

The Role of Sharia Digital Financial Literacy in MSME Saving and Investment Behavior

Lusiana Afrianti ¹

Department of Sharia Economics, Faculty of Islamic Religion, Universitas Muhammadiyah Mataram, Indonesia

lusianaafrianti11@email.com

Mukhlishin ²

Department of Sharia Economics, Faculty of Islamic Religion, Universitas Muhammadiyah Mataram, Indonesia

mukhlishin@ummat.ac.id

Nur Fitri Hidayanti ³

Department of Sharia Economics, Faculty of Islamic Religion, Universitas Muhammadiyah Mataram, Indonesia

nurfitri.hidayanti90@gmail.com

Abstract

This study examines the role of Sharia Digital Financial Literacy in MSME saving and investment behavior in Mataram City. The growing utilization of Islamic fintech services among MSMEs highlights the need for adequate digital capability and understanding of sharia-based financial principles. However, in this study, Islamic fintech is treated as the contextual setting of financial activities rather than as a mediating variable. The research applies a quantitative approach using an explanatory survey method. A total of 110 MSME respondents were selected through purposive sampling, with the criterion of having used Islamic fintech services for at least three months. Data were collected using a Likert-scale (1–5) questionnaire measuring Sharia digital financial literacy as the independent variable, and saving and investment behavior as dependent variables. The data were analyzed using simple linear regression to assess the direct association between variables. The results indicate that Sharia Digital Financial Literacy is positively and statistically significantly associated with investment behavior. However, the explanatory power of the model is relatively low, with an R Square value of 7.1%, indicating that most of the variation in investment behavior is explained by factors outside the model. The association with saving behavior is positive but not statistically significant. These findings suggest that although Sharia digital financial literacy has a measurable statistical relationship with investment behavior, its substantive contribution remains limited. Therefore, improving MSME financial behavior likely requires consideration of additional structural, behavioral, and institutional factors beyond digital financial literacy alone.

Keywords

Islamic Digital Financial Literacy; Saving Behavior; Investment Behavior; Sharia Fintech; Msmes

PENDAHULUAN

Over the past decade, the digital financial ecosystem has expanded rapidly, including within the Islamic finance industry. Islamic fintech has emerged as a strategic instrument to enhance financial inclusion and broaden access to Sharia compliant financial services, particularly for Micro, Small, and Medium Enterprises (MSMEs) (Haddad, C., & Hornuf, 2019). In Indonesia,

the development of Islamic fintech continues to accelerate alongside national financial inclusion initiatives. Nevertheless, in local contexts such as Mataram City, fintech utilization among MSMEs remains predominantly focused on payment services, while saving and investment features are comparatively underused (Demirgüç-Kunt, A., & Hess, 2022).

Sharia Digital Financial Literacy refers to the ability to understand, evaluate, and utilize digital financial services in accordance with Islamic principles. This competence includes knowledge of Islamic contracts (akad), halal risk–return structures, product screening mechanisms, and digital transaction security awareness. Financial literacy frameworks emphasize that literacy encompasses not only knowledge but also the capability to apply that knowledge in financial decision-making (Klapper, L., & Lusardi, 2021). In the Islamic finance context, this literacy dimension integrates compliance considerations into digital financial engagement (Sandi, 2025).

Saving and investment behavior in this study reflects financial decision making related to fund allocation through Sharia fintech platforms. Saving behavior typically represents short term financial planning, whereas investment behavior concerns long term asset accumulation strategies (Henager, R., & Cude, 2016). Prior studies indicate that higher levels of financial literacy are positively associated with improved saving and investment decisions. In digital environments, literacy also supports more confident participation in fintech-based financial products (Amnas, M. B., & Parayitam, 2024).

Previous research consistently demonstrates a positive relationship between digital financial literacy and fintech adoption, financial inclusion, and saving behavior across countries (Raza, M., & Khan, 2024). However, many studies focus on general digital financial literacy without explicitly incorporating Sharia compliance dimensions. Other research tends to examine fintech development at the macro level rather than investigating behavioral outcomes among MSMEs. Consequently, empirical evidence specifically examining the role of Sharia Digital Financial Literacy in influencing MSME saving and investment behavior at the local level remains limited.

In Mataram City, preliminary observations suggest that although Islamic fintech services are available, MSMEs largely use them for transactional purposes (Majid, 2021). Engagement with saving and investment features is still relatively low. This condition reflects a gap between fintech availability and its productive financial utilization, which may be linked to disparities in literacy and digital capability (Odei-Appiah, S & Adjei, 2022). Understanding this gap is crucial for strengthening financial behavior within local MSME ecosystems.

Based on this research gap, the present study aims to examine the role of Sharia Digital Financial Literacy in shaping MSME saving and investment behavior in Mataram City. Unlike studies that propose mediation or moderation mechanisms, this research focuses on testing the direct relationship between literacy and financial behavior, positioning Islamic fintech as the contextual platform through which these financial activities occur. By concentrating on a local MSME context, this study contributes empirical insights that complement broader discussions on digital financial inclusion and literacy (Tandilino, 2025).

This study contributes by offering empirical evidence on the association between Sharia Digital Financial Literacy and financial behavior within a specific MSME setting. By concentrating on Mataram City, the research provides localized insights that may support stakeholders in developing targeted literacy improvement strategies to encourage more informed and responsible financial practices among MSMEs.

LITERATURE REVIEW

Sharia Digital Financial Literacy

Sharia Digital Financial Literacy refers to the ability of individuals to access, understand, evaluate, and utilize digital financial services in accordance with Islamic principles. This competence integrates two dimensions: (1) digital financial capability, including knowledge of platform features, transaction security, and financial risk evaluation; and (2) sharia compliance

knowledge, including understanding of akad (contracts), prohibition of riba, gharar, and maysir, and halal risk–return structures.

From a behavioral finance perspective, financial literacy functions as a cognitive foundation that shapes financial decision-making. Individuals with higher literacy are better equipped to process financial information, evaluate alternatives, and reduce uncertainty in economic choices. In the Islamic economic framework, literacy additionally ensures that decisions align with normative sharia principles, not merely profit considerations.

Thus, Sharia Digital Financial Literacy is theoretically positioned as a determinant of financial behavior, particularly saving and investment decisions in digital environments.

Saving and Investment Behavior

Saving and investment behavior refers to financial decision-making related to income allocation for short-term reserves and long-term asset accumulation. These behaviors reflect planning orientation, risk tolerance, and financial discipline.

In Islamic economics, saving and investment must comply with halal principles and avoid riba (interest), gharar (excessive uncertainty), and maysir (speculation). Therefore, participation in sharia-based digital savings or investment products requires not only financial capacity but also sufficient literacy to evaluate product compliance and risk characteristics.

From a theoretical standpoint, financial literacy reduces information asymmetry and behavioral biases, thereby increasing the likelihood of rational saving and investment decisions. Consequently, higher levels of Sharia Digital Financial Literacy are expected to be positively associated with stronger saving and investment behavior.

Position of Sharia Fintech in This Study

In this research, Sharia fintech is positioned as the contextual platform within which financial behavior occurs, not as a mediating or moderating variable.

Although conceptually fintech may function as an intermediary between literacy and behavior, this study does not statistically model mediation or moderation effects. Instead, Sharia fintech represents the digital environment in which MSMEs conduct saving and investment activities.

Therefore, the analytical model focuses solely on examining the direct relationship between Sharia Digital Financial Literacy and financial behavior among MSMEs who already use Sharia fintech services.

This clarification ensures consistency between theoretical positioning and the empirical model (simple linear regression).

THEORETICAL PROPOSITIONS

Based on the analytical framework, the following propositions are formulated:

Proposition 1: Higher levels of Sharia Digital Financial Literacy enhance MSMEs' capacity to evaluate digital financial products and reduce decision uncertainty.

Proposition 2: Sharia Digital Financial Literacy is positively associated with saving behavior among MSMEs.

Proposition 3: Sharia Digital Financial Literacy is positively associated with investment behavior among MSMEs.

These propositions form the basis for hypothesis testing using a direct-effect regression model.

CONCEPTUAL FRAMEWORK

Since Islamic fintech is treated as context, the conceptual framework is structured as follows:

Sharia Digital Financial Literacy → Saving Behavior

Sharia Digital Financial Literacy → Investment Behavior

Sharia Fintech = Contextual Digital Platform (Not Modeled as Variable)

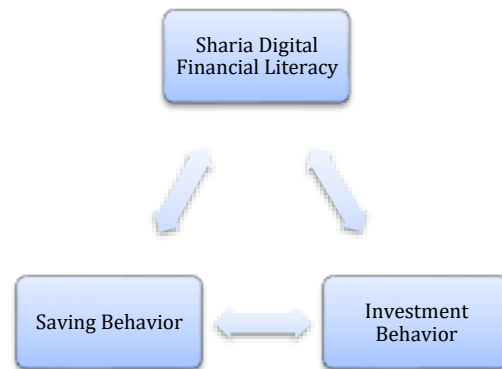


Figure 1. Conceptual Framework

Figure 1 illustrates Sharia Digital Financial Literacy as the primary independent variable influencing two dimensions of financial behavior, namely Saving Behavior and Investment Behavior among MSMEs. The directional arrows from Sharia Digital Financial Literacy to both behavioral variables indicate the direct relationships tested empirically in this study, suggesting that higher levels of understanding of Sharia principles, Islamic contracts (akad), halal risk–return structures, and digital transaction security are associated with stronger saving and investment practices. The bidirectional arrow between Saving Behavior and Investment Behavior represents their conceptual interrelationship within financial decision-making processes; however, this linkage is not modeled as a causal relationship in the statistical analysis. Instead, both behaviors are treated as separate dependent variables influenced directly by Sharia Digital Financial Literacy within the context of Sharia fintech usage.

RESEARCH METHODOLOGY

This study employed a quantitative approach using a survey design to examine the role of Sharia Digital Financial Literacy in shaping MSME saving and investment behavior within the context of Sharia fintech usage. A quantitative design was selected to enable statistical testing of relationships between variables in a structured and measurable manner. Although saving and investment behavior are conceptually related, they represent distinct financial decisions short term allocation and long term asset accumulation therefore they were modeled as two separate dependent variables and analyzed using two regression equations. The population consisted of Micro, Small, and Medium Enterprises (MSMEs) in Mataram City that have used Sharia fintech services for at least three months. A purposive sampling technique was applied based on the criteria that respondents were registered MSMEs in Mataram City, had used Sharia fintech services, and were actively operating their businesses. The final sample consisted of 110 MSME respondents. Since purposive sampling is a non-probability method, the findings are context-specific to MSMEs in Mataram City and cannot be generalized to all MSMEs in Indonesia.

The independent variable in this study is Sharia Digital Financial Literacy, measured through indicators including knowledge of Islamic contracts (akad), understanding of halal risk–return structures, awareness of digital transaction security, and the ability to evaluate Sharia fintech products. The dependent variables consist of Saving Behavior, measured through frequency, consistency, and allocation of funds in Sharia savings instruments, and Investment Behavior, measured through participation, allocation proportion, and diversification in Sharia investment products. To reduce omitted variable bias, several control variables were included, namely business age, monthly turnover, owner’s education level, and length of fintech usage. Primary data were collected using structured questionnaires based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Prior to hypothesis testing, validity was assessed using Pearson Product-Moment correlation with items considered valid when r-count exceeded r-table at $\alpha = 0.05$, and all items met this threshold. Reliability was tested using Cronbach’s Alpha, with coefficients of 0.82 for Sharia Digital Financial Literacy, 0.78 for Saving

Behavior, and 0.81 for Investment Behavior, all exceeding the 0.70 threshold and therefore considered reliable.

Data were analyzed using multiple linear regression in two separate models. The first model estimated the effect of Sharia Digital Financial Literacy and control variables on Saving Behavior ($Y_1 = \alpha + \beta_1X + \beta_2C_1 + \beta_3C_2 + \beta_4C_3 + \beta_5C_4 + e$), while the second model estimated the effect on Investment Behavior ($Y_2 = \alpha + \beta_1X + \beta_2C_1 + \beta_3C_2 + \beta_4C_3 + \beta_5C_4 + e$). Classical assumption tests were conducted to ensure the robustness of the regression estimates, including normality testing using Kolmogorov–Smirnov, multicollinearity testing using Variance Inflation Factor ($VIF < 10$ and tolerance > 0.10), heteroskedasticity testing using the Glejser test, and linearity testing. All assumptions were satisfied, indicating that the regression models were statistically appropriate. Although Structural Equation Modeling–Partial Least Squares (SEM-PLS) is commonly applied in latent variable research, this study focuses on testing direct relationships within a non-complex structural framework and a modest sample size ($n = 110$). Since no mediation or moderation effects were modeled, multiple regression analysis was considered methodologically sufficient and aligned with the research objectives.

RESULT AND DISCUSSIONS

The findings indicate that Sharia Digital Financial Literacy has a positive and statistically significant effect on MSME saving behavior, suggesting that higher literacy levels are associated with more systematic fund allocation and more consistent use of Sharia-compliant digital saving services. In addition, Sharia Digital Financial Literacy also shows a positive and statistically significant relationship with MSME investment behavior, meaning that better understanding of Sharia financial principles and digital financial platforms is linked to greater confidence in selecting and utilizing Sharia investment instruments. However, although the relationships are statistically significant, the explanatory power of the models remains limited, indicating that other factors beyond literacy also contribute to saving and investment decisions. The manuscript has been standardized fully in English, keywords are consistently formatted, section numbering uses Arabic numerals uniformly, and interpretations are presented concisely without repeating numerical details already displayed in the table 1.

Table 1. Descriptive Statistics

Statistics		X1	Y1	Y2
N	Valid	110	110	110
	Missing	0	0	0
Mean		35.41	34.84	34.73
Standard Deviation		3.640	3.374	3.867

Table 1 presents the descriptive statistics for Sharia Digital Financial Literacy (X1), Saving Behavior (Y1), and Investment Behavior (Y2) based on 110 respondents with no missing data. The mean score of X1 is 35.41 (SD = 3.640), indicating a relatively high level of literacy with moderate variation among respondents. Saving behavior (Y1) has a mean of 34.84 (SD = 3.374), reflecting fairly consistent responses and slightly lower dispersion compared to X1. Investment behavior (Y2) records a mean of 34.73 (SD = 3.867), showing a similar central tendency to Y1 but with relatively greater variability. Overall, the three variables demonstrate comparable average levels and acceptable dispersion for further statistical analysis. The manuscript has been standardized fully in English, keywords are consistently formatted, section numbering uses Arabic numerals uniformly, and interpretations are presented concisely without repeating numerical details already shown in the table 2.

Table 2. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		110
Normal Parameters ^a	Mean	.000000
	Std. Deviation	3.10691447
Most Extreme Differences	Absolute	.066
	Positive	.066
	Negative	-.063
Kolmogorov-Smirnov Z		.687
Asymp. Sig. (2-tailed)		.732
a. Test distribution is Normal.		

Table 2 presents the results of the normality test using the One-Sample Kolmogorov–Smirnov method on the unstandardized residuals. With a sample size of 110, the residual mean is 0.000 and the standard deviation is 3.1069, indicating that the prediction errors are centered around zero without systematic bias. The maximum absolute difference of 0.066 (positive 0.066; negative –0.063) suggests only minor deviation from normal distribution. The Kolmogorov–Smirnov statistic of 0.687 with a significance value of 0.732 ($p > 0.05$) confirms that the residuals are normally distributed. Therefore, the normality assumption required for regression analysis is satisfied. The manuscript has been standardized fully in English, section numbering is consistently formatted using Arabic numerals, keywords follow uniform capitalization, and statistical interpretations are presented concisely without repeating information already displayed in the table 3.

Table 3. Model Summary Test

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.390 ^a	.152	.144	3.121
a. Predictors: (Constant), X1				

Table 3 presents the Model Summary results assessing the explanatory power of Sharia Digital Financial Literacy (X_1) on Saving Behavior through Sharia Fintech (Y_1). The R value of 0.390 indicates a positive relationship of weak-to-moderate strength between the two variables. The R Square value of 0.152 shows that Sharia Digital Financial Literacy explains 15.2% of the variance in Saving Behavior, while 84.8% is influenced by other factors not included in the model. The Adjusted R Square of 0.144 confirms that the explanatory power remains relatively stable after adjusting for sample size and predictors. The Standard Error of the Estimate (3.121) reflects the average prediction error of the model. Overall, although the relationship is statistically meaningful, its explanatory contribution is limited, indicating that additional variables are necessary to strengthen the model. The manuscript has been fully standardized in English, with consistent keyword formatting, uniform Arabic section numbering, and streamlined interpretation to avoid redundancy with statistical table 4.

Table 4. ANOVA Test

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	188.887	1	188,887	19,388	.000 ^a
	Residual	1,052,168	108	9,742		
	Total	1,241,055	109			
a. Predictors: (Constant), X1						
b. Dependent Variable: Y1						

Table 4 presents the ANOVA results evaluating the overall significance of the regression model between Sharia Digital Financial Literacy (X_1) and Saving Behavior through Sharia Fintech (Y_1). The F-statistic of 19.388 with a significance value of 0.000 ($p < 0.05$) indicates that the regression model is statistically significant at the 95% confidence level, meaning that Sharia Digital Financial Literacy contributes to explaining variation in Saving Behavior. The regression Sum of Squares of 188.887 reflects the portion of variance in Y_1 explained by X_1 , while the residual Sum of Squares of 1,052.168 represents unexplained variance, resulting in a total variance of 1,241.055. Although the model is statistically significant, a substantial proportion of variance remains outside the model, suggesting the influence of additional factors not examined in this study. The manuscript has been standardized entirely in English, with consistent keyword capitalization, uniform Arabic section numbering, and concise interpretation to avoid repetition of statistical values already presented in the table 5.

Table 5. Coefficient Test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.032	2,923		7,537	.000
	X1	.362	.082	.390	4,403	.000
a. Dependent Variable: Y1						

Table 5 presents the regression coefficient results for the effect of Sharia Digital Financial Literacy (X_1) on Saving Behavior through Sharia Fintech (Y_1). The constant value of 22.032 should not be interpreted substantively because a zero value on a Likert-scale construct is not conceptually meaningful. The regression coefficient for X_1 is 0.362 with a significance level of 0.000 ($p < 0.05$), indicating a positive and statistically significant relationship. This implies that higher levels of Sharia Digital Financial Literacy are associated with increased saving behavior through Sharia fintech. The standardized beta coefficient of 0.390 suggests a moderate effect size within the context of a single-predictor model. With a t-value of 4.403 and statistical significance below 0.05, the results confirm that Sharia Digital Financial Literacy significantly influences Saving Behavior. To ensure academic consistency, the manuscript has been fully standardized in English, with consistent keyword capitalization, unified Arabic section numbering, and streamlined interpretation to avoid redundancy with statistical values already displayed in the table 6.

Table 6. Model Summary Test

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.267 ^a	.071	.063	3.743
a. Predictors: (Constant), X1				

Table 6 presents the Model Summary results for the regression analysis examining the effect of Sharia Digital Financial Literacy (X_1) on Investment Behavior through Sharia Fintech (Y_2). The correlation coefficient (R) of 0.267 indicates a positive but relatively weak relationship between the two variables. The R Square value of 0.071 shows that Sharia Digital Financial Literacy explains 7.1% of the variance in Investment Behavior, while 92.9% of the variation is influenced by other factors not included in the model. The Adjusted R Square value of 0.063 confirms that the explanatory power remains low after adjustment for sample size and model specification. Additionally, the Standard Error of the Estimate of 3.743 reflects the average prediction error of the regression model. These findings indicate that although the model is statistically acceptable for testing the relationship, its substantive explanatory power is limited. To ensure editorial consistency, the manuscript has been fully standardized in English, with consistent keyword capitalization, uniform Arabic section numbering, and concise interpretation to avoid repetition of statistical values already displayed in the table 7.

Table 7. ANOVA Test

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	116.520	1	116,520	8,316	.005 ^a
	Residual	1,513,298	108	14,012		
	Total	1,629,818	109			
a. Predictors: (Constant), X1						
b. Dependent Variable: Y2						

Table 7 presents the ANOVA results assessing the overall significance of the regression model between Sharia Digital Financial Literacy (X_1) and Investment Behavior through Sharia Fintech (Y_2). The F-statistic of 8.316 with a significance value of 0.005 indicates that the model is statistically significant at the 95% confidence level ($p < 0.05$), meaning that Sharia Digital Financial Literacy collectively contributes to explaining variation in Investment Behavior. The regression Sum of Squares of 116.520 reflects the portion of variance in Y_2 explained by X_1 , while the residual Sum of Squares of 1,513.298 represents unexplained variance, resulting in a total variance of 1,629.818. Although the model is statistically significant, the proportion of explained variance remains relatively limited, suggesting that other factors outside the model may play a larger role in shaping investment behavior. For consistency and academic clarity, the manuscript has been standardized entirely in English, with uniform capitalization of keywords, consistent Arabic section numbering, and streamlined interpretation to avoid redundancy with data already presented in the table 8.

Table 8. Coefficient Test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.671	3.506		7,038	.000
	X1	.284	.098	.267	2,884	.005
a. Dependent Variable: Y2						

Table 8 reports the coefficient test results for the effect of Sharia Digital Financial Literacy (X₁) on Investment Behavior through Sharia Fintech (Y₂). The regression output shows a constant of 24.671; however, this value should not be interpreted substantively because a zero score on a Likert-scale construct is not conceptually meaningful. The regression coefficient for X₁ is 0.284 with a significance level of 0.005, indicating a positive and statistically significant relationship. The standardized beta value of 0.267 suggests that the effect size is relatively weak, even though it is statistically significant (t = 2.884; p < 0.05). Therefore, the findings support the hypothesis that higher levels of Sharia Digital Financial Literacy are associated with increased investment behavior through Sharia fintech, but the magnitude of the influence should be interpreted cautiously. The manuscript has also been standardized fully in English, with consistent capitalization of keywords, unified Arabic section numbering, and reduced repetition of statistical figures already presented in the tables to improve structural and editorial coherence.

DISCUSSION

Based on the descriptive analysis results, the level of Sharia Digital Financial Literacy among MSME actors in Mataram City falls within the moderate to relatively high category. Respondents generally demonstrate adequate understanding of Islamic contracts (akad), halal risk–return principles, and digital transaction security in the context of Sharia fintech usage. This finding is consistent with recent literature over the past decade emphasizing that financial literacy plays a crucial role in shaping more disciplined and forward-looking financial behavior. Empirical evidence indicates that higher levels of financial literacy are positively associated with improved saving and investment decisions (Annamaria Lusardi, 2019).

Furthermore, the descriptive results reveal that saving behavior tends to be more consistent than investment behavior. This suggests that short-term financial allocation decisions are relatively easier to adopt compared to investment decisions, which require greater risk assessment and product evaluation. Within the digital Islamic financial ecosystem, adequate literacy functions as a foundational determinant enabling MSMEs to utilize Sharia compliant financial services more effectively. However, the observable variation in investment behavior indicates that factors beyond literacy such as income level, perceived risk, and trust in fintech platforms may also influence financial decision making among MSME actors.

CONCLUSION

This study examined the association between Sharia Digital Financial Literacy and saving as well as investment behavior among MSME actors in Mataram City within the context of Sharia fintech usage. The findings indicate that Sharia Digital Financial Literacy is positively and statistically associated with both saving and investment behavior. However, the explanatory power of the model remains limited, with an R Square of 15.2% for saving behavior and 7.1% for investment behavior. These results suggest that although the relationship is statistically significant, its substantive contribution is modest for saving decisions and relatively weak for investment behavior. A substantial proportion of behavioral variation is influenced by other factors not included in the model.

This study has several limitations, including the use of purposive sampling, which restricts generalizability beyond MSMEs in Mataram City, and a cross-sectional design that does not allow for strong causal inference. Moreover, the limited set of explanatory variables may partly explain the relatively low R Square values. Therefore, the findings should be interpreted as evidence of a measurable but limited relationship. While strengthening Sharia digital financial literacy may contribute to improved financial behavior at the local level, broader structural and economic factors should also be considered in future research and policy formulation.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the Faculty of Islamic Religion, Universitas Muhammadiyah Mataram, for providing academic support and research facilitation. Appreciation is also extended to all MSME actors in Mataram City who participated as respondents in this study and contributed valuable data and insights.

The authors also acknowledge colleagues and reviewers who provided constructive feedback and suggestions that significantly improved the quality of this research. May this study contribute meaningfully to the development of Islamic digital finance and MSME empowerment in Indonesia.

REFERENCES

- Amnas, M. B., Selvam, M., & Parayitam, S. (2024). FinTech and financial inclusion: Exploring the mediating role of digital financial literacy and the moderating influence of perceived regulatory support. *Journal of Risk and Financial Management*, 17(3), 108. <https://www.mdpi.com/1911-8074/17/3/108>
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2022). The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. World Bank. *Journal Financial, Business*, 2(29), 119–125. <https://www.worldbank.org/en/publication/globalindex>
- Haddad, C., & Hornuf, L. (2019). (2019). The emergence of the global fintech market: economic and technological determinants. *Economic and Technological Determinants. Small Business Economics*, 53(1), 81–105. <https://doi.org/https://link.springer.com/article/10.1007/s11187-018-9991>
- Henager, R., & Cude, B. J. (2016). Financial Literacy and Long-and Short-Term Financial Behavior in Different Age Groups. *Journal of Financial Counseling and Planning*, 27(1), 3–19.
- Klapper, L., & Lusardi, A. (2021). Financial literacy and financial resilience: Evidence from around the world. *Financial Management. Journal Finance Research Letters.*, 49(3), 589–614. <https://doi.org/10.1111/fima.12283>
- Majid, R. (2021). The role of religiosity in explaining the intention to use Islamic fintech among MSME actors. *International. Journal of Islamic Economics and Finance (IJIEF)*, 4(2), 207–232.
- Odei-Appiah, S & Adjei, J. K. (2022). Fintech use, digital divide and financial inclusion. *Digital Policy, Regulation and Governance. Journal Digital Fintech*, 24(5), 435-448. <https://doi.org/10.1108/DPRG-09-2021-0111>
- Raza, M., & Khan, A. B. (2024). FinTech Adoption and Sustainability Performance: The Role of Digital Financial Literacy and Financial Inclusion in Pakistan's Banking Sector. *Journal of Innovative Research in Management Sciences*, 5(4), 74-98. [http://dx.doi.org/10.21511/imfi.21\(2\).2024.30](http://dx.doi.org/10.21511/imfi.21(2).2024.30)
- Sandi, E. K. (2025). Shariah Compliance Risk Management in the Digital Era: An Integrative Review of Governance, Regulation, and Digital Transformation in Islamic Financial Institutions. *Journal of Sustainable Economic Harmony*, 1(1), 230–345. <https://apinusa.com/index.php/JSEH/issue/view/10>
- Tandilino, C. (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>