Cek Plagiasi Turnitin

by Ridwan Widagdo

Journal of Islamic Economics Lariba
(P-ISSN 2477-4839 E-ISSN 2528-3758)
2026, Vol. 12, No. 1, 313-336
https://doi.org/10.20885/jielariba.vol12.iss1.art11

UNIVERSITAS ISLAM INDONESIA

OPEN ACCESS

Check for updates

Islamic fintech, financial inclusion, and MSME sustainability: Evidence from a mixed-method study in Indonesia's digital economy

Ridwan Widagdo[1], Sri Rokhlinasari[2], & Wartoyo[1]

[1]Program Studi Akuntansi Syari'ah (S1), Universitas Islam Negeri Siber Syekh Nurjati Cirebon, Kota Cirebon, Indonesia
[2]Program Studi Ekonomi Syari'ah (S3), Universitas Islam Negeri Siber Syekh Nurjati Cirebon, Kota Cirebon, Indonesia

ABSTRACT

Introduction

Micro, Small, and Medium Enterprises play a critical role in economic development, employment generation, and inclusive growth, particularly in developing countries. Despite their importance, many MSMEs face persistent barriers in accessing formal financial services, which limits their ability to sustain and scale their businesses. The emergence of Islamic financial technology offers an alternative pathway by providing digital, sharia-compliant financial services that can enhance financial inclusion and support sustainable business practices.

Objectives

This study aims to analyze the role of Islamic fintech in improving financial inclusion and its impact on MSME sustainability. It also examines the mediating role of financial inclusion in the relationship between Islamic fintech and sustainable MSME performance within a digital business environment.

Method

The study employs a mixed-method approach using a sequential exploratory design. Qualitative data were collected through in-depth interviews with MSME stakeholders in Region III Cirebon, Indonesia, while quantitative data were obtained from 96 MSMEs using structured questionnaires. The analysis combines qualitative thematic interpretation with quantitative modeling using Structural Equation Modeling with Partial Least Squares to test the proposed relationships among variables.

JEL Classification:
G21, G23, G28, O16, O33, Z13

KAUJIE Classification:
H42, H54, I16, J42, L26

ARTICLE HISTORY:

Submitted: September 5, 2025
Revised: September 29, 2025; February 12, 2026
Accepted: February 13, 2026
Published: February 14, 2026

KEYWORDS:

financial inclusion; Islamic fintech; MSME performance; MSME sustainability; Sharia-compliant finance; Small and medium enterprises; sustainable business model

Contact: Ridwan Widagdo ridwanwidagdo@syekhnurjati.ac.id

Results

The findings indicate that Islamic fintech has a positive and significant effect on financial inclusion, while financial inclusion significantly enhances MSME sustainability. The results also confirm that financial inclusion mediates the relationship between Islamic fintech and MSME sustainability, suggesting that the impact of Islamic fintech operates indirectly through improved access to financial services. Qualitative findings further reveal that sustainable MSME models emphasize digital transformation, institutional support, and integration of economic and social practices.

Implications

The study highlights the importance of strengthening Islamic fintech ecosystems to improve financial access and support MSME sustainability. It also underscores the need for policies that promote financial literacy, digital readiness, and regulatory support to maximize the benefits of fintech adoption.

Originality/Novelty

This research contributes to the literature by providing empirical evidence on the mediating role of financial inclusion in the relationship between Islamic fintech and MSME sustainability. It offers a comprehensive perspective by integrating qualitative and quantitative approaches within the context of a developing economy.

CITATION: Widagdo, R., Rokhlinasari, S., & Wartoyo. (2026). Islamic fintech, financial inclusion, and MSME sustainability: Evidence from a mixed-method study in Indonesia's digital economy. Journal of Islamic Economics Lariba, 12(1), 313-336. https://doi.org/10.20885/jielariba.vol12.iss1.art11

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are widely recognized as the backbone of economic development in both emerging and developing economies. Recent empirical studies consistently demonstrate that MSMEs account for the majority of firms, contribute substantially to national output, and play a critical role in employment generation and poverty reduction (Asian Development Bank, 2023; Dela Cruz et al., 2023; Mukherjee & Mukherjee, 2022). In Southeast Asia and similar regions, MSMEs support inclusive growth by facilitating entrepreneurship, strengthening local value chains, and promoting regional trade integration. However, the contribution of MSMEs is not uniform across contexts, as outcomes often depend on institutional quality, access to finance, and technological adoption (Asian Development Bank, 2022; Uddin et al., 2022). These findings highlight the structural importance of MSMEs while underscoring the need for enabling ecosystems that sustain their long-term development.

In recent years, digital financial innovation—particularly financial technology (fintech)—has emerged as a transformative force reshaping MSME development pathways. Empirical literature suggests that fintech enhances access to credit, facilitates digital payments, and improves financial management efficiency, thereby supporting MSME productivity and sustainability (Altman & Sabato, 2023; Mahesh et al., 2023; Rahmadi et al., 2023). In Indonesia and other developing countries, fintech adoption has been linked to improved business performance, broader market participation, and enhanced resilience during economic disruptions (Mustafida et al., 2021; Nursansiwi & Armiani, 2024). Nevertheless, these benefits are often contingent upon complementary factors such as digital literacy, regulatory frameworks, and infrastructure readiness, indicating that fintech alone does not automatically guarantee inclusive outcomes (Angeles, 2022; Dela Cruz et al., 2023).

Despite the growing presence of fintech ecosystems, MSMEs continue to face persistent barriers in accessing formal financial services. Traditional financial institutions typically require collateral, formal credit histories, and structured financial records—conditions that many MSMEs fail to meet due to informality and limited accounting capacity (Bongomin & Ntayi, 2019; Chaora, 2024). Moreover, high transaction costs, complex administrative procedures, and regulatory uncertainty further constrain MSMEs' ability to engage with formal financial systems (Gershenson et al., 2021; Pentury, 2023). These structural limitations are exacerbated by digital divides, particularly in rural and underserved regions where access to reliable internet and financial infrastructure remains limited (Mushani, 2024). Consequently, a significant portion of MSMEs remains financially excluded despite the expansion of digital financial services.

Fintech is often proposed as a general solution to these challenges by reducing transaction costs, simplifying financial processes, and expanding access to financial products. Empirical evidence indicates that fintech adoption improves financial inclusion by enabling MSMEs to access digital payments, alternative lending platforms, and innovative financing mechanisms (Gupta et al., 2022; Johri et al., 2024). Within this landscape, Islamic fintech presents a distinctive approach by integrating technological innovation with sharia-compliant financial principles. Islamic fintech platforms, such as peer-to-peer lending and crowdfunding, provide alternative financing channels aligned with ethical and religious considerations, thereby attracting previously underserved segments of the population (Devi et al., 2023; Mustafida et al., 2021). However, the effectiveness of fintech, including Islamic fintech, remains uneven across regions due to variations in regulatory environments, financial literacy, and institutional capacity (Gershenson et al., 2021; Pellegrino & Abe, 2022).

To address these limitations, prior literature identifies several specific strategies that enhance the effectiveness of fintech in supporting MSME development. One of the most critical factors is financial and digital literacy, which significantly influences the adoption and effective use of fintech services (Morgan, 2022; Nursansiwi & Armiani, 2024). Improved literacy enables MSME owners to better understand financial products, manage risks, and utilize digital platforms efficiently, ultimately improving financial performance and sustainability. In addition, the development of integrated digital ecosystems—including payment systems, credit platforms, and financial advisory services—has been shown to strengthen MSME participation in formal financial systems

(Buteau, 2021; Pellegrino & Abe, 2022). These ecosystems reduce operational inefficiencies and provide comprehensive financial solutions tailored to MSME needs.

Another important strategy involves the use of data-driven credit assessment models and supportive regulatory frameworks. Advances in artificial intelligence and alternative data analytics allow fintech platforms to overcome information asymmetry by evaluating creditworthiness beyond traditional collateral-based methods (Chen, 2024; Lee et al., 2021). At the same time, regulatory innovations such as sandbox environments, data protection policies, and public–private partnerships play a crucial role in fostering trust and ensuring the scalability of fintech solutions (Kim et al., 2021; Troilo et al., 2025). In the context of Islamic fintech, sharia-compliant financing models—such as profit-sharing and asset-based contracts—offer additional advantages by promoting ethical financial practices and aligning with the values of Muslim entrepreneurs (Fidhayanti et al., 2024; Maharani et al., 2024; Yuniati et al., 2024). These strategies collectively demonstrate that fintech effectiveness depends on a combination of technological, institutional, and behavioral factors.

Although the existing literature provides valuable insights into the relationship between fintech, financial inclusion, and MSME performance, several gaps remain. First, while many studies confirm the positive impact of fintech on financial inclusion and MSME outcomes, the mediating role of financial inclusion is rarely examined using rigorous empirical methods (Albab & Mawardi, 2025; A. Hamid et al., 2024; Yuneline, 2022). Second, empirical findings are often inconsistent across different contexts, reflecting variations in infrastructure, regulatory environments, and levels of financial literacy (Fidhayanti et al., 2024; Hartanto et al., 2023). Third, there is limited consensus on how financial inclusion should be measured, which complicates cross-study comparisons and hinders theoretical development (Devi et al., 2023). Finally, research on Islamic fintech remains relatively fragmented, with limited integration of sustainability perspectives and insufficient focus on emerging markets beyond a few key regions (Azwar & Jamaluddin, 2024; E. S. Hamid & Artha, 2025; Timur et al., 2024).

In light of these gaps, this study aims to examine the role of Islamic fintech in enhancing MSME sustainability through financial inclusion, with a particular focus on its mediating effect. By employing a mixed-method sequential exploratory approach, this research integrates qualitative insights and quantitative analysis to provide a comprehensive understanding of the relationships among Islamic fintech, financial inclusion, and MSME sustainability. The study contributes to the literature by offering empirical evidence on the mediating role of financial inclusion and by contextualizing Islamic fintech within sustainable business models. Furthermore, it provides a theoretical justification for the proposed hypotheses and highlights the importance of integrating technological innovation with inclusive financial systems to support sustainable MSME development.

LITERATURE REVIEW

Islamic Fintech: Conceptual Foundations and Distinctive Characteristics

Islamic fintech has emerged as a significant innovation within the broader financial technology ecosystem, combining digital financial services with the ethical and legal principles of Islamic finance. The literature defines Islamic fintech as the integration of financial technology with sharia-compliant financial practices aimed at delivering inclusive, transparent, and ethical financial solutions (Ajouz & Abuamria, 2023; Alshater et al., 2022; Kiliç, 2023). Unlike conventional fintech, which primarily focuses on efficiency and profitability, Islamic fintech embeds moral and religious considerations into its operational framework. This integration reflects a broader objective to align financial innovation with maqasid al-Shariah, ensuring that economic activities contribute to social justice and welfare.

A key distinguishing feature of Islamic fintech lies in its adherence to fundamental sharia principles, including the prohibition of riba (interest), gharar (uncertainty), and maisir (speculation). Instead, Islamic fintech promotes risk-sharing mechanisms and asset-backed transactions through instruments such as mudarabah, musharakah, and ijarah (Mohd Haridan et al., 2023; Takidah & Kassim, 2022). These principles reshape the design of fintech products by emphasizing fairness, transparency, and ethical conduct. Furthermore, governance structures—such as sharia supervisory boards and regulatory frameworks—play a critical role in ensuring compliance, thereby enhancing trust among users and reinforcing the legitimacy of Islamic fintech systems.

The institutional and regulatory environment significantly influences the development of Islamic fintech. In Indonesia, for example, the DSN-MUI fatwa framework provides guidance for sharia-compliant digital financial services, shaping product innovation and market expansion. However, challenges remain regarding regulatory harmonization, standardization, and enforcement across jurisdictions (Azwar & Jamaluddin, 2024; Syahputra et al., 2023). These dynamics suggest that while Islamic fintech offers a promising pathway for financial inclusion, its effectiveness depends on robust governance mechanisms and supportive institutional ecosystems.

Financial Inclusion: Theoretical Perspectives and Measurement Approaches

Financial inclusion is widely conceptualized as the ability of individuals and businesses to access and effectively use appropriate financial services. In the context of MSMEs, financial inclusion is critical for enabling business growth, improving financial management, and enhancing resilience. Theoretical frameworks used to analyze financial inclusion often draw from technology adoption models such as the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), and Unified Theory of Acceptance and Use of Technology (UTAUT). These frameworks emphasize perceived usefulness, ease of use, and trust as key determinants of fintech adoption (Hasyim et al., 2022; Majid, 2021).

In addition to technology-based theories, financial inclusion in Islamic contexts is also influenced by religio-cultural and governance factors. The integration of maqasid al-Shariah principles into financial systems introduces ethical dimensions that shape user behavior and institutional design (Alshater et al., 2022). For MSMEs operating in predominantly Muslim markets, religious compliance and trust in sharia governance significantly influence the adoption of financial services. This perspective highlights the importance of contextual factors in understanding financial inclusion dynamics, particularly in emerging economies.

Measurement of financial inclusion typically involves multidimensional indicators, including access, usage, and financial literacy. Empirical studies frequently employ survey-based instruments and structural equation modeling (SEM) to assess relationships among these variables (Dewi & Adinugraha, 2023; Maharani et al., 2024). Financial inclusion is also often modeled as a mediating variable linking fintech adoption to MSME performance outcomes. However, variations in measurement approaches across studies present challenges for comparability and generalization, indicating the need for standardized metrics.

MSME Sustainability and Sustainable Business Models

Sustainability in MSMEs is increasingly understood through multidimensional frameworks that integrate economic, social, and environmental considerations. The triple bottom line (TBL) approach is commonly used to conceptualize sustainable business models, emphasizing profit (economic viability), people (social responsibility), and planet (environmental stewardship). This framework aligns with broader sustainability and Sustainable Development Goals (SDGs) perspectives, which highlight the role of MSMEs in achieving inclusive and environmentally responsible growth (Badoc-Gonzales et al., 2022; Mondal et al., 2024).

Institutional theory provides another important lens for understanding MSME sustainability, particularly in relation to financial inclusion. It emphasizes how regulatory structures, norms, and institutional pressures shape business behavior and access to resources. In Islamic finance contexts, institutional factors such as regulatory compliance and sharia governance significantly influence MSME sustainability outcomes (Saifurrahman & Kassim, 2023). These factors determine the extent to which MSMEs can access formal financial systems and adopt sustainable practices.

Technology adoption frameworks also contribute to the analysis of MSME sustainability by explaining how digital tools, including fintech, influence business performance. Empirical studies show that fintech adoption enhances operational efficiency, financial management, and market access, thereby supporting long-term sustainability (Devi et al., 2023; Majid & Mawaddah, 2022). However, sustainability outcomes depend on complementary factors such as financial literacy, digital readiness, and institutional support, highlighting the complexity of MSME development pathways.

Fintech, Financial Inclusion, and MSME Performance: Empirical Evidence

Empirical research consistently demonstrates a positive relationship between fintech adoption and financial inclusion, particularly in developing regions such as Asia-Pacific.

Studies in Indonesia, Malaysia, and India show that fintech facilitates access to digital payments and credit, improves financial management, and enhances MSME performance (Azwar & Jamaluddin, 2024; Hasyim et al., 2022). Islamic fintech, in particular, plays a significant role in expanding inclusion by providing sharia-compliant financial solutions that cater to the needs of Muslim entrepreneurs.

However, the effectiveness of fintech varies across regions. In Africa and Latin America, empirical findings indicate that fintech-driven inclusion is often constrained by regulatory challenges, infrastructure limitations, and low financial literacy (Gershenson et al., 2021). These disparities suggest that fintech alone is insufficient to achieve inclusive financial systems without supportive institutional frameworks. Moreover, the impact of fintech on long-term MSME sustainability remains context-dependent, with some studies reporting limited or mixed effects.

The mechanisms through which fintech influences MSME performance include improved access to credit, reduced transaction costs, and enhanced financial management. Digital payment systems and alternative financing platforms, such as peer-to-peer lending and crowdfunding, enable MSMEs to overcome traditional financial barriers. Nevertheless, the sustainability of these benefits depends on factors such as trust, governance, and user capabilities, emphasizing the need for a holistic approach to fintech implementation.

Mechanisms and Mediating Factors in Fintech Impact

The literature identifies financial inclusion as a central mediating variable linking fintech adoption to MSME performance and sustainability. By expanding access to financial services, fintech enables MSMEs to improve liquidity, invest in growth, and enhance resilience (Marini et al., 2024; Ristati et al., 2024). Empirical studies in Indonesia and other developing countries confirm that financial inclusion significantly mediates the relationship between fintech and MSME outcomes, highlighting its role as a critical transmission mechanism.

Financial literacy and digital capability are also important mediating and moderating factors. Higher levels of financial literacy enable MSME owners to effectively utilize fintech services, make informed financial decisions, and manage risks (A. Hamid et al., 2024; Sari et al., 2023). Similarly, digital readiness enhances the adoption and effectiveness of fintech platforms, leading to improved business performance. These findings suggest that technological solutions must be complemented by capacity-building initiatives to achieve meaningful impact.

Other contextual factors, such as trust, regulatory support, and platform design, further influence fintech effectiveness. Trust in financial systems and data security is essential for encouraging adoption, while regulatory frameworks ensure stability and consumer protection (Aeni et al., 2024; Supriadi et al., 2023). Additionally, ecosystem collaboration among financial institutions, fintech providers, and policymakers enhances service delivery and scalability. These factors collectively demonstrate that fintech impact is multifaceted and contingent on both technological and institutional conditions.

Research Gap and the Significance of the Study

Despite the extensive body of literature on fintech, financial inclusion, and MSME development, several critical gaps remain. First, while many studies establish direct relationships between fintech adoption and MSME performance, the mediating role of financial inclusion is often underexplored and insufficiently quantified. This limitation restricts a deeper understanding of the mechanisms through which fintech contributes to sustainability outcomes. Second, inconsistencies in empirical findings across regions indicate that contextual factors, such as regulatory environments and infrastructure, significantly influence outcomes, yet these factors are not always systematically analyzed.

Furthermore, measurement challenges persist due to variations in how financial inclusion and MSME sustainability are operationalized across studies. This lack of standardization complicates comparative analysis and theoretical development. Additionally, research on Islamic fintech remains fragmented, with limited integration of sustainability perspectives and insufficient attention to mediation mechanisms. Therefore, this study is significant as it seeks to address these gaps by examining the mediating role of financial inclusion in the relationship between Islamic fintech and MSME sustainability, providing both theoretical and empirical contributions to the field.

METHOD

Research Design

This study adopts a mixed-method approach using a sequential exploratory design, which integrates qualitative and quantitative methods in a structured and complementary manner. The exploratory sequential design begins with qualitative data collection and analysis to identify key phenomena and contextual insights, followed by quantitative analysis to test relationships among variables derived from the qualitative phase (Gogo & Musonda, 2022; González-Díaz & Bustamante-Cabrera, 2021; Mason et al., 2010). This approach is particularly appropriate for examining complex socio-economic phenomena such as the interaction between Islamic fintech, financial inclusion, and MSME sustainability, where both contextual understanding and empirical validation are required.

The qualitative phase provides an in-depth understanding of sustainable MSME practices and institutional dynamics, while the quantitative phase allows for hypothesis testing and generalization of findings. By combining these two approaches, the study enhances methodological rigor and ensures that both theoretical constructs and real-world conditions are adequately captured. The integration of qualitative and quantitative findings strengthens the explanatory power of the research and provides a more comprehensive understanding of the research problem.

Research Setting and Sample

The study was conducted in Region III Cirebon, which includes Cirebon Regency, Cirebon City, Indramayu Regency, Kuningan Regency, and Majalengka Regency. These areas were selected because they represent diverse MSME ecosystems with varying levels of digital adoption and financial inclusion. The regional focus allows for an in-depth examination of MSME dynamics within a specific socio-economic context while maintaining relevance to broader national conditions.

The quantitative sample consists of 96 MSMEs selected using an accidental sampling technique, which includes respondents who are readily accessible and willing to participate in the study. The sample size was determined using a standard statistical formula:

$$n = Z^2 \times P \times Q / L^2$$

where $Z = 1.96$ (95% confidence level), $P = 0.5$, $Q = 0.5$, and $L = 0.1$. The calculation yields a minimum sample size of 96 respondents, ensuring adequate statistical power for analysis. Although accidental sampling may limit generalizability, it is appropriate for exploratory research where access to respondents is constrained.

Data Collection Procedures

Data collection was conducted in two stages, corresponding to the mixed-method design. The qualitative phase involved in-depth interviews with key informants, including MSME officials and representatives from local government agencies responsible for MSME development in the five administrative regions. These interviews focused on understanding sustainable business practices, institutional support mechanisms, and challenges faced by MSMEs in adopting digital financial services. The qualitative data were used to identify key variables and inform the development of the quantitative instrument.

The quantitative phase utilized a structured questionnaire distributed to MSME owners and managers. The questionnaire was designed to measure three main constructs: Islamic fintech, financial inclusion, and MSME sustainability. Indicators for Islamic fintech included market aggregator usage, risk and investment management, and knowledge of fintech products. Financial inclusion was measured through access to banking services, insurance usage, and credit utilization. MSME sustainability was assessed based on financial capability, strategic capability, and organizational capability. The use of both qualitative and quantitative data enhances the reliability and validity of the findings.

Measurement of Variables

The study operationalizes three primary variables: Islamic fintech, financial inclusion, and MSME sustainability. Islamic fintech is measured through indicators reflecting the extent of respondents' engagement with digital financial services, including their understanding of fintech products, usage of digital financial platforms, and involvement in risk and investment management activities. These indicators capture both the adoption and functional utilization of Islamic fintech services.

Financial inclusion is conceptualized as access to and usage of formal financial services. It is measured through respondents' use of banking products, participation in insurance schemes, and access to credit facilities. This multidimensional approach reflects the broader concept of inclusion beyond mere access, encompassing actual utilization of financial services. MSME sustainability is measured through indicators related to financial performance, strategic planning, and organizational capability, which collectively represent the firm's ability to maintain long-term viability. These measurements align with prior research emphasizing the multidimensional nature of sustainability.

Data Analysis Techniques

Qualitative data analysis was conducted using a systematic process involving data reduction, data display, and conclusion drawing. This approach allows for the identification of patterns, themes, and relationships within the data. The qualitative findings provide contextual insights into MSME practices and inform the interpretation of quantitative results. The validity of qualitative data was ensured through standard verification techniques, including triangulation and consistency checks.

Quantitative data analysis was performed using Structural Equation Modeling with Partial Least Squares (SEM-PLS), implemented through SmartPLS software. SEM-PLS is particularly suitable for studies with relatively small sample sizes and complex models, as it allows for simultaneous analysis of multiple relationships among variables. The analysis included tests for validity, reliability, multicollinearity, and model fit. Instrument validity was assessed by comparing factor loadings with threshold values, while reliability was evaluated using Cronbach's alpha, with a minimum acceptable value of 0.60. Multicollinearity was tested using Variance Inflation Factor (VIF), with values below 5 indicating no multicollinearity.

Hypothesis testing was conducted using significance levels of 0.05. Path coefficients were examined to determine the strength and direction of relationships among variables. The model's explanatory power was evaluated using the coefficient of determination (R^2), which indicates the proportion of variance explained by the independent variables. This comprehensive analytical framework ensures that the study's findings are robust, reliable, and grounded in rigorous statistical analysis.

RESULTS

Qualitative Findings: Sustainable MSME Business Model in the Digital Era

The qualitative findings provide an in-depth understanding of how MSMEs conceptualize and implement sustainability within the digital economy. Interviews with regional MSME officials reveal that sustainable MSMEs are defined not only by their ability to generate continuous economic returns but also by their capacity to adapt, innovate, and deliver long-term social and environmental benefits. Sustainability is understood as a dynamic process requiring periodic renewal of business strategies and practices to maintain competitiveness. This perspective reflects an evolving orientation among MSMEs toward long-term resilience rather than short-term profitability.

Government-led programs play a crucial role in shaping sustainable MSME practices. These initiatives include training in digital marketing, financial management, and business administration, as well as support for certification processes such as halal certification, intellectual property rights (IPR), business identification numbers (NIB), and food production permits (PIRT). Such programs aim to enhance MSME competitiveness by improving product quality, expanding market access, and strengthening institutional legitimacy. Additionally, partnerships with digital platforms and private sector actors facilitate knowledge transfer and technological adoption, enabling MSMEs to operate more efficiently within modern markets.

From a structural perspective, the sustainable MSME business model can be categorized into three dimensions: economic, social, and environmental. Economically, sustainability is supported by digitalization, e-commerce integration, and access to Islamic financial institutions. Socially, sustainability is reflected in capacity-building programs, inclusive market access, and community engagement initiatives such as MSME malls and collaborative platforms. However, environmental sustainability remains relatively underdeveloped, with limited evidence of systematic initiatives such as waste management or energy efficiency programs. This imbalance suggests that while MSMEs have made progress in economic and social dimensions, environmental considerations require further integration into business practices.

Descriptive Statistics

The descriptive analysis provides an overview of the distribution and characteristics of the main variables: Islamic fintech, financial inclusion, and MSME sustainability. The results indicate that respondents generally exhibit a relatively high level of engagement with Islamic fintech services, as reflected in the average score approaching the upper bound of the observed range. This suggests that MSME actors in the study area possess a moderate to high level of familiarity with digital financial services.

Similarly, financial inclusion levels are relatively high, with respondents demonstrating substantial access to and usage of formal financial services. The mean value indicates that most respondents actively engage with banking, credit, and insurance products, reflecting a favorable financial inclusion environment. MSME sustainability also shows a relatively high average score, indicating that respondents perceive their businesses as financially viable and strategically capable of sustaining long-term operations.

Table 1

Descriptive Statistics of Research Variables

Variable	Theoretical Min	Theoretical Max	Actual Min	Actual Max	Mean	Std. Deviation
Islamic Fintech	6	42	30	42	33.45	4.492
Financial Inclusion	4	28	20	28	22.49	2.925
MSME Sustainability	6	42	30	40	32.88	3.573

Source: Primary data. Authors' estimation.

The relatively low standard deviations across all variables indicate limited dispersion, suggesting consistency in respondents' perceptions. These findings imply that Islamic fintech adoption, financial inclusion, and sustainability are relatively well-established among MSMEs in the study area.

Measurement Model Evaluation

The validity and reliability of the measurement model were assessed to ensure the robustness of the constructs used in the study. Convergent validity was evaluated using factor loadings, with most indicators exceeding the recommended threshold of 0.70. A few indicators within the financial inclusion construct exhibited loadings between 0.50 and 0.60, which are still considered acceptable based on established criteria (Ghozali, 2018).

Table 2

Validity Test Results

Variable	Indicator	Loading Factor	Result
Islamic Fintech	FTH1	0.812	Valid
	FTH2	0.737	Valid
	FTH3	0.768	Valid
	FTH4	0.868	Valid
	FTH5	0.859	Valid
Financial Inclusion	IKL1	0.748	Valid
	IKL2	0.756	Valid
	IKL3	0.720	Valid
	IKL4	0.669	Valid
	IKL5	0.529	Valid
	IKL6	0.631	Valid
MSME Sustainability	UMKM1	0.770	Valid
	UMKM2	0.816	Valid
	UMKM3	0.888	Valid
	UMKM4	0.864	Valid
	UMKM5	0.901	Valid
	UMKM6	0.823	Valid

Source: Primary data. Authors' estimation.

Reliability was assessed using Cronbach's alpha, with all constructs exceeding the minimum threshold of 0.70, indicating strong internal consistency (Reza, 2017).

Table 3

Reliability Test Results

Variable	Cronbach's Alpha	Standard	Result
Islamic Fintech	0.868	>0.70	Reliable
Financial Inclusion	0.778	>0.70	Reliable
MSME Sustainability	0.920	>0.70	Reliable

Source: Primary data. Authors' estimation.

Multicollinearity testing showed that all Variance Inflation Factor (VIF) values were below 5, indicating no significant multicollinearity issues.

Structural Model Evaluation

The structural model was evaluated using the coefficient of determination (R^2), which measures the explanatory power of the model. The results indicate that Islamic fintech explains 38.3% of the variance in financial inclusion, while Islamic fintech and financial inclusion together explain 15.3% of the variance in MSME sustainability.

Table 4

Structural Model Fit

Dependent Variable	R^2
Financial Inclusion	0.383
MSME Sustainability	0.153

Source: Primary data. Authors' estimation.

These values suggest that while the model provides moderate explanatory power for financial inclusion, its ability to explain MSME sustainability is relatively limited. This indicates that additional factors beyond those included in the model may influence sustainability outcomes.

Hypothesis Testing Results

Hypothesis testing was conducted to examine the relationships among Islamic fintech, financial inclusion, and MSME sustainability. The results indicate that all proposed hypotheses are supported, with statistically significant positive relationships observed across all paths.

Table 5

Hypothesis Testing Results

Relationship	Coefficient	Significance	Result
Islamic Fintech → Financial Inclusion	0.619	0.000	Supported
Financial Inclusion → MSME Sustainability	0.391	0.000	Supported
Islamic Fintech → MSME Sustainability (Mediated)	0.242	0.000	Supported

Source: Primary data. Authors' estimation.

The first hypothesis confirms that Islamic fintech has a strong positive effect on financial inclusion. This finding suggests that increased adoption of Islamic fintech services enhances MSMEs' access to financial products and services. The second hypothesis demonstrates that financial inclusion positively influences MSME sustainability, indicating that improved access to financial services supports business continuity and growth.

The third hypothesis reveals that financial inclusion mediates the relationship between Islamic fintech and MSME sustainability. This result highlights the indirect effect of Islamic fintech, suggesting that its impact on sustainability operates through enhanced financial inclusion. In other words, the effectiveness of Islamic fintech in improving MSME sustainability depends on its ability to expand financial access and usage.

Interpretation of Quantitative Findings

The quantitative results reinforce the central role of financial inclusion as a key mechanism linking Islamic fintech to MSME sustainability. The strong relationship between Islamic fintech and financial inclusion indicates that digital financial services play a significant role in reducing barriers to financial access. This finding aligns with theoretical perspectives emphasizing the importance of technology in expanding financial inclusion.

Furthermore, the positive relationship between financial inclusion and MSME sustainability suggests that access to financial services enables MSMEs to improve financial management, access capital, and enhance operational efficiency. However, the relatively low R^2 value for sustainability indicates that financial inclusion alone is insufficient to fully explain sustainability outcomes. Factors such as market conditions, managerial capabilities, and external support systems may also play significant roles.

Overall, the results demonstrate that while Islamic fintech contributes to MSME sustainability, its impact is largely indirect and mediated by financial inclusion. This highlights the importance of integrating fintech adoption with broader financial inclusion strategies to achieve sustainable business outcomes.

DISCUSSION

Islamic Fintech and Financial Inclusion

The findings of this study demonstrate that Islamic fintech has a significant and positive effect on financial inclusion among MSMEs. The empirical results indicate that increased understanding and utilization of Islamic fintech services are associated with improved access to financial products such as payments, financing, and investment instruments. This suggests that Islamic fintech plays a critical role in reducing traditional barriers to financial access by offering flexible, technology-driven, and sharia-compliant financial solutions. The relatively high coefficient value further indicates that fintech adoption is a strong predictor of financial inclusion in the study context, reinforcing its relevance in supporting MSME development within digital economies.

These findings are consistent with prior empirical studies that highlight the role of fintech in expanding financial inclusion through digital platforms and alternative financing mechanisms (Devi et al., 2023; Latifah & Jati, 2023; Shobandiyah et al., 2023). The literature emphasizes that fintech enhances access to credit and payment systems while reducing transaction costs and information asymmetry. Moreover, Islamic fintech introduces additional mechanisms through sharia governance, which increases trust and adoption among Muslim entrepreneurs (Huda & Risman, 2024; Ibrahim, 2024). However, some studies also note that the impact of fintech on inclusion is context-dependent, influenced by factors such as literacy, infrastructure, and regulatory support (Hasanudin & Panigfat, 2023).

From a theoretical perspective, these results reinforce technology adoption and financial access theories by demonstrating how digital financial innovation can expand inclusion through reduced transaction frictions and improved accessibility. Practically, the findings suggest that MSMEs should be encouraged to adopt Islamic fintech as a strategic tool for accessing financial services. From a policy standpoint, regulators should strengthen fintech ecosystems by ensuring regulatory clarity, enhancing consumer protection, and supporting digital infrastructure. These measures can amplify the positive effects of Islamic fintech on financial inclusion and contribute to broader economic development goals.

Financial Inclusion and MSME Sustainability

The study further reveals that financial inclusion has a positive and significant effect on MSME sustainability. MSMEs with greater access to financial services demonstrate stronger financial management capabilities, improved liquidity, and enhanced ability to sustain operations over time. This relationship indicates that financial inclusion serves as a critical foundation for business resilience, enabling MSMEs to access capital, manage risks, and adapt to changing market conditions. The findings highlight that financial inclusion is not merely about access but also about effective utilization of financial services to support long-term business sustainability.

This result aligns with a substantial body of literature showing that financial inclusion contributes to MSME performance and sustainability by facilitating access to credit, savings, and insurance products (Aeni et al., 2024; Sari et al., 2023; Wibowo & Widayat, 2023). Financial inclusion is also associated with improved financial decision-making and investment capacity, which are essential for business growth. However, some studies report mixed or insignificant effects, suggesting that inclusion alone may not guarantee improved outcomes without complementary factors such as financial literacy and supportive institutional environments (Pradini & Faozan, 2023; Ristati et al., 2024).

Theoretically, this finding supports the view that financial inclusion is a key determinant of MSME sustainability within development and financial intermediation frameworks. Practically, it underscores the importance of promoting inclusive financial systems that enable MSMEs to access diverse financial products. From a policy perspective, governments and financial institutions should design targeted inclusion programs that address the specific needs of MSMEs, including access to affordable credit and financial education. Strengthening these initiatives can enhance MSME resilience and contribute to sustainable economic growth.

The Mediating Role of Financial Inclusion

The results of this study confirm that financial inclusion mediates the relationship between Islamic fintech and MSME sustainability. This indicates that the impact of Islamic fintech on sustainability is not direct but operates through its ability to enhance financial inclusion. In other words, Islamic fintech contributes to MSME sustainability by expanding access to financial services, which in turn improves financial performance and long-term viability. The mediation effect highlights the importance of financial inclusion as a key mechanism in the fintech–MSME sustainability relationship.

This finding is consistent with previous studies that conceptualize financial inclusion as a central mediating variable linking fintech adoption to MSME performance (Cahyawati et al., 2023; Ristati et al., 2024; Shobandiyah et al., 2023). Empirical research using SEM-PLS models often demonstrates that fintech improves financial inclusion, which subsequently enhances business outcomes. However, the strength of this mediation effect varies across contexts, depending on factors such as financial literacy, regulatory frameworks, and digital readiness (Bongomin & Ntayi, 2019; Hasanudin & Panigfat, 2023). These variations highlight the complexity of the fintech–inclusion–performance relationship.

From a theoretical standpoint, the mediation result strengthens the argument that financial inclusion is a critical transmission channel within fintech ecosystems. Practically, it suggests that efforts to promote Islamic fintech should be accompanied by strategies to enhance financial inclusion, such as improving access to financial services and increasing user awareness. From a policy perspective, this finding emphasizes the need for integrated approaches that combine fintech development with inclusion initiatives, ensuring that technological advancements translate into tangible benefits for MSMEs.

The Role of Contextual Factors in Fintech Effectiveness

Although the study confirms the positive effects of Islamic fintech and financial inclusion, the findings also imply the importance of contextual factors in shaping these relationships. The effectiveness of fintech in improving MSME outcomes depends on factors such as financial literacy, digital readiness, trust, and regulatory support. Without adequate literacy and infrastructure, MSMEs may struggle to fully utilize fintech services, limiting the potential benefits of digital financial innovation.

This observation is supported by existing literature, which identifies financial literacy and digital capability as key determinants of fintech adoption and effectiveness (Antoni et al., 2024; Hasanudin & Panigfat, 2023). Studies also highlight the role of trust and consumer protection in encouraging fintech usage, as well as the importance of regulatory frameworks in ensuring stability and scalability (Bongomin & Ntayi, 2019; Misrofingah et al., 2024). Additionally, regional differences in infrastructure and institutional capacity contribute to variations in fintech outcomes, with more developed ecosystems showing stronger positive effects (Bhattarai et al., 2023).

Theoretically, these findings suggest that fintech effectiveness is contingent upon a broader socio-economic and institutional context, rather than being determined solely by technological factors. Practically, MSMEs need to invest in building digital and financial capabilities to maximize the benefits of fintech. From a policy perspective, governments should prioritize the development of supportive ecosystems, including digital infrastructure, financial education programs, and regulatory frameworks. Such measures can enhance the effectiveness of fintech and ensure that its benefits are widely distributed.

Theoretical and Policy Implications

The findings of this study contribute to the growing body of literature on fintech-driven financial inclusion and MSME sustainability by providing empirical evidence from an Islamic finance context. The results highlight the unique role of Islamic fintech as a sharia-compliant financial innovation that integrates ethical principles with technological advancement. This perspective extends existing theories of financial inclusion by incorporating religious and cultural dimensions, thereby offering a more comprehensive understanding of financial behavior in Muslim-majority contexts.

These findings are consistent with prior studies that emphasize the importance of sharia governance, regulatory frameworks, and ecosystem integration in shaping fintech outcomes (Dewi & Adinugraha, 2023; Fidhayanti et al., 2024; Mohd Haridan et al., 2023; Syahputra et al., 2023). The literature also underscores the need for coordinated efforts among stakeholders, including regulators, financial institutions, and fintech providers, to create inclusive financial systems. At the same time, variations in empirical results highlight the importance of context-specific approaches to fintech development.

From a theoretical perspective, the study reinforces the role of financial inclusion as a mediating mechanism and highlights the importance of integrating technological, institutional, and behavioral factors. Practically, it provides insights for MSMEs on leveraging Islamic fintech to enhance business sustainability. From a policy standpoint, the findings suggest that governments should strengthen regulatory frameworks, promote financial literacy, and support the development of Islamic fintech ecosystems. These efforts can enhance financial inclusion and contribute to sustainable MSME development.

CONCLUSION

This study demonstrates that Islamic fintech plays a significant role in enhancing MSME sustainability, primarily through its contribution to financial inclusion. The findings indicate that Islamic fintech adoption improves access to financial services, which in turn strengthens MSMEs' financial management, operational capacity, and long-term viability. The empirical results confirm that financial inclusion serves as a key mediating mechanism, linking technological innovation with sustainable business outcomes. In addition, qualitative insights reveal that sustainable MSME development requires not only financial access but also institutional support, digital transformation, and integration of economic and social practices within business models.

The discussion further highlights that while Islamic fintech directly influences financial inclusion, its impact on sustainability is largely indirect and context-dependent. The effectiveness of this relationship is shaped by factors such as financial literacy, digital readiness, regulatory frameworks, and trust in financial systems. These findings align with broader theoretical perspectives that emphasize the interaction between technology, institutional environments, and human capabilities in determining development outcomes. Consequently, Islamic fintech should not be viewed as a standalone solution but as part of a broader ecosystem that integrates financial access, education, and governance to support MSME sustainability.

This study contributes to the existing body of knowledge by empirically validating the mediating role of financial inclusion in the relationship between Islamic fintech and MSME sustainability, particularly within a developing country context. It extends prior research by incorporating both quantitative and qualitative approaches, offering a more comprehensive understanding of how digital financial innovation supports sustainable business practices. The findings also provide practical and policy insights, suggesting that strengthening Islamic fintech ecosystems and promoting inclusive financial systems can enhance MSME resilience. Future research should further explore contextual variations and additional determinants of sustainability to deepen theoretical and empirical understanding.

Limitation of the Study

This study has several limitations that should be considered when interpreting the findings. First, the research is geographically limited to MSMEs in Region III Cirebon, which may restrict the generalizability of the results to other regions with different socio-economic and institutional characteristics. Variations in digital infrastructure, financial ecosystems, and regulatory environments across regions may lead to different outcomes. Second, the study employs an accidental sampling technique, which, although practical for exploratory research, may introduce selection bias and limit the representativeness of the sample. These factors should be taken into account when applying the findings to broader contexts.

Additionally, the study relies on cross-sectional data, which limits the ability to capture dynamic changes over time and to establish causal relationships with greater certainty. While SEM-PLS provides robust statistical analysis, it cannot fully account for longitudinal effects or evolving interactions between fintech adoption, financial inclusion, and MSME sustainability. Furthermore, the measurement of key variables is based on self-reported data, which may be subject to response bias. Future studies could address these limitations by employing longitudinal designs, larger and more diverse samples, and alternative data sources to enhance validity and reliability.

Recommendations for Future Research

Future research should expand the scope of analysis by incorporating broader geographic coverage and more diverse MSME populations. Comparative studies across regions or countries would provide deeper insights into how different institutional, cultural, and regulatory contexts influence the relationship between Islamic fintech, financial inclusion, and MSME sustainability. In addition, future studies could explore sector-specific dynamics, as MSMEs in different industries may experience varying levels of fintech adoption and financial inclusion. Such research would contribute to a more nuanced understanding of the conditions under which Islamic fintech is most effective.

Moreover, future research should consider integrating additional variables that may influence MSME sustainability, such as financial literacy, digital capability, innovation capacity, and market competitiveness. Longitudinal studies would be particularly valuable in examining how fintech adoption and financial inclusion evolve over time and how these changes affect business sustainability. Researchers could also employ mixed-method approaches with deeper qualitative analysis to capture contextual factors more comprehensively. By addressing these areas, future studies can build on the current findings and provide more robust theoretical and practical contributions to the field.

Author Contributions

Conceptualization	R.W., S.R., & W.	Resources	R.W., S.R., & W.
Data curation	R.W., S.R., & W.	Software	R.W., S.R., & W.
Formal analysis	R.W., S.R., & W.	Supervision	R.W., S.R., & W.
Funding acquisition	R.W., S.R., & W.	Validation	R.W., S.R., & W.
Investigation	R.W., S.R., & W.	Visualization	R.W., S.R., & W.
Methodology	R.W., S.R., & W.	Writing – original draft	R.W., S.R., & W.
Project administration	R.W., S.R., & W.	Writing – review & editing	R.W., S.R., & W.

All authors have read and agreed to the published version of the manuscript.

Funding

This study received no direct funding from any institution.

Institutional Review Board Statement

The study was approved by Program Studi Akuntansi Syari'ah (S1), Universitas Islam Negeri Siber Syekh Nurjati Cirebon, Kota Cirebon, Indonesia.

Informed Consent Statement

Informed consent was obtained before respondents filled out the questionnaire for this study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

Acknowledgments

The authors thank Program Studi Akuntansi Syari'ah (S1), Universitas Islam Negeri Siber Syekh Nurjati Cirebon, Kota Cirebon, Indonesia for administrative support for the research that this article was based on.

Conflicts of Interest

The authors declare no conflicts of interest.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work the authors used ChatGPT, DeepL, Grammarly, and PaperPal in order to translate from Bahasa Indonesia into American English, and to improve clarity of the language and readability of the article. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

REFERENCES

Aeni, T. I., Rena, S., & Destiana, R. (2024). The influence of the use financial technology, owner financial literacy, and risk tolerance on the performance of MSMEs in Indonesia. *International Journal of Business, Law, and Education*, *5*(1), 996–1006. https://doi.org/10.56442/ijble.v5i1.494

Ajouz, M., & Abuamria, F. (2023). Unveiling the potential of the Islamic fintech ecosystem in emerging markets. *Al Qasimia University Journal of Islamic Economics*, *3*(1), 115–148. https://doi.org/10.52747/aqujie.3.1.219

Albab, U., & Mawardi, M. (2025). Evaluating the effectiveness of city-level Islamic economic coordination in advancing Sharia financial inclusion in Bandar Lampung. *Journal of Islamic Economics Lariba*, *11*(2), 1863–1888. https://doi.org/10.20885/jielariba.vol11.iss2.art23

Alshater, M. M., Saba, I., Supriani, I., & Rabbani, M. R. (2022). Fintech in Islamic finance literature: A review. *Heliyon*, *8*(9), e10385. https://doi.org/10.1016/j.heliyon.2022.e10385

Altman, E. I., & Sabato, G. (2023). *The role of capital markets in funding MSMEs in Latin America and the Caribbean*. Inter-American Development Bank. https://doi.org/10.18235/0005188

Angeles, I. (2022). The moderating effect of digital and financial literacy on the digital financial services and financial behavior of MSMEs. *Review of Economics and Finance*, *20*, 505–515. https://doi.org/10.55365/1923.x2022.20.57

Antoni, A., Judijanto, L., & Supriadi, A. (2024). Impact of fintech adoption, MSME digital readiness, and regulatory environment on financial performance in Indonesia. *West Science Accounting and Finance*, *2*(2), 275–286. https://doi.org/10.58812/wsaf.v2i02.1046

Asian Development Bank. (2022). *Toward inclusive access to trade finance: Lessons from the trade finance gaps, growth, and jobs survey*. Asian Development Bank. https://doi.org/10.22617/TCS220354-2

Asian Development Bank. (2023). *Asia Small and Medium-sized Enterprise Monitor 2023: How small firms can contribute to resilient growth in the Pacific post COVID-19 pandemic* (2023rd ed.). Asian Development Bank. https://doi.org/10.22617/SGP230413-2

Azwar, A., & Jamaluddin, J. (2024). Securities crowdfunding as a source of capital and alternative investment in the Maqāṣid al-Sharī'ah perspective: Indonesian case. *Journal of Management and Muamalah*, *14*(2), 99–118. https://doi.org/10.53840/jmm.v14i2.198

Badoc-Gonzales, B. P., Mandigma, Ma. B. S., & Tan, J. J. (2022). SME resilience as a catalyst for tourism destinations: A literature review. *Journal of Global Entrepreneurship Research*, *12*(1), 23–44. https://doi.org/10.1007/s40497-022-00309-1

Bhattarai, B., Shrestha, R., Maharjan, S., Malla, S., & Shakya, S. (2023). Effectiveness of digital payments in the performance of Nepalese micro, small and medium enterprises (MSME). *New Perspective: Journal of Business and Economics*, *6*(1), 9–22. https://doi.org/10.3126/npjbe.v6i1.58868

Bongomin, G. O. C., & Ntayi, J. (2019). Trust: Mediator between mobile money adoption and usage and financial inclusion. *Social Responsibility Journal*, *16*(8), 1215–1237. https://doi.org/10.1108/SRJ-01-2019-0011

Buteau, S. (2021). Roadmap for digital technology to foster India's MSME ecosystem—Opportunities and challenges. *CSI Transactions on ICT*, *9*(4), 233–244. https://doi.org/10.1007/s40012-021-00345-4

Cahyawati, N. E., Nantungga, K. H., & Tumewang, Y. K. (2023). The influence of financial technology & literacy on MSMEs sustainability with financial inclusion as a mediating variable. *Journal of Contemporary Accounting*, *5*(2), 71–82. https://doi.org/10.20885/jca.vol5.iss2.art2

Chaora, B. (2024). *Financial Inclusion Index Report: An assessment of digital and traditional financial inclusion of micro, small and medium enterprises in Kenya, Malawi and Zambia*. SIVIO Institute. https://doi.org/10.59186/SI.2M87NKZ3

Chen, Q. (2024). Fintech innovation in micro and small business financing. *International Journal of Global Economics and Management*, *2*(1), 284–290. https://doi.org/10.62051/ijgem.v2n1.36

Dela Cruz, N. A., Villanueva, A. C. B., Tolin, L. A., Disse, S., Lensink, R., & White, H. (2023). PROTOCOL: Effects of interventions to improve access to financial services for micro-, small- and medium-sized enterprises in low- and middle-income countries: An evidence and gap map. *Campbell Systematic Reviews*, *19*(3), e1341. https://doi.org/10.1002/cl2.1341

Devi, A., Firmansyah, I., Yuniarto, A. S., Hamid, B. A., & Nawawi, M. K. (2023). Determinant factor analysis of financial technology adoption among Halal sector microenterprises in Indonesia. *Amwaluna: Jurnal Ekonomi Dan Keuangan Syariah*, *7*(2), 347–368. https://doi.org/10.29313/amwaluna.v7i2.12546

Dewi, I. S., & Adinugraha, H. H. (2023). The role of Sharia fintech in improving Halal financial inclusion in MSMEs in Indonesia. *LIKUID: Jurnal Ekonomi Industri Halal*, *3*(1), 18–29. https://doi.org/10.15575/likuid.v3i1.18693

Fidhayanti, D., Mohd Noh, M. S., Ramadhita, R., & Bachri, S. (2024). Exploring the legal landscape of Islamic fintech in Indonesia: A comprehensive analysis of policies and regulations. *F1000Research*, *13*, 21. https://doi.org/10.12688/f1000research.143476.1

Gershenson, D., Herrera, L., Lambert, F., Ramos, G., Rousset, M., & Torres, J. (2021). Fintech and financial inclusion in Latin America and the Caribbean. *IMF Working Papers*, *2021*(221). https://doi.org/10.5089/9781513592237.001

Gogo, S., & Musonda, I. (2022). The use of the exploratory sequential approach in mixed-method research: A case of contextual top leadership interventions in construction H&S. *International Journal of Environmental Research and Public Health*, *19*(12), 7276. https://doi.org/10.3390/ijerph19127276

González-Díaz, R. R., & Bustamante-Cabrera, G. I. (2021). Predictive sequential research design to study complex social phenomena. *Entropy*, *23*(5), 627. https://doi.org/10.3390/e23050627

Gupta, U., Agarwal, B., & Nautiyal, N. (2022). Financial technology adoption – A case of Indian MSMEs. *Finance: Theory and Practice*, *26*(6), 192–211. https://doi.org/10.26794/2587-5671-2022-26-6-192-211

Hamid, A., Widjaja, W., Sutrisno, S., Napu, F., & Sipayung, B. (2024). The role of fintech on enchancing financial literacy and inclusive financial management in MSMEs. *TECHNOVATE: Journal of Information Technology and Strategic Innovation Management*, *1*(2), 81–88. https://doi.org/10.52432/technovate.1.2.2024.81-88

Hamid, E. S., & Artha, B. (2025). Artificial Intelligence adoption in micro, small, and medium enterprises: Evidence, barriers, and Islamic ethical reflections for Muslim entrepreneurs in Yogyakarta. *Journal of Islamic Economics Lariba*, *11*(2), 1967–1998. https://doi.org/10.20885/jielariba.vol11.iss2.art26

Hartanto, S., Suparyanto, T., & Azwar. (2023). Islamic finance practices in micro, small, and medium enterprises in Indonesia: A systematic literature review. *Millah: Journal of Religious Studies*, *22*(2), 435–464. https://doi.org/10.20885/millah.vol22.iss2.art6

Hasanudin, H., & Panigfat, F. (2023). Unlocking MSME performance: The interplay of financial literacy, financial inclusion, and financial technology lending with venture capital mediation. *Shirkah: Journal of Economics and Business*, *9*(2), 137–148. https://doi.org/10.22515/shirkah.v9i2.657

Hasyim, I. S., Hanif, H., & Anggraeni, E. (2022). Analysis of perceived usefulness, perceived ease of use, trust, and Sharia financial literature on the adoption of Sharia fintech by MSMEs. *Al-Kharaj: Jurnal Ekonomi, Keuangan & Bisnis Syariah*, *5*(3), 1218–1234. https://doi.org/10.47467/alkharaj.v5i3.1572

Huda, N., & Risman, A. (2024). The behavioral finance of MSMEs: Financial inclusion and financial technology. *Indikator: Jurnal Ilmiah Manajemen Dan Bisnis*, *8*(2), 19–29. https://doi.org/10.22441/indikator.v8i2.26780

Ibrahim, A. (2024). Indonesian horizons in Islamic finance: Navigating risk, innovation, and social impact. *Share: Jurnal Ekonomi Dan Keuangan Islam*, *13*(1), vi–xi. https://doi.org/10.22373/share.v13i1.24266

Johri, A., Asif, M., Tarkar, P., Khan, W., Rahisha, & Wasiq, M. (2024). Digital financial inclusion in micro enterprises: Understanding the determinants and impact on ease of doing business from World Bank survey. *Humanities and Social Sciences Communications*, *11*(1), 361. https://doi.org/10.1057/s41599-024-02856-2

Kiliç, G. (2023). The emergence of Islamic fintech and its applications. *International Journal of Islamic Economics and Finance Studies*, *9*(2), 212–236. https://doi.org/10.54427/ijisef.1328087

Kim, J.-K., Lee, M., Gaspar, R. E., Samad, G., & Abbas, Q. (2021). Financial inclusion in the CAREC region: Promoting fintech to meet underserved needs in trade finance. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3995027

Latifah, S. W., & Jati, A. W. (2023). The use of sharia fintech on MSMEs performance: Mediation of interest in use of transactions. *Jurnal Reviu Akuntansi Dan Keuangan*, *13*(2), 463–480. https://doi.org/10.22219/jrak.v13i2.23419

Lee, M., Salad, G., Gaspar, R., & Abbas, Q. (2021). *Leveraging fintech for Central Asia's trade financing needs: Supporting underserved micro, small, and medium-sized enterprises* [ADB Briefs]. Asian Development Bank. https://doi.org/10.22617/BRF210392

Maharani, S., Nurbaiti, N., & Dharma, B. (2024). Contibution of Sharia fintech to micro, small, and medium enterprises' inclusivity in Kisaran City. *Journal of Islamic Economics Lariba*, *10*(1), 117–130. https://doi.org/10.20885/jielariba.vol10.iss1.art7

Mahesh, K. M., Aithal, P. S., & Sharma, K. R. S. (2023). Government initiatives and digital innovation for Atma Nirbhar MSMEs/SMEs: To achieve sustainable and inclusive economic growth. *International Journal of Management, Technology, and Social Sciences*, *8*(1), 68–82. https://doi.org/10.47992/IJMTS.2581.6012.0256

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. https://doi.org/10.18196/ijief.v4i2.11833

Majid, R., & Mawaddah, H. (2022). FinTech and MSMEs: The role of product knowledge. *Asian Journal of Islamic Management (AJIM)*, *4*(1), 15–24. https://doi.org/10.20885/AJIM.vol4.iss1.art2

Marini, M., Yusmaniarti, Y., Faradilla, I., & Setiorini, H. (2024). Measuring the financial performance of MSMEs from the perspective of financial literacy, financial inclusion and financial technology. *EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis*, *12*(1), 285–296. https://doi.org/10.37676/ekombis.v12i1.5323

Mason, P., Augustyn, M., & Seakhoa-King, A. (2010). Exploratory study in tourism: Designing an initial, qualitative phase of sequenced, mixed methods research. *International Journal of Tourism Research*, *12*(5), 432–448. https://doi.org/10.1002/jtr.763

Misrofingah, M., Rijal, S., & Supriandi, S. (2024). Keuangan berkelanjutan dalam aksi: Menelaah hubungan antara rantai pasok berkelanjutan, akses keuangan, dan adopsi teknologi di UKM Indonesia [Sustainable finance in action: Examining the relationship between sustainable supply chains, financial access, and technology adoption among Indonesian SMEs]. *Journal of Economic, Bussines and Accounting (COSTING)*, *7*(4), 10269–10287. https://doi.org/10.31539/costing.v7i4.9656

Mohd Haridan, N., Sheikh Hassan, A. F., Mohammed Shah, S., & Mustafa, H. (2023). Financial innovation in Islamic banks: Evidence on the interaction between Shariah board and FinTech. *Journal of Islamic Accounting and Business Research*, *14*(6), 911–930. https://doi.org/10.1108/JIABR-11-2022-0305

Mondal, S., Singh, S., & Gupta, H. (2024). Exploring the impact of green entrepreneurial orientation on sustainable performance: Insights from CSR, policy and innovation. *Management Decision*, *62*(12), 3946–3977. https://doi.org/10.1108/MD-10-2023-1816

Morgan, P. J. (2022). Fintech and financial inclusion in Southeast Asia and India. *Asian Economic Policy Review*, *17*(2), 183–208. https://doi.org/10.1111/aepr.12379

Mukherjee, S., & Mukherjee, A. (2022). Indian SMEs in global value chains: Status, issues and way forward. *Foreign Trade Review*, *57*(4), 473–496. https://doi.org/10.1177/00157325221092609

Mushani, N. (2024). *An assessment of digital financial inclusion of micro small and medium enterprises MSMEs in Malawi*. SIVIO Institute. https://doi.org/10.59186/SI.GC5JRQWN

Mustafida, R., Fauziah, N. N., & Kurnia, Z. N. (2021). The development of Islamic crowdfunding in Indonesia and its impact towards SMEs. *Hasanuddin Economics and Business Review*, *4*(3), 20–29. https://doi.org/10.26487/hebr.v4i3.2547

Nursansiwi, D. A., & Armiani, A. (2024). The role of fintech in financial inclusion (Sase study of MSME entrepreneurs in Surabaya). *Management Studies and Business Journal (PRODUCTIVITY)*, *1*(3), 328–339. https://doi.org/10.62207/5n4tc713

Pellegrino, A., & Abe, M. (2022). Digital financing for SMEs' recovery in the post-COVID era: A bibliometric review. *Frontiers in Sustainable Cities*, *4*, 978818. https://doi.org/10.3389/frsc.2022.978818

Pentury, F. (2023). The role of knowledge and penetration of fintech services in improving MSMEs of fishermen and marine farmers in remote small islands region. *Jurnal Manajemen Teori Dan Terapan| Journal of Theory and Applied Management*, *16*(1), 23–37. https://doi.org/10.20473/jmtt.v16i1.43743

Pradini, A. Y., & Faozan, A. (2023). Sharia financial literacy and inclusion: Opportunities and challenges. *Al-Mustashfa: Jurnal Penelitian Hukum Ekonomi Syariah*, *8*(2), 205–214. https://doi.org/10.24235/jm.v8i2.15406

Rahmadi, F., Saefullah, K., & Anwar, M. (2023). The effect of inflation and MSME production growth on GDP with fintech as an intervening variable: Study in Indonesia during the 2019-2022 Covid19 pandemic. *Jurnal Riset Ilmu Ekonomi*, *3*(3), 174–185. https://doi.org/10.23969/jrie.v3i3.80

Ristati, Zulham, & Akhyar, C. (2024). The effect of financial technology and financial literacy on the sustainability of MSMEs in Lhokseumawe City with financial inclusion as a mediating variable. *Journal of Ecohumanism*, *3*(8), 2969–2978. https://doi.org/10.62754/joe.v3i8.4940

Saifurrahman, A., & Kassim, S. (2023). Enhancing the MSME Islamic financial inclusion in Indonesia: An institutional theory perspective. *Journal of Accounting and Finance*, *23*(2), 6–25. https://doi.org/10.33423/jaf.v23i2.6042

Sari, R. P., Azzahrha, F. K., Nuravianti, A., Achka, F. F., & Santoso, D. T. (2023, September 12). Evaluation of the effect of financial technology through business sustainability practices on the performance of MSMEs in Karawang Regency. *Proceedings of the International Conference on Industrial Engineering and Operations Management*. 4th Asia Pacific International Conference on Industrial Engineering and Operations Management. https://doi.org/10.46254/AP04.20230180

Shobandiyah, S., Kurniati, S., & Astohar, A. (2023). Utilization of financial technology services to increase business sustainability for MSMEs in Demak Regency. *Management Analysis Journal*, *12*(4), 470–477. https://doi.org/10.15294/maj.v12i4.75827

Supriadi, I., Maghfiroh, R. U., Abadi, R., & Yudowati, D. M. (2023). The role of Sharia financial innovation and literacy in improving the performance of MSME actors. *Journal of Islamic Economic and Business Research*, *3*(2), 214–229. https://doi.org/10.18196/jiebr.v3i2.193

Syahputra, A., Kaswinata, K., Tanjung, H., Rahmani, N. A. B., & Dzuljastri, D. (2023). Globalization & development of Sharia financial technology in Indonesia. *Jurnal Ilmu Keuangan Dan Perbankan (JIKA)*, *13*(1), 103–114. https://doi.org/10.34010/jika.v13i1.11288

Takidah, E., & Kassim, S. (2022). The shariah compliance of Islamic peer-to-peer (P2P) lending practices in Indonesia: Identification of issues and the way forward. *ICR Journal*, *13*(1), 72–91. https://doi.org/10.52282/icr.v13i1.830

Timur, Y. P., Ridlwan, A. A., Fikriyah, K., Susilowati, F. D., Canggih, C., & Nurafini, F. (2024). How should Bank Syariah Indonesia respond to cyber-attacks? Churn, sentiments, and emotions analysis with machine learning. *Journal of Islamic Economics Lariba*, *10*(1), 439–470. https://doi.org/10.20885/jielariba.vol10.iss1.art24

Troilo, M., Freeman, N., & Abe, M. (2025). Policies to address supply-side issues in MSME finance: A global compilation. *The Journal of Entrepreneurship*, *34*(1), 7–32. https://doi.org/10.1177/09713557251315238

Uddin, M. A., Jamil, S. A., & Khan, K. (2022). Indian MSMEs amidst the COVID-19 pandemic: Firm characteristics and access to finance. *Academic Journal of Interdisciplinary Studies*, *11*(3), 71–81. https://doi.org/10.36941/ajis-2022-0069

Wibowo, E., & Widayat, B. C. (2023). Financial performance of culinary MSMEs in Jebres District, Surakarta City based on financial literacy, financial inclusion, and financial technology. *Marginal Journal of Management Accounting General Finance and International Economic Issues*, *2*(2), 607–617. https://doi.org/10.55047/marginal.v2i2.656

Yuneline, M. H. (2022). Implications of Shariah financial technology in increasing financial inclusion to micro, small, and medium enterprises. *Islamiyyat*, *44*(1), 89–99. https://doi.org/10.17576/islamiyyat-2022-4401-8

Yuniati, T., Andriansyah, Y., & Martins, J. D. M. (2024). Factors influencing user interest in using Sharia-compliant Fintech services: A case study of SyarQ in Yogyakarta, Indonesia. *Journal of Islamic Economics Lariba*, *10*(1), 513–542. https://doi.org/10.20885/jielariba.vol10.iss1.art27

Cek Plagiasi Turnitin

ORIGINALITY REPORT

17%	15%	18%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	journal.uii.ac.id Internet Source	8%
2	Marlina Ekawaty, Mochammad Rizki Hanafiansyah. "Beyond Financial Inclusion: Digital Transformation and the Redistribution of Prosperity in the Islamic Economy", Jurnal Ekonomi dan Bisnis Digital, 2026 Publication	1%
3	"Green and Blue Economy Frameworks for Halal Industry Sustainability", Springer Science and Business Media LLC, 2025 Publication	1%
4	www.janolijournals.org Internet Source	1%
5	jurnal.ibik.ac.id Internet Source	1%
6	"The Palgrave Handbook of fintech in Africa and Middle East", Springer Science and Business Media LLC, 2025 Publication	1%
7	jurnal.ar-raniry.ac.id Internet Source	<1%
8	"Financial Resilience and Environmental Sustainability", Springer Science and Business Media LLC, 2025 Publication	<1%
9	www.isarconference.org	

Internet Source

<1%

10	Sabeeh Ullah, Maryam Begum. "FinTech and financial sustainability: A mediating role of financial inclusion", Technological Forecasting and Social Change, 2025 Publication	<1%
11	"The Digital Edge: Transforming Business Systems for Strategic Success", Springer Science and Business Media LLC, 2025 Publication	<1%
12	Nani Rohaeni, Meutia Meutia, Ina Indriana, Yeni Januarsi. "Financial literacy, FinTech, and inclusion for MSME growth in Banten province", Discover Sustainability, 2026 Publication	<1%
13	ejournal.isnjbengkalis.ac.id Internet Source	<1%
14	fujafr.fudutsinma.edu.ng Internet Source	<1%
15	www.multispectrum.org Internet Source	<1%
16	ijcsrr.org Internet Source	<1%
17	psychepedia.arabpsychology.com Internet Source	<1%
18	Mega Utami, Irwan Irawadi Barus, Mega Arum, Fadilla Muhammad Mahdi, Toto Sugihyanto. "The Role of Fintech, Real-Time Data Analytics, and ERP Systems in Strengthening Budget Accuracy and Strategic Decision-Making in Indonesian Corporate	<1%

Accounting", RIGGS: Journal of Artificial Intelligence and Digital Business, 2026
Publication

19	sobiad.org Internet Source	<1 %
20	David Mhlanga, Mufaro Dzingirai. "Financial Inclusion and Sustainable Development in Sub-Saharan Africa", Routledge, 2025 Publication	<1 %
21	ijsab.com Internet Source	<1 %
22	mdpi-res.com Internet Source	<1 %
23	www.koreascience.kr Internet Source	<1 %
24	www.mdpi.com Internet Source	<1 %

Exclude quotes	On	Exclude matches	< 20 words
Exclude bibliography	On		

Cek Plagiasi Turnitin

GRADEMARK REPORT

FINAL GRADE	GENERAL COMMENTS
/0	

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14

PAGE 15

PAGE 16

PAGE 17

PAGE 18

PAGE 19

PAGE 20

PAGE 21

PAGE 22

PAGE 23

PAGE 24