

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMEs WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKESEUMAWE CITY

Muhammad Multazam^{1*}, Rico Nur Ilham², Frengki Putra Ramansyah³

¹Universitas Bumi Persada, Indonesia

²Universitas Malikussaleh, Indonesia

³Universitas Battuta, Indonesia

E-mail: muhammadmultazam@unbp.ac.id, riconurilham@unimal.ac.id, frengkiputraramansyah@battuta.ac.id.

Received: 15/06/2026 | Revised : 20/06/2026 | Accepted: 10/07/2026 | Published :03/08/2026

Abstract

This study aims to analyze the influence of financial literacy, financial planning, and financial control on the financial performance of micro, small, and medium enterprises in Lhokseumawe City and examine the moderating role of digital financial technology adoption. To demonstrate the reporting format of this article before primary data is available, this document uses 364 synthetic observations and analyzes them through partial least squares structural equation modeling. Simulation results indicate that financial literacy ($\beta = 0.214$), financial planning ($\beta = 0.267$), financial control ($\beta = 0.318$), and digital financial technology adoption ($\beta = 0.228$) have a positive effect on financial performance. The interaction of technology with literacy ($\beta = 0.083$), planning ($\beta = 0.112$), and control ($\beta = 0.146$) also shows a reinforcing effect. The simulation model explains 67.3 percent of the variation in financial performance. This figure serves only as a methodological illustration and does not represent empirical findings for MSMEs in Lhokseumawe City.

Keywords: adoption of digital financial technology; financial performance; financial literacy; financial control; financial planning

INTRODUCTION

Micro, small, and medium enterprises (MSMEs) play a strategic role in the regional economic structure because they absorb labor, drive local trade, and maintain the circulation of community income. The Lhokseumawe City Government recorded 6,848 MSME units in 2024 operating in the trade, industry, agriculture, fisheries, transportation, livestock, and service sectors. This large business base places the quality of financial management as a regional development issue, as an increase in the number of businesses does not automatically result in adequate profit growth, cash flow, and business resilience (Lhokseumawe City Government, 2024). Therefore, research on the determinants of MSME financial performance requires assessing the internal capabilities of business actors as well as changes in the digital financial environment.

Financial literacy shapes the capacity of MSME owners to understand capital costs, risks, cash flow, credit, investments, and financial reporting information. The 2024 National Survey on Financial Literacy and Inclusion recorded a national financial literacy index of 65.43 percent and a financial inclusion index of 75.02 percent, creating a gap between access to financial services and the public's ability to use them appropriately (Financial Services Authority & Central Statistics Agency, 2024). This gap has direct consequences for MSMEs, as access to payments, credit, or savings does not guarantee productive decisions if business owners are unable to assess costs, benefits, and risks. Therefore, financial literacy needs to be positioned as a decision-making capability that can influence the quality of a business's financial results.

Financial planning translates business objectives into sales projections, cost budgets, working capital requirements, investment plans, and liquidity reserves. MSMEs that develop financial targets and scenarios gain a basis for allocating resources, selecting priorities, and anticipating cash flow pressures. Ruscitasari et al. (2022)

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMEs WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKSEUMAWE CITY

Muhammad Multazam et al

demonstrated that financial literacy practices are associated with improved financial planning and control among MSME owners, while Otoo (2024) found that working capital management and capital budgeting practices significantly contribute to the organizational performance of small and medium enterprises. This evidence confirms that financial planning serves not only as an administrative document but also as a coordination mechanism for achieving financial goals. Financial controls ensure that transaction realization remains aligned with established plans and risk limits. MSME owners implement controls through the separation of personal and business funds, transaction recording, budget discrepancies, receivables monitoring, inventory control, cash reconciliation, and periodic report evaluation. The absence of controls can lead to increased sales accompanied by cost overruns, bad debts, excess inventory, and cash shortages. Therefore, financial controls have the potential to explain performance differences between MSMEs with similar revenues but different financial disciplines.

The digital financial transformation creates new mechanisms that can either enhance or limit the benefits of financial literacy, planning, and control. Payment technologies, mobile banking, e-wallets, QRIS (Quick Response Recognition System), app-based recording, digital financing, and sales dashboards provide faster and more traceable transaction data. Bank Indonesia reported that QRIS reached 39.3 million merchants in the first half of 2025, with 93.16 percent of these being MSMEs, demonstrating that digital payment technology has penetrated business activities on a broad scale (Bank Indonesia, 2025). However, the benefits of technology do not emerge automatically, as business owners must still integrate digital data into budgeting decisions, cash flow, and cost monitoring.

Previous research has produced inconsistent findings regarding the relationship between financial capability, digital adoption, and MSME performance. Culebro-Martinez et al. (2024) found a significant relationship between financial literacy dimensions and firm performance, while Affandi et al. (2024) showed a positive correlation between digital adoption and the performance of ultra-micro, micro, and small businesses in Indonesia. Sholihah et al. (2023) also found that financial literacy and the adoption of digital financial services determine the financial performance of MSMEs. However, Nugraheni et al. (2025) found that digital payments do not always affect performance, although financial literacy and business automation have a positive effect. This inconsistency suggests that digital technology may act as a reinforcing factor that determines how effectively financial capabilities generate performance.

This research offers novelty by separating financial literacy, financial planning, and financial control into three distinct capabilities and positioning digital financial technology adoption as a moderating variable. Some studies combine planning and control into a single construct or position technology adoption as either an independent or mediating variable. Separating these constructs allows research to assess whether digital technology strengthens financial knowledge, improves planning accuracy, or tightens transaction controls at varying intensities. The context of Lhokseumawe City also contributes spatially, as the regional economic characteristics and Islamic financial ecosystem can produce distinct relationship patterns from metropolitan areas.

This study aims to examine the influence of financial literacy, financial planning, and financial control on the financial performance of MSMEs, examine the direct influence of digital financial technology adoption, and analyze the moderating effect of these technologies on each key relationship. The results are expected to broaden the application of the resource-based view by demonstrating that digital technology functions as a complementary capability that changes the economic value of knowledge resources and financial routines. Practically, the research findings can help local governments, financial institutions, and MSMEs design interventions that integrate financial training with the use of transaction- and data-based technology.

LITERATURE REVIEW

Resource Based View and Complementary Capabilities

The resource-based view explains that companies achieve superior performance when they possess and manage valuable, non-substitutable, and effectively organized resources. In the context of MSMEs, financial literacy represents knowledge capital, while financial planning and control represent organizational routines that direct the use of working capital and transaction information. Sholihah et al. (2023) use the resource-based view framework to explain that literacy and adoption of digital financial services are resources that support MSME performance. This framework is relevant because the small size of a business means that the quality of the owner's decisions significantly determines the utilization of all company resources.

The adoption of digital financial technology serves as a complementary capability because technology enhances the value of MSMEs' existing financial resources. Payment and record-keeping applications generate rapid data, but literacy determines the owner's ability to interpret that data. Digital systems can also update projections and reports, but planning determines the targets to be achieved and control determines corrective actions. Affandi et al. (2024)

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMEs WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKSEUMAWE CITY

Muhammad Multazam et al

showed that the depth of digital adoption in business processes is related to improved performance and financial literacy, so the relationship between technology and managerial capabilities is mutually reinforcing. Thus, the moderating effect provides a more precise explanation than the assumption that technology always directly impacts performance.

Financial Literacy and Financial Performance of MSMEs

Financial literacy encompasses knowledge, skills, attitudes, and behaviors that help business owners make rational financial decisions. MSMEs who understand interest rates, inflation, risk, financing, and financial statements can assess the consequences of decisions before using funds. Culebro-Martínez et al. (2024) measured literacy through knowledge, behavior, and attitudes and linked them to cash flow, sales, debt, profit, and financial distress. These findings support the argument that literacy improves the quality of funding, investment, and working capital management decisions.

Financial literacy is expected to improve performance because it reduces misallocation and encourages disciplined behavior. Business owners who understand cost structures will set prices more accurately, while owners who understand risks will avoid financing that is out of balance with cash flow capabilities. Knowledge of financial statements also helps evaluate margins and business weaknesses. Based on these mechanisms, the study formulated H1: financial literacy has a positive effect on the financial performance of MSMEs.

Financial Planning and Financial Performance of MSMEs

Financial planning guides pre-transaction decisions through target setting, budgeting, cash forecasting, capital planning, and emergency fund provision. This process links business strategy with resource needs, allowing owners to avoid impulsive spending and liquidity shortages. Ruscitasari et al. (2022) demonstrated that financial capability supports planning and control practices in MSME management. Otoo (2024) also emphasized that working capital management and capital budgeting influence the performance of small and medium enterprises.

Planning improves performance through three main channels: resource allocation, risk anticipation, and achievement measurement. Budgets provide cost limits, cash projections identify funding needs, and sales targets provide evaluation standards. Planning also helps MSMEs assess investment feasibility and manage the timing of payment obligations. Based on these mechanisms, the study formulated H2: financial planning has a positive effect on MSME financial performance.

Financial Control and Financial Performance of MSMEs

Financial control includes procedures for monitoring, comparing, verifying, and correcting transactions and a business's financial position. Effective control requires complete record-keeping, account segregation, cash audits, accounts receivable monitoring, inventory valuation, and evaluation of budgeted-actual variances. These practices produce reliable information while minimizing asset loss and unproductive use of funds. Otoo (2024) points out that structured financial management practices provide the foundation for the sustainability and competitiveness of small businesses. Control improves performance because business owners can detect deviations early and implement corrective actions. Accounts receivable monitoring accelerates cash receipts, inventory control lowers holding costs, and transaction reconciliation reduces errors and fraud. Regular evaluations also help owners close unprofitable activities and redirect funds to activities that generate better margins. Based on these mechanisms, the study formulated H3: financial control has a positive effect on the financial performance of MSMEs.

Adoption of Digital Financial Technology and the Moderating Effect

The adoption of digital financial technology indicates the level of use and integration of technology-based payment, banking, record-keeping, financing, and financial analysis services into business processes. Affandi et al. (2024) developed a digital adoption index that assesses technology use across several business processes and found a positive relationship with business performance. Verma and Das (2025) also demonstrated that digital financial variables are associated with MSME sales growth. Therefore, the study formulated H4: the adoption of digital financial technology has a positive effect on MSME financial performance.

Digital technology is expected to strengthen the influence of financial literacy because digital systems expand access to information, provide transaction history, and accelerate decision-making simulations. Highly literate owners can utilize this data to compare costs, choose financing, and manage risks more precisely. Mohapatra et al. (2025) identified literacy as a critical component in the adoption of financial technology by micro and small

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMEs WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKSEUMAWE CITY

Muhammad Multazam et al

businesses. Based on this mechanism, the study formulated H5: the adoption of digital financial technology strengthens the influence of financial literacy on the financial performance of MSMEs.

Digital technology is expected to strengthen the influence of financial planning because applications can integrate sales, cost, cash, and liability schedule data into more up-to-date projections. Planning that previously relied on the owner's memory can transform into a data-driven process when MSMEs use digital record-keeping and transaction dashboards. Nugraheni et al. (2025) showed that business automation improves performance through process efficiency, thereby technology can improve the quality of plan implementation. Based on this mechanism, the study formulated H6: the adoption of digital financial technology strengthens the influence of financial planning on MSME financial performance.

Digital technology is expected to strengthen the influence of financial control because the system produces transaction trails, notifications, reconciliations, and reports that facilitate monitoring. Control benefits are greater when MSMEs consistently use digital payments, business accounts, and record-keeping applications. Tandilino et al. (2025) explain that the digital financial ecosystem improves efficiency, transactions, and access to financing, which supports MSME performance. Based on this mechanism, the study formulated H7: the adoption of digital financial technology strengthens the influence of financial control on MSME financial performance.

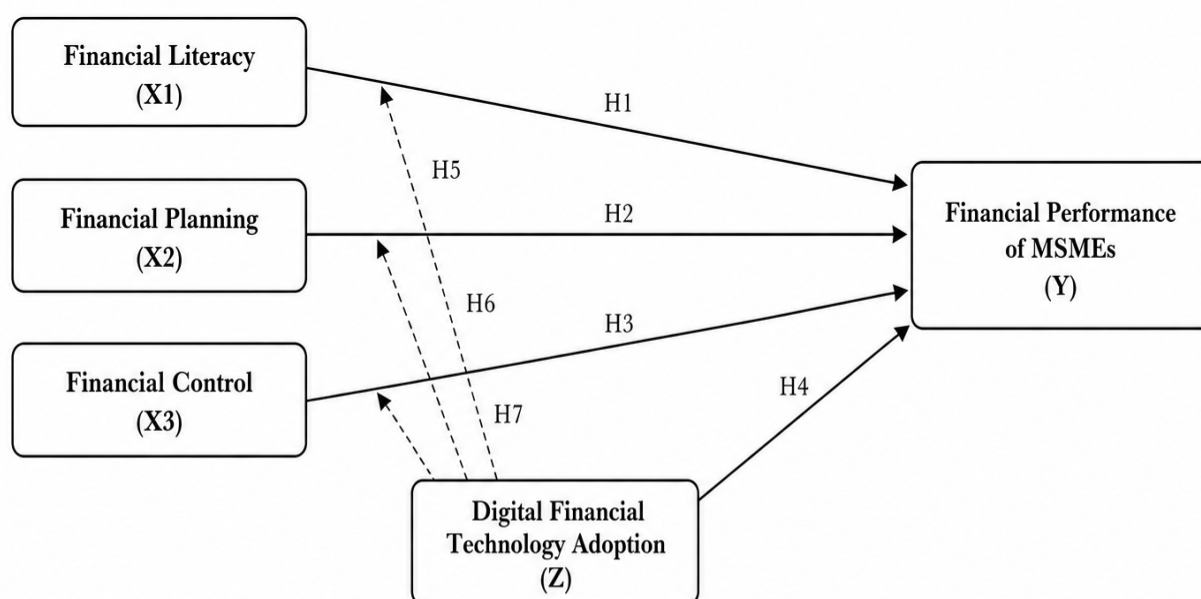


Figure 1. Conceptual framework of the research

Table 1. Formulation of research hypotheses

Code	Hypothesis
H1	Financial literacy has a positive effect on the financial performance of MSMEs.
H2	Financial planning has a positive impact on the financial performance of MSMEs.
H3	Financial control has a positive impact on the financial performance of MSMEs.
H4	The adoption of digital financial technology has a positive impact on the financial performance of MSMEs.
H5	The adoption of digital financial technology strengthens the influence of financial literacy on the financial performance of MSMEs.
H6	The adoption of digital financial technology strengthens the influence of financial planning on the financial performance of MSMEs.
H7	The adoption of digital financial technology strengthens the influence of financial control on the financial performance of MSMEs.

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMEs WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKSEUMAWE CITY

Muhammad Multazam et al

METHOD

This paper maintains a quantitative explanatory design with a cross-sectional approach. However, because primary data were not yet available, the authors used 364 synthetic observations to demonstrate the analysis procedures and reporting format of PLS-SEM. The authors do not present the simulation figures as empirical evidence, but rather as technical examples that should be replaced after the fieldwork is completed. The simulation scenario followed a population of 6,848 MSMEs registered by the Lhokseumawe City Government in 2024. The scenario determined that 405 questionnaires were distributed, 378 questionnaires were returned, and 364 responses met the analysis criteria. This composition resulted in a valid response rate of 89.9 percent and met the minimum size based on the Cochran formula with a finite population correction.

The scenario divides observations proportionally by business sector and age to ensure the data distribution resembles the general characteristics of regional MSMEs. Analysis criteria include owners or managers making financial decisions, businesses having been operating for at least one year, and varying levels of digital financial technology adoption from low to high. This structure allows the simulation model to test both direct and interaction effects. The simulation instrument uses a five-point Likert scale, ranging from 1 for strongly disagree to 5 for strongly agree. The model operationalizes financial literacy, financial planning, financial control, digital financial technology adoption, and financial performance through five indicators for each construct. The authors constructed synthetic correlation patterns to ensure all constructs met basic validity and reliability criteria without claiming that the patterns were derived from actual respondents.

The model measures financial performance comparatively through sales growth, profit growth, cash flow adequacy, productive asset growth, and the ability to meet obligations. The scenario positions performance as an endogenous construct and uses three financial capabilities and technology adoption as predictors. The model also forms three interacting constructs to test the moderating role of digital financial technology. The simulation analysis follows the partial least squares structural equation modeling procedure in SmartPLS version 4. The analysis stages include measurement model evaluation, structural model evaluation, path coefficient testing, and moderation testing using a two-stage approach. The authors used 10,000 bootstrap subsamples and a 5 percent significance level to generate consistent inference format examples.

The measurement model evaluation assessed outer loading, average variance extracted, composite reliability, rho_A, Cronbach's alpha, and heterotrait-monotrait ratio. The scenario maintained outer loading above 0.70, AVE above 0.50, reliability above 0.70, and HTMT below 0.90. The structural model evaluation assessed variance inflation factor, R square, Q square, f square, path coefficient, t-statistic, and p-value. Moderation analysis assesses the significance of the interaction coefficient and compares the slope of the relationship at low, medium, and high levels of technology adoption. The scenario establishes a positive interaction coefficient so that the reporting example demonstrates a reinforcing pattern. Researchers must replace all figures, hypothetical conclusions, and interpretations after obtaining the actual analysis output.

Table 2. Operationalization of research variables

Variables	Key indicators	Adaptation sources
Financial literacy (X1)	Understanding of basic financial concepts; interest and financing costs; inflation and the time value of money; risk and diversification; ability to read financial information.	Culebro-Martínez et al. (2024); Sholihah et al. (2023)
Financial planning (X2)	Setting financial targets; budgeting; cash flow projections; capital requirements planning; reserve funds and risk scenarios.	Ruscitasari et al. (2022); Otoo (2024)
Financial control (X3)	Separation of business and personal funds; recording transactions; evaluating budgets and realization; monitoring receivables and inventory; checking periodic reports.	Ruscitasari et al. (2022); Otoo (2024)
Adoption of digital financial technology (Z)	Use of digital payments; mobile banking; digital financial record-keeping; digital financing or savings; integration, frequency, ease, and security of use.	Affandi et al. (2024); Mohapatra et al. (2025); Sholihah et al. (2023)

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMEs WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKSEUMAWE CITY

Muhammad Multazam et al

Variables	Key indicators	Adaptation sources
Financial performance of MSMEs (Y)	Sales growth; profit growth; cash flow adequacy; productive asset growth; ability to meet obligations.	Culebro-Martínez et al. (2024); Otoo (2024); Verma & Das (2025)

RESULTS AND DISCUSSION

Simulation Data Usage Notes

This section presents synthetic results to demonstrate the final form of the PLS-SEM model report. The authors construct figures consistent with common statistical criteria, but they are not derived from questionnaires, interviews, or MSME observations. Therefore, readers should treat all results as technical illustrations and replace them with empirical results before publication.

Characteristics of Synthetic Observation

The analysis scenario used 364 valid observations from 405 questionnaires, assumed to be evenly distributed. The sector composition places trade as the largest group, while the technology adoption rate is mostly in the medium category. This distribution provides sufficient variation to demonstrate direct and moderation effects.

Table 3. Characteristics of synthetic observations

Characteristics	Category	n	Percentage
Questionnaire status	Distributed	405	100.0%
Questionnaire status	Return	378	93.3%
Questionnaire status	Valid for analysis	364	89.9%
Business sector	Trading	156	42.9%
Business sector	Service	82	22.5%
Business sector	Industry	54	14.8%
Business sector	Fishery	31	8.5%
Business sector	Agriculture and animal husbandry	24	6.6%
Business sector	Transportation	17	4.7%
Business age	1 to 3 years	118	32.4%
Business age	4 to 6 years	127	34.9%
Business age	7 to 10 years	77	21.2%
Business age	More than 10 years	42	11.5%
Technology adoption	Low	83	22.8%
Technology adoption	Currently	174	47.8%
Technology adoption	Tall	107	29.4%

Evaluation of Measurement Model

The synthetic measurement model met convergent validity and internal reliability. The outer loading range of all constructs was between 0.722 and 0.891, while the AVE values were between 0.627 and 0.681. All Cronbach's alpha, rho_A, and composite reliability values exceeded 0.70, indicating that the indicators consistently represented the constructs being measured.

Table 4. Results of the measurement model evaluation simulation

Construct	Loading range	Cronbach's alpha	rho_A	CR	AVE
Financial literacy (X1)	0.731 to 0.859	0.850	0.855	0.893	0.627
Financial planning (X2)	0.748 to 0.882	0.868	0.872	0.905	0.657
Financial control (X3)	0.722 to 0.864	0.854	0.861	0.897	0.636
Adoption of digital financial technology (Z)	0.738 to 0.891	0.879	0.883	0.912	0.675
Financial performance of MSMEs (Y)	0.761 to 0.887	0.881	0.885	0.914	0.681

The model also meets discriminant validity, as the highest HTMT value reached 0.812, below the 0.90 threshold. The variance inflation factor values ranged between 1.284 and 2.746, indicating no multicollinearity that could interfere with the estimation. These results confirm that the synthetic scenario provides a suitable measurement model for demonstrating the structural testing phase.

Structural Model Evaluation and Hypothesis Testing

The synthetic structural model yielded an R-squared value of 0.673 and an adjusted R-squared value of 0.666 for financial performance. Thus, financial literacy, financial planning, financial control, technology adoption, and the three interactions explained 67.3 percent of the variation in performance. A Q-squared value of 0.489 indicated strong predictive relevance, while a SRMR value of 0.064 indicated adequate model fit for illustrative purposes.

Table 5. Results of structural model testing simulation

Hypothesis	Track	Coefficient	t-statistic	p-value	f square	Decision
H1	X1 against Y	0.214	4,118	<0.001	0.071	Accepted
H2	X2 against Y	0.267	5,126	<0.001	0.109	Accepted
H3	X3 against Y	0.318	6,284	<0.001	0.162	Accepted
H4	Z against Y	0.228	4,596	<0.001	0.086	Accepted
H5	X1 × Z against Y	0.083	2,041	0.041	0.025	Accepted
H6	X2 × Z against Y	0.112	2,731	0.006	0.033	Accepted
H7	X3 × Z against Y	0.146	3,487	0.001	0.046	Accepted

Discussion of Direct Influence

Simulation results place financial control as the strongest direct predictor of financial performance, with a coefficient of 0.318. This pattern suggests that transaction recording, cash reconciliation, accounts receivable monitoring, and budget evaluation can yield faster benefits than knowledge that has not yet been applied. This interpretation aligns with Otoo's (2024) argument that structured financial management practices support the sustainability of small businesses.

Financial planning yielded a coefficient of 0.267 and demonstrated the second-largest contribution. Sales targets, cost budgets, and cash flow projections provide business owners with a basis for allocating resources and anticipating liquidity pressures. This simulation pattern reinforces the mechanism proposed by Ruscitasari et al. (2022), namely that financial capability gains economic value when business actors translate it into consistent planning and control.

Financial literacy yields a coefficient of 0.214, while digital financial technology adoption yields a coefficient of 0.228. Both influences indicate that financial literacy and technology use can improve financing decisions, transaction monitoring, and speed of information access. These illustrative results align with those of Culebro-

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMEs WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKSEUMAWE CITY

Muhammad Multazam et al

Martínez et al. (2024), Sholihah et al. (2023), and Affandi et al. (2024), but field research remains to be conducted to test whether a similar relationship exists in MSMEs in Lhokseumawe City.

Discussion of Moderation Effects

All three interaction coefficients are positive, indicating that the scenario supports technology's role as a complementary capability. The interaction between control and technology yields the largest coefficient, at 0.146, followed by the interaction between planning at 0.112 and the interaction between literacy at 0.083. This pattern indicates that technology provides the greatest value when businesses use it to build transaction records, reconciliations, and systematic oversight.

Table 6. Simple slope simulation on technology adoption level

Connection	Low adoption	Medium adoption	High adoption	Moderation pattern
Financial literacy on performance	0.151	0.214	0.277	Strengthening
Financial planning for performance	0.182	0.267	0.352	Strengthening
Financial control over performance	0.207	0.318	0.429	Strengthening

The simple slope shows that the relationship between each financial capability and performance increases as the technology adoption rate moves from low to high. The largest increase occurred in financial control, from 0.207 to 0.429. Therefore, the simulation scenario directs recommendations toward integrating digital payments, business accounts, record-keeping applications, and periodic evaluations, rather than solely using technology as a transactional tool.

Limitations of Simulation Results

These results have fundamental limitations because the authors did not obtain figures from real respondents. Synthetic data cannot reflect the true distribution of behavior, sector conditions, sub-district variations, or digital barriers. Therefore, researchers must replace all results tables, abstracts, discussions, and conclusions after completing data collection and running the SmartPLS analysis.

CONCLUSION

Simulation results show that financial literacy, financial planning, financial control, and the adoption of digital financial technology have a positive influence on the financial performance of MSMEs. Financial control yields the largest direct coefficient, while the interaction between control and technology produces the strongest moderating effect. The synthetic model explains 67.3 percent of the variation in financial performance and demonstrates strong predictive relevance.

Simulation interpretation confirms that digital financial technology can enhance managerial capabilities when MSMEs integrate transaction data into budgeting, cash flow monitoring, and corrective action. Local governments and financial institutions can use this model as a preliminary design for training programs that connect financial literacy, planning, control, and the use of financial applications.

However, all figures in this document serve only as methodological illustrations. Researchers should not cite these coefficients, significance values, hypothesis decisions, and conclusions as field findings. The final article must use actual data from Lhokseumawe City's MSMEs to ensure scientific validity and accountability.

REFERENCES

- Affandi, Y., Ridhwan, M. M., Trinugroho, I., & Hermawan Adiwibowo, D. (2024). Digital adoption, business performance, and financial literacy in ultra-micro, micro, and small enterprises in Indonesia. *Research in International Business and Finance*, 70, 102376. <https://doi.org/10.1016/j.ribaf.2024.102376>
- Bank Indonesia. (2025). QRIS Jelajah Indonesia 2025 dorong digitalisasi dengan wisata budaya. Bank Indonesia.
- Culebro-Martínez, R., Moreno-García, E., & Hernández-Mejía, S. (2024). Financial literacy of entrepreneurs and companies' performance. *Journal of Risk and Financial Management*, 17(2), 63. <https://doi.org/10.3390/jrfm17020063>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage.

THE EFFECT OF FINANCIAL LITERACY, FINANCIAL PLANNING, AND FINANCIAL CONTROL ON THE FINANCIAL PERFORMANCE OF MSMES WITH THE ADOPTION OF DIGITAL FINANCIAL TECHNOLOGY AS A MODERATING VARIABLE IN LHOKSEUMAWE CITY

Muhammad Multazam et al

- Mohapatra, N., Das, M., Shekhar, S., Singh, R., Khan, S., Tewari, L. M., Félix, M. J., & Santos, G. (2025). Assessing the role of financial literacy in FinTech adoption by MSEs: Ensuring sustainability through a fuzzy AHP approach. *Sustainability*, 17(10), 4340. <https://doi.org/10.3390/su17104340>
- Nugraheni, P., Darma, E. S., & Muhammad, R. (2025). Adoption of digital technology and financial knowledge: Strategies for achieving sustainable performance of MSMEs. *Journal of Risk and Financial Management*, 18(11), 646. <https://doi.org/10.3390/jrfm18110646>
- Otoritas Jasa Keuangan, & Badan Pusat Statistik. (2024). *Survei Nasional Literasi dan Inklusi Keuangan 2024*. Otoritas Jasa Keuangan.
- Otoo, F. N. K. (2024). Assessing the influence of financial management practices on organizational performance of small- and medium-scale enterprises. *Vilakshan: The XIMB Journal of Management*, 21(2), 162–188. <https://doi.org/10.1108/XJM-09-2023-0192>
- Pemerintah Kota Lhokseumawe. (2024). Pj Walikota Lhokseumawe dorong anak muda menjadi pengusaha melalui Roadshow BSI Aceh Muslimpreneur 2024. Pemerintah Kota Lhokseumawe.
- Ruscitasari, Z., Nurcahyanti, F. W., & Wibisono, D. (2022). Praktik literasi keuangan dalam pengelolaan usaha: Studi pada pemilik UMKM di Kabupaten Bantul, Yogyakarta. *Jurnal Dinamika Akuntansi dan Bisnis*, 9(1), 107–120. <https://doi.org/10.24815/jdab.v9i1.23620>
- Sholihah, E., Nurhapsari, R., & Rohmania, A. S. (2023). The role of literacy and government support in improving MSME performance through digital financial services adoption and financial inclusion. *Jurnal Keuangan dan Perbankan*, 27(3), 424–436. <https://doi.org/10.26905/jkdp.v27i3.11147>
- Tandilino, C., Pontoh, G. T., Darmawati, D., & Indrijawati, A. (2025). Digital financial inclusion as a mediator of digital financial literacy and government support in MSME performance. *International Journal of Financial Studies*, 13(4), 199. <https://doi.org/10.3390/ijfs13040199>
- Verma, A., & Das, K. C. (2025). Digital finance and MSME performance in India: Evidence from World Bank Enterprise Survey data. *Journal of Economic Studies*, 52(5), 887–903. <https://doi.org/10.1108/JES-12-2023-0744>