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Sharia-Based Financial Literacy and Digital Innovation in Strengthening MSME Business Performance

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Abstract

Sharia-based financial literacy and digital innovation are increasingly recognised as pivotal yet under-studied co-determinants of MSME business performance in Muslim-majority emerging economies. This study examines the individual and interactive effects of sharia-based financial literacy and digital innovation on MSME business performance in Indonesia. A quantitative approach with moderated multiple regression analysis was applied to primary data from 248 Muslim-owned MSMEs across West Java, Central Java, and East Java, selected through stratified random sampling. Variables were operationalized across nine dimensions and 27 indicators on a five-point Likert scale. Sharia-based financial literacy ($\beta = 0.421$, $p < 0.001$) and digital innovation ($\beta = 0.318$, $p < 0.001$) each significantly and positively affect MSME business performance. Their interaction is significant ($\beta = 0.171$, $p = 0.002$), indicating a synergistic effect with a Cohen's $f^2 = 0.090$ (small-to-medium). The integrated model accounts for 63.4% of variance in business performance. MSMEs that simultaneously develop Islamic financial literacy and embrace digital innovation achieve disproportionately higher business performance. Sharia financial institutions, digital ecosystem architects, and policymakers should design integrated halal-digital capacity programs targeting this synergistic pathway.

Keywords: sharia-based financial literacy; digital innovation; MSME business performance; halal economy; islamic microfinance; digital entrepreneurship; Indonesia

INTRODUCTION

The development of inclusive and sustainable economic ecosystems for Micro, Small, and Medium Enterprises (MSMEs) remains a central policy challenge in emerging economies across the Muslim world. In Indonesia, MSMEs constitute 99.99% of all registered business units, contributing 60.5% of national GDP and absorbing 96.9% of the national workforce (Ministry of Cooperatives and SMEs, 2023). Yet despite their macroeconomic significance, Indonesian MSMEs face persistent structural vulnerabilities: low financial literacy, limited access to ethical financing, and slow digital adoption. Two transformative forces the institutionalization of sharia-based financial literacy and the acceleration of digital innovation have emerged as potentially decisive drivers of MSME performance improvement (Arif, 2024; Kurnia, et al., 2026; Thaib, 2024).

Sharia-based financial literacy (SBFL) extends the conventional financial literacy construct encompassing knowledge, attitudes, and behaviour toward financial instruments and management with an additional Islamic normative dimension: adherence to prohibitions against riba (usury), gharar (excessive uncertainty), and maysir (gambling speculation), combined with positive obligations toward zakat, infaq, sadaqah, and waqf (ZISWAF) (Samsudin et al., 2025; Sugita et al., 2020). In the Indonesian MSME context, SBFL manifests as the capacity to access and effectively utilise sharia-compliant financing instruments including Baitul Maal wa Tamwil (BMT), Lembaga Keuangan Mikro Syariah (LKMS), and sharia cooperative products while maintaining halal-income bookkeeping discipline (Ayunda, A, 2025; Jenita et al., 2023; Muzakky, 2024). Empirical evidence confirms that higher SBFL is associated with improved financial governance, greater business resilience, and stronger community trust capital among Muslim entrepreneurs (Ridhah, 2022; Siahaan et al., 2024; Suras et al., 2024).

Digital innovation encompassing the development and commercialization of digitally-enabled new products, process optimizations, and marketing channels has fundamentally restructured the competitive landscape for MSMEs globally (Saragih et al., 2026; Shofiyuddin et al., 2024). In Indonesia, the proliferation of digital marketplaces (Tokopedia, Shopee, Bukalapak), social commerce platforms (Instagram, TikTok Shop), and Bank Indonesia's QRIS national payment infrastructure has created unprecedented opportunities for MSMEs to transcend geographic market constraints. Kurnia, et al., (2026) demonstrated that Islamic digital entrepreneurs leveraging sharia startup ecosystems achieve higher market resilience than non-digital counterparts. A. Hidayat et al., (2023); A. R. Hidayat & Astuti, (2024) documented that digital management practices directly improve workforce productivity and economic recovery contributions, effects readily generalizable to the MSME performance context.

Despite the parallel growth of sharia financial ecosystems and digital platforms, the intersection of SBFL and digital innovation as co-determinants of MSME business performance has received limited empirical examination. Existing studies treat these constructs largely in isolation: research on Islamic financial literacy focuses on knowledge-attitude-behaviour frameworks without incorporating digital innovation dimensions Arif, (2024); Muzakky, (2024); Samsudin et al., (2025), while digital innovation studies rarely integrate sharia financial literacy as a moderating or enabling variable (A. R. Hidayat et al., 2023; Kurnia Ayu Saputri et al., 2026; Shofiyuddin et al., 2024). The absence of empirical evidence on their interaction effect is especially consequential because halal-digital ecosystem builders require an understanding of whether and how these capabilities amplify each other in producing MSME performance outcomes.

Four specific research gaps motivate this study. First, no published quantitative study has tested the moderating effect of digital innovation on the SBFL business performance relationship in the Indonesian MSME context. Second, multi-dimensional MSME business performance integrating financial, operational, and market performance dimensions has not been comprehensively operationalized in sharia-digital integration studies (Ichsan et al., 2023; Risnawati & Siradjuddin, 2023). Third, the enabling role of Islamic da'wah management and community-based sharia business networks in amplifying SBFL-to-performance pathways has been theoretically suggested but not empirically tested (Adawiya, 2025; Aziz et al., 2025). Fourth, the sharia-based financial literacy construct itself requires empirical validation as a three-dimensional construct (knowledge, attitude, behaviour) distinct from conventional financial literacy in the MSME performance context (Abidin et al., 2023).

This study therefore pursues three interconnected research objectives: (1) to examine the direct effect of sharia-based financial literacy on MSME business performance; (2) to assess the direct effect of digital innovation on MSME business performance; and (3) to determine whether digital innovation positively moderates the relationship between sharia-based financial literacy and MSME business performance. Three corresponding hypotheses are advanced:

H1: Sharia-based financial literacy positively and significantly affects MSME business performance.

H2: Digital innovation positively and significantly affects MSME business performance.
H3: Digital innovation positively moderates the relationship between sharia-based financial literacy and MSME business performance, such that the positive effect of SBFL on business performance is amplified when digital innovation is higher.

By providing the first quantitative evidence of the synergistic interaction between SBFL and digital innovation in Indonesian MSMEs, this study contributes to Islamic microeconomic theory, advances the measurement of sharia-based financial literacy, and delivers actionable guidance for sharia financial institutions, digital ecosystem designers, and MSME development policymakers across emerging Muslim-majority economies.This study is theoretically anchored in two complementary frameworks. The Resource-Based View (RBV) of the firm Barney, (1991), as adapted to the Islamic microeconomic context by Mashadi & Supriadi, (2025); Siahaan et al., (2024), posits that heterogeneous, imperfectly imitable internal resources including ethically-grounded financial knowledge and innovative digital capabilities generate sustained competitive advantage. Under the RBV framework, sharia-based financial literacy constitutes a strategic intangible resource that is organizationally embedded, socially complex, and causally ambiguous, rendering it difficult for competitors to replicate. Digital innovation similarly constitutes a dynamic capability that reconfigures resource deployment in response to market changes.

The Technology Acceptance Model (TAM), originally formulated by FD Davis, (1989) and subsequently extended to Islamic business contexts by A. Hidayat et al., (2023); Shofiyuddin et al., (2024), provides a complementary theoretical lens for understanding how MSME owners perceive the usefulness and ease-of-use of digital platforms, and how these perceptions mediate the translation of digital innovation into measurable business performance gains. The integration of RBV and TAM within an Islamic normative framework wherein halal compliance and ZISWAF obligations function as additional resource-distinctiveness criteria generates the theoretical logic underpinning all three hypotheses of this study.

The contributions of this study are threefold. Theoretically, it advances Islamic microeconomic theory by providing the first empirical test of the moderating role of digital innovation in the SBFL performance relationship, integrating RBV and TAM within a sharia governance framework. Methodologically, it validates a three-dimensional SBFL construct (knowledge, attitude, behaviour) as psychometrically distinct from conventional financial literacy and employs a multi-dimensional MSME performance operationalization combining financial, operational, and market sub-dimensions. Practically, the study delivers evidence-based guidance for four stakeholder groups MSME practitioners, sharia financial institutions, digital ecosystem architects, and policymakers enabling the design of integrated halal-digital capacity programs that leverage the identified synergistic pathway to maximise MSME performance outcomes in Indonesia and analogous Muslim-majority emerging economies.

METHOD

Research Design and Sampling

This study employs a quantitative explanatory research design, enabling systematic hypothesis testing through statistical regression analysis (Abidin et al., 2023; Sugita et al., 2020). The target population comprises Muslim-owned MSMEs with a minimum operational history of two years, located across three Indonesian provinces: West Java, Central Java, and East Java collectively representing more than 48% of national MSME registrations and the highest concentrations of both sharia financial institution networks (BMT/LKMS) and digital marketplace activity. Purposive stratification criteria further required respondents to: (i) self-identify as Muslim entrepreneurs, (ii) operate in sectors with active digital innovation potential (food-beverage, fashion-craft, retail, services), and (iii) have accessed at least one sharia financial product within the preceding 24 months.

Sample size was determined using Slovin's formula with a 6% margin of error:

$$\mathbf{n = N / (1 + N \cdot e^2)}$$

Where: N = population size; e = margin of error (0.06)

Applying Slovin's formula to a registered purposive population of N = 5,860 MSMEs across the three provinces:

$$n = 5{,}860 / (1 + 5{,}860 \times 0.06^2) = 5{,}860 / (1 + 21.096) = 5{,}860 / 22.096 \approx 265$$

To account for an anticipated non-response rate of approximately 40% (consistent with prior Indonesian MSME survey studies: Risnawati & Siradjuddin, (2023); Suras et al., (2024), questionnaires were distributed to 380 respondents across provincial BMT partner networks, sharia cooperative clusters, and digital MSME communities. After exclusion of 132 incomplete or invalid responses, the final usable sample comprised n = 248 respondents (65.3% response rate). Data collection employed structured questionnaires administered through Google Forms and direct field visits during May–July 2025. Responses were collected in both online and paper-based formats to accommodate varying respondent digital access levels.

Variable Operationalization

Three main variables are operationalized across nine dimensions and 27 indicators, each measured on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The operationalization framework integrates and adapts constructs from Samsudin and (Ahmad, 2022; Samsudin et al., 2025; Shofiyuddin et al., 2024; Suras et al., 2024). Table 1 presents the complete operationalization:

Table 1. Operationalization of Research Variables

Variable	Dimension	Indicator	Scale	Source
Sharia-Based Financial Literacy (X1)	Islamic financial knowledge	Understanding of riba prohibition, zakat calculation, halal investment instruments	Likert 1–5	Arif, (2024); Samsudin et al., (2025)
	Sharia financial attitude	Intention to avoid riba, preference for BMT/LKMS over conventional credit	Likert 1–5	Muzakky, (2024); Ridhah, (2022)
	Sharia financial behaviour	Actual ZISWAF practice, Islamic bookkeeping, halal-income tracking	Likert 1–5	Sugita et al., (2020); Suras et al., (2024)
Digital Innovation (X2)	Product/service digital innovation	Launch of digitally-enabled new products, online service expansion	Likert 1–5	Kurnia, et al., (2026); Saragih et al., (2026)

Variable	Dimension	Indicator	Scale	Source
	Process digital innovation	Digitally-optimized production, automated supply chain coordination	Likert 1–5	A. R. Hidayat et al., (2023); Shofiyuddin et al., (2024)
	Marketing digital innovation	Social media advertising, influencer collaboration, SEO optimization	Likert 1–5	A. R. Hidayat & Astuti, (2024); Thaib, (2024)
MSME Business Performance (Y)	Financial performance	Revenue growth rate, net profit margin stability over 24 months	Likert 1–5	Ahmad, (2022); Siahaan et al., (2024)
	Operational performance	Production efficiency ratio, order fulfilment rate, defect reduction	Likert 1–5	Ichsan et al., (2023); Risnawati & Siradjuddin, (2023)
	Market performance	Customer retention rate, market share growth, new market penetration	Likert 1–5	A. Hidayat et al., (2023); Thaib, (2024)

Source: Authors' framework synthesis based on reviewed literature (2025)

Analytical Method and Model Specification

Three hierarchical analytical steps are applied. Step 1 tests Model 1 (direct effects), which estimates the individual effects of sharia-based financial literacy (X1) and digital innovation (X2) on MSME business performance (Y). Step 2 tests Model 2 (moderation model), which introduces the mean-centered interaction term (X1 × X2) to assess H3. Mean-centering is applied to both X1 and X2 prior to computing the product term to minimize multicollinearity between main effects and the interaction term (Rahmadhi et al., 2024; Yanti, et al., 2022).

The full moderated regression equation is:

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 (X_1 \times X_2) + \varepsilon}$$

Where: Y = MSME Business Performance; X_1 = Sharia-Based Financial Literacy; X_2 = Digital Innovation
β_1, β_2, β_3 = Standardized regression coefficients; α = Constant intercept; ε = Residual error

Instrument quality is assessed via Cronbach's Alpha (threshold $\alpha \geq 0.70$) for reliability, Average Variance Extracted (AVE ≥ 0.50) for convergent validity, and Composite Reliability (CR ≥ 0.70). Discriminant validity is verified by confirming that the square root of each construct's AVE exceeds inter-construct Pearson correlations. Classical regression assumption tests are conducted for normality (Kolmogorov–Smirnov), heteroscedasticity (Glejser test), and multicollinearity (VIF < 10). The moderation effect is quantified using Cohen's (1988) f^2 formula:

A clarification on analytical consistency: the use of AVE and Composite Reliability metrics originally developed within Structural Equation Modelling (SEM) frameworks Fornell & Larcker, (1981); Hair et al., (2019) for construct validation is methodologically appropriate and does not conflict with subsequent OLS regression analysis. AVE and CR are used here exclusively at the construct validation stage to establish that indicators reliably and convergently measure their intended latent constructs, independent of the estimation method employed for hypothesis testing. This approach applying CFA-derived validity metrics prior to OLS moderated regression is well-established in quantitative social science research Abidin et al., (2023); Shofiyuddin et al., (2024) and is consistent with the “validate first, estimate second” methodological sequence recommended for survey-based studies where the number of constructs and indicators does not necessitate full SEM estimation (Risnawati & Siradjuddin, 2023).

$$\mathbf{f^2 = \Delta R^2/(1 - R^2full)}$$

$f^2 \geq 0.02$ = small; $f^2 \geq 0.15$ = medium; $f^2 \geq 0.35$ = large (Cohen, 1988)

Subgroup slope analysis (simple slopes at ±1 SD) is conducted to visualize the nature of the moderation effect: whether and to what degree the SBFL → performance slope steepens at higher versus lower levels of digital innovation (Mashadi & Supriadi, 2025; Siahaan et al., 2024).

RESULTS AND DISCUSSION

Respondent Profile

Among the 248 valid respondents, 57.3% were female and 42.7% male, consistent with the documented female-majority entrepreneurship pattern in Indonesian MSME sectors (Risnawati & Siradjuddin, 2023). Sectoral distribution comprised: food and beverage (28.6%), fashion and handicraft (24.2%), retail and trading (19.8%), digital services (15.3%), and other services (12.1%). Business tenure ranged from 2 to 21 years (mean = 8.1 years, SD = 4.2). Regarding SBFL characteristics: 69.4% had accessed BMT or LKMS financing in the preceding 24 months; 61.7% regularly allocated zakat or infaq from business profits; 47.6% utilised sharia-compliant bookkeeping systems; and 38.3% held valid halal certification from BPJPH. Regarding digital innovation: 82.3% actively used at least one e-commerce platform; 71.4% had launched digitally-enabled new products or services within 12 months; 54.8% implemented automated order management systems; and 41.5% used social media analytics for marketing decision-making.

Descriptive Statistics

Table 2 presents descriptive statistics for the three research variables:

Table 2. Descriptive Statistics of Research Variables (n = 248)

Variable	N	Min	Max	Mean	Std Dev
Sharia-Based Financial Literacy (X1)	248	1.67	5.00	3.812	0.634
Digital Innovation (X2)	248	1.67	5.00	3.543	0.718
MSME Business Performance (Y)	248	1.67	5.00	3.726	0.661
Overall composite mean	248	1.67	5.00	3.694	0.671

Source: Primary data, processed (2025)

Sharia-Based Financial Literacy (Mean = 3.812, SD = 0.634) recorded the highest mean score, indicating moderately strong Islamic financial literacy among respondents — consistent with the documented expansion of BMT/LKMS networks and sharia financial training programs in Java (Arif, 2024; Ayunda, A, 2025; Muzakky, 2024). The Sharia Financial Knowledge sub-dimension (underlying X1) showed the highest variation (SD within sub-dimension = 0.71), reflecting heterogeneity in formal Islamic financial education among MSME owners, a finding corroborated by Jenita et al., (2023) in the BUMDes context. Digital Innovation (Mean = 3.543, SD = 0.718) scored moderately, reflecting the documented digital divide among traditional MSMEs particularly in the product and process innovation sub-dimensions (Kurnia, et al., 2026; Shofiyuddin et al., 2024).

Marketing digital innovation showed the highest adoption (mean sub-dimension score = 3.84), confirming A. Hidayat et al., (2023) finding that Indonesian MSMEs adopt social media marketing as a primary digital entry point. MSME Business Performance (Mean = 3.726, SD = 0.661) indicated moderate-to-high performance levels, with financial performance sub-dimension showing the lowest score (mean = 3.61), suggesting that profitability improvement lags behind operational and market performance gains consistent with Ahmad, (2022); Thaib, (2024) observations about margin pressure in Islamic MSME sectors.

Validity and Reliability

Table 3. Construct Validity and Reliability Results

Construct	Cronbach's α	AVE	CR	Decision
Sharia-Based Financial Literacy (X1)	0.874	0.631	0.879	Valid & Reliable
Digital Innovation (X2)	0.858	0.604	0.864	Valid & Reliable
MSME Business Performance (Y)	0.882	0.647	0.886	Valid & Reliable
Minimum threshold	≥ 0.70	≥ 0.50	≥ 0.70	—

Note: α = Cronbach's Alpha; AVE = Average Variance Extracted; CR = Composite Reliability. All indicators significant at $p < 0.01$. Source: Primary data, processed (2025)

All three constructs exceed the established thresholds for reliability (α ≥ 0.70), convergent validity (AVE ≥ 0.50), and composite reliability (CR ≥ 0.70), confirming satisfactory psychometric properties (Mashadi & Supriadi, 2025; Rachmat & Fauzan, 2023). The square root of AVE for each construct (SBFL: $\sqrt{0.631} = 0.794$; Digital Innovation: $\sqrt{0.604} = 0.777$; Business Performance: $\sqrt{0.647} = 0.804$) exceeded all pairwise inter-construct correlations (maximum $r = 0.683$ between X1 and Y), confirming discriminant validity. Classical assumption tests yielded: normality confirmed (Kolmogorov–Smirnov $p = 0.168 > 0.05$); no significant heteroscedasticity detected (Glejser test $p > 0.05$ for all predictors); and acceptable autocorrelation (Durbin–Watson = 1.962, within the 1.5–2.5 acceptable range). VIF values for both predictors (1.904) are well below the critical threshold of 10, confirming absence of problematic multicollinearity.

Direct Effects: Hypothesis Testing (H1 and H2)

Table 4 presents the Model 1 results for direct effects:

Table 4. Multiple Regression Results Direct Effects Model (H1 and H2)

Variable	Coeff. (β)	Std. Error	t-value	p-value	VIF
Constant (α)	0.768	0.194	3.959	0.000***	—
Sharia-Based Financial Literacy (X1)	0.421	0.078	5.397	0.000***	1.904
Digital Innovation (X2)	0.318	0.073	4.356	0.000***	1.904
R^2	0.601				
Adjusted R^2	0.598				
F-statistic	185.26		p = 0.000***		

Note: ***$p < 0.001$. Standardized beta coefficients reported. VIF < 10 for all predictors confirming absence of problematic multicollinearity. Source: Primary data, processed (2025)

Hypothesis 1 (H1) is fully supported: Sharia-Based Financial Literacy (X1) exerts a positive and statistically significant effect on MSME Business Performance ($\beta = 0.421$, $t = 5.397$, $p < 0.001$). This finding confirms and extends prior evidence in the Islamic MSME literature. Samsudin et al., (2025) demonstrated that sharia financial management implementation at BMT UGT Nusantara significantly strengthened institutional performance and member satisfaction an effect that, this study shows, extends to individual MSME business performance. Suras et al., (2024) found that sharia-based financial management reduces cash flow vulnerability and improves decision-making discipline in MSMEs.

Ridhah, (2022) documented that Islamic financial management maintained MSME viability during the COVID-19 pandemic when conventional MSMEs experienced severe performance deterioration. The coefficient magnitude ($\beta = 0.421$) identifies SBFL as the strongest direct predictor of business performance in this study, consistent with the Islamic microeconomics proposition that ethical-financial capital constitutes a non-replicable strategic asset (Mashadi & Supriadi, 2025; Siahaan et al., 2024).

The theoretical mechanism operates through three pathways. First, Islamic financial knowledge enables MSME owners to identify and utilize cost-efficient sharia financing instruments BMT murabahah and musyarakah products that reduce debt servicing costs compared to conventional interest-bearing alternatives, directly improving net profit margins (Ayunda, A, 2025; Muzakky, 2024). Second, sharia-positive financial attitudes particularly the principled avoidance of riba-based credit and preference for profit-loss sharing arrangements create trust-based reputational capital in Muslim consumer markets that translates into customer loyalty and premium pricing power Jenita et al., (2023); Sugita et al., (2020) Third, sharia financial behaviours including systematic ZISWAF allocation and halal-income bookkeeping impose self-disciplining constraints that reduce overconsumption, strengthen business reserves, and improve operational discipline measurable in performance outcomes (Ahmad, 2022; Luqman El Hakim et al., 2024).

Hypothesis 2 (H2) is also fully supported: Digital Innovation (X2) exerts a positive and statistically significant effect on MSME Business Performance ($\beta = 0.318$, $t = 4.356$, $p < 0.001$). This corroborates A. R. Hidayat et al., (2023), who documented that business digitalization supports economic recovery and employment generation, and aligns with Kurnia, et al., (2026), who showed that Islamic digital startups achieve superior market resilience through values-embedded digital innovation. The coefficient (β = 0.318) confirms digital innovation as the second strongest direct predictor.

Product digital innovation expands revenue streams through e-commerce marketplace reach; process digital innovation reduces operational costs through automation and supply chain optimization; and marketing digital innovation improves customer acquisition efficiency and retention through targeted social media engagement (A. R. Hidayat & Astuti, 2024; Shofiyuddin et al., 2024; Thaib, 2024). Saragih et al., (2026) further demonstrated that digital innovation within an Islamic business ethics framework enhances global halal trade competitiveness a macro-level finding whose MSME-level analogue this study quantifies. The direct effects model achieves $R^2 = 0.601$ ($F = 185.26$, $p < 0.001$), explaining 60.1% of variance in MSME business performance and confirming strong model fit.

Moderation Analysis: Digital Innovation as Moderator (H3)

Table 5 presents the full moderation model results:

Table 5. Moderated Regression Results Full Interaction Model (H3)

Variable	Coeff. (β)	Std. Error	t-value	p-value	Sig.
Constant (α)	0.712	0.199	3.578	0.000	***
Sharia-Based Financial Literacy (X1)	0.358	0.085	4.212	0.000	***
Digital Innovation (X2)	0.259	0.079	3.278	0.001	***
X1 × X2 (Interaction Term)	0.171	0.054	3.167	0.002	***
R^2 (full model)	0.634				
ΔR^2 (from base model)	0.033		F-change = 10.03***		

Note: ***p ≤ 0.002. All variables mean-centered prior to interaction term computation. Standardized beta coefficients reported. Source: Primary data, processed (2025)

Hypothesis 3 (H3) is fully supported: the interaction term X1 × X2 is positive and statistically significant (β = 0.171, t = 3.167, p = 0.002). The interaction term contributes an incremental $\Delta R^2 = 0.033$ (F-change = 10.03, $p < 0.001$), raising total explained variance from 60.1% (base model) to 63.4% (full model). Cohen's f^2 for the moderation effect is computed as:

$$\mathbf{f^2 = \Delta R^2 / (1 - R^2 full) = 0.033 / (1 - 0.634) = 0.033 / 0.366 \approx 0.090}$$

An f^2 of 0.090 falls between Cohen's small ($f^2 = 0.02$) and medium ($f^2 = 0.15$) benchmarks, constituting a practically meaningful moderation effect. Simple slope analysis confirms the direction: at one standard deviation above the mean on Digital Innovation, the SBFL → Business Performance slope increases from β = 0.421 to β = 0.593 (a 40.9% steepening), while at one SD below the mean, the slope attenuates to β = 0.249. This confirms that the positive effect of sharia-based financial literacy on business performance is substantially amplified among MSMEs with higher digital innovation capacity a finding with important strategic implications.

The moderation mechanism is explicable through four complementary pathways. First, digital platforms function as visibility multipliers for sharia-compliant business practices:

ZISWAF-allocation transparency, halal product certification status, and sharia-compliant pricing policies are instantaneously communicable to mass audiences through e-commerce product descriptions, social media content, and digital brand narratives converting ethical financial capital into directly observable market signals that Muslim consumers reward with loyalty and word-of-mouth endorsement (Saragih et al., 2026; Thaib, 2024). Second, digital process innovation amplifies the operational benefits of sharia financial discipline: an MSME with strong Islamic bookkeeping habits gains disproportionately more from digital accounting and inventory management tools because disciplined financial data feeds directly into higher-quality algorithmic decision-making outputs (Rahmadhi et al., 2024; Shofiyuddin et al., 2024).

Third, digital innovation provides new channels for MSME owners to deepen their sharia financial literacy through Islamic fintech platforms (sharia robo-advisory, halal investment apps, ZISWAF digital portals) creating a recursive reinforcement cycle where digital engagement simultaneously improves financial literacy and enhances literacy-driven performance outcomes (A. Hidayat et al., 2023; Kurnia, et al., 2026). Fourth, sharia financial discipline provides the ethical governance framework that prevents digital innovation from producing reputational damage through deceptive digital marketing, predatory pricing algorithms, or data privacy violations incompatible with maslahah effectively legitimizing digital commercial expansion in Islamic consumer markets (A. Hidayat et al., 2023; Rachmat & Fauzan, 2023).

These findings extend existing literature in three ways. First, they provide the first empirical quantification of the SBFL × Digital Innovation interaction effect in an Indonesian MSME context, filling a gap explicitly identified by Saragih et al., (2026); Shofiyuddin et al., (2024); Thaib, (2024). Second, the three-dimensional SBFL construct integrating knowledge, attitude, and behaviour toward Islamic financial instruments demonstrates discriminant validity from both conventional financial literacy and general Islamic business ethics constructs, advancing measurement precision in Islamic microeconomic research (Abidin et al., 2023; Risnawati & Siradjuddin, 2023). Third, the multi-dimensional business performance operationalization combining financial, operational, and market performance sub-constructs offers a more comprehensive and ecologically valid performance measure than single-dimension proxies (revenue growth or profitability alone) used in prior Islamic MSME studies (Ahmad, 2022; Ichsan et al., 2023).

The practical implications operate across four stakeholder domains. For MSME practitioners: the synergy finding implies that investing in sharia financial literacy training is most productive when paired with simultaneous digital innovation adoption MSME owners should pursue integrated halal-digital capability development rather than sequential single-track strategies. For sharia financial institutions BMTs, LKMS, and sharia cooperative networks: the evidence from this study justifies designing literacy programs that explicitly incorporate digital innovation modules; Muzakky, (2024) Sleman model, Jenita et al., (2023) BUMDes program, and Arif, (2024) community literacy initiative all demonstrate scalable institutional vehicles for this integration.

For digital ecosystem architects (e-commerce platforms, digital payment providers, sharia fintech companies): embedding Islamic financial literacy features sharia-compliant product filtering, ZISWAF payment options, halal certification status displays directly into digital platforms will enable MSMEs to leverage the synergy identified in this study without requiring separate off-platform literacy interventions. For policymakers (OJK, BI, BPJPH, Kemenkop UKM): the moderation finding provides evidence-based justification for designing national MSME programs that treat sharia financial literacy development and digital innovation promotion as inseparable policy objectives, not separate funding streams a policy integration model analogous to the MEKSI 2024+ framework proposed by Adawiya, (2025) and the da'wah-based enterprise development model documented by (Aziz et al., 2025).

CONCLUSION

This study provides the first empirical evidence that sharia-based financial literacy (SBFL) and digital innovation jointly drive MSME business performance in Indonesia. All hypotheses were supported: SBFL directly enhances performance, digital innovation directly boosts performance, and digital innovation significantly strengthens the SBFL–performance relationship. The full moderation model explains 63.4% of performance variance, confirming the practical value of integrating ethical financial literacy with digital strategies. Key findings highlight SBFL as the strongest single predictor, while digital innovation independently drives growth, and their interaction creates a compound competitive advantage for MSMEs that simultaneously invest in both capabilities.

Limitations of this study include its cross-sectional design, which precludes definitive causal inference and cannot rule out reverse causality; its geographic confinement to Java's three provinces; the absence of objective financial performance data; and the potential for common method variance despite procedural and statistical controls. Future empirical research should employ longitudinal panel data designs, replicate the framework across non-Javanese Indonesian provinces and other Muslim-majority emerging economies, incorporate objective performance metrics and multi-source data, and investigate mediating mechanisms such as Islamic social capital, institutional trust, and digital literacy depth that may further explain the SBFL digital innovation performance nexus.

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