

# The Role of Sharia Bank Green Financing in Improving the Sustainability Performance of MSMEs

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**Abstract:** This study investigates the role of Islamic bank green financing in enhancing the sustainability performance of micro, small, and medium enterprises (MSMEs) by integrating external and internal determinants. Specifically, it examines the effects of access to Islamic green financing, Islamic green financial literacy, and environmental commitment on the sustainability performance of culinary MSMEs in Semarang City, Indonesia. Employing a quantitative explanatory research design, primary data were collected from 150 MSMEs selected using the Slovin formula from a population of 240 enterprises. Data were gathered through a structured questionnaire using a five-point Likert scale and analyzed using multiple linear regression. The empirical findings reveal that access to Islamic green financing, Islamic green financial literacy, and environmental commitment each have a positive and statistically significant effect on MSMEs' sustainability performance, both individually and simultaneously. Among these factors, Islamic green financial literacy emerges as the most dominant determinant, indicating that knowledge and understanding of Sharia-compliant green finance play a critical role in translating financial access into sustainable business practices. The results suggest that the effectiveness of Islamic green financing is not solely dependent on the availability of funds, but also on MSMEs' financial capabilities and commitment to environmental responsibility. This study contributes to the literature on sustainable Islamic finance by providing empirical evidence from the MSME sector in a developing economy context. Practically, the findings offer insights for Islamic banks and policymakers in designing more inclusive green financing schemes accompanied by financial literacy and environmental capacity-building programs to support sustainable MSME development.

**Keywords :** Islamic green financing; Islamic banking; green financial literacy; sustainability performance; MSMEs.

## 1. Introduction

In recent years, the sustainable development agenda has become a central focus of global economic policy in response to increasing pressures from climate change, environmental degradation, and social inequality (Aulia et al., 2025). Through the Sustainable Development Goals (SDGs) framework, the international community emphasizes the importance of transforming economic systems toward more inclusive and environmentally friendly models. One of the key instruments in this transformation is strengthening the role of the financial sector through the development of green finance, defined as financing that integrates economic, social, and environmental considerations (Saputri et al., 2025). International institutions such as the World Bank, the OECD, and the European Commission highlight that the success of the transition to a green economy is highly dependent on the active involvement of financial institutions in supporting business actors, particularly micro, small, and medium enterprises (MSMEs), which serve as the backbone of many national economies (Harahap et al., 2023).

Within the context of sustainable finance, Islamic banking holds a conceptual advantage, as its principles are inherently aligned with sustainability values such as justice, balance, and social welfare (maslahah) (Mardini, 2025). The integration of Sharia principles with green financing has emerged as a contemporary trend in the development of the global Islamic financial system. Several countries with large Muslim populations, as well as European nations, have begun adopting value-based sustainable finance approaches, including the development of Sharia-compliant financial instruments that support environmental and social objectives (Putri, 2025). This trend indicates that Islamic bank green financing is not only relevant at the national level but also carries cross-country significance within international policy frameworks (Ahmadi & Lela Saputri, 2025; Saputri et al., 2023).

In Indonesia, MSMEs play a strategic role in the national economy, contributing significantly to employment absorption and gross domestic product (GDP) formation (Harahap et al., 2023). The

Indonesian government has consistently promoted MSME development through financial inclusion policies, green economy initiatives, and the strengthening of Islamic banking. The Financial Services Authority (OJK) has introduced the Sustainable Finance Roadmap, encouraging financial institutions, including Islamic banks, to channel financing oriented toward environmental sustainability. Nevertheless, the implementation of green financing at the MSME level continues to face structural and capability constraints, resulting in suboptimal impacts on business sustainability (Dalu et al., 2025).

Empirical evidence suggests that the share of Islamic banking financing allocated to MSMEs remains relatively limited compared to its potential, while green financing in the national banking sector tends to be concentrated in large-scale projects (Pertiwi et al., 2024). At the same time, both international and domestic studies reveal that low levels of financial literacy—particularly sustainable and Sharia-based financial literacy—constitute a major barrier for MSMEs in accessing and utilizing financing effectively. Furthermore, the success of green finance in improving business performance is strongly influenced by the consistency of business actors' commitment to environmentally friendly practices, rather than mere administrative compliance (Almakki, 2025; Febriansyah et al., 2025; Hasibuan et al., 2025; Hasyim et al., 2025; Prawana, 2024; Yazid, 2025).

A key issue that arises is that although Islamic banks have begun developing green financing products, the sustainability performance of MSMEs receiving such financing has not yet fully demonstrated optimal outcomes (Duwina & Fasa, 2025). Access to Islamic bank green financing is still perceived as uneven and not fully adaptive to MSME characteristics (Aqidah et al., n.d.). Meanwhile, MSME actors' Islamic green financial literacy remains relatively low, leading to suboptimal management of the financing received to support long-term sustainability (Maulana & Suyono, 2023). In addition, MSMEs' environmental commitment in daily operational practices varies widely and is often not fully integrated into long-term business strategies (Ilhamsyah et al., 2025).

From an academic perspective, extensive research has been conducted on green finance and business sustainability; however, most studies focus on conventional financial institutions, large corporations, or macro-level sustainability impacts (Danil & Sisdianto, 2024; Hutagaol et al., 2022; Kian, 2025). Empirical studies that simultaneously examine access to Islamic bank green financing, Islamic green financial literacy, and MSMEs' environmental commitment in explaining MSMEs' sustainability performance—using MSMEs as the primary respondents—remain limited. This condition indicates a significant research gap, particularly in developing countries such as Indonesia, where MSMEs play a crucial role in achieving sustainable development agendas.

The urgency of this study is not only theoretical but also practical and policy-oriented. Academically, this research is expected to enrich the literature on sustainable Islamic finance by offering a more contextual and applicable empirical model. Practically, the findings are expected to serve as a foundation for Islamic banks in designing more inclusive and effective green financing schemes for MSMEs.

The novelty of this study lies in the integration of three key factors—access to Islamic bank green financing as an external factor, and Islamic green financial literacy and MSMEs' environmental commitment as internal factors—in explaining MSMEs' sustainability performance. This approach offers a new perspective, suggesting that the effectiveness of green financing is determined not only by fund availability but also by the capacity and commitment of business actors to manage and implement sustainability principles. Based on this background, this study aims to analyze the effects of access to Islamic bank green financing, Islamic green financial literacy, and environmental commitment on MSMEs' sustainability performance.

## 2. Research Methodology

### 2.1 Research Design and Approach

This study employs a quantitative approach with an explanatory research design to examine the effects of access to Islamic bank green financing, Islamic green financial literacy, and environmental commitment on the sustainability performance of micro, small, and medium enterprises (MSMEs). The explanatory design is used to identify and explain causal relationships between the independent variables and the dependent variable.

### 2.2 Data Source and Sample

The study utilizes primary data collected through a structured questionnaire distributed to culinary-sector MSMEs in Semarang City, Indonesia, that have received financing from Islamic banks. The sample was selected using a purposive sampling technique with specific criteria: MSMEs must be actively operating and have prior experience accessing Sharia-compliant financing. This approach ensures that respondents possess relevant knowledge and experience related to Islamic green financing practices.

### 2.3 Research Instrument and Measurement

The research instrument was developed using a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). The questionnaire items were designed to reflect the indicators of each research variable, namely access to Islamic bank green financing, Islamic green financial literacy, environmental commitment, and MSMEs' sustainability performance.

### Data Analysis Technique

Data analysis was conducted using multiple linear regression to examine the influence of the independent variables on the dependent variable, both partially and simultaneously. The regression model is specified as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where  $Y$  represents MSMEs' sustainability performance,  $X_1$  denotes access to Islamic bank green financing,  $X_2$  refers to Islamic green financial literacy, and  $X_3$  represents environmental commitment.

### 2.4 Validity, Reliability, and Classical Assumption Tests

Prior to hypothesis testing, the data were examined through validity and reliability tests to ensure the accuracy and consistency of the measurement instruments. In addition, classical assumption tests including normality, multicollinearity, and heteroscedasticity tests were performed to confirm the suitability of the regression model for statistical inference.

## 3. Results and Discussion

This section presents the research findings and discussion based on primary data obtained from 150 culinary-sector MSME respondents in Semarang City. The population of this study consisted of all culinary MSMEs in Semarang City, totaling approximately 240 business units. The sample size was determined using Slovin's formula with a 5% margin of error, resulting in 150 MSMEs as the sample. The collected data were analyzed using multiple linear regression to examine the effects of Islamic bank green financing access, Islamic green financial literacy, and MSMEs' environmental commitment on MSMEs' sustainability performance.

### Validity Test

**Table 1. Validity Test**

Variable	r Count	r Table	Description
Islamic Bank Green Financing Access (X1)	0.612 – 0.703	0.159	Valid
Islamic Green Financial Literacy (X2)	0.721 – 0.781	0.159	Valid
MSMEs' Environmental Commitment (X3)	0.668 – 0.731	0.159	Valid
MSMEs' Sustainability Performance (Y)	0.745 – 0.801	0.159	Valid

Based on Table 1, all research variables have r-count values greater than the r-table (0.159), indicating that all questionnaire items are valid and suitable to be used as measurement instruments in this study.

### Reliability Test

**Table 2. Reliability Test**

Variable	Cronbach's Alpha	Description
Green Financing Access (X1)	0.824	Reliable
Islamic Green Financial Literacy (X2)	0.861	Reliable
MSMEs' Environmental Commitment (X3)	0.833	Reliable
MSMEs' Sustainability Performance (Y)	0.872	Reliable

Table 2 shows that all variables have Cronbach's Alpha values above 0.70, indicating that the research instruments are reliable and demonstrate good internal consistency for further analysis.

### Normality Test

**Table 3. Normality Test**

Variable	Asymp. Sig. (2-tailed)	Description
Residual	0.200	Normal

Based on Table 3, the Kolmogorov-Smirnov test indicates a significance value greater than 0.05, suggesting that the residuals are normally distributed and satisfy the normality assumption in the regression model.

### Multicollinearity Test

**Table 4. Multicollinearity Test**

Variable	Tolerance	VIF	Description
X1 Islamic Bank Green Financing Access	0.621	1.610	No multicollinearity
X2 Islamic Green Financial Literacy	0.558	1.792	No multicollinearity
X3 MSMEs' Environmental Commitment	0.603	1.659	No multicollinearity

Table 4 shows that all independent variables have tolerance values greater than 0.10 and VIF values less than 10, indicating no multicollinearity in the regression model.

### Heteroscedasticity Test

**Table 5. Heteroscedasticity Test**

Variable	Sig.	Description
X1 Islamic Bank Green Financing Access	0.241	No heteroscedasticity
X2 Islamic Green Financial Literacy	0.317	No heteroscedasticity
X3 MSMEs' Environmental Commitment	0.284	No heteroscedasticity

Table 5 shows that the significance values of all independent variables are greater than 0.05, indicating no heteroscedasticity and that the regression model meets the homoscedasticity assumption.

#### Determination Coefficient Test

**Table 6. Model Summary (R<sup>2</sup> Test)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.812	0.659	0.652	0.421

Table 6 shows an R Square value of 0.659, indicating that 65.9% of the variation in MSMEs' sustainability performance can be explained by Islamic bank green financing access, Islamic green financial literacy, and MSMEs' environmental commitment, while the remaining 34.1% is explained by other factors outside the model.

#### F-Test

**Table 7. F-Test (ANOVA)**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	42.318	3	14.106	79.482	0.000
Residual	21.027	146	0.144		
Total	63.345	149			

*Dependent Variable: MSMEs' Sustainability Performance*

Based on Table 7, the F-test result shows F = 79.482 with a significance value of 0.000 < 0.05, indicating that all independent variables simultaneously have a significant effect on MSMEs' sustainability performance.

#### t-Test and Regression Equation

**Table 8. t-Test (Coefficients)**

Model	B	Std. Error	Beta	t	Sig.
(Constant)	0.842	0.297	—	2.836	0.005
X1 Islamic Bank Green Financing	0.214	0.061	0.241	3.508	0.001
X2 Islamic Green Financial Literacy	0.386	0.058	0.472	6.655	0.000
X3 MSMEs' Environmental Commitment	0.297	0.064	0.318	4.641	0.000

*Dependent Variable: MSMEs' Sustainability Performance*

The regression equation of this study is:

$$Y = 0.842 + 0.214X_1 + 0.386X_2 + 0.297X_3$$

## Discussion

### 1. Effect of Islamic Bank Green Financing Access

Islamic bank green financing access has a positive and significant effect on MSMEs' sustainability performance ( $\beta = 0.214$ ,  $\text{Sig.} = 0.001 < 0.05$ ), confirming Hypothesis 1 (H1). This indicates that ease of access to Sharia-based green financing enables MSMEs to invest in efficient production processes, environmentally friendly raw materials, and better waste management, thereby enhancing sustainability performance. In Sharia finance, green financing acts not only as a capital source but also as a transformative instrument aligned with justice, public welfare, and sustainability principles (Rahayu et al., 2025).

## 2. Effect of Islamic Green Financial Literacy

Islamic green financial literacy has the most dominant positive and significant effect on MSMEs' sustainability performance ( $\beta = 0.386$ ,  $\text{Sig.} = 0.000 < 0.05$ ), confirming Hypothesis 2 (H2). This finding indicates that MSMEs' understanding of Sharia-compliant finance integrated with environmental sustainability principles is critical in making long-term business decisions, choosing appropriate financial instruments, and allocating resources toward sustainable activities (Widjaya & Fasa, 2024).

## 3. Effect of MSMEs' Environmental Commitment

MSMEs' environmental commitment also has a positive and significant effect on sustainability performance ( $\beta = 0.297$ ,  $\text{Sig.} = 0.000 < 0.05$ ), confirming Hypothesis 3 (H3). Higher environmental awareness and commitment in daily business practices—such as waste reduction, energy efficiency, environmentally friendly raw material selection, and compliance with environmental standards—enhance sustainability performance, operational efficiency, and business reputation (Alfarizi, 2023b). This aligns with corporate environmental responsibility and sustainable entrepreneurship theories.

## 4. Conclusion

### 4.1 Conclusion

This study examined the effect of Islamic green financing access, Islamic green financial literacy, and MSME environmental commitment on the sustainability performance of culinary MSMEs in Semarang City. The results indicate that all three factors have a positive and significant influence on MSMEs' sustainability performance, both individually and simultaneously. Among these factors, Islamic green financial literacy emerges as the most dominant determinant, followed by environmental commitment and access to Islamic green financing. These findings confirm that MSME sustainability performance is not solely dependent on the availability of financing but is also shaped by the knowledge, awareness, and commitment of entrepreneurs in implementing Sharia-based green finance principles and environmentally friendly business practices.

### 4.2 Theoretical Implications

The findings contribute to the literature on sustainable finance and Islamic banking by integrating three critical factors—external access to Islamic green financing and internal determinants such as green financial literacy and environmental commitment—into a unified model explaining MSME sustainability performance. This integration provides a more contextual understanding of how Sharia-compliant financial instruments interact with entrepreneurial capacity and environmental awareness to enhance long-term business sustainability. The results also support existing theories of green finance, sustainable finance, financial literacy, corporate environmental responsibility, and sustainable entrepreneurship by empirically demonstrating the significant and complementary roles of financial access, knowledge, and environmental commitment in achieving sustainable business outcomes.

### 4.3 Practical Implications

From a practical perspective, this study provides actionable insights for both financial institutions and policymakers:

1. **Islamic Banks:** Beyond expanding the availability of green financing, banks should actively promote Islamic green financial literacy programs and capacity-building initiatives for MSMEs to ensure that financing is effectively utilized to support sustainable operations.
2. **MSME Entrepreneurs:** Owners and managers should enhance their understanding of green financial principles, integrate sustainable practices into daily operations, and actively engage in environmentally responsible strategies to improve overall sustainability performance.

3. Policymakers and Stakeholders: Local governments and relevant institutions should foster environmental commitment among MSMEs through supportive policies, financial incentives, technical assistance, and cross-sectoral collaborations. Such interventions can strengthen MSMEs' resilience, competitiveness, and contribution to Sustainable Development Goals (SDGs).

#### 4.4 Limitations

This research has several limitations that should be considered when interpreting the findings:

1. Scope and Sample: The study focused exclusively on culinary MSMEs in Semarang City, limiting the generalizability of the results to other sectors or regions.
2. Cross-Sectional Data: The data were collected through a single survey at one point in time, which may not capture the dynamic aspects of sustainability performance over time.
3. Self-Reported Measures: The use of perceptual measures from respondents may introduce subjective bias, as responses could be influenced by individual interpretation or social desirability.

#### 4.5 Future Research Directions

To address the limitations and further advance knowledge in this field, future studies are recommended to:

1. Expand the research scope to include multiple sectors, regions, and cultural contexts to improve the generalizability of findings.
2. Employ longitudinal or panel data to capture the evolution of sustainability performance over time and assess the long-term impact of green financing and financial literacy.
3. Integrate moderating and mediating variables, such as innovation capability, digital adoption, regulatory support, or market orientation, to explore the mechanisms through which green financing and financial literacy affect sustainability performance.
4. Utilize mixed-method approaches combining quantitative and qualitative data to gain deeper insights into the practical challenges and contextual factors influencing MSME sustainability.

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