Improving MSME Performance through Financial Literacy, Access to Financing, and Business Innovation: The Important Role of Risk Management

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Abstract: - The innovation financing' innovation literacy' and 'capital accessibility' constructs and their impact on MSME performance, with risk management as the mediating variable, advance the research on the presumed roles the constructs play. This cross-sectional quantitative study was conducted among 344 MSMEs in East Java Province, Indonesia. The respondents completed self-administered questionnaires for the study, and the responses were analyzed using the Pls-SeM approach to structural equation modeling. The study reveals that the weighted-average portfolio of a business's perimeter innovation, financial literacy, and the overall level of capital accessibility in the economy positively influences the financial performance of MSMEs at all tiers of their operations. The research suggests that lower-tier MSMEs are best assisted in the management and performance of their financial risk load with IT-advantageous financial literacy tools, and gap financing assists MSMEs, but only marginally.

Key-Words: - MSME, Financial Literacy, Financial Access, Business Innovation, Risk Management, East Java Province, Indonesia.

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1 Introduction

The role of MSMEs in supporting the country's economic and employment structures is of utmost importance [1], [2], [3] and [4]. There is a gap in the literature regarding the financial performance of MSMEs, the level of risk management, and how risk management is perceived as a possible predictive factor in this relationship, [5], [6]. Financial attitude and financial behavior are two measures of the same continuum; financial attitude refers to the mental construct of a person or organization toward the management of financial resources, and behavior is the actual implementation of the attitude, in this case, the cash management system, [7].

As emphasized by [8] and [9], addressing MSME innovation in their customer service needs and innovation processes is critical to innovation. In 'The Efficient Risk Management', [10] emphasizes the necessity of 'risk intervention and possible elimination', which is effective and planned. [1] notes that financial literacy is one of the 'deficits' and challenges of developed entrepreneurship in Africa, and this is also true in Indonesia. Financial literacy has been demonstrated through MSME outcomes, the financial aid offered, MSMEs' willingness to manage associated financial risks, and the improvements in associated outcomes. [5] Also mentioned that business owners' financial literacy is an important factor to consider for the performance of MSMEs in Ghana. This paragraph illustrates the absence of forged financial strategies in MSMEs' financial literacy.

[3] also suggested that the economic barrier to MSMEs is the framework of the thesis. However, for luar negeri Indonesia, the comparison with other MSMEs is indeed strange because the level of disparity in the banking system and other formal lending units is singular. The funds for the performance, the replenishment of resources to support innovation, and the MS MSMEs' sustainable growth are framed by Alharbi. The introduction of new business models has been shown to enhance MSMEs' financial sustainability.

As [8] explains, during emergencies such as the COVID-19 pandemic, innovation becomes an essential element for the survival and development of MSMEs. Such innovation involves launching new products, processes, and production workflow improvements, and digitizing work to streamline and improve efficiency. In Indonesia, several MSMEs have overcome their challenges through eclectic, innovative changes across various dimensions of their operations. Defining the entrepreneurial strategy of MSMEs with respect to sustainable investing activities, interestingly, advocates a model in which the financial resources of financial markets and other markets, and strengths, are positioned.

Nonetheless, neglecting effective risk management for MSMEs can be very detrimental. MSMEs, in particular, face challenges in risk management, as argued by [11]. The financial Potential of MSMEs is conditional on the investment of valuable resources in the construction of effective risk management systems. An internal risk classification for MSMEs is likely to improve the overall condition of the sector. [11] found that MSMEs that implemented risk management achieved superior financial outcomes compared to their counterparts. In conjunction, [12] emphasises that the multiple approaches to modernisation available to MSMEs facilitate all LVS, thereby sustaining a competitive edge.

2 Literature Review

In extending the theory of dynamic business environments, [13] sought to combine dynamic capacity and contingency theory. In the context of SMEs, contingency theory argues that, to maximize profit, market-specific strategies tailored to geography and industry should be deployed, [14].

Other financing institutions include government programs, microfinance institutions, and charitable entities that provide diversified financing to MSMEs, [15], [16]. Product innovation encompasses the creation and market introduction of new and improved goods and services to address salient customer needs and enhance competitive positioning within that market, [17], [18].

[11] report that credit risk unfavorably affects MSMEs' cash flow and MSMEs ' stability due to the risk of losses from customer and business counterparties' non-payment. Another alternative for classifying business risk is market risk, because losses arise from unfavorable MSME input, output, or service prices, [10]. Performance indicators focus on the financial results of the MSMEs' activities. MSMEs' measurement of efficiency and effectiveness is based on the financial results. The combination of other expenditures and the product's selling price determines the operational profit the firm earns. The absence of an appropriate cost structure negatively affects operational profitability, [19].

Sales growth measures the volume of sales in a given period, [20]. As noted by [21], having a significant market share suggests one is likely in a dominant position and can sustain a competitive advantage. [22] also claim that financial risk management is an integral aspect of the subject. Also, it is necessary to emphasize the case of [23], who regard risk as a critical factor in risk management.

As noted by [24], in a competitive market, MSMEs can design and pursue highly productive financial policies. In addition, MSMEs' financial policies, especially in risk management, have been shown to enhance their performance. When there is slack finance, MSMEs can undertake nearly all activities that facilitate growth, [25], [26]. Spending on market creation improves MSMEs' competitive position by increasing value and, in turn, financial performance, [21]. Considering the reviewed literature, it is possible to formulate the following hypotheses:

H1. Risk management is significantly impacted by financial literacy.

H2. Risk management is significantly impacted by financial access.

H3. Risk management is significantly impacted by business innovation.

H4. MSME Financial Performance is Significantly Affected by Risk Management.

H5. MSME Financial Performance is Significantly Affected by Financial Literacy.

H6. MSME Financial Performance is Significantly Affected by Financial Access.

H7. MSME Financial Performance is Significantly Affected by Business Innovation.
H8. Through risk management, financial literacy significantly affects MSME financial performance.
H9. Through risk management, financial access significantly affects MSME financial performance.
H10. The financial performance of SMEs is significantly impacted by business innovation. Controlling Risk.

3 Methods

This particular market in Indonesia has been selected as a case study to focus on the inquiry, evaluation of the growth and risks of financial innovations, and the risk management of business enterprises, assessing the moderating role of financial access and the overall business productivity of MSMEs in Indonesia. To help describe the market's scope, a cross-sectional framework has been developed using real-time data from a large slice of the Indonesian market.

The research conducted by East Java Bank on MSMEs employs a purposive sampling method because East Java is the most diversified MSME province across various lines of business in Indonesia, thereby making it a valid surrogate of the country. The study focused on 34 MSMEs classified as business-active. The closed-ended questionnaire served as the primary data collection tool, measuring financial literacy and access, business innovation, risk management, and financial performance as primary variables.

The Set of behaviors, knowledge, and attitudes that a person has concerning money is financial literacy, as defined in this context. Financial access is defined as access to a bank, investment funds, and financial services provided by a financial institution. Business innovation is the development of new and improved products, processes, management practices, and business models. Business risk management is the process of defining the liquidity, credit, and market risk parameters. Total sales revenue, total profits, growth in total assets, and customer retention measure financial performance.

The tools used for analysis are PLS and Structural Equation Modeling, and this is because the effectiveness of PLS and SEM depends on the interconnected complexities of the data variable sets they are intended for. Reliability and validity of the measurement model were assessed using Cronbach's alpha, composite reliability, AVE, and discriminant validity. Structural model analysis computed path coefficient significance using the bootstrap method and assessed persistent variable mediation effects using the Sobel test with bootstrapping. Model fit recovery utilized the model indices SRMR, NFI, and GFI to assess model fit.

The participants in the study were protected from harm and were also rights holders, in compliance with the ethical norms of research involving humans. In this regard, the ethical issues of informed consent, data anonymity, and data retention were effectively addressed.

4 Results and Discussion

Before going into a more in-depth analysis, the Descriptive Statistics table is presented in Table 1.

Table 1. Descriptive Statistics

Indicator	Mean	Standard Deviation
Financial Literacy		
Financial Knowledge	3.8	0.6
Financial Behavior	3.6	0.7
Financial Attitudes	4.0	0.5
Financial Access		
Financing from Banks	3.5	0.8
Financing from Investors	3.3	0.9
Financing from Other Institutions	3.4	0.7
Business Innovation		
Business Process Innovation	3.7	0.6
Product Innovation	3.9	0.5
Risk Management		
Liquidity Risk	3.5	0.8
Credit Risk	3.6	0.7
Market Risk	3.7	0.6
Financial performance		
Profit Margin	3.8	0.6
Cost Efficiency	3.6	0.7
Sales Growth	3.9	0.5
Market Share	3.7	0.6

Source: created by the authors

Based on the descriptive Table 1, which uses a Likert scale of 1-5, it shows that MSME Indonesia has above-average to high financial literacy (3.8) and attitude (4.0), although somewhat lower on daily financial behavior (3.6). The overall level of financing remains moderate, and the most accessible source is banks (3.5). Business innovation is vigorous, especially in product development (3.9) and process improvement (3.7). The level of risk management is acceptable, with market risk 3.7 being the most dominant. The profit margin is 3.8, sales growth is 3.9, and strong market performance suggests the MSME's financial performance is robust and healthy. Table 2 show that Reliability and Validity

Table 2. Reliability and Validity

	Cronbach's Alpha	rho_A	CR	AVE
Business Innovation	0,305	0,308	0,742	0,59
Financial Access	0,423	0,493	0,701	0,45
Financial Literacy	0,241	0,256	0,65	0,393
MSME Financial Performance	0,558	0,572	0,75	0,432
Risk Management	0,547	0,574	0,765	0,524

Source: created by the authors

The case of Business Innovation internal examination showed a lack of internal consistency (the internal AVE of the PhD candidate regarding reliability and construction was 0.305, and the construct reliability index was 0.742). Though this is a lack of consistency, the results could still be regarded as valid. Financial Access showed within-dimension low internal reliability, coupled with moderate validity (AVEs of 0.423 and 0.701). Regarding Financial Literacy, there was a lack of reliability and validity (none of the values for this dimension met the threshold). Regarding MSME Financial Performance, the internal value and the construction-reliability value are moderate, while the construction value of the reliability index is favorable; however, the AVE of 0.432 remains low. Finally, regarding Risk Management, moderate reliability with good AVE construction is the only case of positive classification in this Table. 0.765 is the final value of concern. In the Analysis of These Findings, Table 3 shows the Correlation Matrix.

Table 3.The Correlation Matrix

Variable	Financial Literacy	Financial Access	Business Innovation	Risk Management	MSME Financial Performance
Financial Literacy	1.000				
Financial Access	0.512	1.000			
Business Innovation	0.468	0.521	1.000		
Risk Management	0.437	0.482	0.523	1.000	
MSME Financial Performance	0.556	0.533	0.498	0.574	1.000

Source: created by the authors

Table 3 describes the correlational relationship between five key components: financial literacy and access, business innovation, risk management, and the financial performance of MSMEs. The results suggest that the variables have varying positive correlations, with financial literacy and access being the most strongly correlated (0.512) and the least correlated with risk management (0.437) and Business financial performance (0.556). The other variables, financial access and business innovation, showed positive correlations with MSME financial performance (0.533). More Business Innovation positively affects risk management (0.523) and financial performance (0.498). Furthermore, there is also a positive correlation between financial performance and risk management (0.574). These results confirm the complementary contributions of innovation, literacy, and access to enhance MSME performance further.

Table 4. The Model Fit Indices

	Saturated Model	Estimated Model
SRMR	0,106	0,117
d_ULS	1	1,629
d_G	0,395	0
Chi-Square	451,585	476,31
NFI	0,197	0,153

Source: created by the authors

Table 4 contains fit indices and their respective estimation and saturation model qualities. The SRMR values (0.117 and 0.106) indicate moderate fit and room for improvement. The d_ULS and d_G values indicate that the saturated model provides a better overall fit, and the estimation model is geometrically well-positioned. The NFI scores (.153 and .197) indicate poor fit. Also, the high Chi-Squares indicate some mismatch, which is likely sample-sensitive. All in all, the estimation model shows a degree of fit; however, the alignment of the data can be improved.

. Table 5. Path Coefficients

	MSME Financial Performance	Risk Management
Business Innovation	0,312	0,334
Financial Access	0,157	-0,032
Financial Literacy	0,033	0,23

Source: created by the authors

Table 5 demonstrates that financing innovation affects the financial performance (0.312) and risk management (0.334) of MSMEs, confirming its primacy as the most influential variable. Financial literacy exhibits a courteous fraternal association with risk management (0.23), yet sadly has a most dreadful impact on financial performance (0.033). Financial access enhances financial performance (0.157) and has a neutral effect on risk management (–0.032). This means that funding increases outputs, but it does not enhance performance outcomes.

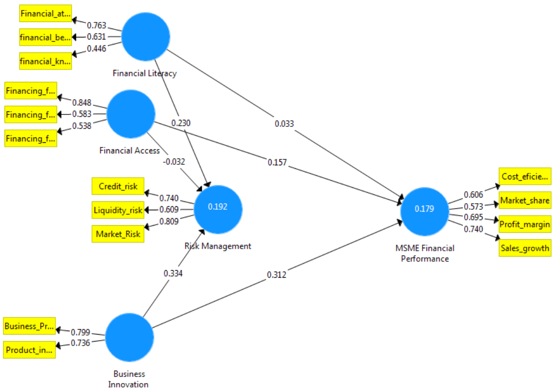

Fig. 1: Model Estimation
Source: Created by authors

Figure 1 show that mediation illustrates how independent variable 'effects' analysis helps understand whether risk management provides value-added mediation of factors to MSME financial performance. Table 6 summarizes the value of indirect effects for each independent variable.

Table 6. Mediation Analysis

	Specific Indirect Effects
Business Innovation -> Risk Management -> MSME Financial Performance	0,133
Financial Access -> Risk Management -> MSME Financial Performance	-0,01
Financial Literacy -> Risk Management -> MSME Financial Performance	0,088

Source: created by the authors

Table 6 demonstrates that the mediating effects of risk management and business innovation on financial literacy are highly significant for MSMEs' financial performance. The indirect impact of MSMEs on business innovation, in conjunction with risk management, is 0.133, while the impact on financial literacy and risk management is 0.088. This implies that the augmented performance resulting from risk management is attainable through the combination of innovation and appropriate financial understanding. The value of financial access is −0.01, indicating no indirect effect whatsoever and suggesting no impact on performance with risk management as a moderator. Generally, the data further indicate a gap in the literature regarding the improvement in business innovation in financial literacy as it pertains to the financial performance of micro, small, and medium enterprises (MSMEs). Risk management as a mediator in this regard is essential and is most of the Time lacking when only financing is concerned.

Table 7. Hypothesis Testing

Hypothesis	Path Coefficient	p-value (Significance)	Hypothesis Status
H1. Financial Literacy -> Risk Management	0.230	< 0.05	Accepted
H2. Financial Access -> Risk Management	-0.032	> 0.05	Rejected
H3. Business Innovation -> Risk Management	0.334	< 0.05	Accepted
H4. Risk Management -> MSME Financial Performance	0.574	< 0.05	Accepted
H5. Financial Literacy -> MSME Financial Performance	0.033	> 0.05	Rejected
H6. Financial Access -> MSME Financial Performance	0.157	< 0.05	Accepted
H7. Business Innovation -> MSME Financial Performance	0.312	< 0.05	Accepted
H8. Financial Literacy -> Risk Management -> MSME Financial Performance	0.088	< 0.05	Accepted
H9. Financial Access -> Risk Management -> MSME Financial Performance	-0.010	> 0.05	Rejected
H10. Business Innovation -> Risk Management -> MSME Financial Performance	0.133	< 0.05	Accepted

Source: created by the authors

Table 7 shows a positive, albeit slight, correlation between risk management and access to finance, financial literacy, and innovative practices. Understanding risk management is vital to improving an MSME's financial performance. Financial literacy, though it does not increase financial performance, does assist Risk management. More access to finance, however, does enhance financial performance, albeit not directly through risk management. Business innovation, in turn, enhances performance and risk management, albeit indirectly. This shows that for MSMEs, the relationship between innovation and risk management is strong. Financial literacy, in this case, is an indirect support to risk management, and financial access directly increases performance.

5 Conclusion

This study investigates the interplay involving financial literacy, financial accessibility, business innovations, and the financial performance of micro, small, and medium enterprises (MSMEs) in Indonesia. It is interesting to note that, within the context of MSME financial performance, financial literacy is, albeit positively, scarce and directly assists in alleviating risks. Regarding the financial performance of MSMEs, financial access is a precondition; that is, it exerts a weaker mediating influence through risk management, albeit equally important. Of the three elements, business innovation is the one that, in principle, determines the financial success of MSMEs and is most responsive and proactive to risks. Managed business risks, a critical mediator, illustrates the gap between these three elements of business literacy and business innovation regarding the financial performance of MSMEs. Such insights emerging from the analysis are of catalytic significance to the business community and the government, insofar as the formulation and implementation of MSME sustainability performance in Indonesia are concerned. To them, the contention is that the principal elements for scaffolding the growth and sustainability of MSMEs hinge on business policies and tools such as innovation, risk management, financial literacy, and select risk management practices. Along with these contributions, the work also augments and lays the groundwork for further academic work. Policy analysis, policy design, and active collaboration with the government and the business community will address development, global competitiveness, and the sustainability of the MSME sector, its associated multipliers, and inclusiveness.

Declaration of Generative AI and AI-assisted technologies in the writing process

The author(s) wrote, reviewed, and edited the content as needed and has/have not utilised artificial intelligence (AI) tools. The author(s) take full responsibility for the content of the publication.

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This article was developed through the collaborative efforts of all listed authors, each of whom contributed substantially to its conception, design, analysis, and finalization. Moh. Hudi Setyobakti was primarily responsible for the conceptualization of the research framework, the design of the sampling strategy, and the initial drafting of the manuscript. Hadi Paramu provided expertise in methodological design, particularly in the application of the Moderated Regression Model, and played a central role in the statistical analysis and interpretation of the findings. Elok Sri Utami contributed to the theoretical foundation of the study, conducting the literature review and integrating entrepreneurial finance concepts with SME performance, while also refining the academic writing to meet scholarly standards. Intan Nurul Awwaliyah supported the data processing and confirmatory factor analysis, prepared the tables and figures, and ensured the manuscript adhered to journal formatting requirements through final proofreading.

All authors reviewed and approved the final version of the manuscript and accept responsibility for its integrity and accuracy. In accordance with the ghostwriting policy, no ghostwriting or honorary authorship occurred in the preparation of this article. Each author’s contribution is genuine, identifiable, and essential to the completion of the research and its dissemination.

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Conflict of Interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.