

Integrating Islamic Values and Financial Strategy The Role of Shariah-Based Financial Management in Enhancing the Performance of Muslim MSMEs

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ABSTRACT

Muslim micro, small, and medium enterprises (MSMEs) in Indonesia hold substantial potential in strengthening the national economy. However, they face major challenges in implementing strategic financial management that aligns with Islamic principles. The core issues include low levels of Shariah financial literacy, weak adherence to Islamic financial ethics, and suboptimal application of Shariah-compliant strategic financial management. This study investigates the impact of Shariah-Based Financial Literacy (SBFL), Shariah Compliance Behavior (SCB), and Strategic Financial Management (SFM) on the performance of Muslim MSMEs. Furthermore, it explores the moderating role of Islamic Entrepreneurial Orientation (IEO) in these relationships. Using a quantitative approach with the Structural Equation Modeling-Partial Least Squares (SEM-PLS) method, data was collected from 100 Muslim MSME entrepreneurs in Indonesia. The findings reveal that all three independent variables significantly and positively affect business performance. Moreover, IEO significantly moderates these effects, indicating that Islamic entrepreneurial values reinforce the impact of Shariah-based financial management on business outcomes. The model demonstrates a strong explanatory power with an R-square value of 0.727 and a predictive relevance (Q-square) of 0.586. This study recommends promoting Shariah financial literacy, strengthening Islamic business conduct, and fostering Islamic entrepreneurial orientation as part of a sustainable empowerment strategy for Muslim MSMEs.

Keywords: Shariah Finance, Muslim MSMEs, Financial Literacy, Shariah Compliance, Islamic Entrepreneurship

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INTRODUCTION

Micro, small, and medium enterprises (MSMEs) serve as the backbone of Indonesia's economy, contributing significantly to gross domestic product (GDP), job creation, and equitable economic distribution (Nur Azizah et al., 2025; Rahman, 2024). As the country with the largest Muslim population in the world, Indonesia is home to a vast number of MSMEs owned and operated by Muslim entrepreneurs. However, these Muslim MSMEs face challenges not only in managerial and operational aspects but also in fulfilling moral and religious obligations aligned with Islamic business principles (Bagis, 2021).

In financial management, Islamic Shariah emphasizes justice, transparency, social responsibility, and spiritual blessings in every financial activity (Bakoh, 2025; Pranata, 2025; Sari, 2022). These principles are manifested through the prohibition of *riba* (interest), *gharar* (uncertainty), and *maysir* (speculation), as well as through the use of Shariah-compliant contracts such as *mudharabah*, *musyarakah*, *murabahah*, *ijarah*, and *wakalah* in business transactions (Ahmad & Berghout, 2025; Bin-armia, 2025; Islam & Hasan, 2024). Shariah-based financial management encourages entrepreneurs to develop financial planning not solely focused on material gain but also on public benefit (*maslahah*), the balance of individual and collective rights, and spiritual accountability in fund utilization (Mujiatun, 2023; Musa, 2025; Sari, 2024). Moreover, financial reporting in this context is intended to reflect honesty, prevent manipulation, and incorporate social obligations such as *zakat*, *infaq*, and *sadaqah* as tools for wealth distribution and socioeconomic empowerment. Thus, from an Islamic perspective, financial management functions not only as a tool for efficiency but also as a form of worship and community development (Can, 2021; Kartikasari, 2023; Sari, 2022).

A notable study by Anderson, Lee, and Taylor (2025) introduced an innovative approach to integrating Shariah-compliant investment funds into the secular and highly regulated financial system of the United States. Employing a qualitative method that combined legal analysis and interviews with industry practitioners, their study explored the operational and legal complexities faced by Shariah fund managers and highlighted the legal flexibility within the U.S. that accommodates these funds without major regulatory reforms. A case study of the Amana Growth Fund further illustrates the success of a dual-compliance strategy. However, the study's key limitation lies in its small sample size of only ten respondents and the absence of quantitative data or broad investor perception surveys, limiting the generalizability of its findings. Additionally, the lack of in-depth discussion on sociopolitical dynamics in the U.S. context presents an area yet to be explored.

In contrast, Kamaruddin et al. (2024), in their article "Issues and Challenges in Shariah Audit Practices in Malaysian Shariah-Based Sectors," provide a more comprehensive exploration of real-world issues faced during Shariah auditing across various Islamic sectors in Malaysia, including Islamic finance, capital markets, cooperatives, public Shariah institutions, and public trust entities. Their methodological strength lies in involving 124 participants from 76 institutions through focus group discussions (FGDs), yielding rich empirical data. Nevertheless, the study is limited by its narrow focus on internal stakeholders, lacking input from service users or other external actors. Moreover, it does not include international comparisons or quantitative validation, thus constraining its broader applicability. Despite these limitations, the study makes a vital contribution toward formulating more systematic and professional Shariah audit strategies.

One of the most pressing challenges for Muslim MSMEs in Indonesia is the lack of Shariah financial literacy (Nur Azizah et al., 2025). Many entrepreneurs still struggle to distinguish between conventional and Islamic financial practices. Limited understanding of the prohibitions against *riba*, *gharar*, and *maysir*, coupled with insufficient knowledge of Shariah financial instruments and contracts, exposes them to non-compliant transactions (Islam & Hasan, 2024; Awaluddin, 2024; Menne, 2022; Musa, 2025; Rahman, 2024; Setiawati, 2025). Additionally, high levels of business informality, restricted access to information, and weak managerial capacity hinder the development of strategic and Islamic financial management systems.

Previous empirical studies have generally focused on individual variables such as financial literacy or Shariah compliance in relation to business performance (Bakoh, 2025; Rasyidah, 2024). However, few studies have holistically integrated three critical dimensions—Shariah-Based Financial Literacy (SBFL), Shariah Compliance Behavior (SCB), and Strategic Financial Management (SFM)—while simultaneously examining the moderating effect of Islamic Entrepreneurial Orientation (IEO) on these relationships. Such integration of faith and finance could be a powerful force in shaping superior business outcomes that are both economically and spiritually driven (Avazkhodjaev, 2024; Musa, 2025).

In this context, the concept of Islamic Entrepreneurial Orientation becomes increasingly relevant, as business success for Muslim entrepreneurs is not solely measured by profit, but also by sincere intentions, ethical conduct, and social contributions such as zakat, infaq, and sadaqah (Alsaadi, 2023; A. U. Muhammad, 2023). Therefore, IEO warrants exploration as a key moderating variable influencing the relationship between Islamic financial practices and business performance (Adawiyah, 2025; R. Muhammad, 2022).

Grounded in this background, the present study aims to address the need for a comprehensive conceptual and empirical framework for strategic Shariah-based financial management in Muslim MSMEs (Osman, 2024; Pranata, 2025). Specifically, it investigates the influence of SBFL, SCB, and SFM on the Performance of Muslim MSMEs (PMM) and examines the moderating role of IEO (Rasyidah, 2024). The findings are expected to enrich the academic literature and provide practical insights for enhancing the development of Muslim MSMEs in Indonesia in a more Islamic, professional, and sustainable manner.

LITERATURE REVIEW

Research on Islamic finance and its impact on MSME performance has grown considerably in recent years. However, much of the existing literature remains fragmented, often examining individual aspects such as financial literacy or Shariah compliance in isolation. Shariah-Based Financial Literacy (SBFL) refers to the level of understanding that entrepreneurs have regarding fundamental principles of Islamic finance, including the prohibition of *riba* (interest), *gharar* (uncertainty), and *maysir* (gambling), as well as knowledge of Shariah-compliant contracts such as *mudharabah* and *murabahah* (Nurishlah et al., 2023). According to Nurishlah et al. (2023), this foundational knowledge is critical for making financial decisions that align with Islamic teachings. Sound financial literacy not only helps business actors avoid prohibited practices, but also equips them to manage their finances intelligently, efficiently, and ethically.

In addition to literacy, Shariah Compliance Behavior (SCB) serves as a key differentiator between Muslim MSMEs and conventional enterprises. Arafa, Ramadan, and Hussin (2021) found that entrepreneurs who actively apply Islamic values in their operations—such as *amanah* (trustworthiness), honesty, and transparency—tend to gain higher customer trust, which indirectly enhances their business performance. Shariah-compliant behavior includes avoiding interest-based transactions, exploitative practices, and implementing fair pricing mechanisms. As such, SCB has both spiritual significance and strategic value, playing a role in building business reputation and ensuring long-term sustainability (Arafa et al., 2021).

Strategic Financial Management (SFM) grounded in Shariah principles offers a more holistic approach to financial governance in Muslim MSMEs. This approach encompasses planning, cash flow management, cost control, and access to Islamic financing solutions tailored to the needs of the business. Kembauw et al. (2020) emphasized the importance of embedding Shariah values into strategic financial functions as a way of adapting to modern market dynamics without compromising religious principles. Within the MSME context, strategic financial management not only boosts

efficiency and facilitates access to halal capital but also fosters the development of innovative products and services rooted in Islamic values.

The Performance of Muslim MSMEs (PMM), as discussed in the literature, is not confined to financial metrics alone but also includes social and spiritual dimensions (Bagis, 2021). Nur Azizah et al. (2025) proposed an Islamic triple bottom line framework that incorporates financial profitability, social contribution (e.g., zakat, infaq, sadaqah), and religious reputation as indicators of barakah (divine blessings) in business. According to this view, the success of Muslim MSMEs is not merely measured by profit margins but by the extent to which the business benefits society and adheres to Shariah principles.

Meanwhile, the concept of Islamic Entrepreneurial Orientation (IEO) has emerged as an important variable in Islamic entrepreneurship studies. Roza, Sriayudha, and Octavia (2020) described IEO as encompassing sincere entrepreneurial intentions, halal risk-taking, value-driven innovation, and morally grounded leadership. IEO serves as a catalyst that strengthens the relationship between Shariah-based financial practices and business performance. In this framework, entrepreneurs are not only economic managers but also moral and spiritual agents within the business ecosystem (Roza et al., 2020).

Based on this review, there is a clear gap in the literature: a lack of integrative models that examine how SBFL, SCB, and SFM collectively influence business performance, while also accounting for the moderating role of IEO. This study seeks to address that gap by developing and testing a comprehensive empirical and theoretical framework to better understand the dynamics of Islamic financial management in Muslim MSMEs.

METHODS

This study adopts a quantitative research approach, utilizing the Structural Equation Modeling–Partial Least Squares (SEM–PLS) method to examine the relationships among variables within the proposed conceptual framework. SEM–PLS was selected due to its ability to handle complex models with numerous indicators and its suitability for small sample sizes and non-normally distributed data. Moreover, SEM–PLS enables simultaneous assessment of the measurement model (outer model) and the structural model (inner model), resulting in comprehensive parameter estimation.

The target population of this study comprises Muslim MSME (Micro, Small, and Medium Enterprise) entrepreneurs in Indonesia who actively manage their businesses and independently oversee their financial operations. The sampling technique employed is purposive sampling, based on the following inclusion criteria: (1) the respondent must be a Muslim entrepreneur, (2) the business must have been in active operation for at least one year, and (3) the entrepreneur must possess either existing knowledge of or genuine interest in Shariah-compliant financial systems.

A total of 100 respondents were included in the sample. This sample size is deemed adequate for SEM–PLS analysis, given that, as noted by Nur Azizah et al. (2025), the minimum sample size in SEM–PLS is typically based on the "10-times rule," which requires a sample size at least 10 times the number of indicators pointing to the most complex latent construct in the model.

Table 1. Summary of Literature Comparison and Identified Research Gaps

Variable	Operational Definition	Indicators	Scale	Reference
Shariah-Based Financial Intelligence	The ability of children and adolescents to understand Islamic economic principles early on, shaping Islamic financial character	1) <i>Riba</i> 2) <i>Zakat, infaq, sadaqah</i> 3) Profit-sharing4) Justice5) Islamic financial ethics	Likert 1–4	Nurishlah, Hermansyah (2023)
Behavioral Intention	Consumers' intention to use Islamic banking services, influenced by technology acceptance and Shariah compliance	1) Perceived usefulness2) Perceived ease of use3) Trust4) Religiosity5) Shariah compliance	Likert 1–5	Arafa, Ramadan, and Hussin (2021)

Strategic Financial Management	Managerial processes for controlling and managing organizational finances to achieve long-term strategic goals	1) Financial planning2) Budget control3) Fund efficiency4) Risk management	Likert 1–5	Kembauw et al. (2020)
Islamic Entrepreneurial Orientation	Entrepreneurial orientation based on Islamic principles in business creation and management	1) Innovation2) Proactiveness3) Risk-taking (halal)4) Halal values5) Spiritual values	Likert 1–5	Roza, Sriayudha, and Octavia (2020)
Muslim MSME Employee Performance	Degree of successful task execution by employees in Muslim MSMEs, based on internal and external factors	1) Quality2) Quantity3) Timeliness4) Effectiveness5) Independence6) Commitment	Likert 1–5	Bagis (2021)

The operationalization of the variables in this study is grounded in validated theoretical frameworks and empirical studies, as summarized in Table 1. Each construct is defined conceptually and translated into measurable indicators to ensure clarity and reliability in the data collection process. The first variable, Shariah-Based Financial Intelligence, is adapted from Nurishlah and Hermansyah (2023), originally developed to assess early financial education among children and adolescents within an Islamic framework. Despite its initial demographic focus, the indicators—such as understanding of riba, zakat, profit-sharing, justice, and financial ethics—remain highly relevant to adult Muslim entrepreneurs, particularly in shaping ethical financial decision-making in MSMEs. These were measured using a 4-point Likert scale.

The second variable, Behavioral Intention, refers to the intention of individuals to utilize Islamic banking services, incorporating dimensions from the Technology Acceptance Model (TAM) and Islamic values, such as perceived usefulness, ease of use, trust, religiosity, and Shariah compliance (Arafa, Ramadan, and Hussin, 2021). Although derived from consumer studies, these indicators are applicable to MSME owners as decision-makers who consider both technological adoption and religious adherence when engaging with Islamic financial institutions. This construct is measured using a 5-point Likert scale.

Strategic Financial Management, the third construct, captures essential financial planning and control activities within an Islamic framework. Indicators such as financial planning, budget control, efficiency in fund utilization, and risk management (Kembauw et al., 2020) reflect managerial competencies required for sustainable MSME operations. These processes are seen as not only strategic but also spiritually accountable, aligning business practices with ethical financial stewardship.

The fourth variable, Islamic Entrepreneurial Orientation (IEO), represents an emerging construct in Islamic business research. It embodies entrepreneurial behavior based on Islamic principles, including innovation, proactiveness, halal risk-taking, and spiritual as well as moral values (Roza, Sriayudha, and Octavia, 2020). IEO is positioned as a moderating variable in the model, hypothesized to enhance the relationship between financial practices and MSME performance. This orientation transforms Muslim entrepreneurs into both economic actors and moral agents within their business ecosystems.

Finally, the dependent variable, Performance of Muslim MSME Employees, includes both conventional and value-based performance dimensions, such as quality, quantity, timeliness, effectiveness, independence, and commitment (Bagis, 2021). These indicators are tailored to reflect the multifaceted nature of performance in Shariah-compliant enterprises, where productivity is measured not only in financial terms but also in ethical and spiritual contributions. In summary, the variables and indicators presented in Table 1 are theoretically coherent and contextually relevant. They reflect a balanced integration of Islamic financial principles, entrepreneurial values, and managerial practices. This holistic operational framework addresses a gap in existing literature, which has often examined these constructs in isolation. The integration of SBFL, SCB, and SFM with the

moderating role of IEO presents a novel contribution to both Islamic finance and MSME development research. The conceptual framework presented in Figure 1.

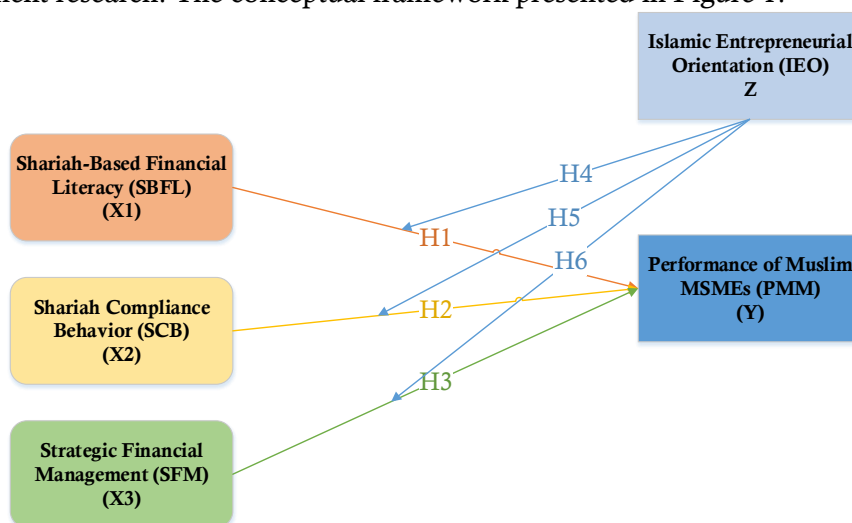


Figure 1. Bridging Faith and Finance

The conceptual framework presented in Figure 1, illustrates the hypothesized relationships among the core constructs of the study. This model is developed to examine how Shariah-oriented financial practices and strategic management influence the performance of Muslim micro, small, and medium enterprises (MSMEs), with Islamic Entrepreneurial Orientation (IEO) serving as a moderating variable. The framework consists of three primary independent variables: Shariah-Based Financial Literacy (SBFL), Shariah Compliance Behavior (SCB), and Strategic Financial Management (SFM). These variables represent critical dimensions of Islamic financial behavior and managerial capability. SBFL captures the entrepreneurs’ understanding of fundamental Islamic financial principles, including the avoidance of *riba*, *gharar*, and *maysir*, as well as familiarity with Islamic contracts such as *mudharabah* and *murabahah*. SCB reflects the actual ethical behavior of entrepreneurs in adhering to Shariah principles in business practices, such as honesty, transparency, and justice. SFM refers to the ability of MSME owners to strategically manage financial resources in a way that aligns with both efficiency goals and Islamic values.

These three constructs are hypothesized to have direct and significant effects on the dependent variable, the Performance of Muslim MSMEs (PMM). PMM is measured not only through conventional performance indicators such as productivity and profitability but also through Islamic performance dimensions, including social contributions like *zakat*, *infaq*, and *sadaqah*, and adherence to spiritual accountability. Furthermore, the framework incorporates IEO as a moderating variable, theorized to strengthen the relationships between SBFL, SCB, and SFM with PMM. IEO reflects the entrepreneur’s alignment with Islamic entrepreneurial values, such as sincere intention (*niyyah*), halal-oriented risk-taking, moral leadership, and innovation grounded in public benefit (*maslahah*). The framework is supported by six hypotheses (H1–H6), which collectively propose that the three main constructs positively influence performance and that these effects are significantly moderated by the presence of a strong Islamic entrepreneurial orientation. This integrative model bridges religious faith with financial and strategic mechanisms, offering a comprehensive perspective for understanding how Muslim MSMEs can achieve sustainable and value-driven growth.

RESULTS AND DISCUSSION

Data Analysis Method

This study employs Structural Equation Modeling–Partial Least Squares (SEM–PLS) for data analysis, utilizing the SmartPLS software. SEM–PLS was chosen due to its

flexibility and robustness in handling complex models with multiple constructs and indicators, particularly when working with relatively small sample sizes or non-normally distributed data. SEM itself is generally divided into two main types: covariance-based SEM (CB-SEM) and variance-based SEM (PLS-SEM). CB-SEM, developed in the 1970s by Karl Jöreskog—also the creator of LISREL software—is a parametric approach that relies on several statistical assumptions. In contrast, SEM-PLS, pioneered by Herman Wold (Jöreskog's academic advisor), emerged as a more flexible, nonparametric alternative.

One of the main advantages of SEM-PLS is its ability to provide reliable parameter estimates without requiring strict assumptions such as multivariate normality, homoscedasticity, or large sample sizes. While CB-SEM is well-suited for confirmatory research and theory testing under ideal statistical conditions, SEM-PLS is more appropriate for exploratory models or predictive studies, especially when the data do not meet the strict criteria of CB-SEM. In essence, SEM-PLS is often seen as a robust proxy for CB-SEM when assumptions of the latter are violated. It remains effective even when applied to non-normally distributed or skewed data, making it a practical choice for this study's context.

Given these advantages, SEM-PLS is widely recognized as a suitable technique for theory development and empirical validation in business, social sciences, and Islamic finance research. The approach enables the simultaneous evaluation of both the measurement model (to assess indicator reliability and validity) and the structural model (to evaluate hypothesized relationships), ensuring a comprehensive understanding of the constructs and their interactions within the conceptual framework.

Outer Model Evaluation (Measurement Model): Convergent Validity and Reliability Testing

In Partial Least Squares Structural Equation Modeling (SEM-PLS), the measurement model—also referred to as the outer model—serves to evaluate the relationships between latent constructs and their observed indicators. This process is analogous to Confirmatory Factor Analysis (CFA) in covariance-based SEM. A crucial aspect of outer model evaluation is assessing convergent validity, which indicates the degree to which a set of indicators truly represents the intended latent variable. There are two primary criteria for determining whether the outer model meets the requirements for convergent validity:

- (a) Outer loading values should exceed 0.70, and
- (b) The p-values associated with these loadings should be statistically significant ($p < 0.05$).

However, in practical applications—particularly when working with newly developed instruments—it is common for some indicators to fall below the 0.70 threshold. In such cases, items with loading values between 0.40 and 0.70 may still be retained, provided they do not adversely affect the model's overall validity and reliability. Indicators with loading values below 0.40, however, should generally be removed from the model.

The decision to retain indicators within the 0.40–0.70 range should be based on whether their inclusion improves the Average Variance Extracted (AVE) and Composite Reliability (CR). The minimum acceptable threshold for AVE is 0.50, indicating that at least 50% of the variance in the indicators is explained by the latent construct. For CR, the minimum acceptable value is 0.70, reflecting satisfactory internal consistency among the indicators.

In addition to statistical considerations, content validity must also be taken into account. Some indicators may be retained despite having lower loadings if they contribute meaningfully to the theoretical or conceptual definition of the construct. Thus, both quantitative metrics and qualitative judgment are necessary for making informed decisions in the refinement of the measurement model. Table 2 presents the outer loading values for all indicators used in the study, which form the basis for assessing the reliability and validity of the constructs.

Table 2. Outer Loading Validity Test

	Islamic Entrepreneurial Orientation (Z)	Performance of Muslim MSMEs (Y)	Shariah Compliance Behavior (X2)	Shariah-Based Financial Literacy (X1)	Strategic Financial Management (X3)
IEO1	0.976				
IEO2	0.970				
IEO3	0.926				
IEO4	0.961				
IEO5	0.969				
PMM1		0.969			
PMM2		0.963			
PMM3		0.941			
PMM4		0.951			
PMM5		0.970			
SBFL1				0.954	
SBFL2				0.951	
SBFL3				0.931	
SBFL4				0.957	
SBFL5				0.968	
SCB1			0.975		
SCB2			0.967		
SCB3			0.951		
SCB4			0.946		
SCB5			0.967		
SFM1					0.972
SFM2					0.966
SFM3					0.941
SFM4					0.955
SFM5					0.971

Table 2 presents the results of the convergent validity assessment based on outer loading values for each indicator associated with the latent constructs in this study. According to established SEM–PLS guidelines, an outer loading value exceeding 0.70 indicates that the indicator has a strong correlation with its corresponding latent variable and is therefore considered valid for inclusion in the measurement model. All indicators in this study exceeded the 0.70 threshold, confirming the robustness of the instrument design.

Specifically, the indicators measuring Islamic Entrepreneurial Orientation (IEO) demonstrated exceptionally high loading values, ranging from 0.926 to 0.976, indicating excellent internal consistency and construct representation. Likewise, the indicators for Performance of Muslim MSMEs (PMM) showed strong loadings between 0.941 and 0.970, further affirming the reliability of the performance measurement scale. For Shariah-Based Financial Literacy (SBFL), loading values ranged from 0.931 to 0.968, while Shariah Compliance Behavior (SCB) showed loadings between 0.946 and 0.975. The indicators for Strategic Financial Management (SFM) also met the criterion with loading values between 0.941 and 0.972.

These results confirm that each set of indicators is appropriately measuring its intended latent variable, thereby satisfying the requirements for convergent validity. The strong loading values across all constructs suggest that the measurement model is statistically sound and theoretically coherent, forming a reliable basis for further structural model analysis. Figure 2 illustrates the outer model results from the SEM–PLS analysis, showing the standardized outer loadings for each observed indicator linked to their respective latent variables. The visual representation confirms that all measurement items for the five constructs—Shariah-Based Financial Literacy (X1), Shariah Compliance Behavior (X2), Strategic Financial Management (X3), Islamic Entrepreneurial Orientation (Z), and Performance of Muslim MSMEs (Y)—exhibit strong and statistically significant loading values.

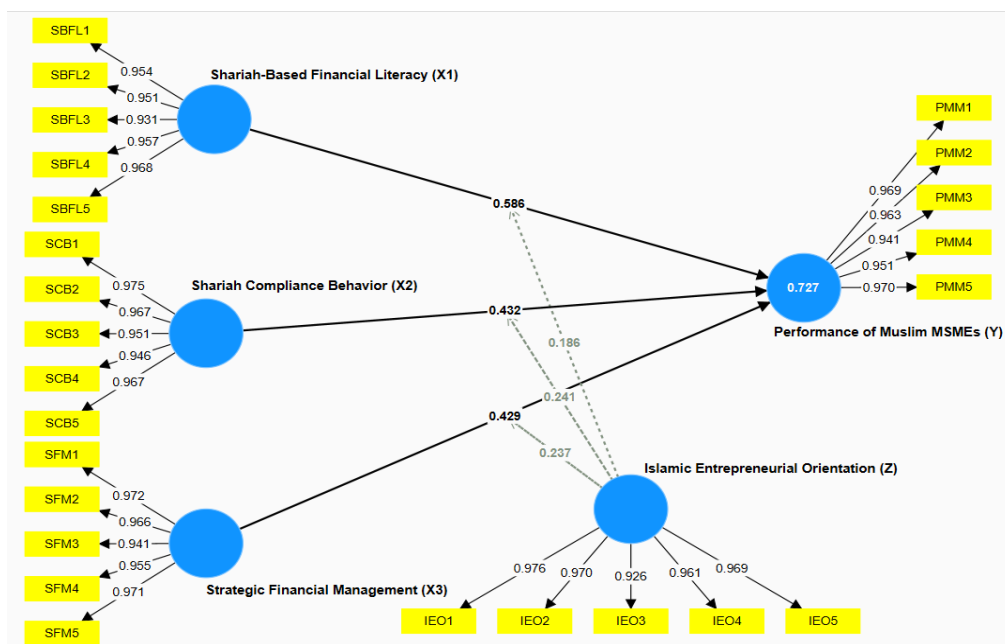


Figure 2. Validity Testing based on Outer Loading

Each indicator loading exceeds the recommended threshold of 0.70, reinforcing the model's convergent validity. For example, the SBFL construct is measured by five indicators (SBFL1–SBFL5), all showing loadings between 0.931 and 0.968. Similarly, SCB (SCB1–SCB5) ranges from 0.946 to 0.975, and SFM (SFM1–SFM5) ranges from 0.941 to 0.972. The latent variable IEO is also robustly represented, with loadings for IEO1–IEO5 ranging from 0.926 to 0.976. Finally, the dependent variable PMM is measured by five indicators (PMM1–PMM5), all showing loadings above 0.94, reflecting strong construct reliability.

The figure also displays the path coefficients from the structural model. The direct effects from SBFL ($\beta = 0.586$), SCB ($\beta = 0.432$), and SFM ($\beta = 0.429$) to PMM are all positive and substantial, indicating significant contributions of these constructs to the performance of Muslim MSMEs. Furthermore, the dotted arrows illustrate the moderating effects of Islamic Entrepreneurial Orientation (Z), with moderate interaction values (0.186, 0.241, 0.237) that were statistically significant in the hypothesis testing phase. To further assess convergent validity, this study examined the Average Variance Extracted (AVE) values for each latent construct, as presented in Table 3.

Table 3. the Average Variance Extracted (AVE) values for each latent construct

	Average variance extracted (AVE)
Islamic Entrepreneurial Orientation (Z)	0.922
Performance of Muslim MSMEs (Y)	0.919
Shariah Compliance Behavior (X2)	0.924
Shariah-Based Financial Literacy (X1)	0.907
Strategic Financial Management (X3)	0.924

AVE measures the amount of variance that a latent variable captures from its indicators relative to the amount due to measurement error. An AVE value greater than 0.50 is considered the minimum acceptable threshold, indicating that the construct explains more than half of the variance in its observed indicators.

All constructs in the model meet this criterion, with AVE values well above the threshold. Shariah Compliance Behavior (X2) and Strategic Financial Management (X3) exhibit the highest AVE values at 0.924, demonstrating that over 92% of the variance in their respective indicators is explained by the latent construct. Islamic Entrepreneurial

Orientation (Z) also shows a high AVE of 0.922, followed closely by Performance of Muslim MSMEs (Y) at 0.919 and Shariah-Based Financial Literacy (X1) at 0.907.

These results confirm that each construct has strong convergent validity, as the indicators are not only statistically significant but also consistently measure their intended latent dimensions. The high AVE values across all variables indicate a well-specified measurement model with high internal consistency, thereby validating the reliability and accuracy of the constructs used in the study.

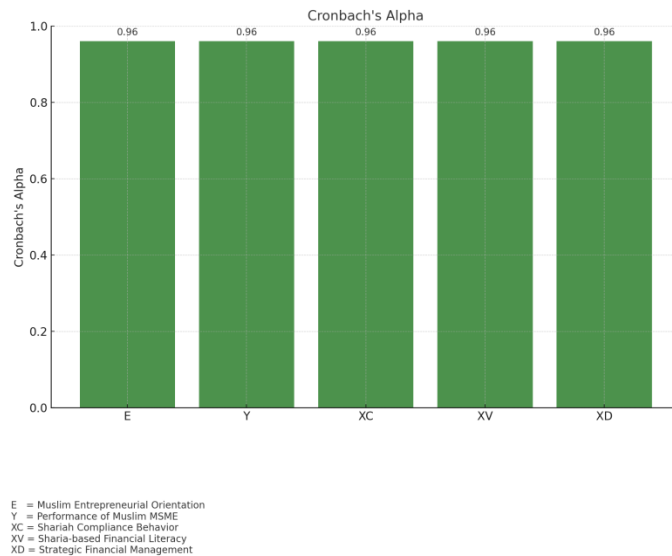


Figure 3. Reliability Assessment Using Cronbach's Alpha

Figure 3 illustrates the reliability assessment of all latent constructs using Cronbach's Alpha (CA). Cronbach's Alpha is a widely used measure of internal consistency, indicating how well a set of items measures a single unidimensional latent construct. A CA value of 0.70 or higher is generally accepted as the minimum threshold for adequate reliability in social science research.

As shown in the figure, all five constructs in the model demonstrate high levels of reliability, with Cronbach's Alpha values approaching or exceeding 0.95, which indicates excellent internal consistency. The constructs include Islamic Entrepreneurial Orientation (Z), Performance of Muslim MSMEs (Y), Shariah Compliance Behavior (X2), Shariah-Based Financial Literacy (X1), and Strategic Financial Management (X3). The consistently high reliability scores across all variables confirm that the indicators within each construct are measuring the same underlying dimension and do so in a stable and cohesive manner.

This result strengthens the validity of the measurement model and ensures that the subsequent structural model analysis is based on constructs that are both conceptually sound and statistically reliable. In sum, the findings provide strong evidence for the robustness of the instruments used in this study.

Table 4. Discriminant Validity: Fornell-Larcker Criterion

	Islamic Entrepreneurial Orientation (Z)	Performance of Muslim MSMEs (Y)	Shariah Compliance Behavior (X2)	Shariah-Based Financial Literacy (X1)	Strategic Financial Management (X3)
Islamic Entrepreneurial Orientation (Z)	(0.960)				
Performance of Muslim MSMEs (Y)	-0.137	(0.959)			

Shariah Compliance Behavior (X2)	-0.332	0.513	(0.961)		
Shariah-Based Financial Literacy (X1)	-0.339	0.528	0.295	(0.952)	
Strategic Financial Management (X3)	-0.367	0.473	0.275	0.247	(0.961)

To evaluate discriminant validity, this study employed the Fornell–Larcker criterion, which compares the square root of the Average Variance Extracted (AVE) for each construct with the correlations between that construct and all other constructs in the model. As shown in Table 4, the diagonal values (presented in parentheses) represent the square root of the AVE for each latent variable, while the off-diagonal values represent the inter-construct correlations.

According to the Fornell–Larcker criterion, discriminant validity is established when the square root of a construct’s AVE is greater than its highest correlation with any other construct. The results confirm that this condition is met for all variables. For instance, the square root of AVE for Islamic Entrepreneurial Orientation (Z) is 0.960, which is higher than its correlations with other constructs such as Shariah-Based Financial Literacy (–0.339), Shariah Compliance Behavior (–0.332), and Strategic Financial Management (–0.367). Similarly, Performance of Muslim MSMEs (Y) has a square root of AVE of 0.959, exceeding its correlations with all other constructs.

These results provide strong evidence of discriminant validity, indicating that each latent construct in the model is empirically distinct from the others. This validates the structural soundness of the measurement model and supports the claim that each construct captures unique aspects of the theoretical framework.

Table 5. Discriminant Validity: Heterotrait–Monotrait Ratio (HTMT)

	Islamic Entrepreneurial Orientation (Z)	Performance of Muslim MSMEs (Y)	Shariah Compliance Behavior (X2)	Shariah-Based Financial Literacy (X1)
Performance of Muslim MSMEs (Y)	0.129			
Shariah Compliance Behavior (X2)	0.338	0.524		
Shariah-Based Financial Literacy (X1)	0.335	0.540	0.302	
Strategic Financial Management (X3)	0.373	0.483	0.282	0.252

As a supplementary method to assess discriminant validity, this study employed the Heterotrait–Monotrait Ratio of Correlations (HTMT), which is considered a more stringent and reliable criterion than the Fornell–Larcker approach, especially in variance-based SEM such as PLS. HTMT values reflect the ratio of between-construct correlations (heterotrait-heteromethod) to within-construct correlations (monotrait-heteromethod). According to Hair et al. (2020), an HTMT value below 0.90 suggests that discriminant validity has been established.

As shown in Table 5, all HTMT values among the five latent constructs in this study are well below the 0.90 threshold. For instance, the HTMT value between Shariah-Based Financial Literacy (X1) and Performance of Muslim MSMEs (Y) is 0.540, while the highest HTMT value observed is between Islamic Entrepreneurial Orientation (Z) and Strategic Financial Management (X3), which is 0.373—still far below the critical limit. Other relationships, such as between SCB and PMM (0.524) or X1 and SCB (0.302), also confirm adequate discriminant separation.

These results provide additional and robust evidence that all constructs in the model are empirically distinct from one another. Together with the Fornell–Larcker criterion, the HTMT analysis confirms that the measurement model meets the standards for discriminant validity, ensuring that each construct captures a unique theoretical dimension without redundancy or overlap.

Hypothesis Testing and Significance of Structural Paths (Bootstrapping – Inner Model Analysis)

To assess the statistical significance of relationships among variables in the structural model, this study employed bootstrapping procedures within the Partial Least Squares Structural Equation Modeling (SEM–PLS) framework. Bootstrapping is a resampling technique that enables the estimation of path coefficients, t-statistics, and p-values, which are essential for testing the proposed hypotheses and determining whether the independent and moderating variables exert statistically significant effects on the dependent variable.

The bootstrapping analysis was conducted to examine the direct effects of Shariah-Based Financial Literacy (X1), Shariah Compliance Behavior (X2), and Strategic Financial Management (X3) on the Performance of Muslim MSMEs (Y). Additionally, the analysis tested the moderating role of Islamic Entrepreneurial Orientation (Z) in enhancing or weakening these relationships. The significance test results help determine whether the hypothesized relationships are supported by empirical evidence, and whether Islamic entrepreneurial orientation indeed strengthens the effect of Shariah-compliant financial practices on business performance. Table 6 presents the results of the hypothesis testing through bootstrapping analysis in SEM–PLS.

Table 6. Path Coefficient & Hypothesis Significance Testing

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Shariah-Based Financial Literacy (X1) -> Performance of Muslim MSMEs (Y)	0.586	0.562	0.143	4.101	0.000
Shariah Compliance Behavior (X2) -> Performance of Muslim MSMEs (Y)	0.432	0.410	0.157	2.748	0.006
Strategic Financial Management (X3) -> Performance of Muslim MSMEs (Y)	0.429	0.437	0.159	2.691	0.007
Islamic Entrepreneurial Orientation (Z) x Shariah-Based Financial Literacy (X1) -> Performance of Muslim MSMEs (Y)	0.186	0.172	0.093	2.002	0.046
Islamic Entrepreneurial Orientation (Z) x Shariah Compliance Behavior (X2) -> Performance of Muslim MSMEs (Y)	0.241	0.234	0.118	2.047	0.041
Islamic Entrepreneurial Orientation (Z) x Strategic Financial Management (X3) -> Performance of Muslim MSMEs (Y)	0.237	0.206	0.111	2.137	0.033

Table 6 presents the results of the hypothesis testing through bootstrapping analysis in SEM–PLS, which includes estimates of the original sample path coefficients, sample means, standard deviations, t-statistics, and p-values. These metrics are used to assess the strength and significance of the relationships between latent variables in the structural model.

The direct effect of Shariah-Based Financial Literacy (X1) on Performance of Muslim MSMEs (Y) is positive and statistically significant, with a path coefficient of 0.586, $t = 4.101$, and $p < 0.001$. This result supports H1, indicating that higher levels of financial literacy based on Islamic principles significantly enhance MSME performance.

Similarly, Shariah Compliance Behavior (X2) shows a significant positive effect on performance, with a coefficient of 0.432, $t = 2.748$, and $p = 0.006$, supporting H2. This suggests that consistent adherence to Shariah business ethics contributes to better outcomes for Muslim MSMEs.

The relationship between Strategic Financial Management (X3) and Performance (Y) is also statistically significant ($\beta = 0.429$, $t = 2.691$, $p = 0.007$), validating H3. This affirms that well-structured and Shariah-aligned financial management improves business effectiveness and sustainability. For the moderating effects of Islamic Entrepreneurial Orientation (IEO), all three interaction terms yield statistically significant results:

(a) H4: $IEO \times SBFL \rightarrow PMM$ shows a coefficient of 0.186, $t = 2.002$, and $p = 0.046$

(b) H5: $IEO \times SCB \rightarrow PMM$ shows a coefficient of 0.241, $t = 2.047$, and $p = 0.041$

(c) H6: $IEO \times SFM \rightarrow PMM$ shows a coefficient of 0.237, $t = 2.137$, and $p = 0.033$

These findings confirm that IEO significantly moderates the relationships between the three independent variables (X1, X2, X3) and the dependent variable (Y). In each case, the presence of strong Islamic entrepreneurial values amplifies the positive impact of Shariah-based financial practices on MSME performance.

The findings of this study reveal that Islamic financial literacy and compliance behavior are not merely ethical frameworks but serve as significant predictors of improved business performance among Muslim MSMEs. In particular, Shariah-based strategic financial management is shown to contribute meaningfully to business sustainability. Moreover, the moderating role of Islamic Entrepreneurial Orientation (IEO) reinforces these relationships by embedding spiritual values, ethical leadership, and devotional intent (niyyah) into business practices.

Table 7. R-Square

	R-square
Performance of Muslim MSMEs (Y)	0.727

The model's explanatory power is demonstrated through the R-Square (R^2) value, presented in Table 7. The Performance of Muslim MSMEs (Y) has an R^2 of 0.727, which indicates that approximately 72.7% of the variance in business performance is explained by the combined influence of Shariah-Based Financial Literacy (X1), Shariah Compliance Behavior (X2), Strategic Financial Management (X3), and the moderating effect of Islamic Entrepreneurial Orientation (Z). The remaining 27.3% is attributable to other external or unobserved factors.

Table 8. Q-Square

	$Q^2 (=1-SSE/SSO)$
Performance of Muslim MSMEs (Y)	0.586

Further, Table 8 reports the Q-Square (Q^2) predictive relevance value, which stands at 0.586 for the dependent variable. Since $Q^2 > 0$, this confirms that the model has adequate predictive relevance, meaning the exogenous constructs contribute not only to explanatory power but also to the model's capacity to predict endogenous variable behavior..

Table 9. Pengujian Goodness of Fit Model

	Estimated model
SRMR	0.035

Finally, Table 9 reports the Standardized Root Mean Square Residual (SRMR) value of 0.035, which is well below the threshold of 0.10. This indicates that the model has a good overall fit, with minimal discrepancy between the observed and predicted covariance matrices. The low SRMR confirms that the proposed theoretical structure aligns well with the empirical data.

CONCLUSION

Based on the results of data analysis using the SEM-PLS approach, this study concludes that Shariah-Based Financial Literacy (SBFL), Shariah Compliance Behavior (SCB), and Strategic Financial Management (SFM) have a statistically significant

influence on the performance of Muslim MSMEs (PMM). Furthermore, Islamic Entrepreneurial Orientation (IEO) was found to significantly moderate these relationships, demonstrating that Islamic entrepreneurial values play a critical role in enhancing the success of Shariah-compliant businesses. The structural model yields an R-square value of 0.727, indicating that approximately 72.7% of the variance in MSME performance can be explained by the combined effect of SBFL, SCB, SFM, and IEO, with the remaining 27.3% attributable to external factors not included in the model. Additionally, a Q-square value of 0.586 confirms the model's strong predictive relevance, underscoring its utility in forecasting MSME performance outcomes. The SRMR value of 0.035, which falls well below the acceptable threshold, indicates an excellent model fit and reinforces the structural validity of the proposed framework. Overall, the findings provide empirical support for the notion that strategically integrated Shariah-based financial management, when reinforced by Islamic entrepreneurial values, can significantly enhance the performance and sustainability of Muslim-owned MSMEs..

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