

Financial Literacy and Financial Access as Determinants of Micro, Small, and Medium Enterprise Performance: Evidence from the Border Region of Talaud Islands Regency, Indonesia

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) constitute a significant driver of economic growth, employment generation, and regional development, particularly in border areas where financial resources and institutional support are often constrained. This study aims to examine the effects of financial literacy and financial access on the performance of MSMEs in the border region of Talaud Islands Regency, Indonesia. A quantitative research approach was adopted, with primary data collected through a structured questionnaire administered to 150 MSME owners. The proposed research model was analyzed using Warp Partial Least Squares (WarpPLS), which enables the simultaneous assessment of measurement validity and structural relationships among the study variables. The empirical findings demonstrate that financial literacy and financial access exert positive and statistically significant effects on MSME performance. Financial literacy enhances entrepreneurs' ability to manage financial resources effectively, evaluate business risks, and make informed strategic decisions, thereby improving overall business performance. Furthermore, greater financial access enables MSMEs to obtain external financing, expand business operations, increase productivity, and strengthen long-term business sustainability. These findings suggest that improving financial capabilities and expanding access to formal financial services are essential for enhancing the competitiveness and resilience of MSMEs in geographically disadvantaged border regions.

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1. INTRODUCTION

Small and Medium-sized Enterprises (SMEs) play a strategic role in fostering economic development by generating employment opportunities and contributing to poverty alleviation (Khasawneh et al., 2021); (She, 2020). Globally, SMEs account for more than 95% of all businesses, making them the backbone of economic activity across both formal and informal sectors (Thorgren & Alma, 2020). In Indonesia, SMEs employ approximately 97% of the domestic workforce and serve as a primary source of income for millions of people (Kurniasari et al., 2025). Despite their substantial contribution to the economy, SMEs remain highly vulnerable compared to large enterprises due to limited access to financial resources, human capital, technology, and other non-financial assets (Juergensen et al., 2020) and (Pedauga et al., 2022).

Despite their substantial contribution to economic growth, ensuring the long-term sustainability of Small and Medium-sized Enterprises (SMEs) remains a major challenge because they are more susceptible to business failure than larger firms. Evidence from previous studies shows that the survival rate of Indonesian SMEs is relatively low, with more than 30% of newly established businesses ceasing operations within two years and over half failing during their first year of operation (Indonesia-Investments, 2022). The issue of SME business failure is not limited to Indonesia but is also evident in neighboring developing countries such as Malaysia, where it continues to pose a significant concern for policymakers. Empirical evidence indicates that more than 60% of newly established SMEs in Malaysia do not survive beyond their first five years, while only four out of every ten new enterprises achieve sustainable growth (Nabila et al., n.d.). A similar pattern can be observed in developed economies, including the United States. According to the U.S. Bureau of Labor Statistics, business survival rates decline steadily over time, with 21% of firms established in 2018 closing within their first year, followed by cumulative closure rates of 31.3% after two years, 37.9% after three years, 42% after four years, and 48% after five years, as reported in 2023 (Bureau of Labor Statistics, 2024). These figures suggest that fewer than two-

thirds of businesses founded in 2018 remained operational after three years. Previous studies attribute the high likelihood of SME failure to various constraints, particularly limited access to financial and non-financial resources (Fatoki, 2018), as well as insufficient capabilities and managerial knowledge, all of which substantially increase the risk of business failure (Hossain et al., 2020). Ensuring the long-term sustainability of SMEs has become a strategic priority for governments because of their substantial contribution to sustained economic development and national economic growth. Although 84.8% of SMEs successfully resumed normal business operations following the COVID-19 pandemic, many continue to face difficulties in maintaining their operations due to inadequate financial capacity and managerial resources. Previous studies have identified several critical barriers to SME sustainability, particularly limited financial literacy (Kurniasari et al., 2025); (Miswanto et al., 2024) and restricted access to financing from formal financial institutions (Abdallah, 2024) (Babajide et al., 2021); (Twumasi et al., 2022). According to the World Bank SME Finance (2019), access to finance represents one of the most significant constraints on SME development and is recognized as the second most frequently reported obstacle to business expansion in developing and emerging economies. Compared with large corporations, SMEs are considerably less likely to secure bank financing (Abraham & Schmukler, 2017). Consequently, many entrepreneurs depend on internal funds or financial support from relatives and friends to establish and sustain their businesses (Masiak et al., 2019).

Previous studies have widely examined the relationship between financial literacy, financial access, and Micro, Small, and Medium Enterprise (MSME) performance. However, most of these studies have been conducted in large cities, urban areas, developing regions, and industrial centers where financial infrastructure and services are relatively well established (Abdallah, 2024); (Kurniasari et al., 2025); (Babajide et al., 2021); (Assifuah-nunoo & Assifuah-nunoo, 2023); (Babilla, 2023); (Hasan et al., 2024); (Worokinasih et al., 2023) Although these studies generally indicate that financial literacy and access to financial

services are associated with business performance, their findings may not fully reflect the conditions faced by MSMEs operating in remote and geographically constrained areas. A significant research gap remains regarding MSMEs in Indonesia's outermost, archipelagic, and border regions. These areas are characterized by geographical remoteness, dispersed islands, transportation constraints, limited financial infrastructure, and distinctive socio-economic conditions. Such characteristics may affect entrepreneurs' financial knowledge, ability to access formal financial services, and capacity to utilize financial resources effectively. Consequently, it remains unclear whether the relationships between financial literacy, financial access, and MSME performance identified in urban and economically developed areas can be generalized to border-region MSMEs. Empirical evidence from such contexts is still limited, particularly in Talaud Islands Regency, Indonesia. This study addresses this gap by examining financial literacy and financial access as determinants of MSME performance in Talaud Islands Regency. The novelty of the study lies in extending existing research to an under-researched Indonesian border region and examining these relationships within a context characterized by geographical and infrastructural constraints. Thus, the study provides context-specific evidence that can contribute to a broader understanding of the role of financial capabilities and financial service accessibility in MSME performance. Against this background, this study addresses two research problems: first, whether financial literacy influences MSME performance in Talaud Islands Regency; and second, whether financial access influences MSME performance in the same context. Accordingly, the study aims to empirically examine the effect of financial literacy on MSME performance and to determine the effect of financial access on MSME performance in Talaud Islands Regency. Theoretically, this study contributes to the literature on financial literacy, financial access, and MSME performance by

extending existing evidence to a geographically remote and archipelagic border context. It broadens the contextual boundaries of previous research, which has predominantly focused on urban and financially developed settings. By examining financial literacy and financial access simultaneously, the study provides a more comprehensive perspective on how entrepreneurs' financial capabilities and access to formal financial services may influence MSME performance. Furthermore, the study offers empirical insight into whether established relationships remain applicable under geographical and infrastructural constraints, thereby highlighting the importance of contextual conditions in understanding MSME performance.

Practically, the study provides evidence that may assist local governments, financial institutions, and MSME development agencies in designing more context-sensitive financial literacy and financial inclusion programs. The findings can help identify whether improving entrepreneurs' financial capabilities, expanding access to financial services, or addressing both dimensions should receive greater attention in supporting MSMEs in border regions. In this way, the study contributes not only to the academic literature but also to efforts to strengthen MSME performance and inclusive economic development in Indonesia's outermost regions.

2. Literature review and hypothesis development

2.1 Financial literacy and Micro small and medium enterprise performance

Financial literacy has increasingly attracted scholarly and policy attention, particularly because of its implications for financial decision-making and business outcomes. In recent years, the growing body of research on financial literacy has provided empirical evidence of its association with the quality of financial decisions made by business owners and manager (Twumasi et al., 2022) (Hasan et al., 2024); (Kurniasari et al., 2025); (Changwesha et al., 2018). A consistent finding across much of this literature is that higher levels

of financial literacy are positively associated with business performance. This relationship is particularly relevant for SMEs, which frequently encounter difficulties in managing their financial resources and maintaining effective financial practices. Such challenges can ultimately influence their operational performance and profitability. Accordingly, a number of empirical studies have established a significant relationship between financial literacy and business performance, emphasizing the importance of financial knowledge and financial management capabilities in strengthening SME outcomes (Twumasi et al., 2022) (Hasan et al., 2024); (Kurniasari et al., 2025); (Changwesha et al., 2018).

Small and medium-sized enterprises (SMEs) evaluate their business performance through several key indicators, including product quality, creativity, human resource management, customer management, and financial management (Satria, 2021). Among these factors, financial literacy has been widely recognized as a fundamental determinant of business success and sustainability. (Hasan et al., 2024) argues that financial literacy is closely associated with SME performance, as it enhances entrepreneurs' ability to manage financial resources effectively and make sound business decisions. Similarly, (Hussainey, 2012)(Assifuah-nunoo & Assifuah-nunoo, 2023) and (B et al., 2023) emphasize that financial literacy plays a vital role in the success of small businesses by improving the quality of financial decision-making and supporting long-term business growth.

In addition to facilitating better decision-making, financial literacy enables SMEs to remain resilient and adapt to rapidly changing economic conditions. According to (Abdallah, 2024) and (Kurniasari et al., 2025), entrepreneurs with adequate financial knowledge are better equipped to respond to economic uncertainty and maintain business continuity. This capability becomes increasingly important in today's dynamic and competitive business environment.

Furthermore, (Babajide et al., 2021)

describe financial literacy as a dynamic capability that allows firms to perform financial activities efficiently, effectively, and with reduced risk. Such capability supports the effective allocation and transformation of organizational resources while encouraging innovation and strengthening the competitive position of business owners. The importance of financial literacy is particularly evident because SMEs frequently encounter financial constraints, including collateral requirements for obtaining credit, high borrowing costs, limited financial knowledge, and strict regulatory frameworks. Consequently, a sufficient level of financial literacy enables entrepreneurs to identify the most appropriate financing alternatives and make informed financial decisions, thereby ensuring the continuity and sustainable development of their businesses.

Based on the theoretical framework and prior empirical findings, the study proposes Hypothesis 1 (H1), which states that financial literacy positively and significantly affects the performance of MSMEs.

2.2 Financial Access and Micro small and medium enterprise performance

Existing studies have consistently highlighted the importance of financial access in supporting SME development and business performance. Empirical evidence indicates that improved access to financial institutions and funding opportunities positively influences the performance of SMEs by facilitating business growth and operational efficiency (Kurniasari et al., 2025); (Assifuah-nunoo & Assifuah-nunoo, 2023). (Najib et al., 2021) argue that SMEs with better access to formal financial services generally demonstrate stronger financial performance, as they are better positioned to expand their business activities and improve operational capacity. Access to external financing enables SMEs to strengthen their capital structure, broaden market coverage, and increase production capacity to respond more effectively to customer demand (Kurniasari et al., 2025). These findings suggest that financial access plays a critical role in enhancing SME

performance and long-term competitiveness. Based on the theoretical framework and prior empirical findings, the study proposes Hypothesis 2 (H2), which states that financial accses positively and significantly affects the performance of MSMEs.

3. METHODOLOGY

This study employed a quantitative research approach using a survey method to examine the relationships among the proposed research variables. Primary data were collected through a structured questionnaire distributed to respondents who met the predetermined research criteria. The questionnaire consisted of closed-ended questions measured using a five-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"), to capture respondents' perceptions regarding the variables under investigation.

The population of this study consisted of all Micro, Small, and Medium Enterprises (MSMEs) registered by the Central Bureau of Statistics (BPS) in 2026, totaling 3,677 business units. Given the relatively large population size and the need to ensure efficiency in terms of time and research costs, the sample size was determined using the Slovin formula with a margin of error of 8% (0.08). Based on the calculation, the minimum required sample size was 149.88 respondents, which was rounded up to 150 respondents to accommodate the possibility of incomplete or invalid questionnaire responses.

A purposive sampling technique was employed to select respondents who met the predefined inclusion criteria relevant to the objectives of the study. This sampling approach ensured that the selected participants possessed the necessary characteristics and experience to provide reliable information regarding the research variables. Consequently, a total of 150 valid respondents constituted the final sample of the study. Statistically, this sample size is considered adequate to represent the target population with an acceptable sampling error

of 8%, thereby providing sufficient statistical power for subsequent data analysis.

The collected data were analyzed using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach with the assistance of WarpPLS software. PLS-SEM was selected because it is well suited for examining complex relationships among latent variables and simultaneously assessing both the measurement model and the structural model. This approach is particularly appropriate for predictive research and studies involving relatively small sample sizes, while providing robust estimates for evaluating the proposed hypotheses.

4. RESULT AND DISCUSSION

4.1RESULT

A total of 150 MSME owners participated in this study. In terms of gender, female respondents constituted the majority of the sample (62%), while male respondents accounted for 38%. With respect to age, the largest proportion of respondents was in the >46-year age group, representing 42% of the total sample. This finding indicates that the sample was predominantly composed of relatively mature MSME owners. Regarding business sector, trade and retail businesses accounted for the largest proportion of the sample (63.09%), followed by service businesses (19.46%), culinary and food-related businesses (14.77%), and agriculture and fisheries (2.68%). The predominance of trade and retail businesses suggests that the MSMEs represented in this study were largely engaged in commercial activities involving the distribution and sale of goods.

In terms of educational attainment, most respondents had completed senior high school (53.33%), followed by those with a bachelor's degree (22.67%). Overall, the respondents' educational backgrounds were predominantly at the secondary education level. This characteristic may have implications for managerial capabilities, business decision-making, and the ability to access and utilize information and digital technologies in business operations. Regarding business age, the largest proportion of respondents had operated their businesses for 1–5 years (38.67%), followed

by those with a business age of 6–10 years (29.33%). Meanwhile, businesses operating for 11–15 years and more than 16 years each accounted for 16.00% of the sample. These findings indicate that most of the businesses in the sample were at the early to intermediate stages of their development, suggesting considerable potential for further business growth.

In terms of workforce size, 92.67% of respondents employed 1–4 workers, indicating that the majority of businesses in the sample were micro-enterprises based on the employee-size classification stipulated in Indonesia's Law No. 20 of 2008 on Micro, Small, and Medium Enterprises (MSMEs). Meanwhile, 6.67% employed 5–19 workers, corresponding to small enterprises, while only 0.67% employed 20–99 workers, corresponding to medium-sized enterprises. These figures confirm that the study sample was predominantly composed of micro-enterprises, which generally operate with relatively simple organizational structures and, in many cases, rely on family-based labor arrangements.

Regarding financing sources, 59.33% of respondents reported using their own capital, whereas 40.67% obtained financing from banks or other financial institutions. Although internal financing remained the predominant source of capital, the relatively substantial proportion of businesses utilizing external financing indicates that a considerable number of MSME owners have accessed formal financial institutions to support their business operations and development (Table 4.1).

Table 4.1. Respondent Profile

No	Respondent Characteristics	Category	Frequency	Per (%)
1	Gender	Male	57	38.00
		Female	93	62.00
2	Age (years)	<25	11	7.33
		26–35	34	22.67
		36–45	42	28.00
		>46	63	42.00
3	Business Type	Trade/Retail	94	63.09
		Culinary/Food	22	14.77
		Services	29	19.46
		Agriculture/Fisheries	4	2.68

4	Educational Attainment	Primary School	10	6.67
		Junior High School	21	14.00
		Senior High School	80	53.33
		Diploma	4	2.67
		Bachelor's Degree	34	22.67
		Master's Degree	1	0.67
5	Business Age (years)	1–5	58	38.67
		6–10	44	29.33
		11–15	24	16.00
		>16	24	16.00
6	Number of Employees	1–4	139	92.67
		5–19	10	6.67
		20–99	1	0.67
7	Source of Financing	Own Capital	89	59.33
		Bank/Other Financial Institutions	61	40.67

WarpPLS Model Fit and Quality Indices

A model must demonstrate a good "Goodness of Fit" before the results of hypothesis testing can be interpreted. The model fit measures and quality indices are summarized in the table below.

Table 4.2. Model Fit and Quality Indices

No	Model Fit and Quality Indices	Fit Criteria	Value	Result
1	Average coefficient (APC)	$P < 0.05$	0.243, $p < 0.001$	Good
2	Average R-squared (ARS)	$P < 0.05$	0.165, $p = 0.009$	Good
3	Average adjusted R-squared (AARS)	$P < 0.05$	0.153, $p = 0.013$	Good
4	Average block (AVIF)	VIF acceptable if = 5, ideally ≤ 3.3	<1.102	Good
5	Average collinearity (AFVIF)	full acceptable if VIF= 5, ideally ≤ 3.3	<1.236	Good
6	Tenenhaus (GoF)	GoF small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36	0.319	Medium

7	Simpson's paradox ratio (SPR)	acceptable if $>1,000$ = 0.7, ideally = 1	Good
8	R-squared contribution (RSCR)	acceptable if $>1,000$ ratio= 0.9, ideally = 1	Good
9	Statistical suppression ratio (SSR)	acceptable if $>1,000$ ratio= 0.7	Good
10	Nonlinear bivariate causality direction ratio (NLBCDR)	acceptable if $>1,000$ direction= 0.7	Good

The model fit and quality indices indicate that the proposed research model demonstrates satisfactory overall fit and quality. The Average Path Coefficient (APC) was 0.243 and was statistically significant ($p < 0.001$), indicating that the structural relationships among the constructs in the model were statistically significant on average. The Average R-squared (ARS) was 0.165 ($p = 0.009$), while the Average Adjusted R-squared (AARS) was 0.153 ($p = 0.013$). Both indices were statistically significant, indicating that the model provides a meaningful level of explanatory power for the endogenous constructs. The Average Block Variance Inflation Factor (AVIF) was 1.102, and the Average Full Collinearity Variance Inflation Factor (AFVIF) was 1.236. Both values were substantially below the recommended threshold of 5.0 and the ideal threshold of 3.3, indicating that multicollinearity was not a concern in the proposed model.

The Tenenhaus Goodness-of-Fit (GoF) index was 0.319, which falls within the medium range (≥ 0.25), indicating an acceptable overall explanatory power of the model. Furthermore, the Simpson's Paradox Ratio (SPR) was 1.000, the R-squared Contribution Ratio (RSCR) was 1.000, the Statistical Suppression Ratio (SSR) was 1.000, and the Nonlinear Bivariate Causality Direction Ratio (NLBCDR) was 1.000. All of these values exceeded their respective recommended thresholds, indicating that the model did not exhibit substantial problems related to Simpson's paradox, inappropriate R-squared contributions, statistical suppression, or nonlinear bivariate causality direction.

Overall, the results demonstrate that the proposed model meets the recommended criteria for model fit and quality assessment. The absence of multicollinearity and suppression-related concerns, together with the statistically significant APC, ARS, and AARS values, provides support for proceeding with the evaluation of the structural model and the

proposed hypotheses.

Table 4.3. Hypothesis Testing for Direct Effects Using WarpPLS Analysis

Hypothesis	Relationship	Path Coefficient	p-value	Hypothesis
1	Direct Effect Financial Literacy $\rightarrow$ MSME Performance	0.330	<0.001	Significant
2	Financial Access $\rightarrow$ MSME Performance	0.157	0.024	Significant

Based on the results presented above, the path diagram illustrating the results of the hypothesis testing is presented below:

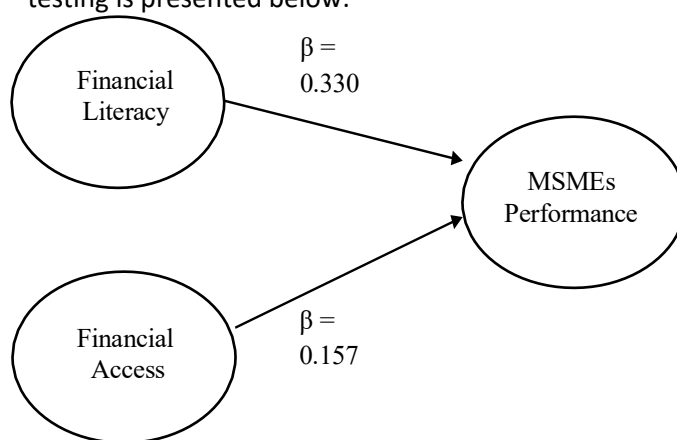


Figure 1. Path Diagram of Hypothesis Testing Results Using WarpPLS Software

4.1 Discussion

The Effect of Financial Literacy on MSME Performance

The hypothesis testing results indicate that financial literacy has a positive and statistically significant effect on MSME performance, with a path coefficient of $\beta = 0.330$ and $p < 0.001$. This finding indicates that higher levels of financial literacy among MSME owners are associated with better business performance. Therefore, H1, which proposes that financial literacy affects MSME performance, is supported. The positive coefficient demonstrates a directional relationship, suggesting that improvements in financial literacy are accompanied by improvements in MSME performance. Compared with the effect of financial access reported in this study ($\beta = 0.157$), financial literacy exhibits a stronger direct relationship with

MSME performance. This result highlights the importance of not only providing MSMEs with financial resources but also ensuring that business owners possess the capabilities required to manage and utilize those resources effectively.

The findings suggest that financial literacy contributes to MSME performance through several mechanisms, including financial planning, cash flow management, bookkeeping, financial decision-making, and risk management. MSME owners with stronger financial knowledge and skills may be better able to plan financial requirements, monitor business transactions, evaluate financing alternatives, and allocate resources according to business priorities. These capabilities can improve operational efficiency and help MSMEs respond more effectively to changes and risks in the business environment. Thus, financial literacy should not be understood merely as knowledge of financial concepts, but also as an applied capability that influences how financial information is translated into business decisions and actions.

These findings are consistent with the Resource-Based View (RBV) proposed by Barney (1991), which emphasizes that valuable internal resources and capabilities can contribute to organizational performance when they are effectively developed and utilized. Within the MSME context, financial literacy can be conceptualized as an intangible human capital resource embedded in the owner or manager. Its strategic value lies not simply in possessing financial knowledge, but in the ability to apply that knowledge to financial planning, resource allocation, risk management, and business decision-making.

Accordingly, financially literate MSME owners may be better positioned to utilize available resources efficiently, identify business opportunities, and respond to financial challenges. The findings therefore extend the application of RBV to the MSME context by demonstrating that an owner-level intangible capability can constitute an important internal resource associated with business performance.

The result is also supported by (Salia & Karim, 2018), who found that SMEs with higher financial literacy possess greater knowledge when selecting financial activities associated with lower administrative costs and more favorable interest rates. This evidence indicates that financial literacy has practical implications for the efficiency of financial decisions. Financially literate owners may be more capable of comparing financial products, understanding their costs and conditions, and selecting

financing arrangements that are appropriate for their business circumstances. Such capabilities can reduce unnecessary financial costs and improve the efficiency of financial resource utilization.

Furthermore, financial literacy can contribute to cash flow management and operational efficiency. (Kumari & Harikrishnan, 2021) demonstrated that effective cash flow management can improve SME performance through better control of operating costs and increased revenue. In the context of the present study, financial literacy may enable MSME owners to systematically monitor cash inflows and outflows, anticipate liquidity requirements, and identify potential cash flow problems before they become critical. Similarly, appropriate bookkeeping practices can provide reliable financial information that assists owners in evaluating business conditions and making more informed operational and investment decisions.

From a sustainability perspective, financial literacy also represents an important capability for maintaining the long-term continuity of MSMEs. (Babajide et al., 2021) found that financial literacy contributes significantly to the sustainability of small businesses in Nigeria, while (Mujiatun et al., 2023) demonstrated that strong financial literacy capabilities can strengthen MSMEs' ability to withstand crisis conditions and maintain business continuity. These findings reinforce the argument that financial literacy has implications beyond short-term financial decision-making. It can strengthen the capacity of MSMEs to anticipate financial pressures, adapt resource allocation, and maintain operations during periods of uncertainty.

The theoretical contribution of this finding lies in strengthening the role of financial literacy as an internal strategic capability within the MSME performance framework. Previous studies have generally emphasized the relationship between financial literacy and financial behavior, financial decision-making, access to finance, or business outcomes. The present findings add to this literature by empirically demonstrating that financial literacy has a significant direct relationship with MSME performance and by interpreting this relationship through the RBV perspective. In particular, the finding that financial literacy has a stronger estimated effect than financial access in the present model suggests that the availability of financial resources alone may not be sufficient to generate improved performance. The ability to understand, evaluate, and manage those resources is also important. This provides a more capability-oriented perspective on

the financial determinants of MSME performance.

The novelty of the present study therefore lies in integrating financial literacy and financial access within the same empirical framework to explain MSME performance, while emphasizing the distinction between the availability of financial resources and the capability to manage those resources. Whereas financial access concerns the extent to which MSMEs can obtain appropriate financial services and funding, financial literacy concerns the knowledge and capability required to make effective use of financial resources. Examining both factors simultaneously provides a more comprehensive explanation of MSME performance than considering either financial literacy or financial access in isolation. The results indicate that both dimensions are relevant, but their estimated effects differ, thereby providing additional empirical evidence concerning the relative importance of financial capability and financial resource availability in the MSME context.

From a managerial perspective, these findings imply that MSME development programs should not focus exclusively on increasing access to financing. Business practitioners should also strengthen financial management capabilities through systematic bookkeeping, cash flow monitoring, financial planning, budgeting, and evaluation of financing alternatives. Training programs should therefore emphasize practical financial application rather than financial knowledge alone. For example, financial literacy programs could incorporate exercises on preparing cash flow statements, calculating financing costs, comparing loan products, determining working-capital requirements, and assessing business risks. Such approaches can help transform financial knowledge into managerial practices that directly support business performance and sustainability.

For policymakers and MSME-support institutions, the findings suggest that financial literacy programs should be integrated with broader financial inclusion initiatives. Providing MSMEs with access to financial services without improving their capacity to evaluate and manage those services may limit the effectiveness of financial inclusion programs. Consequently, financial institutions, government agencies, and business-support organizations can consider combining financing programs with financial education, mentoring, bookkeeping assistance, and digital financial management training. This integrated approach may strengthen the ability of MSMEs to utilize financial resources productively and

sustainably.

The Effect of Financial Access on MSME Performance

The hypothesis testing results indicate that financial access has a positive and statistically significant effect on MSME performance, with a path coefficient of $\beta = 0.157$ and a p-value of 0.024. Because the p-value is below the 0.05 significance level, the proposed hypothesis is supported. The positive path coefficient indicates that better financial access is associated with improved MSME performance. Although the estimated effect is relatively modest compared with financial literacy in the present model, its statistical significance demonstrates that access to appropriate financial resources remains an important component of MSME performance.

Financial access enables MSME owners to obtain funds needed to finance working capital, business expansion, productive assets, and ongoing operational activities. Access to appropriate financial services can provide greater flexibility in allocating resources according to operational and investment requirements (Kurniasari et al., 2025). Conversely, limited access to external financing may constrain MSMEs' ability to expand business activities, respond to market opportunities, and maintain stable operations (Worokinasih et al., 2023). The findings therefore reinforce the importance of reducing financial constraints faced by MSMEs, particularly where internally generated funds are insufficient to support business development.

The positive relationship can also be explained by the role of external financing in alleviating financial constraints. When MSME owners can access banks and other formal financial institutions, they may obtain additional capital beyond internally generated funds. This financing can be used to increase production capacity, purchase equipment, maintain inventories, or respond to changes in market demand. (Abdallah, 2024) similarly emphasizes the role of financial access in supporting MSMEs' ability to utilize productive business opportunities. Thus, financial access represents not merely the availability of funds but also an opportunity for MSMEs to obtain resources that may otherwise be unavailable through internal financing.

However, the relatively modest coefficient of $\beta = 0.157$ also provides an important theoretical insight. Financial access alone does not fully explain variations in MSME performance. Access to financing creates the opportunity to obtain financial resources,

but the productive use of those resources may depend on the managerial and financial capabilities of business owners. This interpretation complements the findings for financial literacy: financial access represents an external resource opportunity, whereas financial literacy represents an internal capability that may determine how effectively financial resources are evaluated, allocated, and utilized.

This distinction contributes to the theoretical literature by providing evidence that MSME performance can be understood through the interaction between resource availability and resource-utilization capability. From an RBV perspective, financial access may provide MSMEs with additional resources, whereas financial literacy constitutes an internal capability that supports the effective utilization of those resources. The present findings therefore broaden the application of the RBV framework by distinguishing between access to external financial resources and the internal capability required to manage financial resources effectively. This distinction is particularly relevant for MSMEs because their limited organizational structures and strong dependence on owner-managers make individual financial capabilities an important component of organizational performance.

The findings also contribute to the financial inclusion literature. Financial inclusion is often discussed in terms of whether individuals and businesses can obtain appropriate financial products and services. The present results indicate that access is relevant to MSME performance, but the relatively smaller estimated coefficient suggests that improving access should be accompanied by improvements in the capability to use financial services effectively. Therefore, the results support a broader conceptualization of financial inclusion in which access and capability are complementary dimensions rather than independent policy objectives.

From a managerial perspective, MSME owners should evaluate financial access not only in terms of the amount of financing available but also in terms of its suitability for business needs. Business owners need to consider interest rates, repayment schedules, administrative costs, collateral requirements, and the expected contribution of financing to business activities before obtaining external funds. Financing decisions should be aligned with cash flow capacity and specific business objectives to reduce the risk of financial pressure. Consequently, financial access is most likely to contribute to performance when external funds are

directed toward productive activities and managed systematically.

For policymakers, the findings indicate that expanding MSME financial inclusion requires more than increasing the supply of credit. Policies should also address the accessibility, affordability, suitability, and usability of financial products. Programs that connect MSMEs with formal financial institutions can be strengthened through simplified application procedures, appropriate financing products, transparent information regarding financing costs, and financial management assistance. Importantly, financing programs can be complemented by financial literacy and business-management training so that MSME owners are better equipped to assess financing alternatives and manage borrowed funds responsibly.

Integrated Theoretical and Practical Contribution

Taken together, the findings provide a more comprehensive explanation of the financial determinants of MSME performance by demonstrating that both financial literacy and financial access are significant, but they operate as conceptually different dimensions. Financial access provides MSMEs with opportunities to obtain external financial resources, while financial literacy provides the knowledge and capability required to plan, evaluate, and utilize financial resources effectively. The significant relationships identified for both variables suggest that MSME performance is influenced not only by whether financial resources are available but also by whether business owners possess the capability to manage those resources.

The stronger estimated coefficient for financial literacy ($\beta = 0.330$) compared with financial access ($\beta = 0.157$) should not be interpreted as evidence that financial literacy is universally more important than financial access. Rather, within the specific model, sample, and research context of this study, financial literacy demonstrates a larger estimated direct association with MSME performance. This distinction is important because the magnitude of path coefficients is context-dependent and does not establish a universal causal hierarchy between the two constructs.

The principal novelty of this study is therefore its integrated examination of financial literacy and financial access as distinct financial dimensions associated with MSME performance, combined with an RBV-based interpretation that differentiates between internal capability and external resource availability. This approach extends

previous research that frequently examines financial literacy, financial access, or business performance separately by showing how these two financial dimensions can be considered simultaneously within a single explanatory framework. The findings consequently contribute to the development of MSME literature by emphasizing that improving performance requires attention not only to the availability of financial resources but also to the capability of business owners to manage and utilize those resources.

Overall, the findings contribute to the literature by positioning financial literacy as an intangible organizational capability and financial access as an external resource opportunity within the MSME performance framework. The results also provide a practical basis for designing more integrated MSME development strategies. For practitioners, strengthening financial planning, bookkeeping, cash flow management, and financing decisions can support more effective resource utilization. For policymakers and financial institutions, expanding access to appropriate financial services should be accompanied by financial education and managerial support. Such an integrated approach recognizes that financial resources and the capability to manage those resources are complementary components of MSME development and sustainability.

5. CONCLUSIONS

This study concludes that financial literacy and financial access are important determinants of MSME performance. The empirical findings demonstrate that financial literacy has a positive and statistically significant effect on MSME performance ($\beta = 0.366$; $p < 0.001$). This result indicates that MSME owners with higher levels of financial knowledge and skills tend to achieve better business performance. Financial literacy enables business owners to plan and manage financial resources more effectively, make informed financial decisions, control cash flows and operating costs, and anticipate financial risks. Therefore, strengthening financial literacy can enhance the ability of MSME owners to utilize their financial resources efficiently and support the continuity of their businesses.

The findings also demonstrate that financial access has a positive and statistically significant effect on MSME performance ($\beta = 0.157$; $p = 0.024$). Although the magnitude of this effect is relatively modest compared with that of financial literacy, the

significant relationship confirms that access to formal financial services and external financing can contribute to improved business performance. Access to adequate financial resources provides MSMEs with greater opportunities to finance working capital, acquire productive assets, expand business activities, and respond to market opportunities.

Taken together, the findings suggest that improving MSME performance requires both the development of internal financial capabilities and the expansion of access to appropriate financial resources. Financial literacy provides MSME owners with the capacity to make sound financial decisions and manage available resources effectively, while financial access provides the resources needed to implement those decisions and support business activities. Therefore, policies and development programs for MSMEs should adopt an integrated approach that combines financial literacy enhancement with improved access to affordable, accessible, and suitable financial services. From a theoretical perspective, these findings provide empirical support for the Resource-Based View (RBV), particularly by demonstrating that financial literacy can function as a valuable intangible capability that enables MSMEs to manage and leverage financial resources more effectively. At the same time, financial access represents an important external resource that facilitates the acquisition and utilization of resources necessary for business development. The combination of these internal capabilities and external resources can strengthen MSMEs' capacity to improve performance and sustain their businesses in a dynamic business environment.

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