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Does Business Sustainability Mediate the Effect of Women's Micro Entrepreneurship on Family Welfare?

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KEYWORD

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ABSTRACT

This study aims to develop a holistic model of family welfare among women micro-entrepreneurs by examining the effects of Islamic microfinance, women's empowerment, spiritual motivation, and digital technology adoption, with business sustainability serving as a mediating variable. Unlike previous studies that predominantly examine the direct effects of financial and non-financial resources on business performance or welfare, this study integrates financial, technological, empowerment, and spiritual dimensions into a single model and investigates business sustainability as the mechanism linking these factors to family welfare. A quantitative approach was employed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). Data were collected through purposive sampling from 200 women micro-entrepreneurs in West Java, Indonesia. The results demonstrate that digital technology adoption and spiritual motivation have positive and significant effects on business sustainability, whereas women's empowerment has a significant negative effect. Islamic microfinance does not significantly affect business sustainability. Digital technology adoption, spiritual motivation, and business sustainability have positive and significant effects on family welfare, while Islamic microfinance and women's empowerment have no significant direct effects. The mediation analysis reveals that business sustainability significantly mediates only the relationship between digital technology adoption and family welfare. However, it does not mediate the effects of Islamic microfinance, women's empowerment, or spiritual motivation on family welfare. These findings highlight digital technology adoption as a critical pathway through which sustainable micro-enterprises can improve the welfare of women entrepreneurs' families.

1. INTRODUCTION

Improving family welfare and advancing gender equality are central objectives of the Sustainable Development Goals, particularly the goals of ending poverty and promoting gender equality (UNDP, 2015). In Indonesia, these objectives are closely connected to the resilience of micro, small, and medium enterprises (MSMEs), which account for approximately 99% of business units, contribute 60.5% of gross domestic product, and absorb 96.9% of national employment (KemenkopUKM, 2023). Despite their economic importance, many women-owned microenterprises remain vulnerable to unstable sales, limited access to productive resources, and weak business continuity. These constraints affect not only enterprise performance but also the capacity of women entrepreneurs to improve their families' welfare (BPS, 2023).

The welfare of women micro-entrepreneurs should be understood beyond income alone. From an Islamic holistic perspective, welfare encompasses both material and spiritual well-being and is associated with the protection of religion, life, intellect, lineage, and property as reflected in maqasid al-Shariah (Auda, 2008; Al-Ikhlas et al., 2021). Within this perspective, business sustainability is a crucial mechanism because the ability to maintain operations, adapt to change, and generate stable income may transform entrepreneurial resources into improved household welfare (Nurasyiah et al., 2022; Singh et al., 2022; Kumar et al., 2023).

Previous studies have examined the roles of microfinance, women's empowerment, digital technology, and spiritual factors in supporting microenterprise performance and welfare. However, the literature remains fragmented in three important respects. First, these financial and non-financial determinants are generally investigated separately rather than within an integrated model. Second, most studies emphasize business performance, entrepreneurial outcomes, or poverty reduction, while family welfare among women micro-entrepreneurs receives comparatively limited attention. Third, the mechanism through which these determinants influence family welfare remains insufficiently explained, particularly whether their effects occur directly or indirectly through business sustainability in the Indonesian context. Consequently, it remains unclear which resources can best strengthen family welfare by first improving the continuity and resilience of women-owned microenterprises.

To address these gaps, this study proposes an integrated conceptual model that combines Islamic microfinance, women's empowerment, digital technology adoption, and spiritual motivation as determinants of family welfare, while positioning business sustainability as a mediating mechanism. This model extends previous literature by connecting financial, empowerment, technological, and spiritual dimensions within a single holistic framework and by comparing their direct and indirect pathways to family welfare. Accordingly, this study aims to examine the effects of these four determinants on business sustainability and family welfare and to assess whether business sustainability mediates each relationship.

2. LITERATURE REVIEW

Islamic Microfinance, Business Sustainability, and Family Welfare

Islamic microfinance plays an important role in supporting women-owned microenterprises by providing access to productive capital, facilitating investment, and reducing financial constraints that often hinder business growth. Previous studies generally suggest that access to Islamic financing contributes to improved enterprise performance and household welfare. However, empirical findings remain inconclusive, as several studies report that financing alone may not generate sustainable business outcomes when entrepreneurs lack managerial capability, financial literacy, or allocate financing for non-productive purposes (Atmadja et al., 2016; Prihadini, 2017; Lawhaishy & Othman, 2022). These mixed findings indicate that the contribution of Islamic microfinance should be examined not only in relation to family welfare but also in terms of its ability to strengthen business sustainability among women micro-entrepreneurs. Therefore, the following hypotheses are proposed:

H1: Islamic microfinance positively affects business sustainability.

H2: Islamic microfinance positively affects family welfare.

Women's Empowerment, Business Sustainability, and Family Welfare

Women's empowerment enhances women's autonomy, access to productive resources, knowledge, and participation in economic activities, thereby strengthening their capacity to manage and develop microenterprises. Previous studies indicate that empowerment programs contribute to improving women's capabilities and household welfare (Khan & Bibi, 2011; Nurasyiah et al., 2020; Islam, 2021). Nevertheless, empowerment does not automatically translate into sustainable business performance because its effectiveness depends on the quality of mentoring, social support, collective participation, and women's ability to transform acquired capabilities into entrepreneurial practices (Bastian et al., 2021; Ng et al., 2022). Consequently, examining women's empowerment through both business sustainability and family welfare provides a more comprehensive understanding of its role in improving the well-being of women micro-entrepreneurs. Therefore, the following hypotheses are proposed:

H3: Women's empowerment positively affects business sustainability.

H4: Women's empowerment positively affects family welfare.

Digital Technology Adoption, Business Sustainability, and Family Welfare

Digital technology adoption enables women micro-entrepreneurs to expand market access, improve customer communication, facilitate business transactions, and adapt more effectively to changing market conditions (Priyono, 2020; Id et al., 2021; Mohanty & Mishra, 2020). Through these capabilities, digital technologies are expected to strengthen business sustainability by enhancing operational efficiency and business resilience while simultaneously creating opportunities to improve household welfare through increased income and broader market participation. Although previous studies consistently acknowledge the importance of digital technology for entrepreneurial performance, limited evidence has examined its direct contribution to family welfare and its indirect contribution through business sustainability. Therefore, the following hypotheses are proposed:

H5: Digital technology adoption positively affects business sustainability.

H6: Digital technology adoption positively affects family welfare.

Spiritual Motivation, Business Sustainability, and Family Welfare

Spiritual motivation represents an important internal resource that encourages optimism, perseverance, honesty, and resilience when facing business uncertainty (Waters, 2021; Kumar, 2022; Raza et al., 2023). For women micro-entrepreneurs, spiritual values may strengthen commitment to entrepreneurial activities, support ethical business behavior, and improve the ability to maintain business continuity while simultaneously contributing to family well-being. Nevertheless, previous studies have primarily examined spirituality as an independent predictor of entrepreneurial performance, whereas its direct and indirect relationships with family welfare remain insufficiently explored. Accordingly, spiritual motivation is expected to influence both business sustainability and family welfare. Therefore, the following hypotheses are proposed:

H7: Spiritual motivation positively affects business sustainability.

H8: Spiritual motivation positively affects family welfare.

Business Sustainability and Family Welfare

Business sustainability is positioned as the central mechanism linking entrepreneurial resources to family welfare because sustainable microenterprises are better able to maintain operations, generate stable income, adapt to environmental changes, and support household needs over time. Compared with studies that examine only direct relationships, positioning business sustainability as an explanatory construct provides a more comprehensive understanding of how financial and non-financial resources are transformed into improved family welfare among women micro-entrepreneurs. Therefore, business sustainability is expected to contribute positively to family welfare.

H9: Business sustainability positively affects family welfare.

The Mediating Role of Business Sustainability

Business sustainability may function as an intermediary mechanism through which entrepreneurial resources are translated into improved family welfare. Islamic microfinance, women's empowerment, digital technology adoption, and spiritual motivation are expected to strengthen business continuity, which subsequently enables women micro-entrepreneurs to generate more stable income and improve household welfare. Accordingly, the proposed conceptual model assumes that business sustainability mediates the relationships between these financial and non-financial determinants and family welfare. Therefore, the following mediation hypotheses are proposed:

H10: Business sustainability mediates the relationship between Islamic microfinance and family welfare.

H11: Business sustainability mediates the relationship between women's empowerment and family welfare.

H12: Business sustainability mediates the relationship between digital technology adoption and family welfare.

H13: Business sustainability mediates the relationship between spiritual motivation and family welfare.

3. METHODOLOGY

This study employed a quantitative explanatory research design to examine the relationships among Islamic microfinance, women's empowerment, digital technology adoption, spiritual motivation, business sustainability, and family welfare. Data were collected through a structured questionnaire administered to 200 women micro-entrepreneurs in West Java, Indonesia, selected using purposive sampling. All constructs were measured using previously validated indicators adapted to the research context and assessed on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

The proposed research model was analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS software. The analysis comprised descriptive statistics, evaluation of the measurement model through indicator reliability, internal consistency, convergent validity, and discriminant validity, followed by assessment of the structural model using the coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and bootstrapping procedures to test both the direct and mediating effects at a 5% significance level.

4. RESULTS AND DISCUSSION

Characteristics of Research respondent

It is known that more than half of the respondents are in the age range of 36-55 years old. This age range is considered productive age. This means that many of the female micro-business participants in this study are housewives who work while fulfilling their roles within the family. Then, based on the level of education, the majority of the respondents are women who have attained education up to the level of junior high school or vocational school. This indicates that the formal education level pursued by these female micro-business participants is sufficient or falls into the moderate category.

It is also known that the distribution area of the research respondents is fairly even in West Java. Region I is largely represented by respondents from the city of Bogor and Cianjur Regency. Region II is represented by Purwakarta Regency and Subang Regency. Region III is represented by Majalengka Regency and Cirebon Regency, and Region IV, is mostly represented by the city of Bandung, Tasikmalaya Regency, and Tasikmalaya City. Based on this data, there are more respondents from Region IV compared to other regions. the number of dependents in the families of the respondents is 2-4 individuals. This number is in line with family planning programs, indicating a suitable range.

It can be observed that half of the respondents in this study have an income of less than 3 million from their businesses. This indicates that, based on the income category, the businesses run by these women are classified as ultra-micro enterprises, typically operated primarily to sustain their daily livelihood needs.

The majority of the respondents in this study are engaged in the culinary sector. This is a type of micro-business that is frequently undertaken by mothers. This type of business is highly popular because it is perceived as having an easy process, it aligns well with the daily activities of mothers within the family, and it's easily marketable. Additionally, it caters to the everyday needs of the community. Almost all of the respondents have very small turnovers, namely less than 300 million. This indicates that the businesses operated by these women fall under the category of ultra-micro enterprises.

Descriptive Study of Research Variables

Table 1. Descriptive Study of Research Variable

No.	Variable	Category				
		Very high	High	Medium	Low	Very low
1.	Microfinance	30,35%	28,30%	13,40%	2,49%	25,3%
2.	Women Empowerment	58,17%	23,88%	11,44%	1,99%	3, 98%
3.	Digital Technology Adoption	32,84%	16,92%	14,93%	9,95%	25,3%
4.	Spiritual Motivation	79,60%	13,43%	3,98%	0,50%	2,49%
5.	Business Sustainability	13,93%	25,87%	24,38%	20,40%	15,42%
6.	Family Well-Being	48,26%	35,82%	8,46%	4,98%	2,49%

Source: Collecting data result (2023)

Analysis of Structural Equation Model- Partial Least Square (SEM-PLS)

Evaluation of Reflective Measurement Model (Outer Model)

Evaluation at this stage involves analyzing the validity, reliability, and predictive ability of each indicator on latent variables (Syahrir et al., 2020). The analysis is conducted through the following aspects: a. Indicator Reliability Test. The purpose of the indicator reliability test is to assess how consistent and reliable the indicators are in measuring the latent variable. This is done by observing the outer loading values on each indicator. High outer loading values, above 0.7, indicate that the indicator reflects the construct being measured effectively. If the value is still >

0.5, it is acceptable, but if it's < 0.5, it is advisable to remove the indicator from the model to avoid influencing the subsequent analysis results (Nurasyiah, 2021).

Based on the data analysis using Smart-PLS software, it was found that there are loading factor values that are < 0.7. If this is left unaddressed, it will affect the reliability and validity of the model. Therefore, to achieve better results in this study, it is necessary to eliminate some indicators, including FW2, FW5, FW6, FW7, FW9, FW13, FW14, FW15, WE2, WE5, IM4, IM5, SM4, BS1, BS4, BS5, BS6, BS7, BS8. Although some indicators may be acceptable, leaving them in the model would still affect the subsequent results. Below are the results of outer loadings after removing some indicators:

Table 2. Loading Factors after improvement

	DTA	FW	WE	IM	SM	BS
DTA1	0,879					
DTA2	0,906					
DTA3	0,833					
DTA4	0,819					
DTA5	0,870					
FW1		0,818				
FW10		0,852				
FW11		0,848				
FW12		0,852				
FW16		0,748				
FW3		0,723				
FW4		0,832				
WE1			0,757			
WE3			0,784			
WE4			0,776			
WE6			0,840			
WE7			0,907			
WE8			0,767			
WE9			0,776			
IM1				0,934		
IM2				0,930		
IM3				0,780		
IM6				0,954		
IM7				0,932		
SM1					0,764	
SM2					0,847	
SM3					0,701	
SM5					0,814	
SM6					0,712	
SM7					0,877	
SM8					0,865	

	DTA	FW	WE	IM	SM	BS
BS2						**0,968**
BS3						**0,967**

Source: Output Smart-PLS result

According to Table 2, it can be stated that the loading factors' results after the improvements for each indicator have adequate convergent validity. Therefore, it can be concluded that the latent variable measurement indicators in this study are reliable because all indicators have values greater than 0.7.

The discriminant validity test aims to evaluate the measurements conducted by reflective indicators on latent variables to ensure good quality based on the principle that each indicator should have a high correlation with its latent variable or construct. According to Syahrir et al. (2020), in software such as SmartPLS and others, the discriminant validity test is conducted by examining the values found in cross-loadings, Fornell-Larcker, Criterion, and Heterotrait-Monotrait (HTMT). In this research, we use the Fornell-Larcker Criterion. The method used to measure the quality of a reflective indicator about its latent variable is the Fornell-Larcker Criterion analysis. A model is considered to have good discriminant validity when the square root of the AVE (Average Variance Extracted) for each construct is greater than the correlation between constructs and other constructs in the model. Below is the output of the Fornell-Larcker Criterion values resulting from the data processing in this study.

Table 3. Forner Larcker Criterion

	DTA	FW	WE	IM	SM	BS
DTA	**0,862**					
FW	0,498	**0,812**				
WE	0,228	0,463	**0,803**			
IM	0,207	0,132	0,192	**0,908**		
SM	0,377	0,722	0,621	0,178	**0,800**	
BS	0,554	0,387	0,042	0,203	0,265	**0,968**

Source: Output Smart-PLS result

According to Table 3, it can be observed that all square root values of AVE for each construct or latent variable are greater than the correlations between one construct and another. Thus, through this method, it can be stated that the discriminant validity in this study is good.

Structural Model Evaluation (Inner Model)

The evaluation of the measurement model, also known as the inner model, is a stage conducted to assess the presence of collinearity between constructs and the predictive capability of a research model. The analysis of the coefficient of determination is a stage performed to determine how much the endogenous constructs can be explained by the exogenous constructs. According to Hair et al. (2014), the criteria for R2 are R2 = 0.67 (strong model), R2 = 0.33 (moderate model), and R2 = 0.19 (weak model). According to the data processing results, the R2 values in this study are as follows:

Table 4. R- Square

	R-square	**R-square adjusted**
FW	0,593	0,583
BS	0,345	0,331

Source: Output Smart-PLS result

Based on the Adjusted R-squared values in Table 4, it can be observed that, according to the criteria (Ghazali, 2014), the variables Microfinance (IM), Women's Empowerment (WE), and Spiritual Motivation (SM) as exogenous variables have strong capabilities in explaining the Endogenous Sustainability of Business (BS) variable, with values of 0.593, whereas the Sustainability of Business (BS) variable as an exogenous variable for the Family Welfare (FW) variable has a moderate capability, with a value of 0.33.

Analysis This evaluation is conducted to test for collinearity within a model by examining the Variance Inflation Factor (V.I.F.) values. In this evaluation, V.I.F. values should be less than 5 (five); if they exceed 5 (five), it indicates collinearity among constructs. Based on the data analysis results, the V.I.F. values in this study are as follows:

Table 5. Variance Inflation Factor (V.I.F.)

	DTA	**FW**	**WE**	**IM**	**SM**	**BS**
DTA		1,593				1,194
FW						
WE		1,714				1,648
IM		1,087				1,070
SM		1,852				1,800
BS		1,526				

Source: Output Smart-PLS result

Based on Table 5, it can be observed that the V.I.F. values in this research model are < 5. Therefore, it can be stated that the research model used is not affected by multicollinearity. Effect Size analysis, or f-square (f2) analysis, is conducted to determine whether there is a significant relationship between variables. The criteria for f2 analysis, according to Syahrir et al. (2020), are f2 = 0.02 (small), f2 = 0.15 (medium), and f2 = 0.35 (large), while f2 values < 0.02 are considered to have no effect. The f2 values in this study can be seen in Table 6.

Table 6. F SQUARE

	DTA	FW	WE	IM	SM	BS
DTA		0,065				0,334
FW						
WE		0,005				0,040
IM		0,006				0,016
SM		0,453				0,029
BS		0,026				

Source: Output Smart-PLS result

Based on the data analysis results presented in Table 6 and the f2 analysis criteria Hair et al. (2014) it can be stated that the f2 value for the Digital Technology Adoption (DTA) variable has a large effect on the Business Sustainability (BS) variable, which is equal to 0.334. Furthermore, the f2 values for the Women's Empowerment (WE) and Spiritual Motivation (SM) variables have small effects on the Business Sustainability (BS) variables, which are equal to 0.040 and 0.029, respectively. However, the f2 value for the Islamic Microfinance (IM) variable is considered to have no effect on the Business Sustainability (BS) variable, with a value of 0.016.

As for the Spiritual Motivation (SM) variable, it has a large effect on the Family Welfare (FW) variable, with a value of 0.453. Meanwhile, the Digital Technology Adoption (DTA) and Business Sustainability (BS) variables have minor effects on the Family Welfare (FW) variable, and the Women's Empowerment (WE) and Islamic Microfinance (IM) variables don't affect the Family Welfare (FW) variable, with values of 0.005 and 0.006, respectively.

$$Q2 = 1 - (1 - R2TKU)(1 - R2K)$$

$$Q2 = 1 - (1 - 0.593)(1 - 0.345)$$

$$Q2 = 1 - 0.266$$

$$Q2 = 0.734$$

Based on the calculations performed, the GoF (Goodness of Fit) result is 0.734, which is greater than 0.38. Therefore, it can be stated that the model constructed in this research exhibits a good Goodness of Fit.

Hypothesis Testing (Bootstrap Resampling) The stage conducted using the bootstrapping procedure will yield t-statistic values and probability values for each path of the relationships used in hypothesis testing. In this study, a confidence level of 95% is used with a significance level (α) of 5% or 0.05. Thus, the critical t-value used is 1.96. The criteria for concluding are as follows:

If the t-statistic value is < 1.96, then H0 is accepted, and Ha is rejected.

If the t-statistic value is ≥ 1.96, then H0 is rejected, and Ha is accepted.

Hypothesis testing conducted in this research employs a one-tailed test, which means it is used to examine the positive or negative influence of one variable on another. Furthermore, the acceptance or rejection of a hypothesis can be determined by examining the p-value. If the p-value is less than 0.05, the hypothesis is accepted (Ha is accepted), and vice versa.

Table 7. Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DTA -> FW	0,205	0,206	0,069	2,952	0,003
DTA -> BS	0,511	0,510	0,061	8,336	0,000
WE -> FW	0,058	0,064	0,071	0,823	0,410
WE -> BS	-0,208	-0,206	0,085	2,461	0,014
IM -> FW	-0,052	-0,054	0,049	1,044	0,296
IM -> BS	0,105	0,107	0,064	1,626	0,104
SM -> FW	0,584	0,575	0,094	6,203	0,000
SM -> BS	0,183	0,182	0,072	2,552	0,011
BS -> FW	0,126	0,129	0,054	2,331	0,020
SM -> BS -> FW	0,023	0,023	0,013	1,722	0,085
WE -> BS -> FW	-0,026	-0,026	0,016	1,617	0,106
IM -> BS -> FW	0,013	0,013	0,010	1,308	0,191
DTA -> BS -> FW	0,065	0,065	0,029	2,257	0,024

Source: Output Smart-PLS Result

$$GoF = \sqrt{0.741 \times 0.469}$$
$$GoF = \sqrt{0.348}$$
$$GoF = 0.590$$

Based on the calculations performed, the GoF (Goodness of Fit) result is 0.734, which is greater than 0.38. Therefore, it can be stated that the model constructed in this research exhibits good Goodness of Fit.

Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure in SmartPLS 3.0. Table X summarizes the path coefficients, t-statistics, p-values, and decisions for all direct and mediation hypotheses.

Table 8. Hypothesis Testing

Hypothesis	Hypothesized relationship	Path coefficient (β)	t-stat	p-value	Result	Decision
H1	Islamic microfinance →	0.105	1.626	0.104	Positive, insignificant	Not supported

Hypothesis	Hypothesized relationship	Path coefficient (β)	t-stat	p-value	Result	Decision
	Business sustainability					
H2	Islamic microfinance → Family welfare	−0.052	1.044	0.296	Negative, insignificant	Not supported
H3	Women's empowerment → Business sustainability	−0.208	2.461	0.014	Negative, significant	Not supported*
H4	Women's empowerment → Family welfare	0.058	0.823	0.410	Positive, insignificant	Not supported
H5	Digital technology adoption → Business sustainability	0.511	8.336	< 0.001	Positive, significant	Supported
H6	Digital technology adoption → Family welfare	0.205	2.952	0.003	Positive, significant	Supported
H7	Spiritual motivation → Business sustainability	0.183	2.552	0.011	Positive, significant	Supported
H8	Spiritual motivation → Family welfare	0.584	6.203	< 0.001	Positive, significant	Supported
H9	Business sustainability → Family welfare	0.126	2.331	0.020	Positive, significant	Supported
H10	Islamic microfinance → Business sustainability → Family welfare	0.013	1.308	0.191	Positive indirect effect, insignificant	Not supported
H11	Women's empowerment → Business sustainability → Family welfare	−0.026	1.617	0.106	Negative indirect effect, insignificant	Not supported
H12	Digital technology	0.065	2.257	0.024	Positive indirect	Supported

Hypothesis	Hypothesized relationship	Path coefficient (β)	t-stat	p-value	Result	Decision
	adoption → Business sustainability → Family welfare				effect, significant	
H13	Spiritual motivation → Business sustainability → Family welfare	0.023	1.722	0.085	Positive indirect effect, insignificant	Not supported

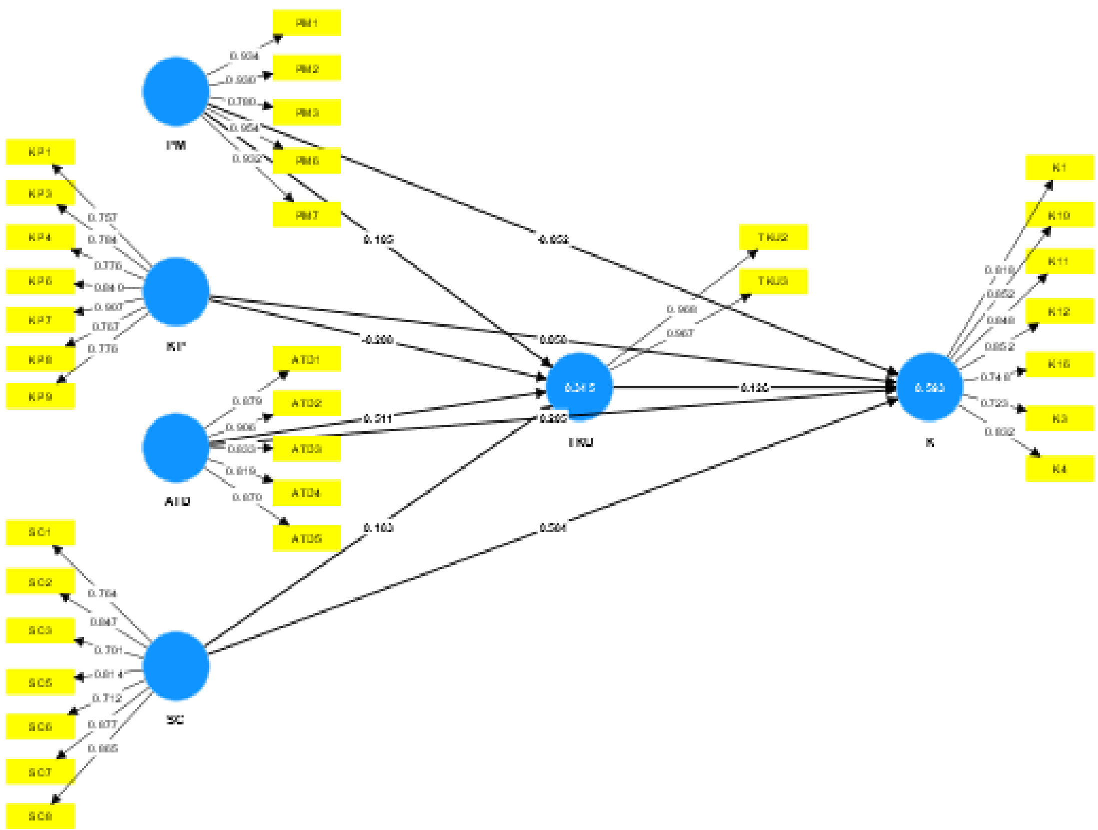

Figure 1. Research Results Model
Source: Output Smart- P.L.S.

Discussion

Factors Influencing Business Sustainability among Women Micro-Entrepreneurs

This study examines Islamic microfinance, women's empowerment, digital technology adoption, and spiritual motivation as determinants of business sustainability among women micro-entrepreneurs. The findings reveal different patterns of influence, indicating that access to resources alone may be insufficient unless accompanied by the capabilities needed to manage, adapt, and sustain the business. The following discussion interprets each relationship in relation to relevant theories, previous empirical findings, and the context of women-owned microenterprises.

Islamic microfinance positively affects business sustainability. The findings do not support the proposed positive effect of Islamic microfinance on business sustainability. This finding indicates that access to financing alone may not be sufficient to ensure the continuity of women-owned microenterprises. From a resource-complementarity perspective, financial capital becomes productive when it is combined with human capital, managerial competence, financial literacy, market access, and social support. Atmadja et al. (2016) similarly found that financial capital did not necessarily improve the performance of women-owned microenterprises in Indonesia, whereas human and social capital played more important roles. They argued that microcredit alone cannot guarantee business success unless it is accompanied by an appropriate combination of non-financial resources. The result is also consistent with Atmadja et al. (2018), who reported that microfinance may not significantly determine microenterprise performance in Indonesia. Their study emphasized the importance of non-financial factors, including human capital, spousal involvement, and the separation of business and household finances.

This result contradicts the research conducted by Camelia & Ridlwan (2018); Herlinawati (2017); Prayogi & Siregar (2017); Prihadini (2017), which states that Islamic microfinance has a positive and significant influence on business development. The lack of an impact of microfinance on sustainability may be due to effective and widespread guidance for customer businesses, as well as other factors such as customers' lack of knowledge about financial reports and marketing. This result is related to (Abor et al., 2020; Fomum and Opperman (2023), that the access and use of financial services by microenterprises will enable them to save for their business, manage risk, build credit history and open doors for credit facilities. This increase in economic resilience can cascade into a more resilient and stable macroeconomic environment conducive to the economic growth.

In the context of the present study, most respondents operated ultra-micro businesses with limited income and turnover. Therefore, the financing received may have been used primarily to maintain daily operations rather than to support business expansion, innovation, technological investment, or market development. Because women micro-entrepreneurs often manage household and business responsibilities simultaneously, the separation between household and business finances may also be limited. Consequently, part of the financing may be allocated to immediate family needs rather than reinvested in the enterprise. These conditions may explain why Islamic microfinance did not significantly strengthen business sustainability among the respondents.

This finding implies that Islamic microfinance institutions should move beyond the provision of financing alone. Financing programs should be integrated with financial literacy education, bookkeeping assistance, business mentoring, digital marketing support, and periodic monitoring of fund utilization. Progressive financing schemes based on repayment performance and business development may also help borrowers move beyond business survival toward long-term sustainability. Thus, the effectiveness of microfinance depends not only on access to capital but also on the institutional support that enables women micro-entrepreneurs to use financing productively.

Women's empowerment positively affects business sustainability. The findings do not support the proposed positive relationship between women's empowerment and business sustainability. Because the direction of the coefficient was contrary to the hypothesized positive relationship, H3 was not supported. This unexpected result should not be interpreted as evidence that empowerment inherently harms women-owned enterprises. Rather, it suggests that greater autonomy and decision-making authority do not automatically translate into stronger business sustainability when women lack complementary entrepreneurial resources, managerial capabilities, and institutional support.

From a collective and relational perspective, women’s empowerment is not solely an individual process but is shaped by family relationships, social networks, cultural expectations, and institutional conditions. Ng et al. (2022) argue that women’s entrepreneurial empowerment should be understood within a collective context because individual agency may remain constrained by relationships and social structures. Similarly, Bastian et al. (2021) demonstrate that strong social ties can provide women entrepreneurs with legitimacy, information, emotional support, and access to resources. Thus, empowerment is more likely to support business sustainability when women’s agency is reinforced by supportive family and social relationships rather than exercised in isolation.

The negative relationship may also be explained through the conservation of resources perspective. Greater involvement in business and decision-making may increase the number of responsibilities women must manage across their entrepreneurial and household roles. When time, energy, capital, and managerial resources are limited, these overlapping responsibilities may produce work–family conflict and resource depletion. De Clercq et al. (2022) found that work-to-family conflict among women entrepreneurs increased emotional exhaustion, which subsequently reduced firm performance. Therefore, greater empowerment without a corresponding reduction in domestic responsibilities may intensify women's workload instead of improving the continuity of their businesses.

This is in contrast to Rerolia & Pratama (2023), stating that the empowerment of female customers of BTPN Shariah through mentoring can effectively impact the development of MSMEs. BTPN Shariah's customers as MSME actors gain new knowledge about the importance of digitizing their businesses, which can have a positive impact on their business progress. Additionally, Prabawanti & Tarigan (2023) state that social support directly affects the sustainability of women's entrepreneurship. This social support is crucial for empowerment for women entrepreneurs. This result differs from the studies cited in the manuscript that report positive contributions of mentoring, social support, and empowerment programs to the development and sustainability of women-owned enterprises. These contrasting findings indicate that the consequences of empowerment depend on its form and implementation. Empowerment that primarily increases women's participation or household decision-making authority may not produce the same business outcomes as entrepreneurship-oriented empowerment that develops financial management, digital capability, market access, and strategic decision-making skills.

In the context of the present study, most respondents operated ultra-micro businesses with limited income and turnover while simultaneously managing household responsibilities. A plausible explanation is that greater control over financial resources may encourage women to prioritize urgent household needs rather than reinvest business income in technology, inventory, innovation, or market expansion. Moreover, empowerment may have increased women's responsibilities without necessarily strengthening their business-specific capabilities. However, this explanation should be interpreted cautiously because the study did not directly measure work–family conflict, the allocation of business income, or the quality of the empowerment programs received by respondents.

Digital technology adoption positively affects business sustainability. The findings support the proposed positive effect of digital technology adoption on business sustainability. Compared with the other predictors in the structural model, digital technology adoption had the largest coefficient, indicating that it is the strongest predictor of business sustainability among the women micro-entrepreneurs examined in this study. This finding suggests that digital technologies help microenterprises maintain business continuity by expanding market reach, improving communication with customers, facilitating transactions, and enabling faster responses to changing market conditions.

This aligns with the research conducted by Armiani et al. (2021), which states that digital technology partially mediates business strategies in the performance of MSMEs. Digital technology serves as an intermediary variable that can compete in the global market because MSME actors can conduct online marketing, making their products known and increasing sales. Financial performance experiences an increase in sales and profit, non-financial performance improves service quality, product quality, and production target achievement, and provides information about the effectiveness and utilization of digital technology in business strategies to improve MSME performance. Additionally, according to Yanti (2018), factors influencing business sustainability include the perceptions of MSME actors, and the utilization of I.C.T. facilities directly affects business sustainability; one of the I.C.T. utilization variables is more effective in increasing I.C.T. adoption among MSME actors.

From a capability perspective, the value of digital technology lies not merely in possessing technological devices but in the entrepreneur's ability to integrate those technologies into business activities. Li et al. (2018) explain that digital transformation enables SME entrepreneurs to reconfigure their business scope, digital platforms, and organizational capabilities in response to environmental change. Similarly, Li et al. (2022) demonstrate that digital technologies support the development of dynamic capabilities that allow firms to sense changes, seize emerging opportunities, and reconfigure resources, which subsequently improves firm performance. Digital adoption can therefore strengthen business sustainability by increasing the adaptability, flexibility, and responsiveness of microenterprises.

The present result is consistent with Eller et al. (2020), who found that SME digitalization is associated with improved financial performance and emphasized the importance of digital strategy and employee digital skills. It also supports Priyono (2020), who showed that digital technologies enabled SMEs to transform their business models and respond to environmental disruption. Furthermore, Li (2022) found that digital transformation contributes to sustainable performance by enhancing firms' capacity to respond to market turbulence, although its benefits may vary according to the extent and quality of implementation. Together, these studies indicate that digital technology functions not only as an operational tool but also as a strategic resource that strengthens business resilience and long-term performance.

In the context of the present study, most respondents operate ultra-micro businesses with limited capital, income, and geographical market coverage. Digital tools such as social media, online marketplaces, mobile communication applications, and digital payment systems may provide relatively affordable ways to promote products, communicate with customers, and complete transactions. They may also reduce dependence on physical stores and conventional promotional channels that require greater financial resources. For women who simultaneously manage business and household responsibilities, digital technology may offer greater temporal and operational flexibility because marketing, customer service, and transactions can be conducted remotely. These contextual advantages may explain why digital technology adoption has a particularly strong relationship with business sustainability in this study.

Nevertheless, the positive effect should not be interpreted as evidence that technological access alone guarantees business sustainability. Eller et al. (2020) identify inadequate skills, limited financial resources, and the absence of a clear digital strategy as important challenges in SME digitalization. Thus, merely owning a smartphone, using social media, or registering on an online marketplace may not generate sustainable outcomes unless these tools are used strategically. Women micro-entrepreneurs need the ability to create relevant digital content, manage customer relationships, analyze market responses, maintain product and service quality, conduct secure transactions, and integrate digital channels with broader business objectives.

Spiritual motivation positively affects business sustainability. The findings support the proposed positive effect on business sustainability. This result indicates that women micro-entrepreneurs with stronger spiritual motivation are more likely to maintain the continuity of their businesses. Rather than functioning merely as a personal religious orientation, spiritual motivation may provide an internal source of meaning, perseverance, optimism, and responsibility that helps entrepreneurs remain committed when facing business difficulties.

This aligns with the research conducted by Hijriah (2016), which states that Islamic spiritual intelligence has the potential to contribute to Islamic entrepreneurship in achieving business sustainability. The ability of business actors to manage their businesses through their attitudes and decision-making can rely on elements of Islamic spiritual intelligence. This intelligence can be implemented in business activities to achieve business sustainability, including production management, marketing, financing, and human resources, all of which can synergize to create business sustainability from an Islamic perspective. The orientation of business sustainability in Islam is not just about profit but also about achieving spiritual benefits, including the satisfaction of Allah S.W.T. and His blessings.

From an intrinsic-motivation perspective, spiritual values can provide entrepreneurs with a meaningful purpose that extends beyond immediate financial rewards. Fry's (2003) spiritual leadership theory proposes that vision, hope or faith, and altruistic values generate intrinsic motivation, commitment, and productivity. Applied to owner-managed microenterprises, spiritual motivation may strengthen an entrepreneur's willingness to persevere, exercise self-discipline, and continue operating despite uncertain income and limited resources. Spiritual values such as honesty, responsibility, compassion, and consistency may also guide business decisions and encourage ethical relationships with customers, suppliers, and employees. Fry's model connects hope or faith, meaningful purpose, and altruistic values with organizational commitment and productivity, while Reave's (2005) review identifies consistent relationships between spiritual values and effective leadership practices.

The present finding is consistent with studies showing that spirituality and religiosity can support business outcomes through psychological and relational mechanisms. Kurt et al. (2020) found that spirituality strengthened relationships within Islamic business networks by increasing emotional closeness, reciprocal service, and members' commitment, thereby facilitating access to both tangible and intangible resources. Lu and Wu (2020) similarly reported that entrepreneurs' religious beliefs were associated with stronger firm performance through trust, networking, access to credit, and governance practices. These findings suggest that spiritual motivation may contribute to business sustainability not only by strengthening individual perseverance but also by developing trust-based relationships and social capital.

Nevertheless, spirituality should not be treated as a substitute for rational business capabilities. Arend (2023) found that spirituality was associated with greater emotional comfort under uncertainty, but it did not necessarily improve specific economic choices made under uncertainty. Accordingly, spiritual motivation may help entrepreneurs regulate emotions and remain persistent, but sustainable outcomes still require appropriate financial management, market information, digital capabilities, and strategic decision-making. The positive result in this study should therefore be interpreted as a complementary effect: spiritual motivation provides psychological and ethical resources that support business continuity, while technical and managerial resources determine how effectively that motivation is converted into business performance.

In the context of the present study, most respondents operate ultra-micro businesses characterized by limited capital, small turnover, uncertain demand, and a close connection between household and business activities. Under these conditions, spiritual motivation may help women micro-entrepreneurs interpret business difficulties as challenges that require patience, effort, and continuous adaptation rather than reasons to discontinue their enterprises. Belief in divine provision may also sustain optimism, while religious commitments to honesty and trustworthiness may help preserve customer confidence and long-term relationships. However, these mechanisms should be interpreted cautiously because the study did not directly measure entrepreneurial resilience, ethical behaviour, customer trust, or business-network quality.

Direct Determinants of Family Welfare among Women Micro-Entrepreneurs

Family welfare reflects the capacity of households to meet their economic and social needs on a sustainable basis. In this study, the direct contribution of Islamic microfinance, women's empowerment, digital technology adoption, spiritual motivation, and business sustainability is assessed to identify which factors are most relevant to the welfare of women micro-entrepreneurs' families. The discussion below explains the mechanisms underlying these relationships and relates the findings to previous empirical evidence.

Islamic microfinance positively affects family welfare. The findings do not support the proposed positive effect of Islamic microfinance on family welfare. This aligns with research conducted by Atmadja et al. (2016) stating that financing does not have a significant impact on the Welfare of micro-businesses due to various factors, including improper cost management, ineffective marketing strategies, and inconsistency in business operations. Other studies by Salia et al. (2017) and Prihadini (2017) also suggest that microfinance has negative hurts on customer welfare because customers use the financing for non-productive purposes. Nyarko et al. (2023) said that the relationship between financial inclusion and poverty is important because when the poor have access to financial services, they can engage in productive economic activities or expand their business activities, which enable them to cater to their basic needs. Some studies have examined how access to finance impacts poverty at the individual country level. However, this contrasts with research by Robbani & Ekawaty (2019); Lawhaishy and Othman (2022), which indicates a significant positive impact of financing on the Welfare of members of the Islamic microfinance to microbusiness welfare.

The insignificant result indicates that access to Islamic microfinance alone does not automatically improve the welfare of women micro-entrepreneurs' families. Because the coefficient was statistically insignificant, its negative direction should not be interpreted as evidence that Islamic microfinance inherently reduces family welfare. Rather, it suggests that the financing received by respondents may not have been sufficient or productively utilized to generate a meaningful improvement in household economic conditions.

From a capability and resource-complementarity perspective, financial access can improve welfare only when borrowers are able to transform financing into productive business activities, stable income, and resources that support household needs. Microfinance provides financial capital, but its welfare effects depend on complementary capabilities such as financial literacy, business management, market access, and the ability to separate business and household finances. When these capabilities are limited, financing may support short-term liquidity without producing sustained increases in income, savings, or household economic security. Thus, access to financing should be distinguished from the effective utilization of financing.

This result is consistent with Salia et al. (2017), who showed that microfinance may produce unintended consequences when borrowers face repayment pressure or use financing for purposes that do not generate sufficient business returns. However, the present finding differs from studies reporting that Islamic microfinance improves household welfare by expanding productive activity, income, and access to economic resources, such as the findings of Robbani and Ekawaty (2019) and Lawhaishy and Othman (2022). These contrasting findings suggest that the welfare impact of microfinance is conditional on the amount, purpose, design, and supporting services attached to the financing. The close connection between household and business finances may also make it difficult for women micro-entrepreneurs to retain profits and reinvest them in their enterprises. Moreover, relatively small financing amounts and repayment obligations may limit the net financial benefits received by households. These conditions may explain why Islamic microfinance did not produce a statistically significant improvement in family welfare. However, this explanation should be treated cautiously because the study did not directly measure fund allocation, repayment burden, or the separation of household and business finances.

Women's empowerment positively affects family welfare. The findings do not support the proposed positive effect Women's empowerment on family welfare. The results of this research are in line with Ng et al. (2022), which states that a woman's empowerment will not have much influence on improving family welfare because what is more needed is collective empowerment. One of the development economists who are concerned with women in poverty alleviation programs is Amartya Sen. In his theory of entitlement and poverty (Sen, 1999) revealed that a set of basic needs, such as food, clothing, housing, health care, and protection of human rights coupled with a set of ethical values would reduce poverty in women. Instead, it indicates that empowerment alone may be insufficient to improve family welfare without complementary economic resources and supportive household and institutional conditions.

From a capability perspective, empowerment expands women’s agency and their freedom to make meaningful choices. However, agency can improve welfare only when women have sufficient resources and opportunities to convert their choices into valued outcomes, such as stable income, food security, education, health care, savings, and asset accumulation. A recent meta-analysis by Balasubramanian et al. (2024) found that women’s economic empowerment interventions generally improve human-development outcomes in low- and middle-income countries, but their average effects are relatively modest and depend substantially on prevailing social norms and contextual conditions. This evidence supports the argument that increased agency does not necessarily translate directly into substantial welfare improvements.

The present finding is consistent with Ng et al. (2022), who conceptualize women’s empowerment as a collective and relational process rather than a purely individual outcome. Women’s autonomy remains embedded in relationships with spouses, families, communities, and institutions. Therefore, individual empowerment may have limited welfare consequences when women continue to experience unequal domestic responsibilities, restricted access to productive resources, or insufficient family and community support. This perspective suggests that women's ability to make decisions is not equivalent to their ability to implement those decisions or transform them into improved household outcomes.

Moreover, the result of this research contradicts by several paper (Nurasyiah et al, 2020; Khan and Bibi, 2011; Tucker and B, 2012; Sraboni, H.J. and Quisumbing, 2014, concluded that the government's empowerment programs can increase women's empowerment and subsequently reduce family poverty. According to their results, empowerment programs for poor women have increased the capacity of women, provided access to finance, increased economic activities, and reduced the workload of women. However, the result differs from Sraboni et al. (2014), who found that women's empowerment in agriculture was associated with several dimensions of household food security, including calorie availability and dietary diversity in Bangladesh. It also differs from broader evidence suggesting that women's economic empowerment can contribute to poverty reduction and household welfare. These contrasting findings indicate that the effect of empowerment may vary according to the dimensions being measured, the productive opportunities available to women, and their actual control over income and assets. Empowerment related to productive decisions and control over economic resources may have stronger welfare consequences than empowerment measured primarily through participation, autonomy, or general household decision-making.

Digital technology adoption positively affects family welfare. The findings support the effect of digital technology on family welfare. This aligns with research by Subagdja, A.M.A and Suherlan (2022), Taleb S.T. et al (2023), Rao et al (2023), which states that digital technology significantly mediates business strategies and performance in micro and small enterprises. However, Trianto (2023) concluded that or quick response code-based fintech for business transactions, most microentrepreneurs have not taken advantage of the platform. Then, the results of the digital payment adoption factor also differ for each country. More over the results indicate that different adoption of I.C.T. factors influence the perceived benefits of organizational performance of Indian MSMEs that lent good support except for the regulatory framework.

This finding indicates that the use of digital technologies by women micro-entrepreneurs is directly associated with better family welfare. The positive relationship suggests that digital adoption generates benefits beyond business operations because it may improve women's ability to earn income, access markets and financial services, manage transactions, and allocate resources to meet household needs. From a capability perspective, digital technology expands the opportunities available to women micro-entrepreneurs and strengthens their ability to convert limited resources into economically valuable outcomes. Social media, online marketplaces, mobile communication applications, and digital payment systems can reduce information and transaction costs, facilitate customer interaction, and provide access to markets that would otherwise be difficult to reach. ICT use may also strengthen women entrepreneurs' self-efficacy and social capital by enabling them to communicate with customers, peers, and business networks. These mechanisms can contribute to more stable income and greater control over economic resources, which subsequently support household consumption, education, health expenditure, savings, and financial security. Crittenden et al. (2019) found that ICT use among women micro-entrepreneurs strengthened self-efficacy and social capital, two resources that can enhance women's economic capacity.

The finding is consistent with Suri and Jack (2016), who demonstrated that access to mobile money increased household consumption and reduced extreme poverty in Kenya, with particularly substantial long-term benefits for women. It is also supported by Dorfleitner and Nguyen (2024), who found that mobile-money adoption contributed positively to women's economic empowerment, partly by improving financial-management practices such as saving and budgeting. These studies suggest that digital technology can improve welfare not only by strengthening business performance but also by expanding financial inclusion, improving resource management, and increasing women's participation in household financial decisions.

The result also corresponds with Soluk et al. (2021), who showed that digital technologies create opportunities for micro-entrepreneurs in developing economies to overcome institutional and market constraints. Digital technologies strengthened the contribution of family and community support to entrepreneurial activities among rural microenterprises. This evidence indicates that digital adoption may connect women micro-entrepreneurs with resources, information, and networks that are unavailable through conventional business channels, thereby increasing their capacity to generate income and support their families.

Nevertheless, access to technology alone may not guarantee improved welfare. The economic benefits of digital adoption depend on women's digital literacy, financial-management capability, internet access, transaction security, and ability to integrate technology into productive business activities. Dorfleitner and Nguyen (2024), for example, found that the benefits of mobile-money adoption were stronger when women possessed adequate financial-management practices. Therefore, the effect of digital technology on family welfare should be understood as capability-dependent rather than automatic.

Spiritual motivation positively affects family welfare. The findings support **that** spiritual motivation has a positive effect on family welfare. This aligns with research by Bagis et al. (2022) and other studies that suggest a positive relationship between spiritual motivation and business performance and family welfare. Among the direct predictors examined in the structural model, spiritual motivation had the largest path coefficient, indicating its particularly important role in explaining the welfare of women micro-entrepreneurs' families. This finding suggests that family welfare is not determined exclusively by material resources. Spiritual motivation may also contribute directly by strengthening women's sense of purpose, optimism, emotional stability, ethical responsibility, and ability to cope with economic uncertainty. In the structural model, the relationship was positive and significant. From a psychological-resource perspective, spiritual motivation can provide meaning and purpose that help individuals interpret economic difficulties more constructively. Jackson and Bergeman (2011) found that the association between religiosity and subjective well-being was partly explained by perceived control, while Ardelt and Ferrari (2019) showed that religiosity contributed to well-being partly through a stronger sense of mastery and purpose in life. Similarly, Dolcos et al. (2021) demonstrated that religious coping was associated with resilience through cognitive reappraisal and coping self-efficacy. These mechanisms suggest that spiritual motivation may help women micro-entrepreneurs maintain hope, regulate emotional responses, and remain confident in their ability to manage business and household pressures.

Spiritual motivation may also influence family welfare through relational and behavioral pathways. Values such as honesty, gratitude, responsibility, patience, and concern for others may guide women's decisions regarding household expenditure, business conduct, and relationships with family members. In the context of the present study, most respondents manage ultra-micro businesses with limited income, uncertain demand, and a close connection between household and business activities. Under these conditions, spiritual motivation may help women perceive entrepreneurship not merely as an income-generating activity but also as a responsibility toward their families and a meaningful form of livelihood. Belief in divine provision may sustain optimism during periods of low income, while religious values may encourage disciplined expenditure, mutual support, and ethical conduct. These psychological and relational benefits may improve perceived family welfare even before substantial business growth occurs. However, these explanations should be interpreted cautiously because the study did not directly measure religious coping, marital relationships, expenditure discipline, or emotional well-being.

The strong direct effect of spiritual motivation also indicates that its contribution to family welfare may operate through pathways other than business sustainability. Spiritual motivation may enhance family welfare directly by improving meaning in life, emotional resilience, family harmony, and confidence in dealing with economic hardship. This interpretation is consistent with the mediation results, which show that the indirect effect of spiritual motivation through business sustainability was not statistically significant. Therefore, spiritual motivation appears to function primarily as a direct psychological, ethical, and relational resource rather than solely as an economic mechanism transmitted through business continuity.

Business sustainability positively affects family welfare. Business sustainability has a positive impact on family welfare. This aligns with previous research conducted by Sugianto (2019), which shows that in the wealth creation and wealth accumulation phases, business planning plays a role. Business planning involves generating income through businesses, whether new or ongoing, including efforts to ensure business sustainability. Furthermore, according to Al-Fadhly (2020), the sustainability of MSMEs is influenced by supplier participation, income levels, redesigning market strategies, and the continuity of a business. The results of this study are also consistent with the research by Yanti (2018), where one of the indicators supporting business sustainability is the income generated by MSMEs, which subsequently improves the Welfare of MSME actors. Through business sustainability, Muslim MSME actors can develop their businesses and ensure their household needs are met. By applying a business system in accordance with Islamic law, it not only provides Welfare in this world but also extends to Welfare in the hereafter. Sumarni (2020) states that through Islamic economics and business, a family can benefit. Islamic economics and business help in the economic recovery by prioritizing the achievement of Sharia goals (maqashid Sharia).

This finding indicates that the ability of women-owned microenterprises to maintain their operations contributes directly to improved family welfare. For women micro-entrepreneurs, business continuity is particularly important because the enterprise frequently serves as a primary or supplementary source of household income. A sustainable business provides a more consistent flow of earnings, enabling families to meet routine needs, cope with unexpected expenses, and reduce their economic vulnerability. From a sustainable-livelihood perspective, business sustainability strengthens the household's capacity to maintain income-generating activities and use available resources to achieve more stable livelihood outcomes. The welfare contribution of a microenterprise does not depend solely on its ability to generate short-term sales or profits, but also on its capacity to survive market changes, retain customers, manage operational risks, and continue producing income over time. When a business remains operational, the household is better positioned to finance food, education, health care, housing, savings, and other essential needs. Business sustainability may also improve the family's ability to withstand economic shocks because the enterprise continues to provide income when other employment opportunities are limited.

The finding is consistent with Olson et al. (2003), who demonstrate that the business and family systems are closely interconnected. Their study found that business assets, business age, personnel management, the owner's involvement, and the use of family or temporary workers were positively associated with achievements in both the business and the family. This evidence supports the view that the sustainability of an owner-managed enterprise can produce benefits extending beyond the firm to the family that depends on it. However, Olson et al. also emphasize that the relationship is reciprocal: family conditions influence the business, while business performance affects family outcomes.

The present result also corresponds with Surya et al. (2021), who found that stronger SME productivity and technological innovation contributed to enterprise development and public welfare. Similarly, Suminah et al. (2022) showed that business-related factors, including human capital, empowerment, production technology, and business characteristics, significantly influenced the income of Indonesian MSME operators. Together, these studies indicate that sustainable productive activity can enhance welfare by maintaining income and strengthening the economic capacity of business-owning households. In the context of the present study, most respondents operated ultra-micro enterprises with limited income and turnover. Although the magnitude of their businesses was relatively small, maintaining business continuity may still be essential for fulfilling everyday household needs. For these women, sustainability may mean being able to continue production, retain customers, preserve working capital, and generate income consistently rather than achieving rapid business expansion. Because household and business finances are closely connected, even a modest but continuous business income may support food consumption, children's education, health expenditure, and other family needs. Conversely, business disruption may immediately reduce the resources available to the household. These conditions provide a plausible explanation for the positive relationship between business sustainability and family welfare.

Nevertheless, business continuity should not automatically be equated with high welfare. An enterprise may survive while generating only limited profits, particularly when its income is used primarily for daily consumption and little remains for savings, asset accumulation, or reinvestment. Therefore, the significant relationship indicates that sustainability contributes to family welfare, but its welfare benefits are likely to become stronger when business continuity is accompanied by productivity growth, adequate profitability, sound financial management, and the separation of household and business finances.

The Mediating Role of Business Sustainability in Family Welfare

The mediation analysis demonstrates that business sustainability does not function as a universal mechanism linking all financial and non-financial determinants to family welfare. Among the four indirect relationships examined, only the indirect effect of digital technology adoption on family welfare through business sustainability was statistically significant. According to Zhao et al. (2010), the existence of mediation should primarily be determined from the significance of the indirect effect rather than solely from the significance of the individual paths forming that effect.

Business sustainability mediates the relationship between Islamic microfinance and family welfare. The findings do not support the proposed mediating role of business sustainability in the relationship between Islamic microfinance and family welfare. This result is consistent with the insignificant effect of Islamic microfinance on business sustainability. When financing does not substantially strengthen business continuity, it cannot generate an improvement in family welfare through that mechanism. From a resource-complementarity perspective, financial capital must be combined with managerial capability, financial literacy, market access, and productive fund allocation before it can produce sustainable business outcomes. Atmadja et al. (2016) found that access to microfinance did not necessarily improve the performance of women-owned microenterprises in Indonesia, particularly when financial resources were not complemented by adequate human and social capital. Similarly, Atmadja et al. (2018) reported that microfinance might not significantly determine microenterprise performance in Indonesia and emphasized the importance of non-financial resources and the separation of business and household finances.

Business sustainability mediates the relationship between women's empowerment and family welfare. The findings do not support the proposed mediating role of business sustainability in the relationship between women's empowerment and family welfare. The negative indirect coefficient reflects the negative relationship between women's empowerment and business sustainability, followed by the positive relationship between business sustainability and family welfare. This pattern suggests that the empowerment experienced by respondents was not successfully transformed into the entrepreneurial capabilities required to maintain their businesses and subsequently improve family welfare. This result highlights the distinction between general empowerment and entrepreneurship-specific empowerment. Greater autonomy, participation, or household decision-making authority may strengthen women's personal agency without necessarily improving their financial management, digital capability, market access, strategic planning, or ability to reinvest business income. Ng et al. (2022) conceptualize women's empowerment as a collective and relational process embedded in family, social, and institutional relationships. Their framework suggests that individual agency may not generate sustainable economic outcomes unless it is reinforced by collective resources and supportive social structures. Bastian et al. (2021) similarly show that strong social ties can support women entrepreneurs by providing information, legitimacy, emotional support, and access to entrepreneurial resources.

For women who manage businesses alongside domestic and caregiving responsibilities, greater involvement in economic and household decisions may increase their workload without reducing their existing responsibilities. Moreover, greater control over income may encourage the prioritization of immediate family needs rather than long-term business reinvestment. These conditions may explain why women's empowerment did not improve family welfare through business sustainability. However, this interpretation remains tentative because work–family conflict, household resource allocation, and the quality of empowerment programs were not directly measured in this study. The finding implies that empowerment programs should combine autonomy and participation with business-specific training, financial literacy, digital skills, market access, peer networks, and family support. Empowerment is more likely to improve family welfare through business sustainability when women possess the resources and capabilities required to transform individual agency into sustainable entrepreneurial outcomes.

Business sustainability mediates the relationship between digital technology adoption and family welfare. In contrast, the findings support the proposed mediating role of business sustainability in the relationship between digital technology adoption and family welfare. Because both the direct effect of digital technology adoption on family welfare and its indirect effect through business sustainability were positive and statistically significant, this pattern represents complementary mediation, also commonly described as partial mediation. Digital technology adoption therefore improves family welfare through two pathways: directly by expanding women's economic and financial opportunities, and indirectly by strengthening the continuity of their businesses. From a dynamic-capabilities perspective, digital technology enables microenterprises to identify market changes, access new customers, adjust their operations, and reconfigure limited resources. Li et al. (2018) explain that digital transformation enables SME entrepreneurs to change their business scope, platforms, and capabilities in response to environmental developments. Li et al. (2022) further found that digital capabilities improve firm performance through market-capitalizing agility and operational-adjustment agility. These mechanisms explain how digital technology can strengthen business sustainability and subsequently produce more stable resources for household consumption, education, health care, savings, and other family needs.

The result is also consistent with Priyono (2020), who found that digital technologies enabled SMEs to transform their business models and respond to environmental disruption. In addition, Suri and Jack (2016) demonstrated that mobile-money access contributed to increased household consumption, poverty reduction, and long-term economic benefits for women. Taken together, these studies support the argument that digital technology can connect business resilience with broader household welfare. In the context of the present study, digital platforms may provide relatively affordable ways for women micro-entrepreneurs to promote products, communicate with customers, receive orders, and conduct transactions. These tools can reduce dependence on physical stores and conventional marketing channels while providing flexibility for women who simultaneously manage businesses and household responsibilities. By improving market access and operational continuity, digital adoption enables businesses to generate more stable resources that can be allocated to family needs. This finding represents the central mediation contribution of the study. It demonstrates that digital technology is not merely an operational tool but also a pathway through which sustainable microenterprises can improve family welfare. Therefore, interventions should provide not only access to digital devices and platforms but also practical training in digital marketing, marketplace management, digital payments, bookkeeping, customer-data management, and cybersecurity.

Business sustainability mediates the relationship between spiritual motivation and family welfare. Finally, the findings do not support the proposed mediating role of business sustainability in the relationship between spiritual motivation and family welfare. Although spiritual motivation had significant positive effects on both business sustainability and family welfare, the specific indirect effect was not statistically significant. This finding illustrates that significant component paths do not automatically establish mediation; the indirect effect itself must be statistically supported. At the same time, spiritual motivation had a strong direct effect on family welfare. According to the mediation classification proposed by Zhao et al. (2010), a significant direct effect combined with an insignificant indirect effect indicates direct-only non-mediation. Thus, spiritual motivation appears to improve family welfare primarily through direct psychological, ethical, and relational mechanisms rather than through business sustainability. Spiritual motivation may strengthen optimism, perseverance, meaning, responsibility, and emotional resilience, which can help women cope with business and household pressures without necessarily operating through improved business continuity. Kurt et al. (2020) show that spirituality can strengthen business relationships through greater emotional closeness, reciprocal service, trust, and network commitment. Such relational resources may support women micro-entrepreneurs directly, but their benefits may not be sufficiently translated into measurable business sustainability and subsequent family welfare. Therefore, spiritual motivation should be understood as a complementary psychological and relational resource rather than as a substitute for managerial, financial, technological, and market capabilities.

Overall, the mediation findings demonstrate that business sustainability is a selective rather than universal mechanism. Islamic microfinance, women's empowerment, and spiritual motivation do not automatically improve family welfare through business continuity. Digital technology adoption is the only determinant whose benefits are significantly transmitted through business sustainability. Theoretically, this finding indicates that resources contribute to family welfare through business sustainability when they directly enhance the adaptive and productive capabilities of the enterprise. Practically, support programs should integrate financial, empowerment, spiritual, and technological resources while recognizing digital capability as the clearest pathway from sustainable microenterprise development to improved family welfare.

5. CONCLUSION

This study examined the direct and indirect effects of Islamic microfinance, women's empowerment, digital technology adoption, and spiritual motivation on family welfare, with business sustainability positioned as a mediating variable. The results show that digital technology adoption and spiritual motivation have positive and significant effects on business sustainability, whereas women's empowerment has a significant negative effect. Islamic microfinance does not significantly affect business sustainability. Digital technology adoption, spiritual motivation, and business sustainability have positive and significant direct effects on family welfare, while Islamic microfinance and women's empowerment have no significant direct effects.

The mediation analysis demonstrates that business sustainability significantly mediates only the relationship between digital technology adoption and family welfare. It does not significantly mediate the relationships of Islamic microfinance, women's empowerment, or spiritual motivation with family welfare. Therefore, the mediating hypothesis concerning spiritual motivation is not supported. Overall, the findings indicate that business sustainability is a selective rather than universal mechanism linking entrepreneurial resources to family welfare, with digital technology adoption representing the only significant mediated pathway.

This study extends the literature on women's entrepreneurship by integrating Islamic microfinance, women's empowerment, digital technology adoption, and spiritual motivation into a single model of family welfare. It also demonstrates that business sustainability is a selective mediating mechanism, as it significantly transmits only the effect of digital technology adoption on family welfare. Furthermore, the negative effect of women's empowerment on business sustainability highlights that general empowerment may not improve business continuity unless it is supported by entrepreneurial capabilities and institutional resources.

The findings highlight the need to strengthen women micro-entrepreneurs' digital capabilities through practical training, mentoring, and access to digital platforms. Islamic microfinance should be combined with financial literacy, bookkeeping, market access, and business assistance rather than limited to financing provision. Empowerment programs should also focus on business-specific skills and family support, while spiritual motivation should complement, rather than replace, financial, managerial, and technological resources.

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