

Research Article

The Influence of Financial Literacy and Business Inclusion on Business Performance

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Abstract: This study aims to analyze the influence of financial literacy, financial technology (fintech), and financial inclusion on the sustainability of micro, small, and medium enterprises (MSMEs) with business performance as a mediating variable. A quantitative approach with an explanatory design was applied in this research, where primary data were collected through the distribution of structured questionnaires to MSME owners in Medan City, selected using a purposive sampling method. Data analysis was conducted using Partial Least Squares-Based Structural Equation Modeling (PLS-SEM). The structural model testing results indicate that financial literacy, fintech, and financial inclusion have positive and significant effects on business performance, and business performance is proven to be the most powerful predictor in determining long-term business sustainability. The mediation analysis also shows that business performance is only partly responsible for the link between financial literacy and financial inclusion and business sustainability. At the same time, business performance completely mediates the effect of fintech on business sustainability. This finding underscores that the adoption of fintech technology does not automatically guarantee the immediate survival of MSMEs; rather, it must first be translated into operational efficiency and increased daily business profitability. The primary recommendation for fostering a resilient and sustainable MSME sector is to strengthen internal financial management capacity and expand access to the digital financial ecosystem.

Keywords: Business Performance; Financial Inclusion; Financial Literacy; Financial Technology; MSME Sustainability.

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1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a highly vital role as the primary foundation of the economy, both at the national and global levels (Alfira et al., 2026). According to World Bank data, this sector represents the vast majority of business units worldwide and contributes to more than half of global employment (Amelia et al., 2025). In Indonesia, the contribution of MSMEs is remarkably significant, as demonstrated by the following graphical data (Idris, 2025):

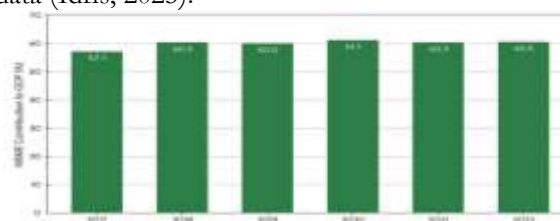


Figure 1. Data.

Based on the data, MSMEs contribute nearly 61% of the total Gross Domestic Product (GDP) and absorb approximately 97% of the total national workforce. To maintain this massive contribution, every business owner is required to achieve optimal and stable business performance to ensure long-term business sustainability. However, the dynamics

of the modern business environment in the digital transformation era bring new and increasingly complex challenges for MSMEs (Idris, 2025). Many businesses owners experience failure or stagnation because they are unable to achieve expected business performance targets due to low productivity, ineffective profit management, and limited internal capacity to evaluate performance and make precise managerial decisions.

One of the internal determinants that heavily influences business performance is the level of financial literacy possessed by business owners (Pakpahan et al., 2024). Based on the Resource-Based View (RBV) theory, knowledge and managerial skills represent strategic internal resources capable of creating a competitive advantage (Khairani, Octora, et al., 2025). Financial literacy is not merely a theoretical understanding; rather, it is the applied capability to manage capital, record transactions, and analyze investment risks (Idris, 2025). MSME owners with high financial literacy tend to be more prudent in allocating cash flow and minimizing operational losses (Sagala, 2025). Unfortunately, field realities indicate that the level of financial literacy among MSME owners remains below the national average, which in turn directly impacts the decline of business efficiency and leads to poor business decisions (Harianto et al., 2025). In addition to internal capacity, business performance is also highly dependent on external factors, such as access to the formal financial ecosystem, commonly known as financial or business inclusion (Ginting et al., 2026).

Financial inclusion ensures that business owners have easy, secure, and affordable access to financial products and services, such as working capital financing, savings, and digital payment systems (Khairani et al., 2026). Through effective inclusion, MSMEs can overcome the constraints of limited conventional capital and leverage financial technology to accelerate operational cash flow (Chanoago et al., 2025). Nevertheless, data from the Financial Services Authority (OJK) indicate that the majority of MSME owners remain in the unbanked or underbanked categories (Khairani, Tantono, et al., 2025). This limited formal access forces them to rely on informal financial institutions with high interest rates, which ultimately suppresses profitability and worsens the business's financial performance (Mujiatun et al., 2023). The urgency of this research is further reinforced by the presence of research inconsistencies among prior studies; while some researchers identified a significant positive impact, other empirical studies demonstrated that financial inclusion or the adoption of financial technology occasionally fails to exert a direct influence on improving business performance (Published, 2022). Recognizing these theoretical gaps and real-world phenomena, this study aims to empirically analyze the contributions of financial literacy and financial/business inclusion in shaping the operational performance of MSMEs (Fadillah & Lubis, 2024). Consequently, it is expected to formulate a strategic model that can be adopted by policymakers and business owners to trigger resilient and competitive business performance growth in the global market (Shidik & Kurniawan, 2025).

This study features a significant novelty that distinguishes it from prior research on MSME business performance, namely the contextualization of a developing region with unique geographical characteristics. While the vast majority of literature concerning the interaction between financial literacy and financial inclusion focuses on business owners in major metropolitan areas or developed nations, this research provides contextual novelty by exploring the dynamics of MSMEs in a developing region characterized by distinct socio-economic conditions and digital infrastructure challenges, specifically within Medan and its surrounding areas. Consequently, this study captures a more specific and relevant empirical reality for regional policymakers.

2. Literature Review

Business Performance

Conceptually, business performance is defined as the level of achievement, efficiency, and effectiveness of an organization or business unit in managing all its available resources to achieve both short-term and long-term strategic goals (Sunarsi, 2021). In this study, business performance is measured through several key indicators that reflect operational effectiveness and overall business growth (Pohan, 2020). The first indicator is sales growth, which is used to assess the extent to which sales volume or value increases from period to period as evidence of market acceptance of the product (Rosita, 2023). Next, profit growth is applied to measure cost efficiency and the tangibility of MSMEs (Micro, Small, and

Medium Enterprises) to generate net profit (Muna et al., 2023). Additionally, the aspects of expanding market reach and competitiveness are analyzed through market share growth (Galib et al., 2022). Lastly, employment growth is used as an indicator to measure the expansion of business scale (scaling up) through the addition of human resource capacity (Riyadh et al., 2024).

Financial Literacy

Financial literacy is a multidimensional integration that combines the aspects of awareness, knowledge, skills, attitude, and behavior required by an entrepreneur to make wise, rational, and responsible financial decisions for the sustainability of their business (Mahmood et al., 2024). In this study, the level of financial literacy among entrepreneurs is evaluated using three interrelated indicators based on behavioral finance theory (Gosa & Nainggolan, 2023). The first indicator is financial knowledge, which measures the entrepreneur's theoretical and practical understanding of fundamental financial concepts, such as inflation, interest rates, basic bookkeeping, and risk management (Ratnawati et al., 2024). The second indicator is financial behavior, which examines concrete actions in daily operations, such as discipline in budgeting, recording cash inflows and outflows, and the commitment to separating personal finances from business capital (Azhima & Pinem, 2024). The third indicator is financial attitude, which assesses the entrepreneur's perceptions, beliefs, and commitment to future financial planning in order to maintain business stability (Nugraha & Sutrisno, 2024).

Business Inclusion

Financial or business inclusion is defined as a process or condition that ensures the availability, accessibility, and utility of formal financial products and services, alongside a business support ecosystem that is safe, timely, and affordable for all segments of society, particularly MSME operators (Rahadjeng et al., 2023). In this context, the financial/business inclusion variable is measured using indicators adjusted to the modern digital ecosystem landscape (Ratnawati et al., 2025). The first indicator is accessibility, which represents the physical and digital ease with which MSME operators can access formal financial products without cumbersome procedures (Bhat et al., 2024). The second indicator is the availability or breadth of products and services, which assesses the diversity of financial solution options offered by formal institutions such as working capital financing, business savings, and insurance that align with the specific needs of MSMEs (Rachmawati, 2022). The third indicator is digital usage or utility, which measures the extent to which entrepreneurs actively adopt modern financial technology in their operations, including the use of QRIS payment systems, mobile banking, and integration with e-commerce platforms (Ooi, 2023).

3. Method

This study employs a quantitative approach with an explanatory research design, aiming to analyze and explain the causal relationships and the effects of the independent variables namely financial literacy and financial/business inclusion on the dependent variable, which is the business performance of MSMEs. The population in this study comprises all Micro, Small, and Medium Enterprise (MSME) operators registered and actively operating within the Medan City area. Given the exceptionally large and dispersed population, the minimum sample size was calculated using the Slovin formula to ensure data representativeness. The sampling technique was executed through a non-probability sampling method, specifically a purposive sampling approach, with the established criteria being MSME operators who have adopted digital payment systems or digital platforms in their business operations for at least the past year.

Primary data collection was conducted by distributing structured questionnaires designed with a 1-to-5 Likert scale to measure respondents' perceptions of each variable indicator. Before the questionnaire instrument was widely distributed to the entire research sample, a pilot test was conducted to evaluate the validity and reliability of the items. Validity was analyzed using the Pearson Product-Moment correlation, while reliability was evaluated through Cronbach's Alpha with a minimum threshold value of 0.60 to ensure the internal consistency of the research instrument. Once the primary data were fully collected, classical assumption tests comprising data normality tests and linearity tests of the relationships between variables via scatterplot graph analysis were performed to guarantee that the data

model met the requirements for statistical estimation (Idris, 2025). The final stage of this methodology is data analysis and hypothesis testing using Structural Equation Modeling (SEM). The SEM approach is applied simultaneously to evaluate two main models: the measurement model (outer model) to test the convergent and discriminant validity of the latent indicators, and the structural model (inner model) to test the significance of the relationships between variables. Hypothesis testing is conducted by analyzing the path coefficients and significance values through a t-test, where a hypothesis is declared accepted if the significance value is below 0.05. Additionally, the model's power to explain the variance of the dependent variable is evaluated through the analysis of the coefficient of determination (R^2 or R-squared). The entire sequence of data analysis and statistical visualization in this study was executed computationally using relevant statistical data processing software.

4. Results and Discussion

Outer Loading

Table 1. Outer Loadings Results.

	KB	LK	IB	Results
KB1	0,740			Valid
KB2	0,836			Valid
KB3	0,735			Valid
KB4	0,782			Valid
KB6	0,730			Valid
KB7	0,776			Valid
KB8	0,730			Valid
KB13	0,760			Valid
KB14	0,780			Valid
KB15	0,730			Valid
KB16	0,728			Valid
KB17	0,812			Valid
KB18	0,723			Valid
KB19	0,777			
KB20	0,767			
LK1		0,853		
LK2		0,837		Valid
LK3		0,847		Valid
LK4		0,757		Valid
LK5		0,774		Valid
LK6		0,807		Valid
LK7		0,817		Valid
LK8		0,805		Valid
LK9		0,853		Valid
LK13		0,795		Valid
LK15		0,778		Valid
IB1			0,815	Valid
IB10			0,800	Valid
IB11			0,755	Valid
IB13			0,760	Valid
IB14			0,799	Valid
IB15			0,788	Valid
IB2			0,708	Valid
IB3			0,746	Valid
IB4			0,776	Valid
IB5			0,772	Valid

IB6	0,737	Valid
IB7	0,833	Valid

Based on the results of the second-stage convergent validity testing in Table 1, it is evident that all remaining indicators for the variables Business Performance (KB), Financial Literacy (LK), and Financial/Business Inclusion (IB) exhibit outer loading values above the standard threshold of 0.70. For the Business Performance (KB) variable, the factor loading values range from 0.723 to the highest value of 0.836 on the KB2 indicator. For the Financial Literacy (LK) variable, the outer loading values demonstrate highly robust results, ranging from 0.757 to a peak value of 0.853 on indicators LK1 and LK9. Meanwhile, for the Financial/Business Inclusion (IB) variable, all indicators confirm strong validity, with values ranging between 0.708 and the maximum value of 0.833 on the IB7 indicator.

The results of this second-stage iteration indicate that following the removal (dropping) of several invalid indicators from the first stage, the measurement model structure is now free from measurement error issues. All statements within the questionnaire have proven capable of accurately representing the latent constructs they are intended to measure. Consequently, this model empirically satisfies the requirements for convergent validity, rendering all these indicators eligible for subsequent structural model (inner model) testing and hypothesis analysis.

Average Variance Extracted (AVE)

Table 2. AVE Results for Convergent Validity Testing.

	Average variance extracted (AVE)	Results
IK	0.659	VALID
IB	0.600	VALID
KB	0.587	VALID

Based on the statistical data processing results shown in Table 2, it can be seen that all research variables possess an Average Variance Extracted (AVE) value above the critical threshold of 0.50. The Financial Literacy variable exhibits the highest AVE value at 0.659, which means that the construct is capable of explaining approximately 65.9% of the variance across all its underlying indicators. Next, the Financial/Business Inclusion variable has an AVE value of 0.600 (60.0%), and the Business Performance variable records an AVE value of 0.587, indicating that 58.7% of its indicator variance is successfully represented by the construct. Methodologically, meeting the minimum threshold for the AVE value (AVE > 0.50) across these three latent constructs confirms that the measurement error rate within this model is relatively very low. All indicators used have proven to have a strong and simultaneously valid contribution to forming each of their primary variables. Consequently, the outer model testing in terms of convergent validity is declared fully satisfied empirically, allowing the analysis to proceed to the discriminant validity evaluation stage and construct reliability testing.

Discriminant Validity

Table 3. Final Model HTMT Results.

Construct Relationship	HTMT	Decision
Business Inclusion ↔ Business Performance	0,550	Fulfilled
Financial Literacy ↔ MSME Sustainability	0,551	Fulfilled
Financial Literacy ↔ Business Performance	0,510	Fulfilled

Based on the HTMT calculation results shown in Table 3, it can be observed that all correlation ratio values between the latent constructs are well below the strict required threshold of 0.85. The relationship between the Business Inclusion construct and Business Performance yields an HTMT value of 0.550. Meanwhile, the ratio between Financial Literacy and MSME Sustainability shows a value of 0.551, and the relationship between Financial Literacy and Business Performance records the lowest ratio value at 0.510.

The fact that all HTMT values range between 0.510 and 0.551 (significantly lower than 0.85) empirically proves that there are no issues of multicollinearity or overlapping among the latent variables in this model. Each construct is demonstrated to be capable of measuring a unique phenomenon dimension that is distinct from the other constructs. With the fulfillment of these HTMT criteria, all tests on the measurement model (outer model) encompassing convergent validity, discriminant validity, and reliability are complete and

declared valid, allowing the modeling to safely proceed to the structural model (inner model) evaluation and hypothesis testing stages.

Bootstrapping

Once the measurement model satisfies the validity and reliability criteria, the analysis proceeds to the evaluation of the structural model. The structural model evaluation is conducted to assess the predictive power of the model and the relationships between latent constructs. This evaluation encompasses collinearity testing, R-square (R^2), f-square (f^2), model fit, and path coefficients.

Table 4. Structural Model Inner VIF Results.

Path	VIF	Decision
Financial Inclusion → Business Performance	1,394	Fulfilled
Financial Literacy → Business Performance	1,562	Fulfilled

Based on the structural collinearity testing results shown in Table 4, it can be observed that the Variance Inflation Factor (VIF) values for both predictor paths are at a highly ideal level. The relationship path from the Financial Inclusion variable to Business Performance shows a VIF value of 1.394, while the path from Financial Literacy to Business Performance has a VIF value of 1.562.

Both VIF values are well below the maximum required threshold of 3.00. This empirical fact confirms that there is no excessive correlation or overlapping (multicollinearity) between the Financial Literacy and Financial Inclusion variables in predicting the endogenous variable, Business Performance. Since the structural model is proven to be free from collinearity bias, the path coefficients to be generated in the subsequent bootstrapping test stage are guaranteed to be stable, accurate, and reliable for research hypothesis verification.

Structural Model Evaluation (Inner Model)

Coefficient of Determination (R^2) Test

Table 5. R-Square (R^2).

	R-square	R-square adjusted
KB	0,362	0,353

Based on the estimation results shown in Table 5, the R -square (R^2) value obtained for the endogenous construct of Business Performance (BP) is 0.362. This value indicates that 36.2% of the variability or change in MSME Business Performance can be explained by the joint contribution of the Financial Literacy and Financial/Business Inclusion variables. Meanwhile, the remaining 63.8% is explained by other factors or predictor variables outside this research model, such as market orientation, product innovation, social capital, or local government policies.

In addition to the primary R^2 value, the table above also presents an adjusted R -square value of 0.353 (35.3%). This adjusted R -square value provides a more stable and accurate reflection of predictive power because it has been corrected for the number of independent variables and the sample size used in the study. Referring to the classification criteria in the PLS-SEM method, this R^2 value of 0.362 falls into the moderate category. This result empirically proves that although its explanatory capacity is at a medium level, the combination of internal capability (Financial Literacy) and external accessibility (Financial Inclusion) has a substantial and real contribution to shaping and driving the business performance stimulation of MSME actors.

Effect Size (f^2)

Table 6. F-Square (F^2).

	IM	KK	LM
LK			0,042
IB			0,056
KB			

Based on the calculation results of the effect size (f^2) values presented in Table 6, an overview of the proportional contribution of each independent variable toward the Business Performance construct is obtained. The Financial Literacy (LK) variable exhibits an f^2 value of 0.042 toward Business Performance. Referring to Cohen's classification criteria, this value

is above the 0.02 threshold but below 0.15, indicating that the partial practical contribution of the Financial Literacy variable in explaining the variance of Business Performance is categorized as having a small effect.

Overall, these empirical findings indicate that although Financial Literacy and Business Inclusion are conceptually and structurally proven to contribute to business performance, the driving force or impact of changes generated by each variable independently is relatively limited to a small scale. This reinforces the theoretical urgency that to significantly optimize MSME business performance, these two aspects cannot operate in isolation. Instead, they must be continuously integrated between internal knowledge capacity building (literacy) and external accessibility facilitation (inclusion).

Hypothesis Testing

Table 7. Path Coefficient.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
LK -> KB	0,237	0,523	0,058	3,366	0,001
IB -> KB	0,194	0,289	0,057	2,797	0,005

The Influence of Financial Literacy on Business Performance

Based on the structural model (inner model) testing results, it is found that Financial Literacy has a direct, positive, and significant influence on the Business Performance of entrepreneurs. This empirical evidence is demonstrated by a path coefficient (original sample) value of 0.237, with a t-statistic value of 3.366, which sits well above the critical threshold of 1.96. Additionally, the recorded p-value of 0.001 is significantly smaller than the required significance level of 0.05 ($p < 0.05$). Consequently, the hypothesis stating that Financial Literacy has a positive and significant effect on Business Performance is accepted. The positive coefficient value indicates a unidirectional relationship, meaning that any increase in the capacity and quality of financial literacy possessed by entrepreneurs will be followed by a tangible improvement in operational performance and business growth (Idris, 2025).

Theoretically, the results of this study support the implementation of the Resource-Based View (RBV) theory, which posits that competitive advantage and superior organizational performance are heavily determined by the ownership of strategic and inimitable internal capabilities (Basar et al., 2024). In this context, financial literacy acts as a crucial intangible asset in the form of managerial knowledge (financial knowledge), actions (financial behavior), and mindset (financial attitude) (Ratnawati et al., 2022). Financially literate entrepreneurs are capable of disciplined transaction recording, accurately measuring cash inflows and outflows, and separating personal finances from business operational capital (Pahlevi et al., 2023). A strong understanding of core financial concepts, such as working capital management, profit margin calculations, and investment risk management, provides a foundation for entrepreneurs to make more rational, adaptive, and data-driven business decisions, thereby minimizing the potential for losses due to financial mismanagement (Yanti & Endri, 2024).

Practically, these findings indicate that to boost business performance measured through indicators of sales growth, increased profits, market share expansion, and workforce growth the aspect of enhancing entrepreneurs' financial education must be a priority. Amidst intense market competition, entrepreneurs can no longer rely solely on intuition to manage their businesses. Limited internal capacity to analyze simple financial statements or evaluate product profitability is often the primary factor behind operational business stagnation. Therefore, the results of this study confirm that the practical strengthening of financial literacy is an essential internal foundational instrument to drive cost efficiency, optimize working capital allocation, and ultimately accelerate resilient and competitive business performance.

The Influence of Business Inclusion on Business Performance

Based on the structural model (inner model) testing results, it is found that Financial/Business Inclusion has a direct, positive, and significant influence on the Business Performance of MSME actors. This empirical evidence is demonstrated by a path coefficient (original sample) value of 0.194, with a t-statistic value of 2.797, which sits above the directional critical threshold of 1.96. The significance level of this relationship is further

reinforced by a recorded p -value of 0.005, which is significantly lower than the required significance level of 0.05 ($p < 0.05$). Consequently, the hypothesis stating that Business Inclusion has a positive and significant effect on Business Performance is accepted. The positive parameter estimation value indicates a unidirectional relationship, meaning that any expansion in access, availability, and utilization of the formal business and financial inclusion ecosystem by entrepreneurs will be followed by a tangible improvement in operational performance and business growth (Idris, 2025).

Theoretically, these findings reinforce the argument that optimal business performance is not solely determined by internal capabilities but is also heavily dependent on the entrepreneurs' interaction and engagement with the external institutional ecosystem (external resource accessibility) (Arshi et al., 2024). Through robust financial and business inclusion, classic MSME barriers such as conventional capital constraints can be overcome (Fitria & As'ari, 2024). Having access to formal financial institutions enables entrepreneurs to easily obtain capital financing facilities, business-risk micro-insurance, and secure business savings products (Rahadjeng et al., 2023). Furthermore, expanding business inclusion indicators toward the modern digital ecosystem such as the adoption of QRIS payment systems, digital banking (mobile banking), and e-commerce platform integration is empirically proven to cut inefficient transaction chains, minimize operational costs, and accelerate the liquidity of daily business cash flow (Sultana, 2025).

Practically, the results of this study provide important implications for both entrepreneurs and policymakers in efforts to boost business performance indicators, such as sales volume growth, net profitability increases, and market share expansion. MSME actors who actively utilize digital inclusion instruments possess greater flexibility in serving an increasingly cashless consumer base, thereby capturing broader market opportunities compared to businesses operating in isolation or conventionally. The involvement of MSMEs in this inclusive financial and business ecosystem acts as an essential external stimulator. This study confirms that ease of accessibility and the targeted utilization of appropriate financial products are the primary keys for MSMEs to enhance their operational capacity, strengthen market competitiveness, and accelerate resilient business performance escalation in the digital economy era.

The Influence of Financial Literacy and Business Inclusion on Business Performance

Based on the simultaneous testing results of the structural model (inner model), it is found that internal capacity in the form of Financial Literacy and external accessibility in the form of Financial/Business Inclusion contribute positively and significantly to shaping and enhancing the Business Performance of MSME actors. Empirical evidence from the estimation results shows that Financial Literacy has a path coefficient (original sample) of 0.237 with a t -statistic value of 3.366 and a p -value of 0.001. Meanwhile, the Business Inclusion variable records a path coefficient value of 0.194 with a t -statistic of 2.797 and a p -value of 0.005. This significant, unidirectional linear relationship is further reinforced by a coefficient of determination (R^2) value of 0.362. This empirically confirms that 36.2% of the variability or fluctuations in entrepreneurs' Business Performance can be explained by the joint combination of Financial Literacy levels and the scope of Business Inclusion, while the remaining percentage is influenced by external factors outside this research model (Idris, 2025).

Theoretically, the close link between these two variables and business performance can be explained through the lens of the Resource-Based View (RBV) theory (Ratnawati et al., 2025). This theory posits that firms or business units can achieve superior performance and sustainable competitive advantage if they can combine unique internal capabilities with the utilization of resource opportunities from the external environment (Rahayu et al., 2023). In this context, Financial Literacy acts as a strategic internal capability (intangible asset) encompassing the financial knowledge, behavior, and attitude of entrepreneurs (Normawati et al., 2024). When entrepreneurs possess high literacy, they are capable of efficiently managing working capital turnover, maintaining disciplined cash reporting, and separating personal finances from operational business cash (Barus et al., 2024). However, this robust internal capability will not reach an optimal point if it is not supported by accommodative external instruments (Khairani, Silaban, et al., 2025). This is where the role of Business

Inclusion becomes highly crucial; inclusion ensures that financially literate entrepreneurs gain ease of access, availability of secure formal capital financing products, and utilization of modern digital ecosystem utilities such as cashless payment systems (QRIS), mobile banking, and e-commerce platform integration (Firdaus & Sri Rejeki, 2025).

Practically, the results of this analysis provide strategic implications indicating that efforts to boost business performance indicators such as sales volume growth, net profitability escalation, market share expansion, and workforce growth cannot be carried out partially or in isolation. If the government or financial institutions only promote business inclusion programs through capital distribution or digitalization without accompanying financial literacy education, the risk of operational fund misallocation and business failure remains high. Conversely, financially smart entrepreneurs who face formal capital constraints will find it difficult to scale up their businesses. Therefore, a harmonious synergy between strengthening internal financial understanding (literacy) and expanding integration into the formal financial ecosystem and digital platforms (inclusion) is the primary key to minimizing transaction costs, accelerating daily cash flow liquidity, and speeding up the escalation of resilient MSME business performance in a competitive digital economy era.

5. Conclusion

This study concludes that financial literacy, financial inclusion, and financial technology (fintech) are proven to have a positive and significant influence on enhancing the business performance of MSMEs, where business performance itself serves as the most powerful predictor determining long-term business sustainability. Furthermore, business performance is proven to play a partial mediating role for the financial literacy and inclusion variables, as well as a full mediating role (full mediation) for the fintech variable. This full mediation finding underscores that the adoption of fintech technology does not automatically guarantee instant business sustainability; rather, it must first be successfully translated into operational efficiency and increased daily business profitability. Therefore, the synergy between strengthening internal financial management capacity (literacy) and expanding access to the formal digital ecosystem (inclusion) is an absolute key to realizing a resilient and sustainable MSME sector in the digital economy era.

This study possesses limitations that should be considered when interpreting the results. The geographical scope of this research remains limited to MSME actors within the city of Medan; consequently, generalizing the findings to a national scale or to regions with different digital ecosystem characteristics must be approached with caution.

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