

ENHANCING MSME FINANCIAL PERFORMANCE THROUGH STRATEGIC CAPABILITIES: THE MEDIATING ROLE OF MANAGERIAL DECISION-MAKING

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) are vital to economic growth but often face challenges in financial sustainability and decision-making effectiveness. This study aims to examine how financial literacy, accounting technology utilization, and entrepreneurial orientation influence MSME financial performance, with managerial decision-making as a mediating variable. Using a quantitative research design, data were collected from 222 MSMEs in Makassar City through structured questionnaires and analyzed using Structural Equation Modeling with SmartPLS. The results reveal that accounting technology utilization and entrepreneurial orientation have significant direct effects on financial performance. Financial literacy, while not directly associated with financial outcomes, significantly influences performance through managerial decision-making. This mediating role highlights that the strategic application of financial knowledge is more impactful than financial literacy alone. Conversely, technology and entrepreneurial behavior tend to bypass structured decision-making processes, indicating a need for better integration of these capabilities into managerial frameworks. These findings contribute to existing knowledge by integrating cognitive, technological, and behavioral factors into a unified performance model. The study emphasizes that empowering decision-making capacities enhances the value of internal resources. Policymakers and business advisors are encouraged to adopt holistic development strategies that combine literacy, digital tools, and strategic judgment to strengthen MSME competitiveness.

Keywords: Financial Literacy, Accounting Technology, Entrepreneurial Orientation, Managerial Decision-Making, MSME Financial Performance

Abstrak

Usaha Mikro, Kecil, dan Menengah (UMKM) sangat penting bagi pertumbuhan ekonomi, tetapi sering menghadapi tantangan dalam keberlanjutan keuangan dan efektivitas pengambilan keputusan. Penelitian ini bertujuan untuk menguji bagaimana literasi keuangan, pemanfaatan teknologi akuntansi, dan orientasi kewirausahaan memengaruhi kinerja keuangan UMKM, dengan pengambilan keputusan manajerial sebagai variabel mediasi. Dengan menggunakan desain penelitian kuantitatif, data dikumpulkan dari 222 UMKM di Kota Makassar melalui kuesioner terstruktur dan dianalisis menggunakan Structural Equation Modeling dengan SmartPLS. Hasil penelitian mengungkapkan bahwa pemanfaatan teknologi akuntansi dan orientasi kewirausahaan memiliki efek langsung yang signifikan terhadap kinerja keuangan. Literasi keuangan, meskipun tidak secara langsung terkait dengan hasil keuangan, secara signifikan memengaruhi kinerja melalui pengambilan keputusan manajerial. Peran mediasi ini menyoroti bahwa penerapan pengetahuan keuangan yang strategis lebih berdampak daripada literasi keuangan saja. Sebaliknya, teknologi dan perilaku kewirausahaan cenderung melewati proses pengambilan keputusan terstruktur, yang menunjukkan perlunya

integrasi yang lebih baik dari kemampuan ini ke dalam kerangka kerja manajerial. Temuan ini berkontribusi pada pengetahuan yang ada dengan mengintegrasikan faktor kognitif, teknologi, dan perilaku ke dalam model kinerja terpadu. Studi ini menekankan bahwa pemberdayaan kapasitas pengambilan keputusan meningkatkan nilai sumber daya internal. Para pembuat kebijakan dan penasihat bisnis didorong untuk mengadopsi strategi pengembangan holistik yang menggabungkan literasi, perangkat digital, dan penilaian strategis untuk memperkuat daya saing UMKM.

Kata Kunci: Literasi Keuangan, Teknologi Akuntansi, Orientasi Kewirausahaan, Pengambilan Keputusan Manajerial, Kinerja Keuangan UMKM

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play an indispensable role in supporting global economic development, particularly in developing nations where they represent a large share of the business population and contribute significantly to GDP and employment. Despite their critical function in stimulating inclusive growth and innovation, MSMEs continue to face enduring challenges related to financial sustainability and competitiveness. These challenges are often structural and operational, underscoring the urgent need to examine the internal capabilities that can help MSMEs overcome constraints and improve performance. Recent studies emphasize that strengthening financial literacy, adopting accounting technologies, and fostering entrepreneurial orientation can substantially enhance MSME financial outcomes (Dwyanti, 2024; Lubis & Irawati, 2022; Zaniarti et al., 2022). This evolving literature calls for a more integrative understanding of how these capabilities interact, especially in uncertain and resource-limited contexts.

Financial literacy has increasingly been recognized as a foundational asset for MSME owners and managers. It encompasses not only the ability to manage income and expenses but also a deeper comprehension of credit, investments, and financial products (Resmi et al., 2019; Ye & Kulathunga, 2019). In developing economies, where formal financial services are often limited and informal practices dominate, financial literacy becomes a key determinant of sustainability (Ferli, 2023). Financially literate business owners are better equipped to make strategic financial decisions, improve access to credit, and avoid insolvency. This makes financial literacy a vital internal competency for resilience and growth in volatile environments.

Complementing financial literacy is the role of accounting technology, which has grown in importance with the digitalization of business processes. The use of accounting software and digital financial tools enables real-time data analysis, reduces human error, and increases transparency (Herman et al., 2023). These technologies facilitate regulatory compliance and improve decision-making based on more accurate financial reports (Komariyah, 2024). The effectiveness of accounting technology is closely tied to financial literacy, as managers with a stronger understanding of financial principles are more likely to adopt and utilize these tools strategically. This synergy is particularly critical for MSMEs operating under financial constraints, as it enables them to leverage technological resources for competitive advantage.

Another pivotal determinant of MSME performance is entrepreneurial orientation (EO), which reflects a firm's propensity to innovate, take risks, and act proactively. EO has consistently been linked to improved adaptability and long-term performance (Okreglicka & Filipowicz, 2023; Santos et al., 2020). Entrepreneurial behavior is especially advantageous in dynamic and competitive markets, where the ability to seize emerging opportunities and navigate uncertainties is essential for survival and growth (Angraini et al., 2022; Spio-Kwofie et al., 2023). In addition to its direct influence on performance, EO has been shown to interact with other organizational capabilities such as technology adoption and managerial processes, amplifying their impact.

Despite the demonstrated benefits of financial literacy, technology utilization, and EO, many MSMEs fail to realize their full potential. One often overlooked but critical factor that may unify these capabilities is managerial decision-making. Decision-making shapes how firms translate knowledge and tools into actual performance. Strategic choices regarding investment, market entry, and operational efficiency are all contingent upon the decision-maker's analytical capacity and judgment (Liu & Ali, 2024). Thus, managerial decision-making acts as a mediating mechanism, potentially enhancing or limiting the effects of financial

literacy, EO, and technology on financial outcomes. Effective decisions not only align technological investments with strategic goals but also enhance the returns on those investments (Mtshali & Chinyamurindi, 2021).

2. Research Method

2.1. Research Design

This study adopts a quantitative, explanatory research design, aimed at examining the causal relationships between independent variables (financial literacy, accounting technology utilization, and entrepreneurial orientation), the mediating variable (managerial decision-making), and the dependent variable (financial performance of MSMEs). The quantitative approach is suitable for hypothesis testing and allows for statistical generalization of findings to the broader MSME population (Kaban & Safitry, 2020).

A cross-sectional survey design is employed, wherein data are collected from a sample of MSMEs at a single point in time. This design enables the efficient assessment of patterns, correlations, and predictive relationships across a diverse range of businesses operating in various sectors. Although cross-sectional data limit the ability to infer longitudinal causality, they remain effective in capturing broad trends and associations, especially when supported by robust statistical techniques (Alvarez-Torres et al., 2019).

2.2. Population and Sampling

The population for this study consists of registered MSMEs operating in Makassar City, with a focus on enterprises in the retail, service, and manufacturing sectors. These sectors are chosen due to their significant representation in the national MSME landscape and their relevance to the adoption of financial management practices and digital tools.

A purposive sampling technique is applied, targeting MSME owners and managers who are responsible for financial decision-making and have some exposure to accounting technologies. This ensures that the respondents are capable of providing relevant insights into the key variables under investigation. To determine the appropriate sample size, a power analysis is conducted in accordance with the requirements of Structural Equation Modeling (SEM), the primary analysis technique. Based on general SEM guidelines, a minimum sample size of 200 respondents is considered adequate for models with multiple latent variables (Karami & Tang, 2019). However, to enhance statistical power and account for potential non-response, the study aims to collect data from at least 222 MSMEs.

2.3. Data Collection Procedures

Data are collected using a structured questionnaire distributed through both online and offline channels. The questionnaire is pre-tested and refined to ensure clarity, consistency, and cultural appropriateness. Online surveys are distributed via email and social media platforms, while physical copies are delivered to MSMEs in targeted clusters through local business associations and trade offices.

To enhance response quality, all participants receive a brief explanation of the study objectives and confidentiality measures. Participation is voluntary, and informed consent is obtained prior to the administration of the survey. The data collection process spans approximately six weeks to ensure an adequate response rate and geographical coverage.

2.4. Measurement Variables

Each construct in the model is operationalized using validated instruments derived from previous studies.

Table 1. Measurement of Research Variables

Variables	Indicators	Sources	Scale
Financial Literacy	<ul style="list-style-type: none"> • Financial Knowledge • Financial Behavior • Financial Attitude 	Musthafa et al. (2023); Li & Qian (2019); OECD (2020); Yustisi (2024)	5-point Likert (1 = strongly disagree to 5 = strongly agree)

Variables	Indicators	Sources	Scale
Accounting Technology Utilization	<ul style="list-style-type: none"> • Frequency of accounting system use • Types of tools (software, mobile apps) • Impact on efficiency and financial control 	Gunawan et al. (2023); Surya et al. (2022); Wibowo & Widayat (2023)	5-point Likert
Entrepreneurial Orientation	<ul style="list-style-type: none"> • Innovativeness • Risk-taking • Proactiveness 	Alvarez-Torres et al. (2019); Apriyani et al. (2019)	5-point Likert
Managerial Decision-Making	<ul style="list-style-type: none"> • Accuracy and speed of decision-making • Use of financial/ technological data • Strategic alignment 	Kiyabo & Isaga (2020); Nuryakin (2021)	5-point Likert
Financial Performance	<ul style="list-style-type: none"> • Revenue growth • Profitability • Cost efficiency • Market competitiveness 	Imran et al. (2019); self-reported MSME indicators	5-point Likert

2.5. Data Analysis Techniques

The data analysis employs Structural Equation Modeling (SEM) using SmartPLS, which enables the simultaneous examination of complex relationships among latent and observed variables, including direct and indirect effects. The analysis involves three main stages: preliminary analysis (descriptive statistics, reliability testing via Cronbach's Alpha, and Exploratory Factor Analysis), measurement model assessment (Confirmatory Factor Analysis to test convergent and discriminant validity, along with model fit indices such as RMSEA, CFI, TLI, and Chi-square), and structural model testing (evaluation of direct and mediating effects using bootstrapping with 5,000 resamples). All statistical tests are conducted at a 95% confidence level. To ensure the reliability and validity of the instrument, Cronbach's Alpha and Composite Reliability (CR) values above 0.70 are used, and validity is assessed through the Fornell-Larcker criterion and cross-loadings. Ethical standards are strictly upheld, including informed consent, voluntary participation, and guaranteed confidentiality and anonymity for all respondents.

3. Results and Discussion

3.1. Results

3.1.1 Sample Profile

A total of 222 MSME actors participated in this study. The distribution of respondents based on gender shows that the majority were female (57.2%), while male respondents accounted for 42.8%. This suggests that female entrepreneurs play a prominent role in MSME operations within the study area. Regarding the education level, respondents were predominantly graduates of Senior High School (33.3%), followed by those with a Bachelor's Degree (28.4%), and Diploma holders (21.2%). A smaller proportion held Postgraduate degrees (9.0%), while 8.1% had completed only Junior High School. These figures reflect a relatively well-educated sample, with more than half of the respondents holding at least a diploma-level qualification.

In terms of business type, the most common sector was retail (32.4%), followed by food and beverage enterprises (24.8%), and service-based businesses (18.9%). Additionally, 12.6% of respondents operated in the crafts and fashion sector, and 11.3% were engaged in agribusiness. This distribution is consistent with the broader MSME composition in urban and semi-urban Indonesian settings. With respect to years in business,

45.5% of respondents had operated their businesses for 6–10 years, indicating a significant number of established enterprises. Meanwhile, 34.7% had been in operation for 2–5 years, and 17.1% had been running their businesses for less than two years, reflecting newer entrants to the market. Only 2.7% had managed their businesses for more than 10 years, suggesting that while some respondents had long-term experience, most were still in early or mid-stage development.

Overall, the demographic and operational characteristics of respondents provide a rich foundation for analyzing the influence of financial literacy, accounting technology utilization, and entrepreneurial orientation on MSME financial performance, particularly through the lens of managerial decision-making.

3.1.2 Measurement Model Evaluation (Outer Model)

The evaluation of the measurement model begins with an assessment of convergent validity to determine how well the indicators reflect their respective latent constructs. This is assessed through two key criteria: factor loadings and Average Variance Extracted (AVE). Factor loadings indicate the strength of the relationship between each observed item and its latent variable, with values above 0.70 considered acceptable. Meanwhile, AVE measures the average amount of variance captured by a construct relative to the variance due to measurement error, with a threshold of 0.50 or higher indicating adequate convergent validity.

The assessment of convergent validity based on outer loading values demonstrates that all indicators across the five constructs exceed the recommended threshold of 0.70, confirming their validity in measuring the respective latent variables. For Financial Literacy, outer loadings range from 0.789 to 0.904; for Accounting Technology Utilization, values range from 0.742 to 0.921; for Entrepreneurial Orientation, indicators show strong loadings between 0.840 and 0.956; for Managerial Decision-Making, loadings range from 0.892 to 0.929; and for Financial Performance, values fall between 0.883 and 0.935. These results affirm that all items exhibit strong correlations with their associated constructs, thus establishing satisfactory convergent validity for the measurement model.

Table 1. Outer Loadings

Items	Financial Literasi	Accounting Technology	Entrepreneurial Orientation	Managerial Decision Making	Financial Performance
X1.1	0,789				
X1.2	0,809				
X1.3	0,904				
X1.4	0,893				
X1.5	0,880				
X2.1		0,742			
X2.2		0,882			
X2.3		0,910			
X2.4		0,921			
X2.5		0,919			
X3.1			0,911		
X3.2			0,840		
X3.3			0,956		
X3.4			0,914		
X3.5			0,913		
Y1.1				0,896	
Y1.2				0,892	
Y1.3				0,929	
Y1.4				0,929	
Y1.5				0,900	
Y1.6				0,893	

Y2.1	0,883
Y2.2	0,918
Y2.3	0,935
Y2.4	0,931
Y2.5	0,929
Y2.6	0,920

Source: SmartPLS 4.0

The measurement model's evaluation of reliability and validity shows excellent results across all constructs, confirming the adequacy of the instrument used in this study.

First, in terms of internal consistency reliability, the values of Cronbach's Alpha for all constructs range from 0.908 (Financial Literacy) to 0.963 (Financial Performance), which are well above the commonly accepted threshold of 0.70, indicating high reliability and consistency among the measurement items. Complementing this, both measures of composite reliability—rho_A and rho_C (also known as CR)—also exhibit high values, with all constructs showing scores above 0.91, further confirming the strong internal reliability of the constructs.

Second, regarding convergent validity, the Average Variance Extracted (AVE) values for all constructs exceed the recommended threshold of 0.50, indicating that the constructs explain more than half of the variance of their respective indicators. Specifically, AVE values range from 0.733 (Financial Literacy) to 0.846 (Financial Performance), suggesting that the indicators have a high degree of shared variance with their corresponding latent variables.

Overall, these results collectively demonstrate that the constructs used in the model are both reliable and valid, satisfying the criteria for internal consistency and convergent validity, and thus are suitable for further analysis in the structural model.

Table 2. Validity and Reliability

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Financial Literasi	0,908	0,914	0,932	0,733
Accounting Technology	0,923	0,927	0,943	0,770
Entrepreneurial Orientation	0,946	0,947	0,959	0,823
Managerial Decision Making	0,957	0,958	0,965	0,823
Financial Performance	0,963	0,964	0,970	0,846

Source: SmartPLS 4.0

The assessment of discriminant validity aims to ensure that each construct in the model is truly distinct from the others, both conceptually and statistically. In PLS-SEM, discriminant validity is typically evaluated using three main approaches: the Fornell-Larcker criterion and the Heterotrait-Monotrait ratio (HTMT). Each of these methods provides complementary evidence to confirm that a construct shares more variance with its own indicators than with those of other constructs. The following section presents the results of these tests to establish the discriminant validity of the measurement model.

Table 3. The Heterotrait-Monotrait ratio (HTMT)

	Accounting Technology	Entrepreneurial Orientation	Financial Literasi	Financial Performance	Managerial Decision Making
Accounting Technology					

Entrepreneurial Orientation	0,838				
Financial Literasi	0,856	0,709			
Financial Performance	0,793	0,778	0,699		
Managerial Decision Making	0,605	0,557	0,677	0,658	

Source: SmartPLS 4.0

The HTMT (Heterotrait-Monotrait Ratio) values indicate that discriminant validity is generally well established among the constructs in the model, as all values fall below the threshold of 0.90. The highest HTMT value is observed between Accounting Technology and Financial Literacy (0.856), which, while slightly above the more conservative cutoff of 0.85, remains within the acceptable range under the standard 0.90 criterion. Other construct pairs, such as Entrepreneurial Orientation and Financial Literacy (0.709), Financial Literacy and Financial Performance (0.699), and Managerial Decision-Making with other variables (ranging from 0.557 to 0.677), demonstrate sufficiently low HTMT values. These results confirm that each construct is empirically distinct, thereby supporting the discriminant validity of the measurement model.

Based on the Fornell-Larcker criterion, discriminant validity is supported if the square root of the Average Variance Extracted (AVE) for each construct (shown on the diagonal) is greater than its correlations with other constructs (off-diagonal values). In the table, all diagonal values—Accounting Technology (0.877), Entrepreneurial Orientation (0.907), Financial Literacy (0.856), Financial Performance (0.920), and Managerial Decision-Making (0.907)—exceed the corresponding inter-construct correlations. For example, the square root of AVE for Financial Literacy (0.856) is higher than its correlation with Accounting Technology (0.783), Entrepreneurial Orientation (0.664), Financial Performance (0.660), and Managerial Decision-Making (0.631). Similarly, the value for Managerial Decision-Making (0.907) is higher than its correlations with all other constructs. These results confirm that each construct shares more variance with its indicators than with other constructs in the model, thereby satisfying the Fornell-Larcker criterion and supporting discriminant validity.

Table 4. The Fornell-Larcker criterion

Variables	Accounting Technology	Entrepreneurial Orientation	Financial Literasi	Financial Performance	Managerial Decision Making
Accounting Technology	0,877				
Entrepreneurial Orientation	0,784	0,907			
Financial Literasi	0,783	0,664	0,856		
Financial Performance	0,750	0,744	0,660	0,920	
Managerial Decision Making	0,569	0,535	0,631	0,632	0,907

Source: SmartPLS 4.0

3.1.3. Structural Model Evaluation (Inner Model)

The direct relationship between Accounting Technology and Financial Performance is found to be positive and statistically significant ($\beta = 0.320$, $p = 0.006$). This indicates that advancements or effective implementation of accounting technologies directly contribute to better financial outcomes, likely through enhanced accuracy, efficiency, and timeliness in financial reporting. However, the influence of Accounting Technology on Managerial Decision Making is not significant ($\beta = 0.075$, $p = 0.481$), suggesting that while the technology supports data processes, it may not be adequately integrated into strategic decision-making practices. Consequently, the indirect effect of Accounting Technology on Financial Performance through Managerial Decision Making is also not significant ($\beta = 0.019$, $p = 0.502$), confirming the limited mediating role of managerial decisions in this path.

Regarding Entrepreneurial Orientation, the analysis reveals a significant direct effect on Financial Performance ($\beta = 0.344$, $p = 0.002$), implying that a proactive, innovative, and risk-taking business attitude significantly boosts financial results. Nonetheless, its direct path to Managerial Decision Making is not

statistically significant ($\beta = 0.172$, $p = 0.071$), and the indirect path through Managerial Decision Making to Financial Performance remains non-significant ($\beta = 0.043$, $p = 0.118$). This indicates that while entrepreneurial orientation has a strong direct impact on performance, its influence does not substantially flow through the decision-making mechanism in this model.

Table 5. Path Coefficients

Variable Relationship Path	Original sample	Sample mean	Standard deviation	T statistics	P values
Direct Effects					
Accounting Technology -> Financial Performance	0,320	0,329	0,117	2,727	0,006
Accounting Technology -> Managerial Decision Making	0,075	0,076	0,106	0,704	0,481
Entrepreneurial Orientation -> Financial Performance	0,344	0,335	0,112	3,067	0,002
Entrepreneurial Orientation -> Managerial Decision Making	0,172	0,165	0,095	1,803	0,071
Financial Literasi -> Financial Performance	0,022	0,023	0,095	0,232	0,817
Financial Literasi -> Managerial Decision Making	0,458	0,465	0,088	5,197	0,000
Managerial Decision Making -> Financial Performance	0,252	0,249	0,086	2,940	0,003
Indirect Effects					
Accounting Technology -> Managerial Decision Making -> Financial Performance	0,019	0,018	0,028	0,671	0,502
Entrepreneurial Orientation -> Managerial Decision Making -> Financial Performance	0,043	0,040	0,028	1,564	0,118
Financial Literasi -> Managerial Decision Making -> Financial Performance	0,115	0,116	0,048	2,421	0,016

Source: SmartPLS 4.0

The findings regarding Financial Literacy are particularly noteworthy. Although Financial Literacy does not exhibit a significant direct effect on Financial Performance ($\beta = 0.022$, $p = 0.817$), it has a strong and highly significant impact on Managerial Decision Making ($\beta = 0.458$, $p = 0.000$). This demonstrates that individuals with higher financial literacy are better equipped to make informed and strategic decisions. Furthermore, Managerial Decision Making significantly influences Financial Performance ($\beta = 0.252$, $p = 0.003$), establishing it as a crucial mediating variable. As a result, the indirect effect of Financial Literacy on Financial Performance through Managerial Decision Making is also significant ($\beta = 0.115$, $p = 0.016$), highlighting a clear mediating pathway. This suggests that financial knowledge empowers managers to make decisions that, in turn, drive improved financial outcomes.

In conclusion, the structural model underscores the central role of Managerial Decision Making as a mediating variable. While some constructs like Entrepreneurial Orientation and Accounting Technology show strong direct effects on Financial Performance, only Financial Literacy demonstrates a meaningful indirect influence through decision-making. These insights suggest that organizations aiming to enhance financial outcomes should not only invest in technology or foster entrepreneurial traits but must also prioritize strengthening the decision-making capacity of managers through financial education and analytical skills.

Table 6. Coefficient of Determination

Endogen Variable	R-square	R-square adjusted
Financial Performance	0,669	0,663

The R-square values indicate that the structural model has strong explanatory power, particularly for Financial Performance, which has an R-square of 0.669 and an adjusted R-square of 0.663. This means that approximately 66.9% of the variance in Financial Performance can be explained by the predictors in the model—namely, Accounting Technology, Entrepreneurial Orientation, Financial Literacy, and Managerial Decision Making. Meanwhile, the Managerial Decision Making variable has a moderate R-square of 0.424 and an adjusted value of 0.416, indicating that about 42.4% of its variance is accounted for by Accounting Technology, Entrepreneurial Orientation, and Financial Literacy. These results suggest that the model is well-constructed and capable of explaining key outcomes, especially financial performance, while also acknowledging that other factors may influence managerial decision-making beyond those included in the current model.

3.2. Discussion

This study offers new insights into the complex interplay between cognitive, technological, and behavioral capabilities and how they influence the financial performance of Micro, Small, and Medium Enterprises (MSMEs). The findings underscore the significance of managerial decision-making as a mediating mechanism that connects these internal resources to financial outcomes. The results are best understood through a layered analysis that unpacks both the direct and indirect relationships identified in the structural model.

The findings regarding financial literacy highlight its essential but conditional role in improving financial performance. While the direct effect of financial literacy on financial performance was not statistically significant, its indirect effect through managerial decision-making was both positive and significant. This supports previous scholarship asserting that financial literacy must be interpreted as an applied competency rather than a mere body of knowledge (Dewi & Candraningrat, 2022; Dwyanti, 2024; Wibowo & Widayat, 2023). Financial literacy serves as a prerequisite for effective financial management, but its value materializes only when it is utilized in sound decision-making processes. Financially literate MSME owners are better able to interpret financial information, manage risks, and make informed judgments about savings, debt, and investments abilities that ultimately translate into improved enterprise performance when applied through strategic decisions (Arumsari et al., 2024; Marini et al., 2024).

This result reinforces the position that in resource-constrained environments, knowledge itself is insufficient. The capacity to use that knowledge in practical, often uncertain, contexts is the real determinant of business success. The integration of financial literacy into managerial decision-making mechanisms ensures that budgeting, financial planning, and investment strategies are executed with greater precision and foresight. This finding also validates the proposition by Tubastuvi et al. (2024) and Permoni & Oki (2023), who emphasize that improving MSME performance requires synchronizing financial literacy programs with decision-support tools and training.

In contrast to financial literacy, the utilization of accounting technology showed a strong and statistically significant direct effect on financial performance but did not demonstrate a significant influence through managerial decision-making. This suggests that MSMEs that adopt digital accounting tools benefit from operational efficiencies, improved financial control, and enhanced reporting accuracy, which positively affect financial outcomes regardless of the quality of managerial decisions. These findings are consistent with research by Gunawan et al. (2023), Fikri & Nahda (2023), and Mangawing et al. (2023), which emphasizes the role of accounting technologies in enhancing operational effectiveness and compliance.

However, the absence of a significant mediating effect implies that while technology is being used, it may not be fully leveraged as a strategic decision-making tool. This underscores a potential gap in managerial competencies regarding data interpretation and analytics. In many MSMEs, digital tools may function merely as recording systems rather than platforms for real-time analysis and planning. Therefore, although technology enhances financial performance on its own, its integration into managerial routines remains underdeveloped. This highlights the need to complement digitalization initiatives with human capacity-building, particularly in data-driven decision-making.

Entrepreneurial orientation emerged as another strong direct predictor of financial performance, reaffirming the importance of proactive, innovative, and risk-tolerant behaviors in MSME success. This finding resonates with earlier studies by Santos et al. (2020), Gunawan et al. (2023), and Arumsari et al. (2024), which argue that entrepreneurial orientation enables firms to navigate uncertainty, exploit market opportunities, and innovate effectively. Entrepreneurial orientation, through its behavioral nature, enhances competitiveness by fostering adaptability and strategic responsiveness.

However, the data show that entrepreneurial orientation does not significantly affect financial performance via managerial decision-making. This suggests that the behavioral traits inherent in entrepreneurial orientation may bypass formal decision-making structures and operate more intuitively. Many MSME owners may rely on instinct and informal routines rather than structured analytical frameworks. While such intuition-driven behavior may result in innovation and agility, it may also limit the systematic use of available information. This finding supports perspectives from the dynamic capabilities literature, which argue that entrepreneurial orientation requires alignment with internal processes to be fully effective (Phong & Tam, 2024; Spio-Kwofie et al., 2023).

The central contribution of this study lies in confirming the mediating role of managerial decision-making, particularly in the relationship between financial literacy and financial performance. The results show that decision-making is not only a procedural step but a strategic capability that determines how well internal resources are deployed. This aligns with behavioral decision theory, which asserts that decision-making quality is influenced by factors such as cognitive processing, emotional intelligence, and contextual awareness (Istianingsih et al., 2020; Zhang et al., 2023). The findings reaffirm Liu & Ali's (2024) view that decision-making acts as the conduit linking resources with outcomes, especially under uncertainty.

In MSMEs, where leadership structures are often centralized and resources limited, the decision-making ability of the owner or manager becomes particularly consequential. Strategic choices about expansion, investment, marketing, and product development hinge on the capacity to process information and act decisively. Improving this capacity thus offers one of the most actionable pathways for enhancing performance. As Harjito (2022) and Sulistiyowati et al. (2023) suggest, empowering MSME leaders with decision-making frameworks and tools can enhance operational agility, reduce inefficiencies, and lead to sustainable growth.

The strength of the structural model further confirms the robustness of these relationships. The R-square values show that approximately 67% of the variance in financial performance and 42% in managerial decision-making can be explained by the predictors in the model. These levels are considered substantial and moderate, respectively, validating the theoretical structure proposed. The model supports an integrative understanding of MSME performance that draws from both the Resource-Based View (RBV) and behavioral theories. While RBV emphasizes access to valuable, rare, inimitable, and non-substitutable (VRIN) resources, this study confirms that such resources must be actively utilized through cognitive mechanisms such as decision-making (Priyaadarshini & Jena, 2024).

These results also emphasize the importance of multidimensional performance frameworks. MSMEs cannot rely solely on resource acquisition or digitalization to ensure success. Instead, holistic models that incorporate behavioral, cognitive, and technological factors are necessary. In this sense, the current findings support calls for integrated capacity-building strategies that align training in financial literacy, entrepreneurship, and digital tools with enhancements in managerial judgment.

Nonetheless, this study is not without limitations. As Sari (2022) notes, cross-sectional designs pose constraints on causal inference and are susceptible to self-reporting biases. Although the study used validated instruments and robust analytical procedures, longitudinal data would be better suited to capture changes over time in how financial literacy and technology influence decision-making and performance. Future research should explore these dynamics through longitudinal or mixed-method designs to better understand causal pathways and feedback loops.

Moreover, the generalizability of the findings may be limited by the specific geographic and sectoral focus of the study. The sample, drawn from MSMEs in Makassar, represents a vibrant but context-specific business environment. Differences in institutional support, infrastructure, and market access may yield different results in other regions. Expanding the study across diverse locations and industries would enable a richer understanding of contextual influences. As noted by Vo et al. (2023) and Wu et al. (2024), firm size,

age, and sector can moderate the relationships among strategic capabilities and performance. Such moderating variables warrant further investigation in future models.

From a practical standpoint, the findings have significant implications for MSME development programs. Interventions must move beyond isolated capacity-building to holistic strategies that integrate financial literacy, digital adoption, and decision-making training. Policymakers and business development service providers should design modular programs that enhance these competencies concurrently. For instance, digital tools can be paired with analytics workshops that train users to interpret financial data for strategic planning. Similarly, entrepreneurial development initiatives should include cognitive and behavioral training to ensure that proactive tendencies are channeled through informed, rational decision-making processes.

In theoretical terms, this study reinforces the value of integrating resource-based and behavioral approaches in MSME research. It validates the proposition that internal resources only contribute to performance when mediated by human judgment and behavioral competencies. The research also supports growing calls from Islam & Wahab (2021) and Ruiz et al. (2024) for performance models that are sensitive to context, complexity, and time.

The study provides compelling evidence that financial literacy, accounting technology utilization, and entrepreneurial orientation are essential to MSME performance—but only when effectively supported by managerial decision-making. Among these, financial literacy holds particular significance as it contributes indirectly through decision pathways, making it a powerful lever for development interventions. Accounting technologies, though impactful, must be aligned with interpretive capacities to be fully effective. Entrepreneurial orientation, while a direct performance driver, needs to be integrated into structured processes to realize its full potential. As such, enhancing decision-making emerges as the cornerstone for translating capabilities into competitiveness, especially in resource-constrained MSME environments. Strengthening this function can ensure that MSMEs are not only reactive but strategically resilient in the face of ongoing economic transformation.

4. Conclusion

This study set out to examine the interrelationships among financial literacy, accounting technology utilization, and entrepreneurial orientation in influencing the financial performance of Micro, Small, and Medium Enterprises (MSMEs), with managerial decision-making positioned as a mediating construct. Drawing on a resource-behavioral perspective and grounded in empirical analysis using Structural Equation Modeling, the research provides compelling evidence that internal capabilities—both cognitive and technological—are critical drivers of MSME success, but their effects are neither uniform nor unmediated.

The central finding of the study is the significant mediating role of managerial decision-making in the relationship between financial literacy and financial performance. While financial literacy alone did not exhibit a direct impact on financial outcomes, it meaningfully contributed to improved financial performance when channeled through enhanced decision-making quality. This insight confirms the importance of applied knowledge, highlighting that the real value of financial competence in MSMEs emerges when it is strategically integrated into day-to-day and long-term managerial decisions. In this regard, the study supports the broader literature emphasizing decision-making as a functional mechanism through which cognitive resources yield tangible business results.

In contrast, accounting technology utilization demonstrated a significant direct influence on financial performance, reflecting its operational benefits in improving data accuracy, transparency, and financial control. However, its lack of significant mediation through decision-making indicates that these digital tools are not always embedded within strategic decision frameworks in MSMEs. This suggests a missed opportunity for MSMEs to maximize their technological investments and underscores the need for capacity development in financial data interpretation and strategic planning.

Entrepreneurial orientation emerged as another strong predictor of financial performance, affirming the role of behavioral traits such as innovativeness, proactiveness, and risk-taking in enhancing adaptability and competitiveness. Yet, its non-significant path through decision-making highlights the intuitive and action-oriented nature of EO that may bypass formal managerial processes. While EO contributes directly to performance, it must be aligned with analytical decision-making systems to fully leverage its potential.

These findings contribute to the existing body of knowledge by offering a comprehensive, integrative model of MSME performance that bridges the cognitive, technological, and behavioral domains. The study advances theoretical discourse by extending the Resource-Based View to incorporate decision-making as a vital behavioral mechanism, aligning it with insights from behavioral decision theory. It also provides empirical validation for the proposition that the mere possession of resources is not sufficient; their strategic use through informed decision-making is what ultimately drives performance outcomes.

Practically, the study offers actionable insights for policymakers, educators, and business development practitioners. Programs aimed at improving MSME performance must move beyond isolated interventions and instead adopt holistic strategies that enhance financial literacy, promote meaningful technology use, and develop decision-making acumen. Training that integrates financial knowledge with strategic planning tools, digital literacy with interpretation skills, and entrepreneurial behavior with structured judgment can significantly enhance the resilience and growth potential of MSMEs.

Future research should build upon these findings by incorporating longitudinal data to capture temporal dynamics and causality, especially in decision-making behaviors. Additionally, expanding the scope to include diverse geographic and sectoral contexts would allow for broader generalization and deeper understanding of contextual moderators. Investigating other potential mediators or moderators, such as organizational culture, leadership styles, or institutional support, may further enrich the explanatory power of performance models.

In sum, this study underscores the importance of not just what MSMEs have, but how they use it. Financial knowledge, digital tools, and entrepreneurial drive are only as valuable as the decisions that shape their application. Empowering MSMEs through targeted, integrative interventions in managerial decision-making may therefore be the most strategic pathway to fostering financial resilience and long-term viability in today's competitive and uncertain business environment.

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