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Financial Management and Marketing Technology as Drivers of MSME Performance

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Abstract

Purpose: This study aims to examine the influence of financial management (FM) and marketing technology (MT) on the performance of micro, small, and medium enterprises (MSMEs) in Kotabumi, North Lampung, Indonesia. It specifically investigates whether FM and MT individually and jointly affect MSME performance in a resource-constrained setting.

Methodology: A quantitative survey was conducted with 100 MSME owners as respondents. Data were analyzed using SmartPLS 3 and the partial least squares structural equation modeling (PLS-SEM) technique. This approach was selected because it is well suited for relatively small samples and complex causal models.

Results: The findings indicate that FM did not have a significant direct effect on MSME performance, reflecting limited formal financial practices and constrained access to financial resources among local MSMEs. In contrast, MT showed a strong positive effect, highlighting its role in expanding market reach, improving competitiveness, and strengthening customer engagement. Furthermore, the combined effect of FM and MT explained 48.7% of performance variance, suggesting that FM supports the sustainability of MT adoption even if its individual effect is weak.

Conclusion: Marketing technology significantly enhances MSME performance, while financial management plays a complementary enabling role. The findings suggest prioritizing digital adoption alongside progressive financial capability building in resource-constrained contexts.

Limitations: The study was limited to one region with a relatively small sample, and it adopted a cross-sectional design. Other performance-related factors, such as innovation capability or entrepreneurial orientation, were not included.

Contribution: This research contributes to the literature on MSME development and the resource-based view (RBV) by showing how marketing technology dominates short-term performance, while financial management plays a supportive role.

Keywords: *Financial Management, Marketing Technology, MSME Performance, SEM-PLS.*

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1. Introduction

MSMEs contribute significantly to Indonesia's economy, accounting for more than 60% of national GDP and absorbing approximately 97% of the labor force (Ministry of Cooperatives and SMEs, 2023). Despite their crucial role, MSMEs continue to face structural challenges in maintaining competitiveness. These challenges include limited access to formal financial services, weak financial management practices, and low levels of technological adoption, especially in semi-urban areas. The situation is particularly relevant in Kotabumi, Lampung Utara, where MSMEs operate in a local

economy with underdeveloped financial infrastructure and insufficient exposure to digital innovations. This makes it important to investigate the internal and external factors that determine their business performance. Past studies indicate that financial capital alone does not guarantee success, but financial management capability plays a more decisive role in shaping MSMEs (Gusman, Soekarno, & Mirzanti, 2021). Despite this vital role, MSMEs in semi-urban areas such as Kotabumi, Lampung Utara, face challenges in sustaining competitiveness, particularly in terms of financial discipline and technology adoption.

Financial management is identified as a crucial determinant for MSMEs survival and growth. Many small enterprises fail not because of lack of funds but due to weak financial practices such as poor bookkeeping, inadequate cash flow management, and the mixing of business and personal finances (Heryanto & Leng, 2021). Research has confirmed that financial literacy and the financial behavior of business founders significantly improve MSMEs performance (Gusman et al., 2021). Another study highlighted that managerial experience, combined with financial knowledge, strengthens decision-making and financial control mechanisms, leading to better business outcomes (Heryanto & Leng, 2021). These findings consistently emphasize that effective financial management capability is more critical than access to capital in shaping performance.

In addition to financial management, marketing technology has emerged as a key factor for MSME competitiveness. Tools such as e-marketplaces, customer relationship management (CRM), and automation platforms allow small businesses to reach wider markets and engage with customers more effectively (Surjadi, Hakki, & Saputra, 2023). Another study reported that management accounting practices and structured use of business technology contribute positively to firm outcomes (Kaharti, 2023). These findings indicate that MSMEs must adopt marketing technology as a strategic necessity to sustain growth in the digital economy.

Despite this evidence, empirical studies combining financial management and marketing technology in one model remain limited. Most prior research has examined these variables separately, either focusing on financial literacy and management practices (Gusman et al., 2021) or emphasizing managerial accounting and market orientation (Kaharti, 2023). As a result, little is known about how financial discipline and marketing technology interact to influence MSME performance in the Indonesia context. This gap presents an opportunity to integrate both factors into one comprehensive framework to better explain MSME competitiveness and sustainability.

From an academic perspective, this study contributes to the literature by extending the discussion on resource-based and capability-driven theories of MSME performance. From a practical perspective, the findings are expected to provide insights for MSME owners, policymakers, and other stakeholders on how to strengthen competitiveness through the synergy of financial management and marketing technology (Surjadi et al., 2023). Therefore, the objective of this study is to analyze the influence of financial management and marketing technology on MSME performance, while addressing the gap left by previous studies that examined these factors separately (Habib & Wahyudi, 2022; Zulkarnain, Said, & Amitasari, 2022).

2. Literature Review

2.1 Financial Management and MSME Performance

Financial management is widely recognized as one of the most decisive internal capabilities influencing MSME success. It covers fundamental practices such as bookkeeping, cash-flow monitoring, budgeting, and the separation of personal and business finances. Proper management of financial resources allows MSMEs to make informed decisions, avoid liquidity crises, and invest strategically in growth opportunities. Deanova, Simamora, and Satria (2024) demonstrate that MSMEs in Indonesia with structed financial management practices are more resilient and generate higher turnover, even when facing unstable environments. This confirms earlier evidence that the ability to manage financial resources is more important than mere access to capital. Thus, financial management is not simply an administrative task, but a strategic driver of performance.

Another strand of research emphasizes financial literacy as the foundation of effective management. Heryanto and Leng (2021) reveal that entrepreneurs with higher financial literacy and managerial experience achieve better financial performance. Similarly, Prasetya, Rahardjo, Mawardi, Hidayat, and Prakasa (2021) argue that financial literacy acts as a mediator, enabling organizational characteristics to translate into sustainability outcomes. These findings indicate that without adequate financial literacies, MSME owners often fail to utilize financial tools effectively, which limits their ability to plan strategically or withstand external shocks. Therefore, literacy should be understood as a prerequisite for translating financial resources into improved firm performance (Hastuti, Irawan, & Hukom, 2023; Ladista, 2023).

Behavioral aspects of financial management have also gained increasing attention. Gusman et al. (2021) demonstrate that behavioral traits such as risk tolerance, saving discipline, and debt management significantly affect SME performance in Indonesia. Complementing this, research published in *The Indonesian Accounting Review* (2023) shows that behavioral finance contributes to the financial inclusion of MSMEs within fintech ecosystems, where entrepreneurs' attitudes toward innovation determine adoption success (Risman, Ali, Soelton, & Siswanti, 2022). These findings suggest that financial management extends beyond technical practices, requiring attention to the psychological and behavioral dimensions of decision-making. In this sense, the ability of MSMEs to manage finances effectively depends not only on knowledge but also on attitudes and habits that influence financial behavior (Manihuruk, Sitohang, & Sari, 2024).

Effective financial management is also closely linked to innovation and long-term competitiveness of MSMEs. Firms that adopt systematic financial practices are better positioned to allocate resources for innovation, product development, and technology adoption (Ferli, 2023). Recent studies further suggest that financial literacy empowers business owners to strategically use credit and digital financial services, which in turn supports more sustainable growth (Putri, Jamalus, & Rianto, 2024). Thus, financial management is not merely a support function but a strategic enabler that allows MSMEs to pursue market opportunities while maintaining operational resilience.

According to the resource-based view (RBV), firm performance is determined by the ability to acquire, develop, and utilize valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991). Financial management capabilities can be classified as such resources because they provide firms with internal strength to allocate assets efficiently, reduce risks, and ensure sustainability. In the context of MSMEs, owners' financial literacy and decision-making capacity are critical resources that differentiate competitive firms from less successful ones. Thus, RBV provides a theoretical foundation to explain why effective financial management should positively influence MSME performance.

Despite the growing body of evidence, gaps remain in the literature. Most prior studies on financial management and technology adoption have been conducted at the national level or in urban settings, while evidence from semi-urban regions remains scarce. This gap is particularly relevant for Kotabumi, where MSMEs operate in contexts of limited infrastructure and institutional support. Many existing studies rely on cross-sectional data and self-reported measures of financial performance, which limit causal inference and raise concerns about reliability. Others report inconsistent findings, particularly when external shocks such as macroeconomic volatility or limited access to markets overshadow managerial capabilities. For instance, even financially literate entrepreneurs may struggle to achieve sustainable growth when confronted with structural constraints. This underscores the need for future research to explore the interaction between financial management and other strategic resources—such as technology adoption—to provide a more holistic explanation of MSME performance.

2.2 Marketing Technology

Marketing technology (MarTech) has become one of the most critical enablers of MSME competitiveness in today's digital economy. It includes online marketplaces, social media platforms, customer relationship management (CRM) systems, and digital analytics tools. These technologies allow MSMEs to expand their reach, improve targeting, and reduce marketing costs. Sulistiyowati and Rahmawati (2024) found that MSMEs that actively adopted online marketplaces and social media

platforms showed significant improvements in sales growth during the post-pandemic recovery. Their findings highlight the increasing necessity of marketing technology as a strategic tool rather than a discretionary choice for MSMEs seeking to remain competitive in dynamic markets.

Beyond simple adoption, the effective utilization of marketing technology determines whether MSMEs gain real benefits. Purbohastuti, Putri, Pertiwi, Kusyanto, and Adiwijaya (2024) demonstrated that digital marketing training improves MSME competency in designing strategies, managing digital campaigns, and leveraging analytics to evaluate results. Similarly, Saleh, Mohamad, Talipi, and Budiawan (2025) showed that integrating digital payments with marketing platforms not only improved efficiency but also enhanced customer engagement and satisfaction. These studies emphasize that digital tools are not inherently performance-enhancing; their impact depends on how effectively they are integrated into day-to-day operations and broader business strategies. Thus, capability-building initiatives are essential to ensure MSMEs extract value from marketing technology investments.

Several studies also underscore the transformative role of marketing technology in reshaping marketing practices among MSMEs. Winarso et al. (2023) reported that social media utilization, when combined with innovation strategies, significantly enhanced marketing performance in Bekasi MSMEs. Likewise, Yuwono, Novandari, Suroso, and Setyanto (2025) highlighted that ICT adoption contributes to building distinctive competencies, which in turn strengthen competitive positioning and long-term performance. These findings suggest that marketing technology plays not only an operational role but also a strategic one, creating new pathways for innovation, customer relationship building, and organizational learning. This positions marketing technology as an essential capability for firms aiming to achieve sustainable growth.

Marketing technology adoption also reflects the broader trend of digital transformation among MSMEs. Beyond social media and e-commerce, tools such as customer relationship management (CRM) software, digital analytics, and targeted advertising platforms increasingly shape how MSMEs engage with consumers (Saadah & Setiawan, 2024). Studies show that firms integrating these technologies are more capable of customizing products and services, thereby enhancing customer loyalty and competitive positioning (Sipayung, 2025). However, uneven access to infrastructure and skills remains a barrier, particularly for MSMEs in semi-urban and rural regions, which suggests that capacity building is as important as technology provision.

The adoption of marketing technology can also be explained through the Technology Acceptance Model (TAM) developed by Davis (1989). TAM emphasizes two core determinants of technology adoption: perceived usefulness and perceived ease of use. MSMEs that view marketing technologies as beneficial for sales growth and customer interaction are more likely to adopt them, particularly when such tools are simple and cost-effective. This theoretical perspective underscores that the degree of acceptance and integration of marketing technology is directly associated with performance improvements, making TAM highly relevant for this study.

But still limitations and gaps are evident in the literature. Many studies conceptualize marketing technology adoption as a binary variable, focusing on whether MSMEs use digital tools or not, without considering the depth, frequency, or strategic alignment of usage. Others rely on subjective measures of marketing success, such as perceived improvements in visibility, rather than objective indicators like revenue growth or customer acquisition. Moreover, contextual barriers—such as low digital literacy, infrastructure inequality, and high costs of technology—remain underexplored. Future research should therefore move beyond adoption-centric models to investigate how the integration, sophistication, and sustainability of marketing technology use contribute to MSME performance across different contexts.

2.3 MSME Performance as Dependent Construct

MSME performance is a multidimensional construct that goes beyond financial outcomes to include non-financial indicators such as customer satisfaction, innovation, resilience, and adaptability. In many contexts, profitability and sales growth remain the most common metrics, but these measures fail to capture the broader dimensions of sustainability. Krisnawati and Djamaluddin (2023) provide evidence

that entrepreneurship development programs in Jakarta significantly improved MSME performance during the pandemic, not only in terms of revenues but also in innovation capacity and resilience. This suggests that performance must be conceptualized holistically, encompassing both financial strength and organizational adaptability. Such a perspective is particularly relevant in emerging economies where MSMEs operate under volatile market conditions.

Digitalization has become an important driver of MSME performance in the last decade. Adiningrat, Idrawahyuni, Rustan, and Ruhayu (2023) show that the integration of financial information systems, productivity tools, and e-commerce practices enhances competitiveness and operational efficiency. Their findings confirm that digital adoption supports not only cost efficiency but also customer engagement and market expansion. Likewise, Zainuddin (2023), using a bibliometric approach, found that marketing performance in SMEs increasingly relies on digital presence and online engagement. These studies collectively highlight that digital transformation is central to MSME performance in the contemporary marketplace, and firms unable to adapt risk losing competitive advantage.

Financial capability continues to be recognized as a critical dimension of performance. Heryanto and Leng (2021) established that financially literate MSME owners achieve higher levels of profitability and sustainability, reinforcing the argument that financial capacity is integral to business success. Complementary to this, Prasetya et al. (2021) demonstrated that financial literacy mediates organizational factors to improve sustainability outcomes. These results suggest that financial literacy and management not only ensure short-term stability but also enable firms to pursue long-term performance goals such as innovation, expansion, and competitiveness. In this sense, financial capability acts as both a direct and indirect determinant of MSME success.

Nevertheless, the conceptualization and measurement of MSME performance remain inconsistent across the literature. Some studies focus exclusively on financial outcomes, while others emphasize subjective measures such as perceived satisfaction or growth expectations. This lack of standardization makes it difficult to compare findings and build cumulative theory. Moreover, most existing studies are cross-sectional, preventing deeper insights into the dynamics of performance over time. As suggested by Adiningrat et al. (2023) and Zainuddin (2023), future research should triangulate multiple indicators—financial ratios, innovation metrics, and customer feedback—while also adopting longitudinal approaches. Such efforts would enable a more comprehensive understanding of MSME performance and provide a stronger empirical foundation for policy and managerial recommendations.

2.4 The Relationship between Financial Management and Marketing Technology

Although financial management and marketing technology are often examined independently, their relationship represents an important yet underexplored dimension of MSME performance. Financial discipline provides MSMEs with the ability to allocate resources effectively toward digital adoption, while marketing technologies generate opportunities to increase sales and revenues that can further strengthen financial capacity. Yuwono et al. (2025) recently emphasizes that ICT adoption fosters distinctive competencies that enhance competitive positioning, suggesting that technology adoption and financial capability may reinforce one another in improving outcomes. This indicates that firms with stronger financial management are more capable of investing in and sustaining technological integration, thereby amplifying overall performance.

Existing studies also show that financial systems and digital tools jointly influence organizational effectiveness. Hakki and Surjadi (2024) demonstrated that financial structures and fintech adoption significantly moderate innovation outcomes in MSMEs. In a similar vein, Sipayung (2025) found that financing digitalization contributes to operational effectiveness through innovation, infrastructure, and fintech usage. These findings indicate that finance and technology should not be seen as separate drivers but rather as interdependent capabilities that shape MSME success. When properly aligned, financial management and marketing technology create mutually reinforcing benefits that strengthen both efficiency and competitiveness.

At the practical level, MSMEs frequently face challenges in balancing financial discipline with technology adoption. Firms that adopt digital marketing tools without sound financial management often overspend, leading to limited or negative returns. Conversely, businesses with strong financial management may hesitate to invest in marketing technologies due to risk aversion or resource constraints, resulting in lost opportunities for market expansion. These situations highlight the strategic dilemma faced by MSMEs such as whether financial capability should precede technology adoption, or whether technology adoption can in turn stimulate improved financial practices. Such dilemmas underscore the importance of understanding the relational dynamics between finance and technology in shaping firm performance.

Methodologically, research on the relationship between financial management and marketing technology is still limited in scope. Many studies rely on traditional regression models that examine independent effects but fail to capture their combined or interactional influence. More advanced approaches, such as PLS-SEM, are necessary to test direct, indirect, and joint effects simultaneously, offering richer insights into their relationship. However, few studies employ such techniques, leaving methodological gaps that future research could address. By adopting more sophisticated analytical tools, scholars can better capture how financial management and marketing technology interact in practice to influence MSME performance.

2.5 Hypotheses

Building on the above discussion, three hypotheses are proposed. First, financial management enables MSMEs to allocate resources efficiently, manage risks, and achieve sustainability. Prior studies confirm that financial management significantly enhances business resilience and profitability (Deanova et al., 2024; Heryanto & Leng, 2021). It is grounded in the RBV, which posits that internal resources such as financial routines and literacy can serve as strategic assets that improve organizational outcomes. Thus, it is hypothesized that:

H1: Financial management has a positive and significant effect on MSME performance.

Second, marketing technology provides MSMEs with tools to expand their reach, improve customer engagement, and reduce operational costs. Empirical evidence suggests that the adoption of digital platforms and tools significantly improves market performance and competitiveness (Saleh et al., 2025; Sulistiyowati & Rahmawati, 2024). The proposed hypotheses build on TAM, which highlights that the perceived usefulness of marketing technologies drives adoption, thereby contributing to improved performance. Therefore, it is hypothesized that:

H2: Marketing technology has a positive and significant effect on MSME performance.

Finally, the relationship between financial management and marketing technology may generate combined effects greater than their individual contributions. Studies highlight the complementary between financial capability and ICT adoption in building competitive advantage (Hakki & Surjadi, 2024; Yuwono et al., 2025). The proposed hypothesis is based on the dynamic capabilities perspective, which emphasizes that firms achieve superior performance when they integrate and reconfigure multiple resources in a complementary manner. Hence, it is hypothesized that:

H3: Financial management and marketing technology simultaneously have a positive and significant effect on MSME performance.

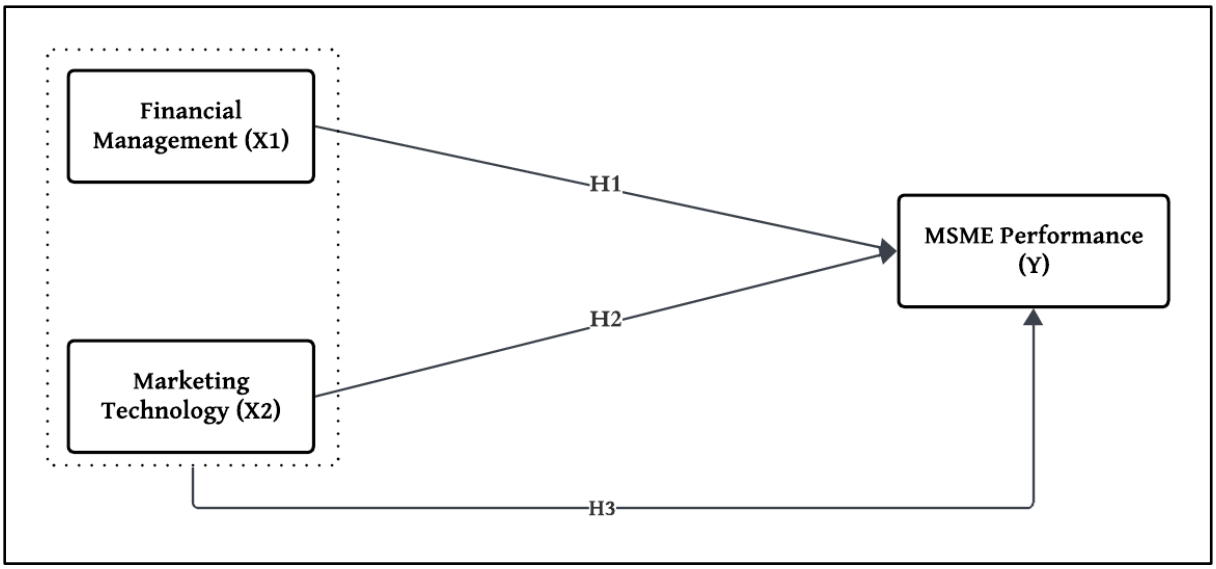

Figure 1. Conceptual Framework

3. Methodology

This study employs a quantitative research approach with an explanatory design to examine the causal relationships between financial management, marketing technology, and MSME performance. The explanatory design is appropriate as it allows empirical testing of hypotheses derived from the literature and conceptual framework (Creswell & Creswell, 2017). A survey-based strategy was adopted because it facilitates the collection of standardized data from a relatively large number of respondents, ensuring comparability and enabling robust statistical testing. This method has been widely applied in MSME-related studies to capture managerial practices and performance outcomes simultaneously (Hair, 2014).

The population of this research consists of MSME owners operating in Kotabumi, North Lampung. The choice of this population is justified by the fact that MSMEs in this region play a significant role in supporting the local economy, yet they face structural challenges related to financial management and digital technology adoption (Tambunan, 2019). A total of 100 respondents were selected, representing active MSME owners who have operated their businesses for at least two years. This sample size is consistent with the minimum requirements for PLS-SEM analysis, which recommends at least 10 times the number of structural paths directed at a construct (Hair, Risher, Sarstedt, & Ringle, 2019). Although relatively modest, a sample of 100 is considered adequate to achieve statistical power and provide insights into the financial and technological practices of MSMEs in emerging regions (Kock & Hadaya, 2018). With two predictors in the model, the minimum requirement is 20, and thus 100 respondents is more than sufficient to ensure statistical power and reliability. The purposive sampling technique was applied to ensure that only respondents meeting the criteria of active engagement in both financial management and marketing technology practices were included.

Data were collected through structured questionnaires distributed both online and offline during a two-month period in 2025. Online questionnaires were distributed using Google Forms, while offline surveys were conducted at MSME community gatherings and training sessions in Kotabumi. This dual approach was intended to increase response rates and capture diverse respondents with varying levels of digital literacy. Prior to distribution, a pilot test involving 30 MSME owners was conducted to refine item clarity and assess the reliability of the instrument. Ethical considerations were upheld by assuring confidentiality and voluntary participation, in line with established guidelines for social science research (Saunders, Lewis, & Thornhill, 2016).

All constructs in this study were measured using validated scales adapted from prior research. Financial management (X1) was measured through indicators of bookkeeping, budgeting, cash-flow monitoring, and debt management, adapted from Gusman et al. (2021) and Heryanto and Leng (2021). Marketing technology (X2) was measured using indicators related to adoption and utilization of social media,

online marketplaces, and digital analytics, based on Sulistiyowati and Rahmawati (2024) and Winarso et al. (2023). MSME performance (Y) was measured through financial and non-financial indicators, including sales growth, customer satisfaction, innovation, and resilience, adapted from Krisnawati and Djamaluddin (2023) and Adiningrat et al. (2023). All items were assessed using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"), following established practices in management research (Hair et al., 2019).

Data analysis was performed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS 3 software. PLS-SEM was chosen because it is appropriate for exploratory models, small-to-medium sample sizes, and does not assume multivariate normality (Hair et al., 2019). The analysis involved two stages: measurement model and structural model evaluation. In the measurement model, construct reliability was examined using Cronbach's alpha and composite reliability, while convergent validity was assessed using average variance extracted (AVE). Discriminant validity was established using the Fornell-Larcker criterion. In the structural model, path coefficients, R^2 values, and predictive relevance (Q^2) were analyzed to assess explanatory power. Hypotheses were tested using bootstrapping with 5,000 resamples to determine the significance of path relationships (Kock & Hadaya, 2018).

4. Results and Discussions

4.1 Outer Model Evaluation

Before testing the structural relationships, the outer model was evaluated to ensure that the measurement indicators were both reliable and valid. This step involved examining outer loadings, construct reliability, convergent validity through Average Variance Extracted (AVE), and discriminant validity using the Fornell-Larcker criterion. Thsere measures provide the foundation for confirming that each indicator properly reflects its intended latent variable and that constructs are distinct from one another.

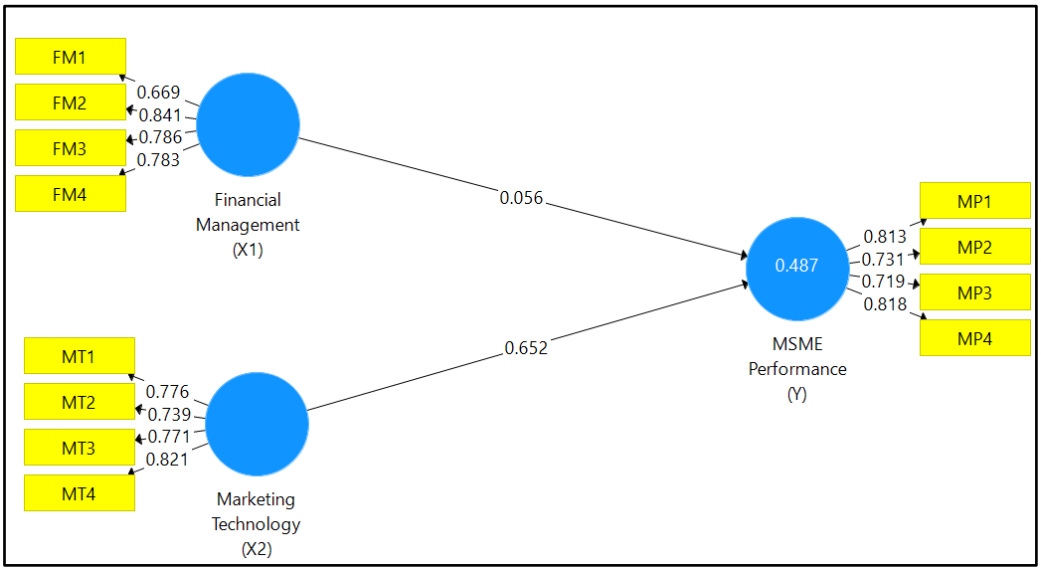

Figure 2. Loading Factor Path Diagram

Figure 2 displays the outer loading values for each indicator within constructs. Most indicators exceeded the threshold of 0.70, demonstrating strong indicator reliability. However, FMI1, which represents financial access, recorded a loading of 0,669, slightly below the recommended cut-off. Despite limitation, Hair et al. (2019) state that items with loadings between 0.40-0.70 can be retained if the construct's overall validity and reliability are satisfactory.

Table 1. Construct Reliability and Validity

Variable	Cronbach's Alpha	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Financial Management (X1)	0.774	0.769	0.855	0.596
MSME Performance (Y)	0.772	0.780	0.854	0.595
Marketing Technology (X2)	0.785	0.798	0.859	0.604

Source: Output SmartPLS 3

Table 1 further supports this decision, showing Cronbach's Alpha values above 0.70 and composite reliability values exceeding 0.85 for all constructs, while AVE values ranged from 0.595 to 0.604—well above the minimum requirement of 0.50. These results confirm that the constructs are internally consistent and meet convergent validity standards. Below, Table 2 presents the Fornell-Larcker criterion, where the square root of AVE for each construct (0.772 for FM, 0.777 for MT, and 0.771 for MP) is greater than its correlations with other constructs. This demonstrates that discriminant validity is also achieved.

Table 2. Fornell-Lacker Criterion

Variable	X1	Y	X2
Financial Management (X1)	**0.772**		
MSME Performance (Y)	0.581	**0.771**	
Marketing Technology (X2)	0.805	0.697	**0.777**

Source: Output SmartPLS 3

Although FM1 showed a lower loading, it was retained for two reasons. First, the construct as a whole remained valid and reliable, indicating no statistical threat to the model. Second, from a substantive perspective, access to external financial resources is an important dimension of financial management, particularly for MSMEs in resource-constrained environments such as Kotabumi. Eliminating FM1 would reduce the conceptual richness of the construct. Its weaker contribution is interpreted as a reflection of the limited and uneven access to financial resources among MSMEs, making it a meaningful empirical finding rather than a flaw.

4.2 Inner Model Evaluation

After the outer model was confirmed to be reliable and valid, the inner model was evaluated to determine the explanatory and predictive power of the relationships among constructs. The key parameters examined include the coefficient of determination (R^2), predictive relevance (Q^2), and Variance Inflation Factor (VIF) values to detect potential collinearity. These assessments indicate how well the exogenous variables—financial management and marketing technology—explain the endogenous variable, MSME performance.

Table 3. R^2 and Q^2 Value

	R^2	Q^2
MSME Performance (Y)	0.487	0.276

Source: Output SmartPLS 3

Table 4 presents the R^2 value for MSME performance, which was found to be 0.487. This suggests that financial management and marketing technology together explain 48.7% of the variance in MSME performance, a value categorized as moderate according to Hair et al. (2019). This indicates that the two constructs play a significant role in influencing MSME outcomes, though other unmeasured factors likely also contribute. The Q^2 value, reported at 0.276, was greater than zero, indicating that the model

has predictive relevance and can be reliably applied to forecast MSME performance. Additionally, VIF values for all constructs were below the threshold of 5, confirming the absence of multicollinearity.

These results suggest that the model is both explanatory and predictive. The moderate R^2 value reflects that financial management and marketing technology are meaningful but not exhaustive determinants of MSME performance. Over half of the performance variance remains unexplained, implying that other variables such as entrepreneurial orientation, innovation capacity, and competitive intensity may also play crucial roles. The positive Q^2 value reinforces the practical utility of the model, suggesting its relevance not only in academic analysis but also in policymaking and managerial decision-making for MSMEs.

4.3 Hypothesis Testing

Once the measurement and structural models were validated, hypothesis testing was conducted using the bootstrapping procedure in SmartPLS 3. This procedure assessed the significance of the hypothesized relationships based on path coefficients, t-statistics, and p-values. The three hypotheses tested (H1, H2, and H3) examined the direct effects of financial management and marketing technology on MSME performance, as well as their joint influence. Below is the result of the hypothesis testing.

Table 4. Hypothesis Testing Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 → Y	0.056	0.060	0.128	0.438	**0.661**
X2 → Z	0.652	0.659	0.118	5.7517	**0.000**

Source: Output SmartPLS 3

Table 4 summarizes the results. The relationship between financial management (X1) and MSME performance (Y) yielded a path coefficient of 0.056, with a t-statistic of 0.438 and a p-value of 0.661. This indicates a non-significant effect, leading to the rejection of H1. In contrast, the path from marketing technology (X2) to MSME performance (Y) showed a coefficient of 0.652, a t-statistic of 5.750, and a p-value of 0.000, confirming a strong and significant relationship. Thus, H2 is supported. Collectively, both constructs explain 48.7% of the variance in MSME performance, which validates H3 regarding their combined effect.

The rejection of H1 contrasts with prior research that highlighted the positive role of financial management in improving SME outcomes (Gusman et al., 2021; Heryanto & Leng, 2021). This divergence may be attributed to the empirical realities of MSMEs in Kotabumi, where financial practices are often limited, informal, and insufficient to directly drive performance improvements. On the other hand, the strong support for H2 aligns with recent findings that emphasize the transformative role of marketing technology in expanding market reach, improving sales, and enhancing competitiveness (Sulistiyowati & Rahmawati, 2024). The confirmation of H3 indicates that while financial management alone does not significantly influence performance, it still contributes when considered in combination with marketing technology. This suggests that financial practices, when integrated with technology adoption, can provide MSMEs with a more sustainable path to growth.

5. Conclusion

5.1 Conclusion

This study examined how financial management (FM) and marketing technology (MT) influence MSME performance (MP) in Kotabumi, Lampung Utara, using SmartPLS 3. Three hypotheses were tested: FM → MP (H1), MT → MP (H2), and the joint effect of FM and MT on MP (H3). The model reached moderate explanatory power, and the measurement properties met reliability and validity requirements, enabling robust interpretation of the paths. The analysis therefore provides a credible basis for answering the research questions and positioning the findings within the broader literature on

MSME capability building. Collectively, the results add timely evidence from a resource-constrained Indonesian context to a debate often dominated by more mature markets.

First, H1 was not supported because FM did not show a significant direct effect on performance. This result differs from studies that documented strong links between financial practices and SME outcomes, which generally found that disciplined cash management and budgeting improve results (Gusman et al., 2021; Heryanto & Leng, 2021). A plausible explanation is that many Kotabumi MSMEs still rely on informal financing and basic record-keeping, so financial routines exist but are not yet leveraged strategically. Under these conditions, FM may function more as administrative compliance than as a performance-enhancing capability, muting its direct statistical effect. Similar dynamics have been observed in Indonesian SMEs facing capital constraints and limited institutional support (Widnyana, Wijaya, & Almuntasir, 2021).

The non-significant effect of financial management on MSME performance suggests that although MSMEs in Kotabumi practice basic bookkeeping and financial routines, these are insufficient to directly improve competitiveness. Many rely on informal financing and lack structured planning, which reduces the strategic value of financial management. Similar findings were reported by Widnyana, Dewi, and Susanti (2021), who found that financial management had limited impact on SME growth in regions with weak institutional support. This indicates that without complementary institutional frameworks, financial management practices may not translate into measurable performance outcomes.

Second, H2 was strongly supported because MT exhibited a positive and statistically significant effect on performance. MSMEs that adopt e-commerce, social media, and mobile communication tools appear to gain immediate benefits through broader reach, faster customer feedback, and more efficient sales processes. These advantages align with evidence that digitalization enhances organizational outcomes and competitiveness in Indonesian firms (Hermanto, Widyarini, & Darma, 2024). They are also consistent with findings that digital business strategies shape MSME success by translating online presence into market traction (Sudrajad, Tricahyono, Yulianti, SM, & Rosmawati, 2023). In short, accessible and low-cost marketing technologies provide a performance lever that is tangible even when financial sophistication is limited.

Third, H3 was confirmed because FM and MT together explained a meaningful portion of performance variance, indicating a complementary pattern. Although FM alone was not significant, its presence may enable the continuity of technology investments, for example by stabilizing cash flows for digital tools and campaigns. From a resource-based view (RBV), this reflects how performance depends not only on isolated resources but also on their synergies and deployment quality (Barney, Wright, & Ketchen, 2001). In practice, MT acts as the proximate driver of performance, while FM plays a quieter enabling role that becomes more visible as financial routines mature. Consequently, a staged capability path—strengthening MT while progressively formalizing FM—appears suitable for MSMEs in similar contexts.

Overall, the findings extend RBV in emerging-market MSMEs by showing that technology-related capabilities can dominate short-run performance when financial literacy and formal access remain underdeveloped. They also suggest that FM's performance returns are contingent on capability maturity and institutional support, which vary widely across local ecosystems. For managers, the results prioritize near-term investments in marketing technology to unlock sales and market access while laying the groundwork for stronger financial routines. Taken together, these implications help reconcile mixed findings in the literature by foregrounding context, capability thresholds, and complementarities. It is recommended that MSME owners in Kotabumi prioritize the adoption of affordable and user-friendly digital tools such as WhatsApp Business and Shopee to expand their customer reach. Policymakers should design targeted financial literacy programs, integrate fintech training modules, and establish digital business support centers to strengthen MSME competitiveness in Lampung Utara.

5.2 Suggestions

Future research should broaden geographic coverage across districts and provinces to compare institutional conditions and market structures. Longitudinal designs are recommended to observe how improvements in FM and MT unfold over time and whether FM's role becomes significant as routines formalize. Extending the model with innovation capability, entrepreneurial orientation, human capital, and market turbulence would provide a more complete explanation of MSME performance. Methodologically, combining survey data with objective indicators (e.g., sales records, platform analytics) can mitigate self-report bias and sharpen inference. Practically and for policy, programs should integrate hands-on MT adoption (e-commerce onboarding, social media analytics, CRM usage) with targeted FM upskilling (cash-flow planning, basic bookkeeping, working-capital management) delivered through banks, fintech, universities, and local business associations; such pairing helps MSMEs achieve quick market gains while building the financial routines needed to sustain digital investments.

Policies in Lampung Utara should balance between encouraging digital adoption and improving financial literacy among MSME owners. Strengthening local internet infrastructure, providing training on digital payment systems, and creating partnerships with banks and fintech providers would directly benefit MSMEs in the region. For scholars, this study extends RBV and TAM by showing that technology-related resources play a more decisive role than financial routines in semi-urban contexts with underdeveloped institutions.

Limitations

This study's evidence is drawn from a single locale—Kotabumi, Lampung Utara—so external validity beyond similar Indonesian settings should be treated cautiously. The cross-sectional design captures associations at one point in time and cannot trace causal learning dynamics as firms deepen their capabilities. The sample size of 100, while adequate for PLS-SEM, limits the precision of smaller effects and the exploration of complex interactions. Measurement relied on self-reported survey items, which may introduce common-method variance and optimism bias in capability and performance assessments. Finally, the model focused on FM and MT and did not include other relevant antecedents such as innovation capability, entrepreneurial orientation, human capital, or competitive intensity that could further explain performance.

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