



The Influence of Financial Technology Adoption and Financial Adaptability on the Financial Performance of MSMEs in Central Java

Agus Sukarno*, Sri Dwi Ari Ambarwati, Agus Ristono, Hery Sutanto, Alexander Bimo Sanjaya, Geraldus Christian Ronaldo
Universitas Pembangunan Nasional "Veteran" Yogyakarta, Indonesia

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Abstract

The MSME sector plays a pivotal role in Indonesia's economic growth but faces structural constraints, including limited digital capabilities and financing barriers. While digital technology adoption is widely viewed as a solution, empirical evidence of its direct impact on financial performance remains inconsistent. Grounded in the integration of the Resource-Based View (RBV), the Technology Acceptance Model (TAM), and Dynamic Capabilities theory as the primary theoretical lenses, this study analyses the joint effects of financial technology adoption (an external resource) and strategic financial agility (an internal capability) on MSME financial performance in Central Java, Indonesia. Employing an explanatory quantitative design, primary data were gathered via structured questionnaires from 200 MSME owners and managers across six regencies in Central Java, selected through purposive sampling. PLS-SEM analysis via Smart PLS 4 demonstrates that fintech adoption ($\beta = 0.489$, $t = 10.395$, $p < 0.001$) and strategic financial agility ($\beta = 0.426$, $t = 8.673$, $p < 0.001$) exert positive and statistically significant impacts on financial performance. Jointly, both variables explain 57.9% of the variance in financial performance ($R^2 = 0.579$), indicating moderate-to-strong predictive power. This study contributes to the literature by demonstrating how aligning external digital payment adoption with internal resource flexibility fosters sustainable financial resilience for small firms in volatile emerging markets.

Keywords: *Fintech Adoption, Strategic Financial Agility, Financial Performance, Dynamic Capabilities, MSMEs.*

INTRODUCTION

The Indonesian Micro, Small, and Medium Enterprise (MSME) sector contributes approximately 65% to national GDP and employs a large share of the workforce, making it central to Indonesia's economic stability (Daud et al., 2022). Despite driving economic growth, the sector faces persistent structural barriers: underdeveloped financial governance, limited digital capabilities, and constrained access to formal bank financing (Rohaeni et al., 2026). Suboptimal digital financial literacy and low technology adoption compound these challenges, restricting business owners' ability to use digital transaction platforms for market expansion (Rohaeni et al., 2026). The disruptive potential of financial technology reaches beyond small firms: even incumbent banks in more developed financial systems face intensified competition for funding and adjust their pricing in response to fintech expansion (Cumming et al., 2026).

These constraints mirror challenges seen in other emerging economies (Abu et al., 2025). Across emerging markets, digital financial services and payment technologies have spread fast, enhancing financial inclusion, operational efficiency, and revenue for small businesses (Lontchi et al., 2023). Kurniawan et al. (2023) show that Southeast Asian MSME resilience and sustainable performance rely on technological adaptation agility and responsive financial policies. Digital adaptation and financial modernization are therefore critical for small firms to survive macroeconomic shocks and remain competitive (Ganbat et al., 2026).



At the regional level, gaps in management and technology adoption limit MSME potential (Nugraheni et al., 2024). In Central Java's Kebumen Regency, limited business experience and financial knowledge hinder the performance and long-term durability of MSME networks (Nugraheni et al., 2024). Banten Province shows a similar pattern: suboptimal digital financial literacy and low FinTech adoption compromise business budgeting, decision-making, and financial performance (Rohaeni et al., 2026). Arraya (2025) finds that MSME success depends on a combination of digital technology adoption, disciplined financial behavior, and adaptive managerial capability, more than on capital volume alone. This pattern matches broader emerging-market evidence: non-financial capabilities and institutional context shape firms' financial performance more than firm-level fundamentals alone (Shrestha et al., 2025).

We select Central Java, specifically the Klaten, Boyolali, Sukoharjo, Karanganyar, Wonogiri, and Sragen regencies, as the empirical setting because of the scale and growth momentum of the region's MSME and digital finance ecosystem. Central Java Province hosts one of the largest MSME populations in Indonesia, with about 4.2 million registered units, most run by women entrepreneurs (Dinas Koperasi dan UKM Provinsi Jawa Tengah, 2024). This sector operates within a provincial economy that grew 4.95% in 2024; the processing industry drove much of that growth, contributing 33.84% of gross regional domestic product (Badan Pusat Statistik Provinsi Jawa Tengah, 2025). Soloraya, anchored around Surakarta, is a key secondary economic hub within this ecosystem, where digital payment penetration has intensified: Bank Indonesia's regional office reported that QRIS transaction value reached IDR 5.3 trillion, growing 114.3% year-on-year, while active QRIS merchants rose 18.1% to exceed 1.1 million (Bank Indonesia Kantor Perwakilan Solo, 2026). This combination of a large MSME base and fast-growing fintech adoption makes Soloraya a strategic, timely setting for examining how financial technology adoption and financial adaptability together shape MSME financial performance.

Despite rapid research expansion, empirical findings on MSME digitalization remain inconsistent. This points to a clear research gap (Abu et al., 2025). For FinTech adoption, several studies find a positive, significant effect on performance (Daud et al., 2022), while others report diminishing marginal returns in mature ecosystems or adverse effects for peripheral firms (Pan et al., 2026). A similar divergence exists for financial literacy: Rohaeni et al. (2026) find that financial proficiency boosts profitability, whereas Nugraha et al. (2022) report an insignificant direct relationship with technology adoption. Even within the SME literature, Hidayat-ur-Rehman and Alsolamy (2023) find that fintech adoption significantly enhances firms' sustainable performance, with the strength of this relationship depending on complementary organizational capabilities such as competitiveness and transformational leadership.

These inconsistent results suggest that technological and financial capabilities have complex, context-dependent effects on MSME performance (Karim et al., 2026). While research on the FinTech-performance relationship has grown (Campanella et al., 2026; Sanga & Aziakpono, 2024), few studies examine technology adoption and financial adaptability together within Indonesian MSMEs (Nugraheni et al., 2024; Rohaeni et al., 2026). To resolve these conflicting direct-effect findings (Abu et al., 2025), we propose an integrated framework that examines how the interaction between external digital adoption and internal financial adaptability shapes MSME financial performance (Ganbat et al., 2026).

Theoretically, we extend the Resource-Based View (RBV) and Technology Acceptance Model (TAM) by embedding dynamic capabilities within digital finance ecosystems (Nugraha et al., 2022; Pan et al., 2026). Practically, our findings help policymakers design digital financial literacy initiatives alongside institutional support (Lontchi et al., 2023; Rohaeni et al., 2026). For practitioners, we emphasize dynamic reconfiguration of financial resources to sustain competitiveness and business resilience (Changalima et al., 2025; Ganbat et al., 2026). This aligns

with adjacent governance research: formal coordination mechanisms between firms can strengthen market and financial performance when they reduce transaction uncertainty and reinforce relationship-specific investments ([Castro-Lopez et al., 2026](#)).

Based on the identified research gaps and the inconsistent empirical findings in existing literature, this study addresses the following research questions:

1. Does financial technology adoption exert a positive and significant effect on the financial performance of MSMEs in Central Java?
2. Does strategic financial agility exert a positive and significant effect on the financial performance of MSMEs in Central Java?
3. How does the integration of external digital adoption and internal financial adaptability collectively drive MSME financial performance in this emerging market context?"

LITERATURE REVIEW

MSME Financial Performance

Financial performance serves as a primary indicator reflecting a firm's success in optimizing resource management to achieve competitive advantage. From the Resource-Based View (RBV) perspective, superior performance originates from controlling strategic, unique, and non-substitutable assets. In the context of small enterprises, flexibility in mobilizing capital and strengthening business management capabilities are pivotal in driving profitability. Concurrently, seamless access to formal financing plays a crucial role in enabling MSMEs to overcome operational bottlenecks while accelerating sustainable financial growth.

Financial Technology (Fintech)

Financial Technology (Fintech) represents a digital innovation that reshapes traditional financial services by offering more efficient and cost-effective transactional solutions. Utilizing digital financial services, such as mobile payments and e-wallets, enables MSME actors to accelerate business transaction turnover and enhance real-time cash flow management. Beyond broadening financial inclusion for previously unbanked enterprises, fintech adoption directly boosts operational efficiency by reducing transaction costs and automating financial processes.

Financial Adaptability (Strategic Financial Agility)

Financial adaptability represents a dynamic capability to swiftly reconfigure financial resources, mitigating macroeconomic shocks and securing corporate survival during crises ([Ganbat et al., 2026](#)).

To comprehensively analyze MSME performance in volatile environments, this study integrates three key theoretical frameworks: the Technology Acceptance Model (TAM), the Resource-Based View (RBV), and Dynamic Capabilities theory.

- a. TAM explains how MSMEs accept and adopt external innovations, such as cashless payments and digital wallets, based on perceived usefulness and ease of use.
- b. RBV asserts that superior performance is driven by possessing valuable and unique resources, identifying fintech adoption as a critical external technological asset.
- c. Dynamic Capabilities theory bridges the gap between passive resource possession and active performance. It posits that in a highly volatile market like Central Java, possessing digital technology (TAM) is insufficient if firms lack the internal capability specifically strategic financial agility to dynamically reconfigure their financial assets to capture new opportunities.

Thus, the integration occurs because external technological resources (TAM/RBV) must be combined with internal reconfigurational agility (Dynamic Capabilities) to unlock their full potential and drive sustainable financial performance. This integrative framework is highly relevant to our research case, where resource-constrained MSMEs must constantly adapt to survive macroeconomic shocks and competitive market shifts

Hypothesis

The Effect of Financial Technology on MSME Financial Performance

Leveraging financial technology enables business owners to restructure traditional business models toward greater efficiency and transparency. Empirical evidence confirms that fintech adoption significantly enhances MSME productivity through transaction cost reduction and capital access optimization (Lontchi et al., 2023). Integrating digital payment systems such as QRIS accelerates cash flow velocity while minimizing manual record-keeping errors. In Central Java, adopting alternative payment methods directly elevates sales volume and financial performance among technologically responsive entrepreneurs (Nugraheni et al., 2024). This is reinforced by structural analysis results yielding a path coefficient of 0.489 ($p < 0.001$), establishing financial technology adoption as a key driver of MSME financial performance.

H1: Financial Technology adoption has a positive and significant effect on MSME Financial Performance.

The Effect of Strategic Financial Agility on MSME Financial Performance

Strategic financial agility reflects an organization's internal capacity to flexibly reconfigure financial resources in response to dynamic market threats and opportunities. Owning this dynamic capability is vital for MSMEs to exploit emerging market niches while preserving business resilience amid economic volatility. Regionally, adaptive flexibility proves to be a primary determinant of firm profitability and asset growth. This is corroborated by empirical findings within the structural model, which indicate an effect coefficient of 0.426 ($p < 0.001$), confirming that strategic financial adaptability substantially contributes to achieving MSME financial performance targets.

H2: Strategic Financial Agility has a positive and significant effect on MSME Financial Performance.

RESEARCH METHODOLOGY

Research Design and Data Collection

This study employs an explanatory quantitative approach to analyze the causal relationships among financial technology adoption, strategic financial agility, and MSME financial performance in Central Java. Primary data were gathered using a structured questionnaire that measured respondents' perceptions on a five-point Likert scale, ranging from "strongly disagree" to "strongly agree." Sampling was executed via a purposive sampling technique based on specific inclusion criteria, namely MSME owners or managers who have integrated digital financial services into their business operations and have operated their business for at least two years.

Table 1. Respondents' Demographic Profile

		Amount	Percentage
Gender	Male	101	50.50%
	Female	99	49.50%
Age	< 20 years	4	2.00%
	20–30 years	63	31.50%

		Amount	Percentage
	31–40 years	70	35.00%
	41–50 years	45	22.50%
	> 50 years	18	9.00%
City	Klaten	38	19.00%
	Boyolali	34	17.00%
	Sukoharjo	33	16.50%
	Karaganyar	32	16.00%
	Wonogiri	32	16.00%
	Sragen	31	15.50%
Monthly Revenue	< IDR 10 million / month	22	11.00%
	IDR 10 million – IDR 50 million / month	124	62.00%
	IDR 50 million – IDR300 million / month	38	19.00%
	> IDR300 million / month	16	8.00%

Based on data collected from 200 MSME entrepreneurs in Central Java, the respondents' demographic profile was analyzed descriptively to provide a comprehensive overview of the sample, encompassing gender, age, geographical distribution, and monthly business revenue.

Gender

The sample distribution by gender is highly balanced, comprising 50.5% male ($n = 101$) and 49.5% female ($n = 99$). This equal proportion reflects gender inclusivity in Central Java's MSME management, ensuring that perceptions regarding financial technology adoption and strategic financial agility encompass balanced perspectives from both genders.

Age

Regarding age groups, most respondents fall within the productive age bracket, representing millennial and young adult cohorts. The 31–40 age group constitutes the largest segment at 35.0% ($n = 70$), followed by the 20–30 group at 31.5% ($n = 63$), and the 41–50 group at 22.5% ($n = 45$). Respondents over 50 years old account for 9.0% ($n = 18$), while those under 20 represent 2.0% ($n = 4$). The dominance of entrepreneurs within the productive age range (20–40 years, totaling 66.5%) provides a solid empirical foundation, as this demographic tends to be tech-savvy, highly adaptable, and responsive to fintech innovations and flexible business strategies.

Geographical Distribution (*City / Regency*)

The spatial distribution indicates that the sample spans six regencies within the Soloraya sub-region of Central Java Province. Respondents are representatively distributed across the districts comprising this economic agglomeration, with the largest proportion located in Klaten Regency (19.0%, $n = 38$), followed by Boyolali Regency (17.0%, $n = 34$), Sukoharjo Regency (16.5%, $n = 33$), Karanganyar Regency (16.0%, $n = 32$), Wonogiri Regency (16.0%, $n = 32$), and Sragen Regency (15.5%, $n = 31$). This geographic coverage, spanning both peri-urban districts bordering the city of Surakarta and more agrarian regencies further from the urban core, ensures a comprehensive representation of tech adoption dynamics and MSME financial performance in the

Central Java region.

Monthly Revenue

In terms of monthly revenue scale, the majority of the sample falls into the micro and small enterprise categories. The predominant revenue group earns between IDR 10 million and IDR 50 million monthly (62.0%, $n = 124$). Furthermore, enterprises generating IDR 50 million to IDR 300 million account for 19.0% ($n = 38$), those with under IDR 10 million represent 11.0% ($n = 22$), and medium-scale enterprises exceeding IDR 300 million comprise 8.0% ($n = 16$). This profile highlights that most respondents operate micro-to-small businesses currently at a critical phase to digitize payment systems, streamline operations, and expand market reach.

Data Analysis Technique

Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) via SmartPLS 4.

Measurement Model Evaluation (Outer Model)

The outer model was evaluated to ensure instrument validity and reliability based on convergent validity (loading factors > 0.70 and Average Variance Extracted [AVE] > 0.50), construct reliability (Cronbach's alpha and Composite Reliability > 0.70), and discriminant validity (Heterotrait-Monotrait [HTMT] ratio < 0.90).

Structural Model Evaluation (Inner Model)

The inner model was evaluated to assess hypotheses and predictive capability based on the coefficient of determination ($R^2 = 0.579$, indicating moderate-to-strong explanatory power), significance testing via bootstrapping with 5,000 resamples (t -statistic > 1.96 and p -value < 0.05), and out-of-sample predictive relevance using PLSpredict ($Q^2 > 0$).

FINDINGS AND DISCUSSION

Outer Model Analysis

The initial stage ensures that the research instrument exhibits sound validity and reliability. The results are presented in the following table:

Table 2. Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Financial Performance	0.931	0.931	0.943	0.675
Fintech adaptation	0.922	0.923	0.937	0.681
Strategic Financial Agility	0.920	0.925	0.934	0.641

Table 3. Outer Loadings

	Financial Performance	Fintech adaptation	Strategic Financial Agility
FP1	0.823		
FP2	0.828		
FP3	0.817		
FP4	0.808		
FP5	0.816		
FP6	0.807		
FP7	0.86		
FP8	0.813		
FTA1		0.812	
FTA2		0.806	
FTA3		0.829	
FTA4		0.834	
FTA5		0.84	
FTA6		0.84	
FTA7		0.815	
SFA1			0.743
SFA2			0.794
SFA3			0.771
SFA4			0.818
SFA5			0.805
SFA6			0.841
SFA7			0.795
SFA8			0.832

Table 1 confirms sound validity and reliability in the measurement model. All constructs exceed the 0.70 threshold for Cronbach's alpha and Composite Reliability. The Average Variance Extracted (AVE) also exceeds the 0.50 cutoff, at 0.681 for Fintech Adoption, 0.675 for Financial Performance, and 0.641 for Strategic Financial Agility. Each latent construct explains more than 60% of the variance in its own indicators; we therefore confirm strong convergent validity (Table 2).

Among the outer loadings, FTA5 and FTA6 record the highest values for Fintech Adoption ($\lambda = 0.840$). We interpret this as evidence that ease of access and transaction efficiency are the principal drivers of adoption among MSMEs in Central Java. SFA6 records the strongest loading for Strategic Financial Agility ($\lambda = 0.841$): rapid resource reallocation is its core dimension.

Structural Model Evaluation (Inner Model Analysis)

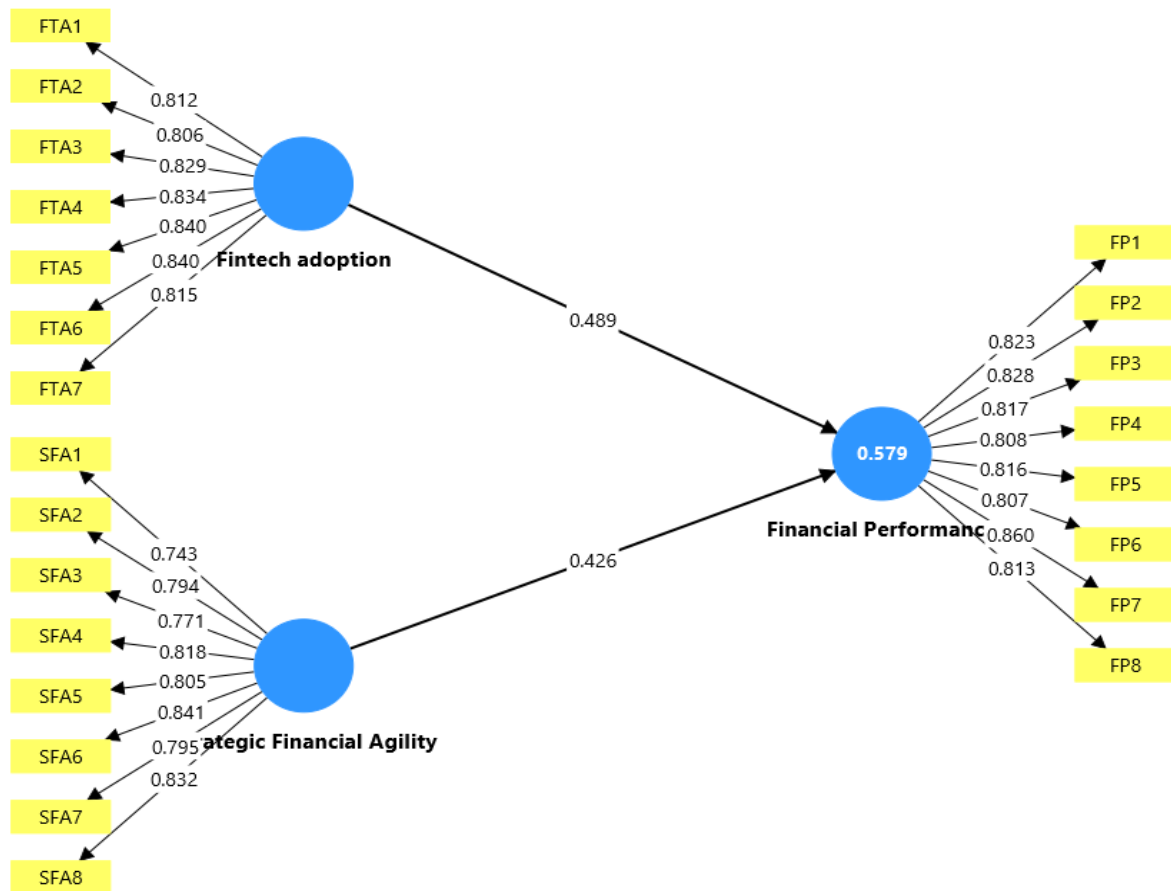


Figure 1. PLS Path Model Results

Table 4. Coefficient of Determination (R-Square)

	R-square	R-square adjusted
Financial Performance	0.579	0.575

An R^2 value of 0.579 indicates that financial technology adoption and strategic financial agility jointly explain 57.9% of the variance in MSME financial performance in Central Java (Figure 1), reflecting moderate-to-strong predictive power and underscoring both variables as critical drivers of firm financial success.

Descriptive statistics

Table 5. Descriptive statistics

Name	Mean	Median	Scale min	Scale max	Standard deviation
FTA1	3.560	4.000	1.000	5.000	1.098
FTA2	3.600	4.000	1.000	5.000	1.105
FTA3	3.400	3.000	1.000	5.000	1.118
FTA4	3.465	4.000	1.000	5.000	1.153
FTA5	3.400	3.000	1.000	5.000	1.179

Name	Mean	Median	Scale min	Scale max	Standard deviation
FTA6	3.585	4.000	1.000	5.000	1.036
FTA7	3.610	4.000	1.000	5.000	1.033
SFA1	3.495	4.000	1.000	5.000	1.095
SFA2	3.550	4.000	1.000	5.000	1.048
SFA3	3.370	3.000	1.000	5.000	1.106
SFA4	3.275	3.000	1.000	5.000	1.091
SFA5	3.530	4.000	1.000	5.000	1.095
SFA6	3.435	4.000	1.000	5.000	1.134
SFA7	3.535	4.000	1.000	5.000	1.099
SFA8	3.490	4.000	1.000	5.000	1.158
FP1	3.365	3.000	1.000	5.000	1.119
FP2	3.305	3.000	1.000	5.000	1.128
FP3	3.490	4.000	1.000	5.000	1.127
FP4	3.535	4.000	1.000	5.000	1.086
FP5	3.560	4.000	1.000	5.000	1.143
FP6	3.315	3.000	1.000	5.000	1.186
FP7	3.305	3.000	1.000	5.000	1.213
FP8	3.430	4.000	1.000	5.000	1.061

All three constructs fall within the High category: mean scores reach 3.517 for Fintech Adoption, 3.460 for Strategic Financial Agility, and 3.413 for Financial Performance. Respondents rate FTA7 and FTA2 highest among the Fintech Adoption indicators, expressing a strong intent to expand fintech usage as their business grows. FTA3 and FTA5 score lowest: usage stays confined to basic payment transactions.

Strategic Financial Agility shows a similar split. SFA2 and SFA7 score highest, pointing to robust flexibility in fund reallocation. SFA4 scores lowest, where access to alternative funding remains constrained. For Financial Performance, FP5 and FP4 score highest and reflect improved debt-service discipline, while FP2 and FP7 score lowest: profitability growth still needs further market penetration. Standard deviations range from 1.033 to 1.213. Responses cluster consistently across items.

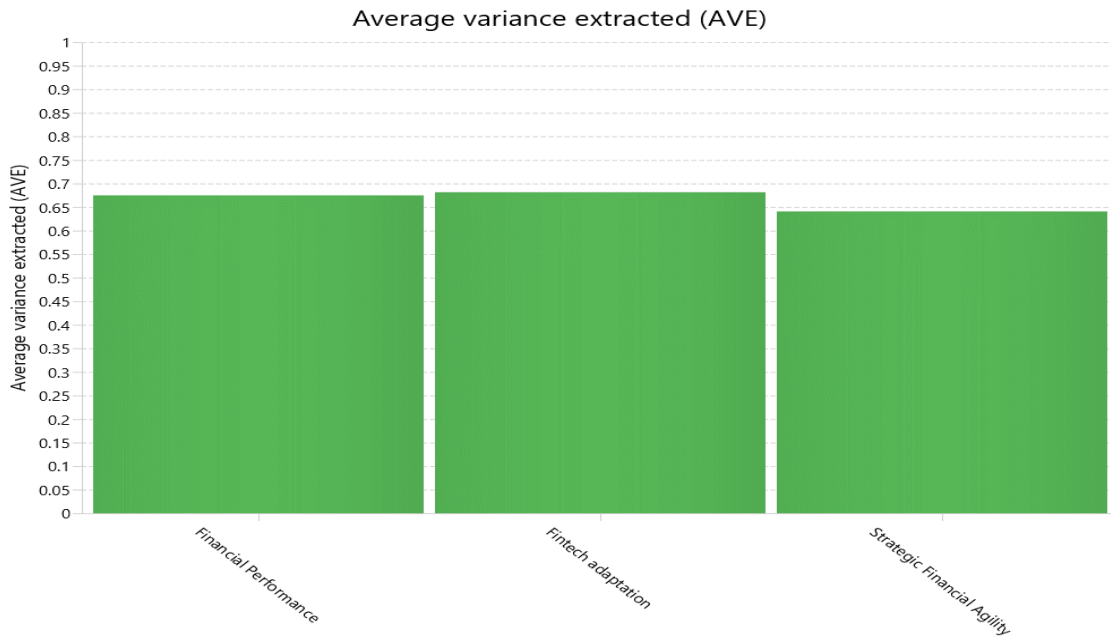


Figure 2. Average Variance Extracted

Based on the Average Variance Extracted (AVE) results generated via SmartPLS 4, all research variables satisfy the convergent validity criteria by exceeding the 0.50 minimum threshold. Specifically, Fintech Adoption yields an AVE of 0.681, followed by Financial Performance at 0.675, and Strategic Financial Agility at 0.641. These findings demonstrate that the latent constructs account for over 60% of the variance in their respective indicators, thereby establishing convergent validity and justifying the structural model (inner model) evaluation.

Table 6. Question Items

Variables	Code	Items (Question Statements)	Outer Loading
Financial Performance	FP1	Business revenue or turnover has increased.	0.823
	FP2	Business profit has increased.	0.828
	FP3	Cash inflows and outflows are becoming more stable.	0.817
	FP4	The business is increasingly able to control operational costs.	0.808
	FP5	The business is able to meet its financial obligations on time.	0.816
	FP6	Business capital derived from operations has increased.	0.807
	FP7	Business financial results achieve the set targets.	0.86
	FP8	Overall, the financial condition of the business has improved.	0.813
Fintech Adoption	FTA1	The business uses FinTech services routinely in daily financial activities.	0.812
	FTA2	Most business receipts or payments can be conducted	0.806

Variables	Code	Items (Question Statements)	Outer Loading
		through digital financial services.	
	FTA3	FinTech is used to support more than one financial activity.	0.829
	FTA4	FinTech transaction information is used to monitor business financial conditions.	0.834
	FTA5	FinTech usage is integrated with sales, payments, or financial management.	0.84
	FTA6	FinTech is used consistently, not only under specific circumstances.	0.84
	FTA7	The business is willing to expand FinTech usage as needs increase.	0.815
Strategic Financial Agility	SFA1	Budgets can be adjusted quickly when revenues or costs change.	0.743
	SFA2	Funds can be reallocated from lower-priority needs to more urgent needs.	0.794
	SFA3	Financial plans can be updated quickly when market conditions change.	0.771
	SFA4	The business can utilize alternative financing sources when primary sources are unavailable.	0.818
	SFA5	Financial decisions can be made quickly without neglecting risks.	0.805
	SFA6	Up-to-date financial information is used to respond to changing business conditions.	0.841
	SFA7	The business can postpone or reduce non-priority expenses.	0.795
	SFA8	Funds can be allocated quickly when profitable business opportunities arise.	0.832

Hypothesis Testing (Direct Effects)

Significance testing for structural path relationships was conducted using the bootstrapping procedure

Table 7. Path Coefficients & Hypothesis Testing

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Fintech adaptation -> Financial Performance	0.489	0.489	0.047	10.395	0.000
Strategic Financial Agility -> Financial Performance	0.426	0.428	0.049	8.673	0.000

H1 (Supported): Financial Technology Adoption exerts a positive and significant effect on financial performance ($\beta = 0.489$, $t = 10.395 > 1.96$), confirming fintech as a dominant driver of MSME profitability.

H2 (Supported): Strategic Financial Agility positively and significantly affects financial performance ($\beta = 0.426$, $t = 8.673$), reinforcing that internal financial adaptability sustains MSME resilience amid economic uncertainty.

Discussion

The Effect of Fintech Adoption on Financial Performance

MSMEs that adopt digital payments, such as alternative payment methods, gain greater transaction efficiency and stronger financial performance in Central Java (Nugraheni et al., 2024). However, prior studies report inconsistent findings (Abu et al., 2025). We argue that digital technology is no automatic remedy: its strategic value stays dormant when business owners see systems as too complex or incompatible with existing practices (Rohaeni et al., 2026). Digitalization therefore delivers value only when entrepreneurs pair technological adaptation agility with adequate proficiency (Kurniawan et al., 2023).

The Effect of Strategic Financial Agility on Financial Performance

Strategic financial agility is a dynamic capability that organizations build through continuous, active learning (Theodosiou et al., 2026). Entrepreneurs who integrate strategic business models with financial data resolve internal uncertainty and build the cognitive foundation they need to navigate external disruptions (Athanasakou & Boshanna, 2025). Adaptive capacity produces superior financial outcomes only when managers reconfigure their resource portfolios to exploit emerging digital market opportunities (Arraya, 2025). Organizational learning and financial reconfiguration together drive MSME survival and sustain competitiveness during macroeconomic shocks.

Diagnostic Indicators and Predictive Relevance

We calculate a low Variance Inflation Factor ($VIF = 1.169$): multicollinearity is absent, and each predictor makes a distinct contribution to financial performance. We also find positive $Q^2_{predict}$ values across all financial performance indicators (FP1–FP8), and therefore confirm the model's robust out-of-sample predictive relevance beyond the target sample.

CONCLUSION AND FURTHER RESEARCH

We conclude that Financial Technology (Fintech) Adoption has a positive, statistically significant effect on MSME financial performance in Central Java. Entrepreneurs who use digital payment instruments such as QRIS and e-wallets gain greater operational efficiency and higher transaction volume. Strategic Financial Agility also has a positive, statistically significant effect on financial performance: firms able to reconfigure financial resources fast navigate market volatility better. Together, the two variables explain 57.9% of the variance in MSME financial performance, meeting the conventional benchmark for moderate-to-strong predictive power.

Research Implications

1. For MSME Practitioners: These findings encourage entrepreneurs in Central Java districts such as Klaten, Boyolali, Sukoharjo, Karanganyar, Wonogiri, and Sragen not merely to adopt digital technologies at a technical level, but also to cultivate strategic financial management agility. Transitioning from cash-based to cashless operations must be accompanied by adaptive capacity to evolving consumer behavior to ensure long-term business viability.

2. For Policymakers: Given that financial inclusion levels in parts of Central Java remain at 48.9%, local governments must reinforce digital financial literacy initiatives in tandem with technology infrastructure provision. Digitalization policies should prioritize lowering cost barriers and enhancing transaction security to foster trust among micro-enterprises.

Limitations and Future Research Directions

We acknowledge one main limitation: the cross-sectional design captures conditions at a single point in time and prevents us from observing long-term performance dynamics. The study also covers only six regencies within the Soloraya sub-region of Central Java, so readers should be cautious about generalizing these findings to other regions of the province or to Indonesia as a whole.

For future research, we recommend that scholars incorporate additional moderating or mediating variables, such as Digital Financial Literacy or Government Support, to better explain the mechanisms driving MSME performance. We also recommend using objective empirical data, such as actual income statements, rather than subjective self-assessments by business owners, to improve measurement precision.

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