

ANALYSIS OF THE INFLUENCE OF MANAGEMENT ACCOUNTING INFORMATION SYSTEM (MAIS) AND COMPETITIVE ADVANTAGE ON SMEs PERFORMANCE IN MALANG CITY

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ABSTRACT

Market competition has generated upheaval, pressure, risk, and uncertainty for businesses. Organizations must quickly adapt to their market environment to gain and maintain competitive advantage. The relevance of Management Accounting Information System (MAIS) plays a crucial role in enhancing this advantage by providing managers with timely and relevant internal information and supporting decision-making that aligns with strategic objectives related to quality, cost efficiency, and market responsiveness. This study examines the influence of MAIS and competitive advantage on the performance of small and medium-sized enterprises (SMEs) in Malang City. A quantitative correlational survey design was employed, gathering data from 129 respondents via a Google Form survey targeting SMEs in Malang City. The findings indicate that competitive advantage significantly and positively influences SMEs performance, supporting the hypothesis that stronger competitive advantage leads to better business performance. However, MAIS does not show a significant direct effect on competitive advantage, suggesting its role may be more indirect, contributing to informed and efficient decision-making that supports other business aspects. The study underscores the importance of focusing on strategies such as product innovation, service quality improvement, and operational efficiency to enhance competitive advantage and, consequently, SMEs performance. While MAIS did not show a significant direct impact on competitive advantage, its use remains important for supporting comprehensive business strategies. Future research should explore additional variables and consider mediating and moderating factors to provide a deeper understanding of the dynamics between MAIS, competitive advantage, and SMEs performance.

Keywords: MAIS, SMEs, Competitive Advantage, Performance

INTRODUCTION

Market competition has generated upheaval, pressure, risk, and uncertainty for enterprises and businesses. The culmination of business demands is to respond to all threats and opportunities in a competitive environment and to design and use appropriate control systems to achieve objectives (Mia & Clarke, 1999). An organization must quickly adapt to its market environment to get and maintain a competitive advantage (De Geus, 1988).

Relevance Management Accounting Information System (MAIS) plays an important role in enhancing competitive advantage for organizations. By providing managers with timely and relevant internal information, MAIS enables decision-making that supports strategic objectives related to quality, cost efficiency, and market responsiveness, ultimately improving competitiveness. In addition, the application of MAIS techniques such as budgeting, costing, performance evaluation, and strategic analysis facilitates increased competitiveness by driving innovation capabilities, guiding investment decisions, and fostering a culture of continuous improvement (Bani Ahmad et al., 2024). Research by Sanchec and David (2005) found a relationship between business performance and sustainable competitive advantage.

The significant effect of competitive advantage on the performance of small and mediumsized enterprises (SMEs) indicates that the ability of SMEs to maintain their competitive advantage has a positive impact on the achievement of their business performance. In



other words, the stronger the competitive advantage owned by SMEs, the better the business performance (Riyanto, 2018). Research results according to Asmarani (2006), revealed that competitive advantage contributes to the achievement of good company performance, this is influenced by strategic planning. Improved company performance is the result of effective strategic planning.

Although some studies support the relationship between the use of MAIS information and competitive advantage, more in-depth and extensive empirical research is still needed to strengthen these findings. More detailed research is needed to identify the specific mechanisms and factors that influence the relationship between SAM and competitive advantage.

There is a dearth of research that specifically identifies the mechanisms or pathways that explain the relationship between competitive advantage and SMEs' performance. Thus, in-depth research in this regard can provide a deeper understanding of the factors that influence the relationship between competitive advantage and SMES performance, as well as potential strategies or interventions that can be implemented to improve SMEs performance through strengthening competitive advantage.

This research is important to provide strategic guidance for SMEs to improve their performance. By focusing on product innovation, service quality improvement, and operational efficiency, SMEs can increase their competitive advantage. Although MAIS did not show a significant direct effect on competitive advantage, its use is still important as it supports more informed and efficient decision-making. This research also opens up opportunities for further exploration of other variables that may influence the relationship between MAIS, competitive advantage, and SMEs' performance, thus providing a deeper understanding of SMEs' success factors. This ultimately helps SMEs to develop more effective and comprehensive strategies in the face of business competition.

LITERATURE REVIEW

Definition of Small and Medium-sized Enterprises (SMEs)

Small and medium-sized enterprises (SMEs) are independent production units created by individuals or business entities in all sectors of the economy (Mahalizikri, 2019). The definition of SMEs is regulated in the Law of the Republic of Indonesia No. 20/2008 on SMEs. Article One of the law states that micro-enterprises are productive businesses owned by individuals and/or individual business entities that have micro-enterprise criteria as stipulated in the law. What is meant by a small business is an independent productive economic business, carried out by an individual or business entity that is not a subsidiary or not a branch owned, controlled, or part, either directly or indirectly, of a medium or large business that meets the criteria of a small business as referred to in the law (Mahalizikri, 2019).

According to Ulfah (2016), SMEs are businesses established by the community, both in the form of individuals and legal entities. In the Indonesian economy, SMEs are the largest business group and have proven to be able to withstand various shocks due to the economic crisis. Management Accounting Information System (MAIS) is a collection of data from all business activities and transactions that are processed into useful information for managing and controlling the business. If this system is not implemented properly by apparel company managers, errors often occur, especially delays in decision-making (Suprantiningrum & Lukas, 2021).

Definition of SMEs Performance

According to Ejere & Abasilim (2013) SMEs Performance is evidence of the results of organizational members measured in terms of revenue, profit, growth, development and expansion of the organization.



According to Kaplan & Norton (1992), the balance scorecard can be used to view SMEs performance through four perspectives, namely: 1) Customer Perspective, Service customers into specific measures that reflect factors that are truly important to customers. Customer concerns tend to fall into four categories: time, quality, performance and service, and cost. 2) Internal Business Process Perspective, Internal measures for the balanced scorecard should come from the business processes that have the greatest impact on customer satisfaction. 3) Innovation & Learning Perspective, the internal business process and customer-based measures on the balanced scorecard identify the parameters that the company considers most important for competitive success. 4) Financial Perspective, Financial performance measures indicate whether a company's strategy, implementation, and execution contribute to improving its bottom line.

Definition of Management Accounting Information System (MAIS)

Management Accounting Information System (MAIS) refers to the set of processes, tools, and techniques organizations use to collect, analyze, interpret, and communicate financial and non-financial information to support managerial decision-making, planning, control, and performance evaluation within the organization. MAIS helps managers make informed decisions by providing relevant and timely information about the organization's operations, costs, revenues, and overall performance (Pedroso et al., 2020).

Definition of Competitive Advantage

The definition of competitive advantage can be understood as a unique attribute or ability that allows a company to outperform its competitors in the market (Sinaga et al., 2019). Competitive Advantage is an advantage possessed by a company, which exceeds its competitors. These advantages can be in the form of providing higher value to customers with lower prices additional benefits or better services (Ehmke, 2008)

Previous Research

The results of the study prove that the use of management accounting system information influences competitive advantage (Panjaitan et al., 2015).

There is a positive influence and significant Competitive Advantage on Organizational Performance.(Tandiharjo & Devie, 2015). Reliance on management accounting systems improved cost advantage and competitive positioning for SMEs in Indonesia (Tjian et al., 2021). This is consistent with prior research demonstrating that management accounting procedures that furnish pertinent and prompt internal data can enhance the efficacy of decision-making and bolster strategic objectives concerning quality, cost-effectiveness, and responsiveness to the market (Cuzdriorean, 2017).

It emphasizes the critical role that management accounting adoption plays in assisting with the improvement of products and services as well as increasing financial performance for this industry, as it is the first empirical study focused on this context. Therefore, creating programs and policies that encourage SMEs to adopt management accounting could greatly increase their competitiveness (Alleyne & Weekes-Marshall, 2011).

MAIS produces reports that involve cost examinations and budgetary figures for the associations and organizational beneficiaries. In this regard, the effective utilization of MAIS is ascribed to enhance organizational competitiveness and performance(Sinaga et al., 2019). Competitive advantage refers to the advantage that rivals gain from providing bigger benefits at a higher price while giving poorer value (Kotler, P., & Armstrong, 2020). Additionally According to Daengs GS et al (2019), Competitive advantage can be elucidated as a strategic benefit pursued by enterprises engaging in collaborative efforts to cultivate enhanced competitiveness within their respective markets.



HYPOTHESES

Management accounting information systems (MAIS) play an important role in organizations, assisting in the decision-making process through the provision of highquality and valuable information to meet management objectives. Management accounting systems that produce data regarding expenses, financial plans, pricing strategies, evaluation of performance, and rivals play a crucial role in enhancing the competitive edge of Small and Medium Enterprises (SMEs) operating in developing economies (Abdallah & Alnamri, 2015). The utilization of MAIS about expenses, procedures, market trends, and competitors can provide valuable insights for shaping business decisions and tactics aimed at enhancing innovation capacities. Management accounting information systems are indispensable in empowering sound and enlightened business decisions at every organizational level. MAIS focusing on costs, operations, market dynamics, and competitors have the potential to guide business decisions and strategies aimed at fostering innovation capabilities (Bani Ahmad et al., 2024). The MAIS exemplifies an organizational system, which monitors the efficacy of internal operational processes and associated activities, along with the competitiveness of the organizations. Consequently, understanding the interactions within this system holds significance for internal and external benchmarking endeavors (Pedroso et al., 2020).

A statistically significant positive correlation between small and medium-sized businesses' (SMEs) competitiveness and their management accounting information system. In summary, businesses that management accounting information system have competitive advantages. The first hypotheses can be put out as follows in light of the description.

H1. Management accounting information systems affect competitive advantage

Competitive advantage is defined as "anything businesses do more successfully than competitors." A company may have a competitive advantage if it can do something that its rival company cannot do or if it has something that the rival company desires. When assessing costs and profits to enhance market strategy orientation, an organization should exercise caution as this could compromise performance. The most meticulously thought-out plan for describing the goods, services, markets, and activities that a company currently engages in to accomplish its primary goals is called a strategy. The business's exceptional environmental management is the foundation of the strategy (Kluyver & Pearce, 2015). The foundation of competitive advantage fundamentally emanates from the value proposition or advantages that a company is capable of generating for its customers, surpassing the expenditure incurred in its creation.

According to an Indonesian study, competitive advantage is the advantage a company has over its rivals, which is impacted by entrepreneurial ability and direction and eventually affects small business success (Syurwana et al., 2022). Contends that achieving a sustainable competitive advantage is likely to result in enhanced performance, typically assessed through traditional metrics like market share and profitability, namely the financial performance evaluation method (Fahy, 2000). According to Ma (2000), Posited that competitive advantage does not necessarily result in superior performance. According to Muthaher (2009), demonstrated how corporate performance, through the utilization of management accounting system information, also indirectly affects competitive advantage. According to Tandihario & Devie (2015), offered empirical proof that the impact of rivals' accounting on organizational performance is entirely mediated (full mediation) by competitive advantage. This indicates that rivals' accounting for competitive advantage has a bigger impact on an organization's performance than does their direct accounting for an organization's performance. In summary, businesses that leverage accounting rivals into their management strategies will gain a competitive edge and, eventually, improve organizational performance. The second and third hypotheses can be put out as follows in light of the description. In summary, businesses that leverage accounting rivals into their management strategies will gain a competitive



edge and, eventually, improve organizational performance. The second hypotheses can be put out as follows in light of the description.

H2. Competitive advantage affects the performance of SMEs

METHODS

This quantitative research employs a correlational survey design to investigate the theoretical framework concerning the impact of utilizing management accounting information systems on competitive advantage, as well as the influence of competitive advantage on the performance of small and medium-sized enterprises. The data obtained comes from survey results using Google form media, for research subjects taken from SMEs in Malang City, and 129 respondents were obtained. the questionnaire used in the survey was obtained from previous research.

Researchers used the help of statistical data processing applications using Smart PLS 4.0 in data processing. In this smartpls test, there are 2 analyses, namely the outer model and inner model analysis, in the outer model analysis analyzed, namely the validity test and reliability test and in the inner model test, namely the hypothesis test. In the validity test, there are 2 indicators, namely convergent validity and discriminant validity. in the discriminant validity test can be seen in the HTMT value, where the HTMT value is less than 0.8 to declare that the construct has met the discriminant validity requirements. in the convergent validity, test can be seen in the AVE value where the minimum acceptable AVE value is 0.5 or greater to be declared valid or accepted. In the reliability test, there are 2 indicators, namely Cronbach alpha and composite reliability which have a value greater than 0.7 for all variables. If the data is valid and reliable, with an ave value greater than 0.5, discriminant validity, Cronbach alpha, and composite reliability threshold of 0.7, after that the inner model test can be carried out, namely the hypothesis test using the R-value and p-value.

RESULTS

	Average variance extracted (AVE)
Competitive Advantage	0.622
MAIS	0.529
SMEs Performance	0.565

Table 1. Convergent Validity

Source: Research Data (2024)

Table 1. Hult et al (2021), Argues that convergent validity is used to see the extent to which a construct can explain the variance of its indicators. To assess this convergent validity, you can use (AVE) of all indicators on each construct. The minimum acceptable AVE value is 0.50, which means that the construct can explain 50 percent or more of the variance of the indicators that make it up.

The results of this study show that Competitive Advantage is 0.622, MAIS is 0.529 and SMEs Performance is 0.565, this shows that the AVE value is valid/acceptable.

Table 2. Discriminant Validity				
	Heterotrait-monotrait ratio (HTMT)			
MAIS <-> Competitive Advantage	0.312			
SMEs Performance <-> Competit Advantage	ive 0.811			
SMEs Performance <-> MAIS	0.364			
Source: Research Data (2024)				

Table 2. Hult et al (2021), Suggests that HTMT is the average value of correlations between indicators of different constructs (heterotrait-monotrait correlation) compared to

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the average correlation of indicators measuring the same construct. For structural models with conceptually very similar constructs, such as cognitive satisfaction, affective satisfaction, and loyalty, the HTMT threshold is 0.90. If the HTMT value is higher than 0.90, it indicates a lack of discriminant validity. However, if the constructs are more conceptually distinct, it is recommended to use a lower and conservative threshold, for example, 0.85.

The results of this study show the value of MAIS <-> Competitive Advantage of 0.312, SMEs Performance <-> Competitive Advantage of 0.811, and SMEs Performance <-> MAIS of 0.364, which indicates that the constructs have met the discriminant validity requirements.

	Cronbach's alpha	Composite reliability (rho_c)
Competitive Advantage	0.791	0.866
MAIS	0.941	0.944
SMEs Performance	0.743	0.838
	Cronbach's alpha	Composite reliability (rho_c)

Source: Research Data (2024)

Table 3. Hult et al (2021), Suggests that Cronbach Alpha is the lower limit, while composite reliability (rho) is the upper limit for measuring internal consistency. The expected reliability value is a minimum of 0.70 (or 0.60 in exploratory research) and a maximum of 0.95 to avoid indicator redundancy, which can damage content validity.

Based on the processed data, the Composite Reliability scores of MAIS, Competitive advantage, and SMEs Performance are 0.944, 0.866, and 0.838, respectively. In addition, MAIS achieved a Cronbach alpha coefficient of 0.941, a Competitive Advantage of 0.791, and SMEs Performance of 0.743. It can be concluded that MAIS, Competitive Advantage and SMEs Performance show Cronbach'alpha and composite reliability values > 0.7 which reflects that these variables are declared valid or meet the reliability testing standards.

Table 4. Inner Model Test R-	Square Value
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	R-square
Competitive Advantage	0.114
SMEs Performance	0.405

Source: Research Data (2024)

Table 4. Based on the running results above, it proves that the R-Square value in MAIS on competitive advantage is 0.114 or 11.4%, the remaining 88.6% is explained by other variables not included in this study.

The Competitive advantage variable that affects SMEs Performance is 0.405 or 40.5%, the remaining 59.5% is explained by other variables not included in this study.

Table 5. Hypothesis Test P-Value		
	P values	
Competitive Advantage -> SMEs Performance	0.000	
MAIS -> Competitive Advantage	0.244	
Source: Research Data (2024)		

Table 5. The results of the study prove the acceptance of Hypothesis 1. The P value of 0.000 (0.000 < 0.05) provides clear evidence of a substantial and positive relationship between Competitive Advantage -> SMEs Performance. Where this is in line with research by (Muthaher, 2009) which shows how company performance, through the



utilization of management accounting system information, also indirectly affects competitive advantage.

The results of research on Hypothesis 2 show a P value of 0.244 (0.000 <0.05) there is no significant influence between MAIS -> Competitive Advantage. Where this is not in line with research according to (Tandiharjo & Devie, 2015) which offers empirical evidence that the impact of competitors' accounting on organizational performance is fully mediated by competitive advantage. This suggests that competitors' accounting of competitive advantage has a greater impact on organizational performance than their direct accounting of organizational performance. In short, businesses that utilize accounting competitors in their management strategies will gain a competitive advantage and, ultimately, improve organizational performance. The second and third hypotheses can be put forward as follows based on their description. In summary, businesses that utilize accounting competitors in their management strategies will gain a competitive advantage and, ultimately, improve organizational performance. The second and third hypotheses can be put forward as follows based on their description. In summary, businesses that utilize and, ultimately, improve organizational performance. The second hypothesis can be put forward as follows based on its description.

CONCLUSION

This study aims to see the effect of MAIS and Competitive advantage on SMEs performance. The results showed that Competitive advantage has a significant and positive influence on SMEs Performance with a P value of 0.000, which supports the first hypothesis. This is consistent with research by (Muthaher, 2009) This indicates that utilizing management accounting system information can improve company performance through increased competitive advantage.

On the other hand, MAIS does not show a significant effect on Competitive advantage with a P value of 0.244. This result is not in line with research by (Tandiharjo & Devie, 2015) which states that competitor accounting as a strategic management technique can improve competitive advantage and organizational performance. This study found that the direct effect of MAIS on competitive advantage is not significant, although MAIS may indirectly contribute to SMEs Performance through other mechanisms that have not been identified in this study.

Overall, the Competitive advantage variable explains 40.5% of SMEs Performance, while MAIS only explains 11.4% of the variation in competitive advantage. The remaining variation is explained by other variables not included in this study.

Based on this research, it is recommended that SMEs focus more on strategies that can improve their competitive advantage. Some steps that can be taken include product innovation, service quality improvement, and operational efficiency. These strategies are proven to have a greater influence on improving SMEs performance.

Although MAIS did not show a significant direct effect on competitive advantage, it is still important for SMEs to use a good MAIS. MAIS can support more informed and efficient decision making, which in turn can strengthen other aspects of the business that contribute to competitive advantage.

Future research can examine other variables that may affect the relationship between MAIS, Competitive advantage, and SMEs Performance. This will provide a more comprehensive and in-depth picture of the factors that influence the success of SMEs. In addition, future research can also consider mediating and moderating variables that may play a role in this relationship to broaden the understanding of the complex dynamics between MAIS, Competitive advantage, and SMEs Performance.

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