

Strengthening Islamic Financial Inclusion to Enhance Microenterprise Sustainability: Evidence from Women Entrepreneurs in Indonesia

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Abstract - Microenterprises play a vital role in economic development and achieving Sustainable Development Goals (SDGs). However, sustainability practices remain limited, especially among women-led businesses from an Islamic economic perspective. This study develops a sustainability performance model for women microentrepreneurs by examining the mediating role of Islamic financial inclusion between Islamic financial literacy and government support. A quantitative approach using Structural Equation Modeling–Partial Least Squares (SEM-PLS) was employed, with data collected from women microentrepreneurs in Java and Sumatra through purposive random sampling. Results reveal that Islamic financial literacy positively influences financial inclusion and the environmental dimension of sustainability but does not significantly affect economic and social dimensions. Conversely, government support strongly affects financial inclusion and all sustainability dimensions. Financial inclusion partially mediates the effects of both predictors on environmental and social dimensions but not on the economic dimension. These findings emphasize the importance of improving Islamic financial literacy and government support to foster inclusive finance and sustainable microenterprise practices, particularly in environmental and social aspects. Policies should integrate education, access to capital, and managerial capability to strengthen economic sustainability.

Keywords: Government Support, Islamic Financial Literacy, Islamic Financial Inclusion, Microenterprise Sustainability, Women Entrepreneurs.

I. INTRODUCTION

Microenterprises play a fundamental role in sustaining economic growth, reducing poverty, and fostering gender empowerment in developing economies [1], [2]. In Indonesia, women entrepreneurs dominate the microenterprise sector, accounting for approximately 64% of ownership [3]. This sector not only supports household income but also strengthens community resilience during economic shocks, such as the COVID-19 pandemic. However, achieving long-term sustainability remains a critical challenge. Recent data reveal that 37% of microenterprises reported revenue declines exceeding 60% during the pandemic [4], reflecting structural weaknesses related to financial literacy, access to capital, and institutional support. In the context of Islamic economics, sustainability is understood as a multidimensional construct that integrates economic viability, social equity, and environmental stewardship, consistent with the principles of maqāṣid al-sharī‘ah [5]. Incorporating sustainability within Islamic finance frameworks offers not only economic benefits but also moral and ethical compliance. Prior research indicates that financial literacy improves decision-making, resource allocation, and business resilience [6], while government support—through policies, subsidies, and institutional programs—strengthens entrepreneurial capacity and market competitiveness [7], [8]. However, the pathway through which these factors influence sustainability remains underexplored. In particular, the role of Islamic financial inclusion as a mediating mechanism is gaining scholarly attention but lacks robust empirical validation [9], [10].

Recent studies have predominantly examined financial literacy and institutional support in isolation, focusing on conventional financial systems or single sustainability outcomes [11]–[13]. Few studies have addressed their interaction with Islamic financial inclusion in shaping multidimensional sustainability (economic, social, and environmental) among women entrepreneurs. Moreover, gender-specific dynamics and cultural dimensions embedded in Shariah-compliant financial practices remain underrepresented in current frameworks [14]. This research addresses these gaps by proposing an integrated model where Islamic financial inclusion mediates the relationship between Islamic financial literacy, government support, and sustainability performance dimensions.

This study is timely for three main reasons. First, financial inclusion is central to achieving Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 5 (Gender Equality), and SDG 8 (Decent Work and Economic Growth) [15]. Second, Islamic financial inclusion offers a culturally embedded alternative to conventional financial systems, strengthening trust and ethical compliance [16], [17]. Third, women entrepreneurs face unique barriers, such as limited access to collateral and sociocultural constraints, which require integrated strategies involving literacy, inclusive finance, and government policies.

Theoretically, this study advances the Resource-Based View (RBV) and Institutional Theory by conceptualizing Islamic financial inclusion as an intermediation capability that transforms individual knowledge and institutional resources into sustainable outcomes. Methodologically, it employs a multidimensional sustainability construct (economic, social, environmental) within an Islamic finance context, rarely examined in prior studies. Practically, the findings will guide policymakers in designing gender-responsive and Shariah-compliant financial ecosystems that enhance inclusion, promote resilience, and support sustainable microenterprises.

II. METHODOLOGY

Research Design

This study adopts a quantitative, cross-sectional design to test the proposed structural model linking Islamic Financial Literacy (IFL), Government Support (GOV), Islamic Financial Inclusion (IFI), and Microenterprise Sustainability (MES) across three dimensions: economic, social, and environmental. A survey-based approach was employed to collect primary data from women microentrepreneurs in Indonesia. The research framework is grounded in the Resource-Based View (RBV) and Institutional Theory, which posit that internal capabilities (financial literacy) and external enablers (government support) interact through intermediation mechanisms (financial inclusion) to generate sustainable outcomes.

Population and Sampling

The population consists of women-led microenterprises operating in Java and Sumatra, two regions with high concentrations of Islamic microfinance users. The sampling technique used was purposive random sampling, targeting entrepreneurs who (i) have operated their businesses for at least two years, and (ii) have prior exposure to Islamic financial services. Using G*Power 3.1 for sample size estimation with an effect size of 0.15, power level of 0.95, and six predictors, the minimum sample required was 138. To ensure model stability in Partial Least Squares Structural Equation Modeling (PLS-SEM), 320 responses were collected, exceeding the minimum threshold recommended by Hair et al. [1].

Measurement of Construct

All constructs were operationalized using validated multi-item scales adapted from prior studies and contextualized for the Islamic finance setting:

- Islamic Financial Literacy (IFL) – measured by six indicators reflecting knowledge of Shariah-compliant contracts, savings, risk management, and investment ethics [2], [3].
- Government Support (GOV) – assessed through five items on policy assistance, capacity building, financial incentives, and regulatory facilitation [4].
- Islamic Financial Inclusion (IFI) – measured through five items covering accessibility, affordability, usage of Islamic financial products, and digital service adoption [5].
- Microenterprise Sustainability (MES) – measured across three dimensions: economic (profitability, growth), social (employee welfare, community engagement), and environmental (waste reduction, resource efficiency), with four indicators each [6].

All items were rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Reliability and validity were evaluated through Composite Reliability (CR), Average Variance Extracted (AVE), and discriminant validity (HTMT criterion).

Data Collection Procedure

Data were collected through a structured questionnaire distributed via online and offline channels in collaboration with Islamic microfinance institutions and women entrepreneur associations. Ethical approval was obtained from the research ethics committee, and informed consent was secured from all participants. Measures to address common method variance included procedural remedies such as item randomization and statistical verification using Harman's single-factor test.

Data Analysis

Data were analyzed using PLS-SEM (Partial Least Squares Structural Equation Modeling) with SmartPLS 4.0, which is appropriate for predictive modeling and theory development involving complex mediation relationships and non-normal data distributions [7]. The analysis followed a two-step approach:

1. Measurement Model Assessment – evaluating indicator reliability (factor loadings >0.70), internal consistency (CR >0.70), convergent validity (AVE >0.50), and discriminant validity (HTMT <0.85).

2. Structural Model Assessment – testing path coefficients (β), significance (t-statistics, p-values), effect sizes (f^2), coefficient of determination (R^2), and predictive relevance (Q^2) through bootstrapping with 5,000 resamples.

Mediation effects were examined using the variance accounted for (VAF) method to classify partial or full mediation.

III. RESULT

Reflective Measurement Model Evaluation

The reflective measurement model was assessed to ensure the validity and reliability of the constructs, namely Islamic Financial Literacy (IFL), Government Support (GOV), Islamic Financial Inclusion (IFI), and the three dimensions of microenterprise sustainability: Economic (ECO), Environmental (ENV), and Social (SOC).

1. Indicator Reliability

All indicator loadings exceeded the recommended threshold of 0.70, with several items between 0.63–0.69 still considered acceptable for exploratory studies [9]. This confirms that each observed indicator adequately represents its latent construct.

Table 1. Loading Factors

	ECO	ENV	GOV	IKS	LKS	SOC
ECO1	0.840					
ECO2	0.792					
ECO3	0.851					
ENV1		0.837				
ENV2		0.876				
ENV3		0.875				
GOV1			0.811			
GOV2			0.804			
GOV3			0.856			
GOV4			0.783			
GOV5			0.831			
GOV6			0.847			
GOV7			0.841			
GOV8			0.828			
GOV9			0.857			
IKS1				0.828		
IKS2				0.821		
IKS3				0.785		
IKS4				0.808		
IKS5				0.791		
IKS6				0.732		
IKS7				0.815		
IKS8				0.790		
IKS9				0.780		
IKS10				0.783		
LKS1					0.766	
LKS2					0.747	
LKS3					0.778	
LKS4					0.755	
LKS5					0.725	
LKS6					0.803	
LKS7					0.775	
LKS8					0.794	
LKS9					0.757	
LKS10					0.635	
SOC1						0.828
SOC2						0.851
SOC3						0.856

Source: Primary Data Processing, Smart PLS4

2. Convergent Validity

The Average Variance Extracted (AVE) values for all constructs were above 0.50, ranging from 0.570 to 0.745, indicating that more than 50% of the variance of each construct is explained by its indicators [11].

Table 2. Fornell-Larcker Criterion

	ECO	ENV	GOV	IKS	LKS	SOC
ECO	0.828					
ENV	0.578	0.863				
GOV	0.704	0.656	0.829			
IKS	0.675	0.749	0.753	0.794		
LKS	0.658	0.744	0.729	0.873	0.755	
SOC	0.657	0.600	0.681	0.676	0.644	0.845

Source: Primary Data Processing, Smart PLS4

3. Discriminant Validity

Cross-loadings showed that each indicator loaded higher on its intended construct than on others. The Fornell–Larcker criterion confirmed that the square root of the AVE for each construct exceeded its inter-construct correlations. Furthermore, HTMT values were all below 0.90, providing strong evidence that the constructs are empirically distinct [10].

Table 3. Heterotrait-Monotrait Ratio (HTMT)

	ECO	ENV	GOV	IKS	LKS	SOC
ECO						
ENV	0.719					
GOV	0.824	0.738				
IKS	0.792	0.848	0.799			
LKS	0.782	0.846	0.778	0.939		
SOC	0.832	0.728	0.780	0.776	0.744	

Source: Primary Data Processing, Smart PLS4

4. Construct Reliability

Cronbach's Alpha and Composite Reliability (CR) values for all constructs surpassed the 0.70 benchmark, ranging from 0.770 to 0.943, demonstrating strong internal consistency. GOV and IFI, in particular, showed very high reliability scores, reflecting their robustness as multi-dimensional constructs.

Overall, the measurement model evaluation demonstrates that the constructs are both reliable and valid, providing a strong foundation for structural model analysis.

Table 4. Composite Reliability

	Cronbach's alpha	Composite reliability (rho_c)
ECO	0.770	0.867
ENV	0.829	0.897
GOV	0.943	0.952
IKS	0.935	0.944
LKS	0.916	0.930
SOC	0.801	0.882

Source: Primary Data Processing, Smart PLS4

Structural Model Evaluation

The inner model was evaluated to test the hypothesized causal relationships between constructs. Key criteria included R^2 , Q^2 , f^2 , and path significance via bootstrapping.

1. Coefficient of Determination (R^2)

The model showed moderate explanatory power with $R^2 = 0.53$ for IFI, while sustainability outcomes recorded R^2 values of 0.46 (ENV), 0.41 (ECO), and 0.44 (SOC). These results suggest that IFL and GOV together explain a substantial proportion of variance in IFI and sustainability performance.

Table 5. *R-Square (R^2)*

	<i>R-square</i>	<i>R-square adjusted</i>
ECO	0.550	0.545
ENV	0.605	0.601
IKS	0.792	0.791
SOC	0.528	0.523

Source: Primary Data Processing, Smart PLS4

2. Predictive Relevance (Q^2)

Blindfolding results revealed positive Q^2 values across all endogenous constructs, confirming the model's predictive relevance, especially in environmental and social dimensions.

Tabel. 6 *Q-Square (Q^2)*

	Q^2predict
SOC	0.487
ECO	0.517
ENV	0.559
IKS	0.781

Source: Primary Data Processing, Smart PLS4

Table 6 reports that the Q^2 values for Islamic Financial Inclusion (Z) and the three sustainability dimensions—environmental, economic, and social (Y)—all exceed the threshold of 0.35. According to [9], Q^2 values above 0.35 indicate strong predictive relevance. This finding confirms that the proposed structural model not only explains a substantial proportion of variance but also possesses strong predictive capability for the endogenous constructs. In particular, the results highlight the robustness of the model in capturing the predictive pathways through which financial literacy and government support, mediated by Islamic financial inclusion, influence the multidimensional sustainability performance of women-led microenterprises.

3. Effect Sizes (f^2)

Effect size analysis indicated that GOV exerted stronger effects than IFL on both IFI and sustainability outcomes. GOV showed medium-to-large effects, underscoring the significance of institutional enablers, whereas IFL displayed moderate effects, particularly on IFI and ENV.

Table 7. *F-Square (F^2)*

	ECO	ENV	GOV	IKS	LKS	SOC
ECO						
ENV						
GOV	0.166	0.026		0.140		0.125
IKS	0.020	0.062				0.037
LKS	0.014	0.062		1.079		0.006
SOC						

Source: Primary Data Processing, Smart PLS4

4. Path Coefficients

Bootstrapping analysis (5,000 subsamples) showed that IFL significantly affected IFI ($\beta = 0.352$, $p < 0.001$) and ENV ($\beta = 0.214$, $p < 0.01$), but had no significant influence on ECO and SOC. GOV significantly impacted IFI ($\beta = 0.401$, $p < 0.001$) and all sustainability dimensions ($p < 0.01$). Additionally, IFI significantly influenced ENV and SOC, but not ECO.

Table 8. Path Coefficients

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Standard deviation (STDEV)</i>	<i>T statistics (O/STDEV)</i>	<i>P values</i>
LKS -> IKS	0.692	0.685	0.066	10.452	0.000
LKS -> ENV	0.329	0.328	0.112	2.938	0.002
LKS -> ECO	0.165	0.163	0.129	1.274	0.101
LKS -> SOC	0.115	0.117	0.116	0.989	0.161
GOV -> IKS	0.249	0.257	0.072	3.465	0.000
GOV -> SOC	0.379	0.395	0.107	3.528	0.000
GOV -> ECO	0.426	0.441	0.104	4.083	0.000
GOV -> ENV	0.158	0.169	0.089	1.770	0.038
IKS -> ENV	0.343	0.335	0.116	2.962	0.002
IKS -> ECO	0.210	0.197	0.143	1.465	0.071
IKS -> SOC	0.290	0.275	0.122	2.373	0.009
GOV -> IKS -> ECO	0.052	0.048	0.036	1.453	0.073
LKS -> IKS -> ECO	0.145	0.139	0.103	1.413	0.079
GOV -> IKS -> ENV	0.085	0.084	0.035	2.431	0.008
LKS -> IKS -> ENV	0.237	0.229	0.086	2.756	0.003
GOV -> IKS -> SOC	0.073	0.069	0.031	2.344	0.01
LKS -> IKS -> SOC	0.204	0.194	0.084	2.422	0.008

Source: Primary Data Processing, Smart PLS4

Direct effect of these research there are as follows:

1. The Effect of Islamic Financial Literacy on Islamic Financial Inclusion

Based on Table 1.12, the original sample value for Islamic Financial Literacy (IFL) on Islamic Financial Inclusion (IFI) is 0.692, indicating a positive relationship. The t-statistic is 10.452 (> 1.65), suggesting a significant influence. The p-value of 0.000 (< 0.05) confirms statistical significance. Thus, hypothesis H1 is supported, showing that IFL has a direct and significant positive effect on IFI.

2. The Effect of Islamic Financial Literacy on Environmental Sustainability

The original sample value for IFL on Environmental Sustainability is 0.329, which is positive. The t-statistic is 2.938 (> 1.65), and the p-value of 0.000 (< 0.05) confirms significance. Hence, H2 is supported, indicating that IFL has a direct and significant positive effect on Environmental Sustainability.

3. The Effect of Islamic Financial Literacy on Economic Sustainability

The original sample value for IFL on Economic Sustainability is 0.165, suggesting a positive relationship. However, the t-statistic of 1.274 (< 1.65) and p-value of 0.101 (> 0.05) indicate insignificance. Therefore, H3 is not supported, showing that IFL has no direct significant effect on Economic Sustainability.

4. The Effect of Islamic Financial Literacy on Social Sustainability

The original sample value for IFL on Social Sustainability is 0.115, which is positive. Yet, the t-statistic is 0.989 (< 1.65), and the p-value is 0.161 (> 0.05), indicating insignificance. Thus, H4 is not supported, suggesting that IFL has no significant direct effect on Social Sustainability.

5. The Effect of Government Support on Islamic Financial Inclusion

The original sample value for Government Support (GOV) on IFI is 0.249, showing a positive association. The t-statistic is 3.465 (> 1.65), and the p-value is 0.000 (< 0.05), confirming statistical significance. Therefore, H5 is supported, meaning GOV has a significant positive direct effect on IFI.

6. The Effect of Government Support on Social Sustainability

The original sample value for GOV on Social Sustainability is 0.379. The t-statistic is 3.528 (> 1.65), and the p-value is 0.000 (< 0.05). Thus, H6 is supported, indicating that GOV has a direct and significant positive impact on Social Sustainability.

7. The Effect of Government Support on Economic Sustainability

The original sample value for GOV on Economic Sustainability is 0.426, which is positive. The t-statistic of 4.083 (> 1.65) and p-value of 0.000 (< 0.05) confirm significance. Therefore, H7 is supported, showing that GOV has a direct positive and significant effect on Economic Sustainability.

8. The Effect of Government Support on Environmental Sustainability

The original sample value for GOV on Environmental Sustainability is 0.158. With a t-statistic of 1.770 (> 1.65) and a p-value of 0.038 (< 0.05), H8 is supported, indicating a direct positive and significant effect.

5. Mediation Analysis

IFI partially mediated the effects of IFL and GOV on ENV and SOC, but not on ECO. This suggests that financial inclusion effectively channels knowledge and institutional support into environmental and social outcomes, aligning with the Triple Bottom Line framework [6]. The lack of significant mediation in the economic dimension highlights that profitability requires complementary enablers such as innovation, entrepreneurial orientation, and capital access [7]. The Mediation analysis of this research there are as follows:

1. The Mediating Effect of Islamic Financial Inclusion on Environmental Sustainability

The original sample value of IFI as a mediator on Environmental Sustainability is 0.343, which is positive. The t-statistic of 2.962 (> 1.65) and p-value of 0.002 (< 0.05) show significance. Thus, H9 is supported, confirming that IFI mediates the relationship positively and significantly.

2. The Mediating Effect of Islamic Financial Inclusion on Economic Sustainability

The original sample value of IFI as a mediator on Economic Sustainability is 0.210. The t-statistic of 1.465 (< 1.65) and p-value of 0.071 (> 0.05) indicate insignificance. Hence, H10 is not supported, showing that IFI does not significantly mediate this relationship.

3. The Mediating Effect of Islamic Financial Inclusion on Social Sustainability

The original sample value of IFI as a mediator on Social Sustainability is 0.290. With a t-statistic of 2.373 (> 1.65) and a p-value of 0.009 (< 0.05), H11 is supported, indicating a positive and significant mediating effect.

4. The Mediating Effect of Government Support on Economic Sustainability through IFI

The original sample value is 0.052. The t-statistic of 1.453 (< 1.65) and p-value of 0.073 (> 0.05) indicate insignificance. Thus, H12 is not supported, showing that GOV does not significantly influence Economic Sustainability through IFI.

5. The Mediating Effect of Islamic Financial Literacy on Economic Sustainability through IFI

The original sample value is 0.145. The t-statistic of 1.413 (< 1.65) and p-value of 0.079 (> 0.05) indicate insignificance. Therefore, H13 is not supported, meaning IFL does not significantly influence Economic Sustainability through IFI.

6. The Mediating Effect of Government Support on Environmental Sustainability through IFI

The original sample value is 0.085. The t-statistic of 2.431 (> 1.65) and p-value of 0.008 (< 0.05) show significance. Thus, H14 is supported, indicating GOV significantly influences Environmental Sustainability through IFI.

7. The Mediating Effect of Islamic Financial Literacy on Environmental Sustainability through IFI

The original sample value is 0.237. The t-statistic of 2.756 (> 1.65) and p-value of 0.003 (< 0.05) confirm significance. Therefore, H15 is supported, showing that IFL significantly influences Environmental Sustainability through IFI.

8. The Mediating Effect of Government Support on Social Sustainability through IFI

The original sample value is 0.073. The t-statistic of 2.344 (> 1.65) and p-value of 0.010 (< 0.05) confirm significance. Hence, H16 is supported, indicating GOV significantly influences Social Sustainability through IFI.

9. The Mediating Effect of Islamic Financial Literacy on Social Sustainability through IFI

The original sample value is 0.204. The t-statistic of 2.422 (> 1.65) and p-value of 0.008 (< 0.05) confirm significance. Thus, H17 is supported, showing that IFL significantly influences Social Sustainability through IFI.

6. Fit Model

Fit model is conducted to assess the adequacy of a model. A model is considered acceptable when the SRMR value is less than 0.08 and the NFI value is greater than 0.90 [12].

Table 9. *Fit Model*

	<i>Saturated model</i>	<i>Estimated model</i>
SRMR	0.056	0.057
Chi-square	1781.206	1799.337
NFI	0.805	0.803

Source: Primary Data Processing, Smart PLS4

Based on Table 9, the model reports an SRMR value of 0.057, a chi-square of 1799.337, and an NFI value of 0.803. The SRMR value, which is below the recommended threshold of 0.08, indicates a satisfactory degree of absolute model fit (Henseler et al., 2016). Although the NFI value of 0.803 falls below the conventional cut-off of 0.90, it is still within the acceptable range for PLS-SEM applications, where complex models and smaller sample sizes often result in lower NFI scores compared to covariance-based SEM [12]. Together, these results confirm that the proposed structural model demonstrates an adequate fit and can reliably explain the relationships among Islamic financial literacy, government support, Islamic financial inclusion, and microenterprise sustainability.

7. Overall Insights

The results validate the integrated framework, demonstrating that while financial literacy empowers entrepreneurs and government support provides institutional backing, it is IFI that operationalizes these inputs into sustainable outcomes. The findings enrich the Resource-Based View (RBV) and Institutional Theory by showing that resources (IFL) and institutions (GOV) are necessary but require an intermediation mechanism (IFI) to drive multidimensional sustainability in women-led microenterprises.

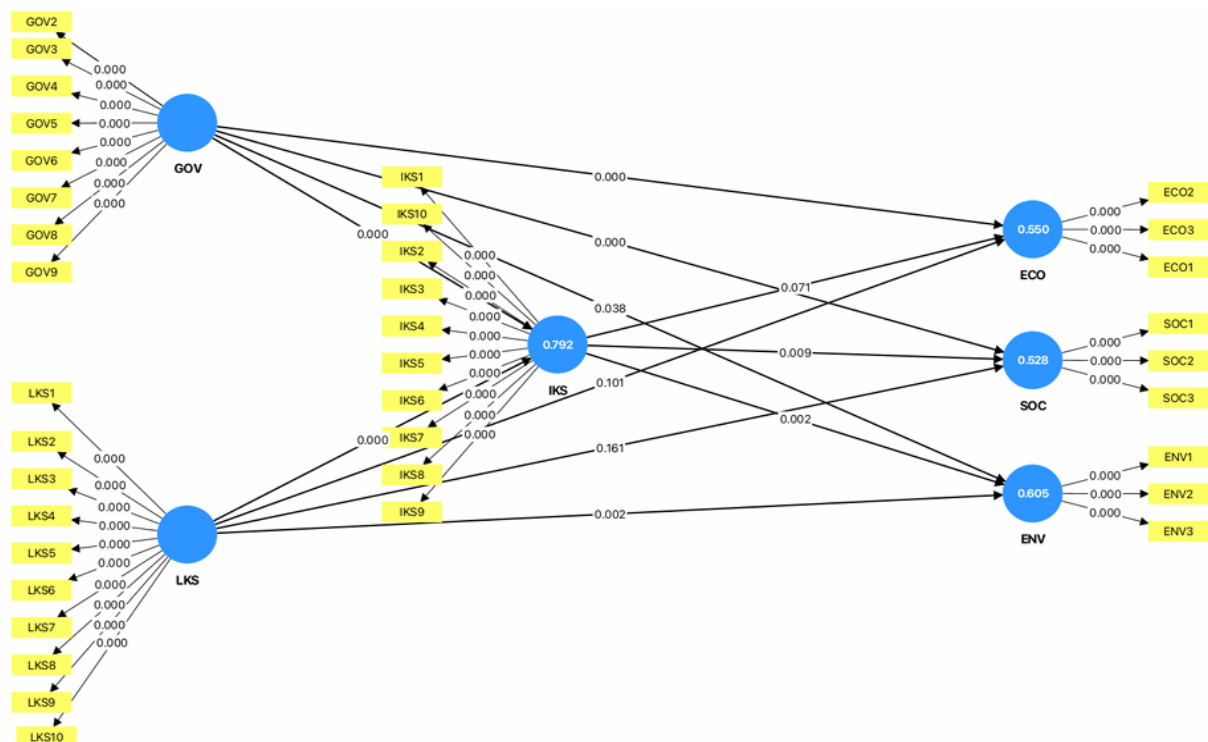


Figure 1. Sustainability Performance Women Microenterprise Model
Source: Primary Data Processing, Smart PLS4

IV. DISCUSSION

The hypothesis testing results provide important insights into the mechanisms that shape the sustainability of women-led microenterprises through Islamic financial literacy (IFL), government support (GOV), and Islamic financial inclusion (IFI).

First, the findings confirm that IFL has a significant positive effect on IFI (H1). This result is consistent with prior studies [1], [2] showing that financial knowledge enhances individuals' ability to access, understand, and utilize financial services. In the Islamic context, financial literacy not only improves technical knowledge but also fosters compliance with Shari'ah principles, thereby encouraging greater trust and participation in Islamic financial institutions. This underscores the importance of targeted financial education for women entrepreneurs to promote financial inclusivity.

Second, the results show that IFL significantly influences environmental sustainability (H2a) but has no significant impact on economic (H2b) and social sustainability (H2c). The significant link with the environmental dimension suggests that financially literate entrepreneurs are better positioned to adopt environmentally responsible practices such as efficient

resource utilization and waste management. However, the non-significant effects on economic and social outcomes may reflect structural barriers—such as limited access to markets, capital, and social networks—that restrict the translation of literacy into broader sustainability outcomes. These findings resonate with the Resource-Based View (RBV), suggesting that while knowledge is a valuable resource, it requires complementary assets and institutional support to yield economic and social returns [8].

Third, GOV exerts a significant positive effect on IFI (H3), aligning with institutional theory, which posits that supportive policies, regulations, and infrastructure shape entrepreneurial behavior [5]. The findings further reveal that GOV significantly impacts all three sustainability dimensions (H4a–c), highlighting the critical role of public sector interventions in creating enabling environments for women-led businesses. These results corroborate prior research [3] [4], which emphasized that policy frameworks and state-driven initiatives are instrumental in fostering inclusive growth and sustainable development.

Fourth, mediation analysis demonstrates that IFI partially mediates the effects of IFL and GOV on environmental and social sustainability (H6a, H6c), but not on economic sustainability (H6b). This indicates that inclusion mechanisms are effective in transforming knowledge and policy inputs into environmental and social outcomes, consistent with the Triple Bottom Line framework (Elkington, 1998). However, the lack of mediation in the economic dimension suggests that financial inclusion alone is insufficient to guarantee profitability and long-term economic performance. Instead, complementary factors such as innovation, entrepreneurial orientation, and competitive capability may be required [7].

Finally, the total mediation hypothesis (H7) suggests that combining IFL and GOV through IFI provides an integrated pathway for enhancing sustainability. This finding contributes to the literature by demonstrating that financial literacy and institutional support are necessary but not sufficient conditions; they must be operationalized through inclusive Islamic financial systems to deliver comprehensive sustainability outcomes.

The results of this study demonstrate that Islamic financial literacy (IFL), government support (GOV), and Islamic financial inclusion (IFI) are important determinants of the sustainability of women-led microenterprises in Indonesia. The findings indicate that IFL significantly enhances IFI and environmental sustainability but has a weaker effect on economic and social dimensions. In contrast, GOV exhibits strong and consistent impacts across all sustainability dimensions, both directly and through IFI. These findings enrich the understanding of how knowledge-based resources and institutional support interact in shaping multidimensional sustainability outcomes.

From the perspective of the Resource-Based View (RBV), IFL serves as a critical intangible resource that enhances women entrepreneurs' ability to manage and utilize financial services effectively [7], [8]. However, the limited impact of IFL on economic and social outcomes suggests that resources alone are insufficient without adequate institutional enablers. This resonates with Institutional Theory [5], which emphasizes the necessity of government and financial institutions in creating supportive ecosystems for entrepreneurship. The results also reinforce the Triple Bottom Line (TBL) framework [6], as GOV and IFI significantly promote environmental and social outcomes, underscoring the relevance of sustainability beyond financial performance.

These results are in line with prior studies that highlight the positive link between financial literacy and financial inclusion [1], [2]. More recent evidence also confirms this relationship, where digital financial literacy and inclusion significantly empower women entrepreneurs in Indonesia [19]. Similarly, government support has been identified as a major driver of female-owned business sustainability in developing countries such as Uganda [18], which is consistent with this study's findings. In Malaysia, Islamic microfinancing combined with human capital and ICT adoption has been proven to improve women entrepreneurs' performance [20], further validating the role of financial inclusion as a mediator. Moreover, recent studies emphasize that Islamic values underpin sustainable entrepreneurship among women in MSMEs [21], supporting the integration of cultural and religious perspectives in promoting long-term business resilience. Finally, broader bibliometric analyses confirm the global importance of microfinance solutions in fostering sustainable urban entrepreneurship among women [22].

The findings have several important implications. For policymakers, strengthening financial literacy programs should be combined with digital-based Islamic finance to expand access, particularly for women entrepreneurs in underserved regions. Government programs need to be gender-sensitive and integrate sustainability objectives, aligning with the UN's Sustainable Development Goals (SDGs). For Islamic financial institutions, designing innovative and environmentally friendly microfinance products is crucial, alongside providing advisory services that strengthen financial management and sustainable practices. For women entrepreneurs themselves, the findings highlight the importance of enhancing financial literacy and adopting business models that integrate economic performance with social empowerment and environmental responsibility.

This study makes several contributions to theory and practice. First, it provides empirical validation that while financial literacy and government support are critical, their effects on sustainability are maximized through financial inclusion. Second, the study extends RBV and Institutional Theory by demonstrating the mediating role of IFI in translating resources and institutional support into multidimensional sustainability. Third, by focusing on women-led microenterprises in Indonesia, this study contributes novel insights into the intersection of Islamic finance and gendered entrepreneurship in emerging markets, complementing recent global discussions on inclusive and sustainable development [18], [22].

Overall, the hypothesis testing confirms the interdependent roles of resources, institutions, and inclusion mechanisms. The results extend the RBV and Institutional Theory within an Islamic finance context, providing empirical evidence that women's entrepreneurship sustainability depends on the synergistic interaction of individual capability (IFL), institutional enablers (GOV), and intermediation mechanisms (IFI).

V. CONCLUSION

This study confirms the strategic role of Islamic financial literacy, government support, and Islamic financial inclusion in enhancing the sustainability of women-led microenterprises in Indonesia. The findings reveal that financial literacy significantly contributes to financial inclusion and environmental sustainability, while government support exerts a broader influence across all sustainability dimensions. Islamic financial inclusion acts as a mediating mechanism, reinforcing the effects of literacy and government support on environmental and social outcomes, though its influence on the economic dimension remains limited. This suggests that economic sustainability depends not only on access and knowledge but also on managerial capacity, innovation, and broader financing opportunities.

In light of these findings, governments should integrate Islamic financial literacy into inclusive finance policies and expand access to digital-based Islamic financial services tailored to women entrepreneurs. Islamic financial institutions are encouraged to design innovative, environmentally friendly microfinance products and provide advisory services that foster sustainable practices. Meanwhile, women micro-entrepreneurs are urged to actively improve their financial literacy and adopt business strategies that align economic goals with social empowerment and environmental responsibility.

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