determinant of SME performance. For instance, it found that enterprise size had a significant and positive effect on the performance of SMEs in Uganda's tourism sector (Mutenyo et al., 2021). Similarly, it highlighted that many factors affect SMEs' business performance, with enterprise size being a critical determinant (Xuan et al., 2020). This suggests that larger SMEs may have certain performance advantages compared to smaller ones. Moreover, the impact of enterprise size on SME performance has been studied in the context of various factors. For example, the study compared SMEs with larger enterprises, highlighting that SMEs have smaller sizes, simple

organisational structures, and fewer available resources, which can impact their performance (Shi et al., 2013). Additionally, the study found that the activity of enterprises in identifying and managing risk had a significant impact on operational business performance, indicating that the size of the enterprise could influence risk management practices and, subsequently, affect performance (Hanggraeni et al., 2019). Furthermore, the impact of enterprise size on adopting technology and its subsequent influence on SME performance has been explored and discussed how technology adoption is challenging for SMEs due to a lack of resources and market issues and how industry 4.0 could potentially resolve technological obstacles, thereby impacting the sustainable business performance of SMEs (Asmolov & Ledentsov, 2022). This suggests that the size of the enterprise can influence its capacity to adopt and benefit from technological advancements, which in turn affects its performance. In conclusion, the size of an enterprise has a significant impact on business efficiency in SMEs. Larger SMEs may have certain advantages in terms of performance, and enterprise size can influence various factors such as organisational structure, risk management, and technology adoption, all of which have implications for SME performance. Based on these arguments, the ensuing assumptions will undergo testing with the sixth hypothesis:

H6: Firm size has a positive impact on business efficiency.

2.8. Competitive intensity and business efficiency

The level of competitive intensity has a significant impact on business efficiency in SMEs. The market competition influences various aspects of SMEs, ultimately affecting their efficiency and performance. For instance, they emphasised the need for SMEs to strengthen their overall organisational position and reinforce their focus on building business resilience in anticipation of intense market competition in the international arena. This highlights the impact of competitive intensity on SMEs' strategic positioning and resilience, which are crucial factors for business efficiency (Hu & Kee, 2021). Moreover, the study demonstrated that the business sphere has a substantial influence on the competitive advantage and business performance of SMEs, indicating the direct impact of the competitive environment on SME performance (Gs et al., 2019). Additionally, the study focuses on the relationship between innovative work behaviour, competitive advantage, and business performance, highlighting the significance of sustainable competitive advantage in driving superior long-term business performance, particularly in the context of SMEs (Firdaus & Sakinah, 2022). Furthermore, the competitive intensity in the market has been linked to SMEs' adoption of innovative strategies and business model innovation, emphasising the continuous need for SMEs to innovate their business models to remain competitive. This underscores the influence of competitive intensity on driving innovation and growth in SMEs (Maharani & Yamit, 2022). In conclusion, competitive intensity has a significant impact on business efficiency in SMEs, influencing

their strategic positioning, resilience, competitive advantage, innovation, and collaborative arrangements. SMEs must adapt and innovate to remain competitive in intense market environments, ultimately impacting their efficiency and long-term performance. Based on these arguments, the seventh hypothesis was created:

H7: Competitive intensity has a positive impact on business efficiency.

3. METHODOLOGY

This study adopts a quantitative research design to examine the factors influencing the application of MA and its impact on business efficiency in Vietnamese SMEs. A hypothesis-driven approach was employed, grounded in an extensive review of existing literature and guided by a proposed structural model.

3.1. Research design and population

The research was conducted using a survey-based cross-sectional design, targeting senior executives responsible for financial and operational decision-making within SMEs. The study population includes all SMEs operating in Vietnam across diverse sectors and registered with local enterprise directories. A simple random sampling technique was applied to enhance the generalizability of the findings while minimizing selection bias.

3.2. Data collection

A total of 700 structured questionnaires were distributed via email and direct contact to CEOs, chief financial officers (CFOs), chief accountants, and departmental managers. The questionnaire was designed to assess both the determinants of MA application and perceived business performance. After data cleaning, 322 valid responses were obtained, representing a response rate of 46%. This sample size was deemed sufficient based on SEM requirements, which are generally satisfied with a 5:1 to 10:1 ratio of respondents to variables.

3.3. Measurement instrument

The questionnaire was structured around latent variables measured using multi-item Likert scales (ranging from 1 = strongly disagree to 5 = strongly agree). The constructs measured include:

- Firm size (*SIZE*): Measured with three observed variables (e.g., number of employees, revenue scale).
- Owner/executive engagement (*LEAD*): Three items assessing involvement in accounting decisions.
- Accountants' qualification (*QUAL*): Four items reflecting professional certifications and training.
- Competitive intensity (*COMP*): Six items measuring perceived market competitiveness.
- MA application (*MAA*): Four items evaluating the extent of MA tool adoption.
- Business performance (*PERF*): five items covering efficiency, profitability, and competitiveness.

The items were adapted from validated scales used in prior studies, ensuring content validity and reliability.

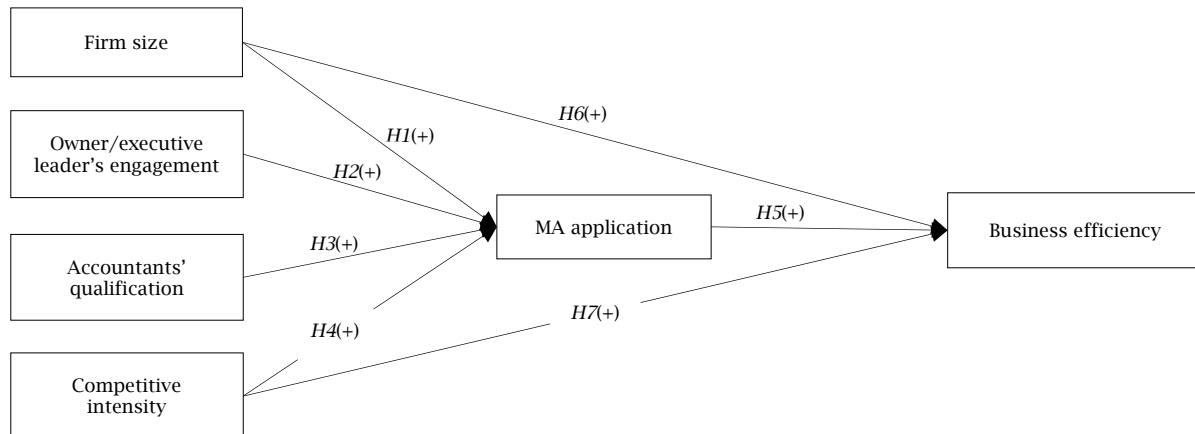
3.4. Data analysis techniques

The data were analysed using SPSS 24.0 and AMOS 24.0 for structural equation modeling (SEM). The analysis followed a two-stage approach:

An exploratory factor analysis (EFA) was conducted to assess the underlying factor structure and validate the construct dimensionality. Kaiser-Meyer-Olkin (KMO) and Bartlett's test confirmed sampling adequacy (KMO = 0.794; $p < 0.001$). Then, confirmatory factor analysis (CFA) was used to test the measurement model for reliability and validity.

Cronbach's alpha and average variance extracted (AVE) values confirmed internal consistency and convergent validity, respectively. Following this, Path analysis within SEM was employed to test the proposed hypotheses and identify both direct and indirect effects. Model fit was assessed using key indices (CMIN/df, TLI, CFI, RMSEA), all of which indicated a good fit. This methodological approach provides a robust empirical foundation for testing the causal relationships among variables and assessing the mediating role of MA in enhancing business performance.

Figure 1. Overview of the theoretical framework



Source: Authors' elaboration.

4. RESULTS

This study tested the model research, theoretical model, and hypothesis testing using EFA and CFA methods with SPSS 24.0 and AMOS 24.0 software. Seven hundred questionnaires were sent to listed enterprises' managers, and after receiving and checking, we had 322 valid ones.

For the initial testing of Cronbach's alpha, we excluded *COMP7* (0.406) and *PERF6* (0.257) because their Cronbach's alpha values were lower than 0.6.

Consequently, all remaining constructs in the analysis present Cronbach's alpha coefficients surpassing 0.6, indicating satisfactory internal consistency. This strong reliability metric supports the conclusion that the measurement scale is highly reliable. Moreover, it reinforces the appropriateness of the observed indicators, confirming their coherence with the conceptual dimensions they are intended to represent. Notably, the constructs exhibit substantial convergent validity, as demonstrated by AVE values above the 0.6 threshold.

Table 1. Results of testing the reliability and validity assessment.

Name of scale (number of observed variables)	Corrected item-total correlation	Cronbach's alpha
Firm size — <i>SIZE</i> (three observed variables)	0.651–0.657	0.800
Owner/executive leader's engagement — <i>LEAD</i> (three observed variables)	0.586–0.649	0.783
Qualifications of accountants — <i>QUAL</i> (four observed variables)	0.656–0.704	0.840
Competitive intensity — <i>COM</i> (six observed variables)	0.589–0.738	0.875
MA application — <i>MAA</i> (four observed variables)	0.637–0.729	0.846
Business performance — <i>PERF</i> (five observed variables)	0.709–0.849	0.908

Source: Authors' elaboration.

The test results by EFA for four scales, including *SIZE*, *LEAD*, *QUAL*, and *COMP*, presented in Table 2, demonstrate Kaiser-Meyer-Olkin (KMO) statistic was calculated at 0.794, demonstrating a satisfactory level of sampling adequacy for conducting factor analysis ($0.5 < \text{KMO} = 0.794 < 1$). Furthermore, Bartlett's test of sphericity produced a statistically significant outcome ($p < 0.05$), thereby substantiating the appropriateness of employing the EFA approach to evaluate the construct validity of the independent variable measures in this study.

Table 2. KMO and Bartlett's test

KMO measure of sampling adequacy		0.794
Bartlett's test of sphericity	Approx. Chi-squared	2332.640
	df	120
	Sig.	0.000

Source: Authors' elaboration.

The analysis presented in Table 3 indicates that the observed variables explain a significant 67.22% (exceeding 50%) of the variance within the factors. As a result, the adequacy of the EFA model was verified.

Table 3. Total variance explained

Factor	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total
1	4.539	28.369	28.369	4.113	25.704	25.704	3.618
2	2.794	17.464	45.833	2.387	14.922	40.625	2.586
3	1.891	11.820	57.653	1.468	9.173	49.798	2.247
4	1.532	9.573	67.226	1.112	6.949	56.747	2.383

Source: Authors' elaboration.

The results from the EFA concerning the factor rotation matrix for the independent variables, as illustrated in Table 4, demonstrate that all factor loadings for the observed variables are statistically significant, exceeding the benchmark value of 0.5.

This analysis identified six distinct factors, each corresponding to the initial hypotheses and their respective measurement variables, confirming the proposed theoretical framework.

Table 4. Pattern matrix^a

Scale	Factor			
	1	2	3	4
COMP6	0.943			
COMP5	0.791			
COMP2	0.737			
COMP4	0.686			
COMP1	0.657			
COMP3	0.581			
QUAL3		0.803		
QUAL4		0.765		
QUAL1		0.732		
QUAL2		0.717		
SIZE2			0.785	
SIZE3			0.765	
SIZE1			0.729	
LEAD3				0.809
LEAD2				0.780
LEAD1				0.618

Note: Extraction method: Principal axis factoring. Rotation method: Promax with Kaiser Normalization. a. Rotation converged in 5 iterations.
Source: Authors' elaboration.

Furthermore, as all hypotheses have a p-value ≤ 0.05 , denoting a confidence level exceeding 95% (as depicted in Table 5), this leads to the inference that all hypotheses are consistent.

The extent of the impact is detailed in the table, with the direct impact coefficient of SIZE on PERF being 0.102 and that of COMP on PERF being 0.031.

Table 5. Regression weights

Hypothesis	Estimate	S.E.	C.R.	P
MAA <--- SIZE	0.422	0.067	6.325	***
MAA <--- LEAD	0.316	0.057	5.519	***
MAA <--- QUAL	0.413	0.061	6.794	***
MAA <--- COMP	0.263	0.045	5.862	***
PERF <--- SIZE	0.102	0.064	1.596	0.110
PERF <--- COMP	0.031	0.044	0.709	0.478
PERF <--- MAA	0.741	0.073	10.087	***
SIZE2 <--- SIZE	1.000			
SIZE3 <--- SIZE	1.017	0.088	11.564	***
SIZE1 <--- SIZE	0.941	0.082	11.456	***
LEAD3 <--- LEAD	1.000			
LEAD2 <--- LEAD	0.941	0.086	10.884	***
LEAD1 <--- LEAD	0.899	0.087	10.359	***
QUAL3 <--- QUAL	1.000			
QUAL4 <--- QUAL	0.949	0.073	13.083	***
QUAL1 <--- QUAL	1.013	0.081	12.564	***
QUAL2 <--- QUAL	0.946	0.074	12.735	***
COMP6 <--- COMP	1.000			
COMP5 <--- COMP	0.834	0.046	18.094	***
COMP2 <--- COMP	0.837	0.050	16.710	***
COMP4 <--- COMP	0.779	0.054	14.318	***
COMP1 <--- COMP	0.689	0.051	13.376	***
COMP3 <--- COMP	0.638	0.056	11.334	***
MAA1 <--- MAA	1.000			
MAA3 <--- MAA	0.966	0.072	13.331	***
MAA2 <--- MAA	0.885	0.076	11.577	***
MAA4 <--- MAA	0.943	0.078	12.032	***
PERF5 <--- PERF	1.000			
PERF4 <--- PERF	0.974	0.054	18.076	***
PERF2 <--- PERF	1.023	0.057	17.984	***
PERF3 <--- PERF	0.952	0.057	16.750	***
PERF1 <--- PERF	0.904	0.058	15.556	***

Note: *** = 0.000.

Source: Authors' elaboration.

In assessing the mediating relationships: $SIZE \rightarrow MAA \rightarrow PERF$ and $COMP \rightarrow MAA \rightarrow PERF$, the analysis yields the following: For $SIZE \Rightarrow PERF$, the significance (sig) value is 0.01, which is less than 0.05, indicating the presence of an indirect

relationship from $SIZE$ to $PERF$. Similarly, for $COMP \rightarrow PERF$, the sig value is 0.02, again less than 0.05, suggesting the existence of an indirect relationship from $COMP$ to $PERF$ (as detailed in Table 6).

Table 6. Standardized indirect effects: Two tailed significance

Scale	COMP	QUAL	LEAD	SIZE	MAA	PERF
MAA	—	—	—	—	—	—
PERF	0.002	0.003	0.002	0.001	—	—
PERF1	0.002	0.002	0.002	0.001	0.003	—
PERF3	0.002	0.002	0.002	0.001	0.003	—
PERF2	0.002	0.003	0.002	0.001	0.003	—
PERF4	0.002	0.003	0.003	0.001	0.003	—
PERF5	0.003	0.002	0.003	0.001	0.004	—
MAA4	0.002	0.002	0.002	0.002	—	—
MAA2	0.002	0.003	0.002	0.002	—	—
MAA3	0.003	0.002	0.002	0.002	—	—
MAA1	0.003	0.003	0.002	0.002	—	—
COMP3	—	—	—	—	—	—
COMP1	—	—	—	—	—	—
COMP4	—	—	—	—	—	—
COMP2	—	—	—	—	—	—
COMP5	—	—	—	—	—	—
COMP6	—	—	—	—	—	—
QUAL2	—	—	—	—	—	—
QUAL1	—	—	—	—	—	—
QUAL4	—	—	—	—	—	—
QUAL3	—	—	—	—	—	—
LEAD1	—	—	—	—	—	—
LEAD2	—	—	—	—	—	—
LEAD3	—	—	—	—	—	—
SIZE1	—	—	—	—	—	—
SIZE3	—	—	—	—	—	—

Source: Authors' elaboration.

Additionally, the analysis reveals that the standardised indirect impact coefficient of $SIZE$ on $PERF$ is 0.277, and for $COMP$ on $PERF$, it stands at 0.227 (as detailed in Table 7). Consequently, this

leads to the conclusion that the indirect impact coefficients are more significant than their direct counterparts.

Table 7. Standardized indirect effects

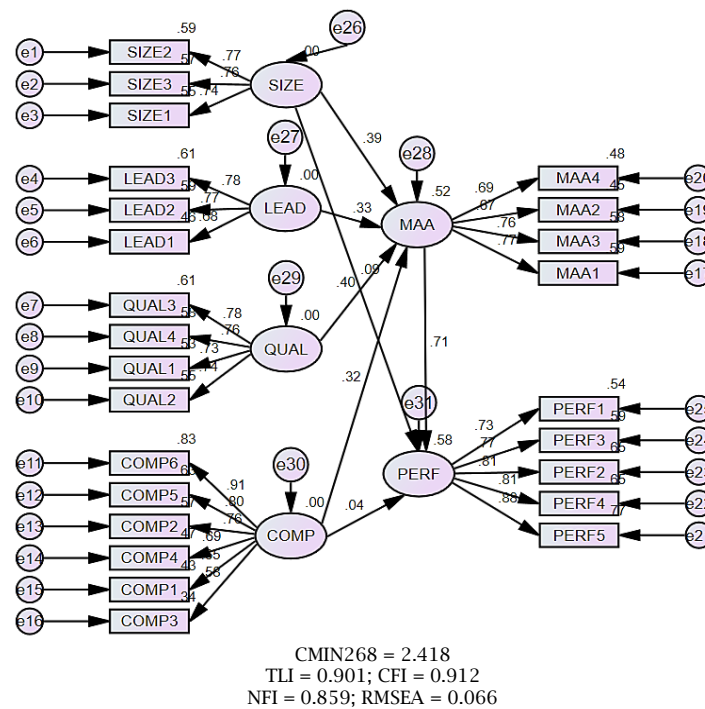
Scale	COMP	QUAL	LEAD	SIZE	MAA	PERF
MAA	0.000	0.000	0.000	0.000	0.000	0.000
PERF	0.227	0.285	0.233	0.277	0.000	0.000
PERF1	0.193	0.210	0.171	0.270	0.523	0.000
PERF3	0.202	0.220	0.180	0.283	0.549	0.000
PERF2	0.211	0.230	0.188	0.296	0.573	0.000
PERF4	0.212	0.230	0.188	0.297	0.575	0.000
PERF5	0.230	0.250	0.204	0.322	0.624	0.000
MAA4	0.220	0.278	0.227	0.270	0.000	0.000
MAA2	0.213	0.268	0.219	0.260	0.000	0.000
MAA3	0.243	0.306	0.250	0.298	0.000	0.000
MAA1	0.244	0.308	0.252	0.299	0.000	0.000
COMP3	0.000	0.000	0.000	0.000	0.000	0.000
COMP1	0.000	0.000	0.000	0.000	0.000	0.000
COMP4	0.000	0.000	0.000	0.000	0.000	0.000
COMP2	0.000	0.000	0.000	0.000	0.000	0.000
COMP5	0.000	0.000	0.000	0.000	0.000	0.000
COMP6	0.000	0.000	0.000	0.000	0.000	0.000
QUAL2	0.000	0.000	0.000	0.000	0.000	0.000
QUAL1	0.000	0.000	0.000	0.000	0.000	0.000
QUAL4	0.000	0.000	0.000	0.000	0.000	0.000
QUAL3	0.000	0.000	0.000	0.000	0.000	0.000
LEAD1	0.000	0.000	0.000	0.000	0.000	0.000
LEAD2	0.000	0.000	0.000	0.000	0.000	0.000
LEAD3	0.000	0.000	0.000	0.000	0.000	0.000
SIZE1	0.000	0.000	0.000	0.000	0.000	0.000
SIZE3	0.000	0.000	0.000	0.000	0.000	0.000
SIZE2	0.000	0.000	0.000	0.000	0.000	0.000

Source: Authors' elaboration.

Moreover, the quality of fit of the model is adequate with $CMIN/df = 2.418$ (< 5), $TLI = 0.901$ (> 0.9), $CFI = 0.912$ (> 0.9), $NFI = 0.859$ (approaching

0.9, tending towards 1), $RMSEA = 0.066$ (lying within the range of 0.05 to 0.08). It means that the integrated model is congruent with the actual data.

Figure 2. SEM model's results



Source: Authors' elaboration.

5. DISCUSSION

The findings presented herein hold substantial implications for understanding the application of MA in SMEs. The influence of firm size, owner or executive leader engagement, accountants' qualifications, and competitive intensity on MA application is nuanced, encompassing direct and indirect impacts.

To begin with, firm size plays a pivotal role. Due to their expansive resources and broader operational scope, larger firms tend to have a heightened need for and dependency on sophisticated MA practices. Such enterprises are more likely to maintain specialised accounting departments and possess the financial wherewithal to invest in advanced MA tools and systems. Additionally, the size of a firm can indirectly affect MA application via organisational complexity. Larger enterprises typically encounter more intricate decision-making processes and a heightened demand for integrated control systems, areas where MA can provide critical support. These observations align with existing literature, including studies by Bui et al. (2020) and Nguyen and Le (2020), which further corroborate the significance of these factors in the practical application of MA within SMEs.

The engagement of owners or executive leaders in MA holds considerable significance. Active participation from these individuals can directly amplify the efficacy of MA. Their dedication to implementing MA tools for decision-making often results in a more cohesive alignment of accounting practices with the enterprise's strategic objectives. Moreover, this level of engagement can indirectly impact the organisational culture and the emphasis placed on MA. Leaders who prioritise MA contribute to fostering a data-driven decision-making culture, thereby enhancing the effectiveness of MA practices. This aspect of leadership and its influence on MA

aligns with previous research in decentralised management, as highlighted in studies by De Bruyckere et al. (2020) and Madurapperuma et al. (2016).

Regarding the qualifications of accountants, it is evident that their expertise significantly contributes to implementing MA. Accountants with high qualifications bring a depth of knowledge and skill to the table, directly enhancing the sophistication and efficacy of accounting practices. Their expertise ensures accuracy, timeliness, and relevance to financial reporting and analysis.

Moreover, the influence of accountants' qualifications extends indirectly through their role in training and developing other staff members. Skilled accountants often serve as mentors, elevating the capabilities of the entire accounting team, which in turn leads to advancements in MA practices across the organisation. These findings align with and add to the existing body of research, as demonstrated in studies by Weigel and Hiebl (2023) and Latif et al. (2023), further underscoring the pivotal role of accountant qualifications in the practical application of management accounting.

Regarding competitive intensity, it is observed that in environments marked by high competition, SMEs may increasingly depend on MA to discover cost-saving opportunities, refine pricing strategies, and analyse market trends. This imperative to maintain competitiveness can catalyse a more strategic utilisation of MA within these firms. Additionally, competitive pressures can exert an indirect impact on the application of MA, stimulating innovation and fostering continual enhancements in MA practices. Such an environment may encourage the adoption of novel MA techniques and technologies, thereby improving operational efficiency and providing SMEs with a competitive advantage. This correlation between competitive intensity and the strategic application of MA in SMEs aligns with findings from previous research,

including studies by Cahyaningtyas and Ningtyas (2020) and Zehra and Ahmed (2019), thereby reinforcing the significance of competitive factors in the evolution and effectiveness of management accounting practices.

In summary, these factors influence the application of MA in SMEs through a blend of direct effects, which are straightforward and immediate, and indirect effects, which are more subtle and occur over time through various channels within the organisation.

6. CONCLUSION

This research was undertaken to provide empirical evidence on how various factors, including firm size, engagement of the owner or executive leader, accountants' qualifications, and competitive intensity, influence the application of MA in businesses. The study also aimed to explore the beneficial effects of MA implementation on business efficiency. For this purpose, data was collected through a survey questionnaire distributed to 322 Vietnamese enterprises and subsequently

analysed using SPSS and AMOS in the quantitative phase of the study.

The research findings reveal that various factors significantly impact the application of MA, encompassing firm size, owner or executive leader engagement, accountants' qualifications, and competitive intensity. Additionally, the study examines the relationship between the application of MA and business efficiency, with the results affirming that the use of MA positively influences the business efficiency of Vietnamese enterprises.

However, it is essential to acknowledge certain limitations of this research. The generalizability of the findings is somewhat restricted due to the limited sample size, which is confined to companies in the Vietnamese market. Therefore, future research should aim to broaden the scope by including a more extensive and more diverse sample from various emerging markets and different business sectors. This expansion would allow for a more comprehensive examination of industry-specific factors that may affect the usage of MA and its ultimate impact on business performance.

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