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Waqf microfinance as an alternative and sustainable government empowerment tool towards women in Northern Nigeria: a perceptional analysis

Tijjani Muhammad
Federal University Gashua, Gashua, Nigeria and
Institute of Islamic Banking and Finance, International Islamic University Malaysia, Kuala Lumpur, Malaysia, and
Fahd Al-Shaghdari
Institute of Islamic Banking and Finance, International Islamic University Malaysia, Kuala Lumpur, Malaysia

Abstract

Purpose – The study investigates the perception of Northern Nigeria's women toward addressing unemployment and enhancing microeconomic activities using the uniquely proposed Waqf microfinance model.

Design/methodology/approach – This quantitative study relies on analytical techniques using random and probability sampling strategies. Based on their geographical distribution and business sector diversity, the study selected 346 businesswomen and customers participating in local businesses in Northern Nigeria. Structural equation modeling (SEM) and confirmatory factor analysis (CFA) were used for the analyses.

Findings – The study indicates a strong relationship between Waqf microfinance and women's empowerment in promoting women's sustainable development. Therefore, the study suggests using Waqf microfinance frameworks towards an endowment to empower women's microeconomic activities in Northern Nigeria. The findings also justify the direct and indirect effects of the relationship in promoting sustainable schemes for women's empowerment in Nigeria. Further, it indicates the potential for a women's empowerment scheme using Waqf's microfinance based on SEM.

Practical implications – The study sheds light on the potential of Waqf microfinance as a tool for developing microeconomics through women's empowerment in Northern Nigeria.

Originality/value – This study marks a significant milestone in the field. It is the first to explore the perception of Waqf microfinance as a viable choice for women's empowerment.

Keywords Waqf microfinance, Sustainability, Women, Empowerment, Northern Nigeria

Paper type Research paper

Introduction

Over the past 2 decades, poverty has emerged as a pressing concern due to its multidimensional and complex nature (Dankumo *et al.*, 2023). Jaiyeola and Choga (2021) estimated that almost two-thirds of Nigerians live below the poverty line, indicating severe inequality and high levels of poverty in the country (Oyewunmi and Obayelu, 2023). In response, in recent years, the nation implemented several policies to combat poverty and inequality (Sisaye, 2021; Muhammad and Khalil, 2021; Le Quoc, 2024). For instance, the 1970s' Operation Feed the

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Nation, the 1980s' Green Revolution, the 1990s' Family Economic Advancement Program, and the 2000s' National Poverty Eradication Program have all suffered from corruption-related issues and program discontinuity. Similarly, the nation's poverty indexes show extreme geographical variation (Muhammad and Salisu, 2019; Zhou *et al*., 2023). The northern region of Nigeria, which is dominated by Muslims, has far greater rates of poverty than other regions of the nation. The three Northern regions comprise nineteen (19) states, with an average poverty incidence of 75%, while the three Southern regions have an average poverty incidence of 35% (Memon, 2023). Poverty persists in these majority-Muslim areas despite Islam's core precept of using social-finance institutions to combat inequality in the region. Given rising poverty and the existence of Islamic social finance initiatives and committed institutions, there should be no justification for such widespread deprivation. Furthermore, scholars and policymakers are confounded by the most recent findings in Islamic Social Finance on Waqf and Zakat potential in Nigeria. Muhammad and Salisu (2019) indicated that Zakat alone could generate revenues up to 2.08% of GDP — far exceeding the 1.4% GDP resource gap —and would be enough to eliminate USD 1.25 of poverty daily (Sharaf, 2022).

These institutions must be revisited to tap the considerable potential of existing systems, especially in a society where wealth and poverty coexist. Both government and private sectors have enormous capacity for collecting and distributing funds. Distributing Waqf income could enhance the socioeconomic status of community members. Even in modern non-Muslim countries, historical examples of Waqf in Muslim countries serve as benchmarks for trust and charitable services. In Nigeria, Waqf revenues support the construction of schools —both Islamic and Western education—mosques, and community centers for community benefits, yet many intended beneficiaries still suffer from hunger and unemployment (Le Quoc, 2024).

Waqf-based institutions can significantly reduce women's unemployment (Alsaad *et al*., 2023). Globally, Waqf has been successfully applied to support women's empowerment, social welfare, and economic development in numerous countries through humanitarian projects, especially in health and education (Amin *et al*., 2024; Khan *et al*., 2022). Partnering Waqf funds with microfinance institutions (MFIs) can strengthen project financing. Therefore, the Waqf model offers an opportunity to advance women's empowerment, social welfare, and equitable economic growth in Northern Nigeria. This study examines whether Waqf-based microfinance effectively addresses women's empowerment in Northern Nigeria.

Literature review

Microfinance and women empowerment

Scholars have conducted numerous studies on traditional microfinance and women's empowerment, most employing quantitative methods. However, the insights have been limited. This section reviews research specifically addressing Waqf-based microfinance and its impact on women's empowerment.

Ascarya *et al*. (2023) examined the impact of Baitul Maal Wat Tamwil (BMT) on women's empowerment using a qualitative approach. They found that BMTs were primarily established to counter predatory "loan sharks". Although women constitute a key client group, the organizational vision of many BMTs does not explicitly address gender empowerment. Instead, these institutions tend to prioritize pragmatic business considerations over any concerted effort to redress gender imbalances among their clientele. Mohd Thas Thaker and Allah Pitchay (2018) explored expert opinions on Malaysia's Integrated Cash Waqf Microfinance Investment (ICWME-I) model — assessing its suitability, feasibility, and market prospects. Their research revealed that the experts agreed that the ICWME-I model was suitable for providing financial services to small businesses (Md Razali *et al*., 2023). This finding, supported by Md Razali *et al*. (2023), indicated broad agreement among experts that the ICWME-I model is well suited to serving the needs of small businesses.

Islam (2021) attempted to validate a possible correlation between Islamic microfinance and women's socioeconomic well-being and examined the outlook for Islamic microfinance programs in Bangladesh. The findings showed that increases in women's income and resources improved their sense of financial independence and self-worth.

Ascarya *et al*. (2023) also integrated an Islamic microfinance model based on Waqf, using a combination of qualitative and quantitative methods. The findings indicated that the waqf fund might end riba, lessen poverty, and enhance human resource development; however, the success of project funding depends on having qualified personnel involved. Moreover, project financing emerged as an effective instrument for reducing poverty. Yusgiantoro *et al*. (2024) studied cash waqf for women's empowerment and aimed to examine the possibility of waqf-based microfinance. Employing interviews and content analysis, the results showed that more than 50% of respondents believed that microfinance was the proper intervention to combat poverty.

In an exploratory study, Irhoumah *et al*. (2020) assessed the impact of microfinance on women's empowerment in Egypt by focusing on factors such as self-efficacy, identity, decision-making, and learning. Data were collected through interviews with five participants in group lending and three participants in individual borrowing schemes. The findings revealed that conventional microfinance programs were generally less empowering.

Government initiative on sustainable development since 1986–2023

The Nigerian government developed over 20 programs over 36 years to address community and societal challenges related to poverty, healthcare, and unemployment among youths and women, aiming to reduce poverty and promote economic growth. However, these initiatives largely failed to yield sustainable results, as the government continued to propose and allocate resources without achieving long-term impact. In 1986, during Babangida's regime, several programs were introduced, including the Directorate for Food, Roads, and Rural Infrastructure (DFRRI), the Directorate of Employment for Unemployed Youths, and the National Commission for Nomadic Education. These initiatives aimed to support rural dwellers through feeder roads, water supply, road rehabilitation, and rural electrification, as well as to raise literacy levels among the nomadic group. However, these efforts were not sustained (Sharaf, 2022). In 1987, the Better Life Programme was launched to promote rural development programs, healthcare, and skill acquisition. In 1989, the People's Bank of Nigeria (PBN) was created to provide loans and credit facilities to underprivileged individuals in both rural and urban areas. Between 1990 and 1992, the National Agriculture and Land Development Authority (NALDA) was introduced to support rural farmers with agricultural infrastructure (Muhammad and Khalil, 2021). After General Abacha succeeded General Ibrahim Babangida in 1994, the Family Support Program (FSP) was introduced to assist rural families, particularly in areas related to children's healthcare and societal welfare. In 1997, the regime established the Community Action Programme for Poverty Alleviation (CAPPA) to support low-income families.

Under former President Olusegun Obasanjo's administration, programs such as the Poverty Alleviation Programme (PAP) were introduced to address youth unemployment. In 2001, the National Poverty Eradication Programme (NAPEP) was formed to tackle poverty across all sectors of the economy. In 2004, the National Health Insurance Scheme (NHIS) was established to provide access to healthcare services, in line with the National Economic Empowerment and Development Strategy (NEEDS) (Ahuru, 2021). Under Umar Musa Yar'adua's administration, a seven-point agenda was introduced, focusing on mass transportation, energy, power, food security, agriculture, wealth creation, land reform, employment, and quality education. In 2011, the Transformation Agenda and the Subsidy Reinvestment and Empowerment Program (SURE-P) aimed to create employment opportunities for youths and women (Ahuru, 2021). Under President Goodluck Jonathan, SURE-P and YouWin were further introduced in 2011 to empower Nigerian youths and provide grants to small business owners as part of a sustainable development scheme. However, these programs collapsed due to the absence of a sustainable funding strategy.

During President Muhammad Buhari's administration (2016–2023), a social investment program was introduced to address poverty and hunger within Nigeria. The National Social Investment Program (NSIP) benefited many Nigerians (Gidigbi, 2023). The program included N-power, Conditional Cash Transfer (CCT), the Government Enterprise and Empowerment Program (GEEP), which targeted traders, artisans, farmers, and women, and the Home-Grown School Feeding Program (HGSF), designed to feed schoolchildren (Ge *et al.*, 2023). However, none of these programs are currently active.

The theoretical framework highlights the feminist capacity approach, which promotes economic development through microfinancing institutions and emphasizes the role of the Waqf institution in promoting socio-economic conditions, empowering women, and enhancing community well-being (Kivalya and Caballero-Montes, 2024). Huq and Arenius (2024) developed a capacity approach focused on enhancing individual capacities and functioning. In this context, Waqf-based microfinancing serves as the linking mechanism between dependent and independent variables within Islamic social finance. The study identifies factors influencing women's potential capabilities towards empowerment, particularly through achieving economic independence and reducing dependency (Muhammad and Al-Shaghdari, 2024). Additionally, Khan *et al.* (2022) indicated that the barriers women face in accessing resources and economic opportunities vary by region. There is no universally agreed-upon explanation for these disparities, which are often attributed to factors such as awareness, cultural norms, market accessibility, and government policy.

Model development

Awareness and women empowerment

Sharma and Das (2021) used primary data from 3,000 women across 60 villages in East, West, South, North, and Central India to construct an integrated model for women's empowerment in rural India. Through exploratory factor analysis, the study identified three primary dimensions of women's empowerment: economic, social/human, and legal. As a result, a conceptual model highlighting important areas for development was created. The study emphasized the need for reforms that promote awareness, social freedom, access to utilities, and economic independence for rural women. A strong and supportive legal system is also needed to support women's empowerment.

Empowering women is considered a critical first step toward their inclusion and integration into broader development efforts. Achieving economic independence is crucial to empowering women. Women who attain economic freedom are more likely to experience autonomy in other aspects of life. Cooperatives play a vital part in this process by enabling women to organize, improve their living standards, and gain financial independence. Over the past 2 decades, self-help groups (SHGs) have emerged as informal cooperatives that have been instrumental in women's empowerment.

Kayongo *et al.* (2021) created a framework for women's empowerment through cooperatives and analyzed real-world experiences to bolster the framework. The study concluded that economic independence gained through cooperative participation gives women control over resources and contributes significantly to their empowerment. The authors argued that economic modernity is closely tied to women's empowerment. Similarly, Lwamba *et al.* (2022) established a framework and provided evidence supporting the claim that economic independence is a prerequisite for women's empowerment and that cooperatives are a key facilitator.

H1. There is a link between awareness and women's empowerment.

Government policy and women empowerment

Shenbei *et al.* (2023) stated that empowering women is crucial to national growth and prosperity, particularly through government policies that support NGOs. This study explored how non-governmental organizations (NGOs) contribute to women's empowerment. Although women possess the creativity to launch their businesses, they often cannot take advantage of opportunities due to male domination, lack of education, and inadequate government support. Therefore, NGOs play a crucial role in empowering and educating women to earn a livelihood. Soemitra and Rahma (2022) argued that women can be empowered through entrepreneurship and venture creation, which is achievable with proper information and training. Motivated women who exhibit excellent leadership strive to reach their goals and build self-confidence. As this study suggests, government bodies and scholars should focus on improving existing policies rather than introducing new ones. NGOs and self-help groups (SHGs) should concentrate on generating short-term income through venture creation or entrepreneurial endeavors. Alsaad *et al*. (2023) indicated that women should be encouraged to socialize more and collaborate with friends and neighbors to expand their endeavors. Women need training in green manufacturing and in producing sustainable and environmentally friendly products to meet the growing demand for sustainable practices (He *et al*., 2023).

This study provides an overview and assessment of all the various factors influencing women's empowerment in leadership positions. It also aims to present an effective model incorporating government policy as a driver for women's empowerment (Oyewunmi and Obayelu, 2023).

H2. There is a link between government policy and women's empowerment.

Marketing forces and women empowerment

Brice and Thorpe (2021) explored how human and non-human factors intra-act and converge across time and space to create the phenomena and paradoxes of women's economic empowerment (WEE), adopting Karen Barad's material-discursive feminism as a framework. The author explained how historically rooted and ongoing actor entanglements, discursive practices, tangible and intangible elements (such as documents, systems, and feedback loops), and marketing devices (such as commitments, metrics, narratives, human transparency, and myths) form the foundation of corporate-based WEE interventions. These insights are supported by studies involving Walmart and other WEE-affiliated companies, as well as historical analyses of WEE. By visualizing these intricate intra-activities, the study enhanced our understanding of WEE and broadened perspectives on agency and discourse. It also examined the implications of emerging visibilities and the role of discursive practices and actors, including the author, in these intra-activities (Steinfield, 2021).

H3. There is a link between marketing forces and women's empowerment.

Entrepreneurship and women empowerment

As one of the primary methods for achieving women's empowerment, international development agencies support self-employment as a way for women to gain access to resources (Vukovic *et al*., 2023). However, many self-employed individuals function more as unofficial laborers than successful entrepreneurs, which affects women's empowerment and their control over resources. In the context of an emerging economy, this paper examines the connection between informal entrepreneurship and female empowerment (Huq *et al*., 2020). There is compelling evidence that informal entrepreneurship can significantly enhance women's decision-making abilities, regarding resource allocation and time management. However, several institutional barriers to agency hinder empowerment, framing it as an individual and situational process rather than a collective one, leading to improvements in women's social circumstances. This research provides a comprehensive understanding of the possibilities and opportunities that various forms of entrepreneurship offer to women, along with the strategies that may be used to leverage them (Thaddeus *et al*., 2022). Despite the challenges, Althalathini and Tlaiss (2023) argued that informal entrepreneurship can potentially increase female empowerment, mainly when non-economic factors such as societal, familial, and personal influences are considered. The authors examined informal entrepreneurship in developing nations and used empowerment as a metric to assess the feasibility and impact of this type of entrepreneurship from a gendered perspective (Ahmed and Hyndman-Rizk, 2020; Vukovic *et al*., 2023).

Huq *et al.* (2020) suggested that becoming entrepreneurs helps women fulfill both practical and strategic gender needs. However, women's capacity to meet their strategic needs is often hindered by overemphasizing their pragmatic roles. Entrepreneurial activity can improve women's well-being, boost their economic contribution, strengthen economic security, and enhance their investments in children, self-worth, value within their families, and overall household welfare. The study aimed to enhance our understanding of women, their familial relationships, and the challenges they face in balancing multiple roles. Research indicated that women own and operate only 7% of all commercial firms in Bangladesh, a strikingly low figure given their proportion in the population (Huq *et al.*, 2020). For the nation to achieve sustainable economic growth, this disparity in women's ownership, leadership, and empowerment must be addressed.

H4. There is a link between entrepreneurship and women's empowerment.

Poverty alleviation and women empowerment

Microfinance credit is essential today because it enables individuals to launch businesses and establish a steady income stream. It also provides women with access to various employment options by granting them microcredit, which may eventually help them achieve financial independence in Pakistan. Microfinance credit plays a vital role in reducing poverty by enabling small business owners to expand their enterprises, generate income, improve their standard of living, and ultimately escape poverty (Hermawati *et al*., 2023). Microcredit funding has a significant influence on women's empowerment and poverty reduction. The study's findings highlighted the critical role of microfinance in empowering women and alleviating poverty. The results showed that MFIs apply various client segmentation techniques, focusing on total consumption, number of children, and income levels (Jasmi and Hassan, 2024). Surprisingly, compared to other MFIs, private MFIs were found to be serving poorer populations. Our findings demonstrate that MFIs prioritize total spending on consumption rather than total income. When granting loans, private MFIs focus on different lending activities than government-owned MFIs. According to the exploratory factor analysis, respondents associated empowerment closely with poverty alleviation (Muhammad and Salisu, 2019).

H5. There is a link between poverty alleviation and women's empowerment.

Methodology

A field survey employing a quantitative method was conducted for this investigation. Respondents rated each item on a five-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"). To offset the risk of non-response, a large number of questionnaires were distributed; 150 were never returned, four were returned incomplete, and two were discarded because the respondents were male.

In total, 346 valid questionnaires were collected from female participants who were actively engaged in business activities. Reliability was assessed using Cronbach's alpha, composite reliability, and average variance extraction (AVE). Data analysis and hypothesis testing were performed in SPSS and AMOS, including confirmatory factor analysis (CFA), measurement model, and structural equation modeling (SEM).

SEM was selected to assess the complex interrelationships among variables and to test both direct and indirect effects, thereby yielding more robust study outcomes as illustrates in the Figure 1 proposed model development.

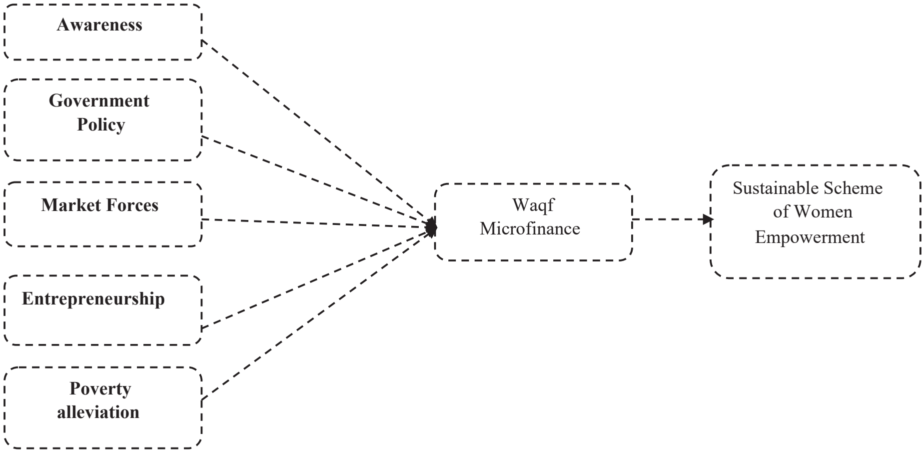

Figure 1. Model development. Source: Designed by authors

Table 1 summarizes the study variables and their operational definitions. The awareness variable measures women's understanding of their empowerment (Sharma and Das, 2021). Government policy captures the extent to which women's issues are integrated into policy development and implementation (Sukmana, 2020). Market forces reflect how innovations — such as time-saving and health-related products —empower women (Al-Nasrallah, 2023). Entrepreneurship denotes women's participation in business ventures as a key driver of economic empowerment and gender equality (Bagheri *et al.*, 2023). The poverty alleviation variable addresses improvements in household living standards, health, and education (Ssennono *et al.*, 2023). A Waqf microfinance endowment typically enhances women's access to resources and opportunities by providing community services, while a sustainable women's empowerment scheme ensures long-term economic and social progress (Mohd Thas Thanker and Allah Pitchay, 2018; Mayoux, 2020).

The respondents in this study, as shown in Table 2, were predominantly married women (60%), followed by single women (40%), and were largely within the low-to middle-income range ($4–$333.3). A significant percentage of the respondents were lower-income earners (40 and 45%). In terms of educational attainment, 23% had completed primary school, 40% had secondary education, 16.8% held diplomas or NCE qualifications, and 13.2% possessed university degrees. Regarding employment status, only 20% of respondents reported earning a monthly salary, while the remaining 80% were unemployed. Most of these unemployed respondents had low levels of formal education and lacked access to employment that provides regular income. The capital business capacity indicates the majority operated within minimal funds; 40–45% reported business capital below $100, indicating a generally low level of financial capacity for entrepreneurial activity (see Supplementary file for raw data).

Table 3 indicates that the dataset of all item constructs exhibits acceptable levels of normality. The assessment of skewness and kurtosis shows that all values fall within the range of $\pm$2 and $\pm$ 9, respectively, aligning with established thresholds for normality. According to Brown (2006), skewness and kurtosis can be assessed using descriptive statistics and in the context of SEM, acceptable skewness values typically range within $\pm$3, while kurtosis values fall within $\pm$10.

As further shown in Table 3, which presents the results of the standardized factor loadings analysis, items with inadequate factor loadings are removed to improve model fit. In particular, MF5 is excluded due to a low factor loading of 0.488, which falls below the acceptable threshold of 0.5. Following the removal of poorly performing items, the model is retested to ensure a stable structure, resulting in 36 retained items.

Table 1. Summary of the variables

Variables used	Definition	Number of items	Sources extracted
Awareness (AW)	It refers to empowering women to make their own decisions, build self-confidence, and influence societal changes	6	Ssennono *et al.* (2023), Panda *et al.* (2021)
Government policy (GP)	It captures the government's role in addressing issues that affect women and ensuring that women's concerns are integrated into the development and implementation of all policies	5	Sukmana (2020), Effendy and Setyawan (2023), Alsaad *et al.* (2023)
Market forces (MF)	It represents how market innovations empower women in interconnected ways; particularly through time-saving and health-related improvements that disproportionately benefit them	4	Al-Nasrallah (2023), Duan *et al.* (2023), Song (2023)
Entrepreneurship (EP)	It highlights the importance of women's entrepreneurship, as a pathway to economic empowerment and gender equality, aligned with SDG 5	5	Bagheri *et al.* (2023), Adenutsi (2023), Blanco-Gonzalez-Tejero and Cano-Marin (2023)
Poverty alleviation (PA)	It addresses efforts to reduce household deprivation in terms of living standards, health, and education as key components of women's empowerment	5	Ge *et al.* (2023), Adenutsi (2023), Moreno (2023)
Waqf microfinance (WQ)	It reflects how Waqf-based microfinance provides community-benefiting services that enhance women's self-esteem and access to resources and opportunities	5	Amin *et al.* (2024), Islam (2021)
Sustainable scheme for women empowerment (SSWE)	It focuses on the long-term empowerment of women as a foundation for sustainable economic development and global progress	5	Pal and Gupta (2023), Mayoux (2020), Hermawati *et al.* (2023)

Source(s): Designed by authors

To ensure construct validity and reliability, all variables undergo a comprehensive assessment. Cronbach's alpha values demonstrate internal consistency for each construct, supporting the overall reliability of the measurement model. As shown in Table 3, Cronbach's alpha values range from 0.704 to 0.861, confirming that each construct's internal consistency is acceptable.

Table 4 indicates a goodness-of-fit index is reported in the results, with a *p*-value of 0.000. According to Bagozzi and Yi (1988), a preferred model should have a relative CMIN/df value below 5.0; in this study, the value is 2.513, which is considered acceptable. As suggested by Kline (2010), the GFI value of 0.936 is deemed valid, exceeding the minimum acceptable value of 0.8. Similarly, the AGFI value of 0.905 is acceptable, as values above 0.8 are considered adequate (Chau and Hu, 2001). Furthermore, the model demonstrates its ability to explain the variance and covariance of the survey data. Following the recommendations of Bagozzi and Yi (1988), Ho (2006), and Hair *et al.* (2017), the CFI, TLI, and IFI scores all surpass the 0.9 threshold —recording values of 0.965, 0.947, and 0.963, respectively. In addition, the Root Mean Square Error of Approximation (RMSEA) is 0.066, which falls below

Table 2. Profile of the respondents

Demography	Frequency	Percentage
Gender		
Women	346	100%
Age		
18–25	48	14%
26–35	69	20%
36–45	139	40%
46 – above	90	26%
Marriage status		
Married	208	60%
Single	138	40%
Education		
Primary	80	23%
Secondary	138	40%
Diploma/NCE	59	16.8%
Degree	45	13.2%
Masters – above	24	7%
Employment		
Government workers	69	20%
Unemployed	277	80%
Capital business capacity		
6,000–60,000 ($4–$40)	138	40%
70,000–200,000 ($46–$100)	156	45%
201,000–500,000 ($133.3–$333.3)	52	15%

Source(s): Designed by authors

the 0.1 threshold, as suggested by Bagozzi and Yi (1988). These findings confirm that the model's fit indices meet acceptable standards, as supported by several prior theories.

The constructs require validation in terms of convergent and discriminant validity. According to Hair *et al*. (2017), the AVE should be 0.5 or higher, and the discriminant values should range from 0.364 to 0.515. For discriminant validity to be achieved, the AVE must be greater than the squared correlation between constructs (see Figure 2).

As indicated in Table 5, the paths from AW, GP, MF, EP, and PA to Waqf (WQF) are statistically significant. Likewise, the paths from AW, GP, EP, and PA to SSWE are significant at *p*-values below 0.05. The direct and indirect effects of hypotheses H1, H2, H4, H5, H6, H7, H9, H10 and H11 are supported, while H3 is rejected. These findings are interpreted using the *p*-values and their respective critical values, confirming significance at the 5% level. Notably, awareness emerges as a strong predictor of SSWE.

Additionally, the mediation analysis reveals that Waqf (WQF) partially mediates the effects of AW, GP, EP, and PA on SSWE. Waqf fully mediates the effect of MF on SSWE. Therefore, all mediation hypotheses are supported and accepted (see Table 5).

Discussion of the analysis

The definitions of the variable's activities are presented in Table 1, followed by the evaluation of the measurement and structural models. The normality of the data is assessed based on the skewness and kurtosis of each item used in the study constructs. The demographic profile of the respondents (women) is shown in Table 2. The factor loadings of the items that form each construct are reported in Table 3. According to Hair *et al*. (2017), factor loadings above 0.5

Table 3. Assessment of normality and standardized factor loadings

Constructs	Code	Skew	Kurtosis	Factor Loadings	Composite reliability	Cronbach's Alpha	AVE
Awareness							
	AW 1	−0.944	0.097	0.704	0.808	0.809	0.638
	AW2	−1.043	0.754	0.751			
	AW3	−0.938	0.245	0.570			
	AW4	−0.899	0.416	0.667			
	AW5	−0.728	−0.178	0.539			
	AW6	−1.195	1.458	0.597			
Government Policy	GP1	−0.892	0.326	0.609	0.705	0.757	0.622
	GP2	−0.630	−0.072	0.610			
	GP3	−0.970	0.717	0.679			
	GP4	−0.817	0.460	0.648			
	GP5	−0.793	0.101	0.566			
Market Force							
	MF1	−0.959	0.654	0.651	0.896	0.861	0.623
	MF2	−1.128	1.317	0.691			
	MF3	−0.761	0.389	0.642			
	MF4	−0.996	0.793	0.508			
	MF5			0.~~488~~			
Entrepreneurship							
	EP1	−1.505	1.806	0.636	0.866	0.704	0.718
	EP2	−1.228	0.783	0.726			
	EP3	−0.953	0.283	0.757			
	EP4	−1.003	0.399	0.819			
	EP5	−1.008	1.122	0.727			
	EP6	−0.953	0.669	0.644			
Poverty Alleviation	PA1	−1.134	0.874	0.702	0.758	0.799	0.679
	PA2	−0.984	0.922	0.682			
	PA3	−1.116	0.990	0.670			
	PA4	−1.133	1.221	0.633			
	PA5	−0.825	0.205	0.711			
Waqf (Endowment)	WQ1	−1.086	0.698	0.650	0.757	0.790	0.682
	WQ2	−0.931	0.695	0.770			
	WQ3	−0.821	0.098	0.680			
	WQ4	−0.891	0.726	0.700			
	WQ5	−0.807	0.615	0.610			
Sustainable Scheme of Women Empowerment	SSWE1	−1.034	0.358	0.620	0.808	0.810	0.604
	SSWE2	−0.665	0.307	0.580			
	SSWE3	−0.534	0.031	0.670			
	SSWE4	−0.701	0.084	0.500			
	SSWE5	−0.805	0.242	0.650			

Source(s): Designed by authors

Source(s): Designed by authors

indicate that the measurement model demonstrates adequate construct validity. Construct reliability and validity are also assessed. The absolute measurement assessment confirms that all theoretical thresholds are satisfied (Hair *et al.*, 2017); composite reliability exceeds 0.7 (Byrne, 2013); and Cronbach's alpha values reported in Table 3 are above the threshold of 0.7

Table 4. Goodness of fit and discriminant validity

Variable	Modified model	Acceptable value	Recommended value	Source
X^2/df	2.513	>0.5	<3.0	Bagozzi and Yi (1988)
p-value	0.000	<0.005	0.000	Hair *et al.* (2017)
GFI	0.936	>0.9	>0.8	Hair *et al.* (2017)
AGFI	0.905	>0.9	>0.8	Chau and Hu (2001)
IFI	0.963	>0.9	>0.8	Ho (2006)
TLI	0.947	>0.9	>0.8	Hair *et al.* (2017)
CFI	0.965	>0.9	>0.8	Hair *et al.* (2017)
RMSEA	0.066	<0.05–0.08	<0.1	Bagozzi and Yi (1988)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
AW	0.407						
GP		0.386					
MF			0.388				
EN				0.515			
PA					0.461		
WQF						0.465	
SSWE							0.364

Source(s): Designed by authors

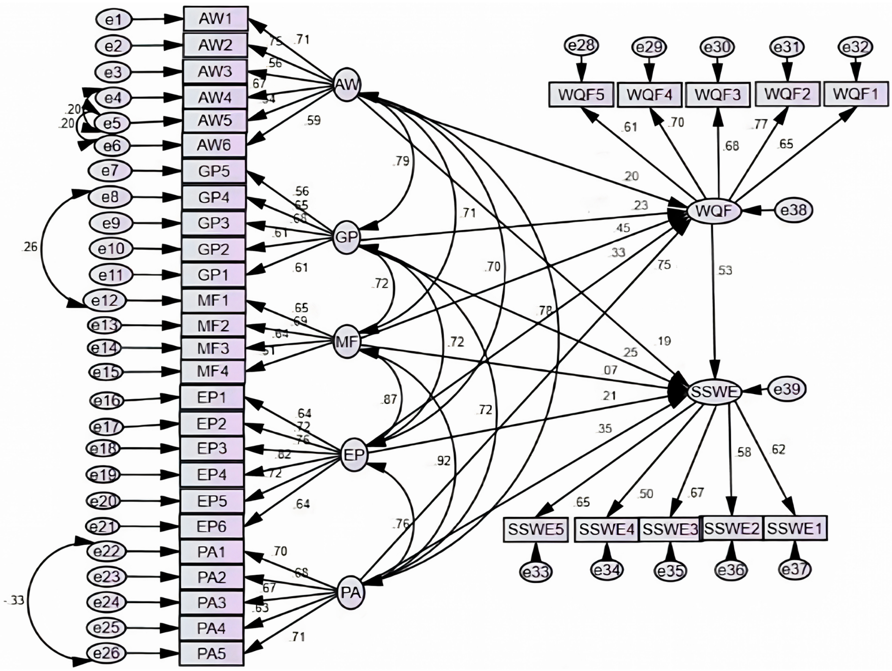

Figure 2. Measurement model. Source: The authors

Table 5. Hypothesis analysis – direct and indirect effects of mediation

Path	Estimate	Beta	Critical ratio	*P*-value	Decision
AW → SSWE	0.195	0.079	2.671	0.01	Accept (H1)
GP → SSWE	0.278	0.112	2.482	0.01	Accept (H2)
MF → SSWE	0.070	0.060	−0.116	0.051	Reject (H3)
EP → SSWE	0.210	0.080	2.625	0.01	Accept (H4)
PA → SSWE	0.354	0.120	2.950	0.003	Accept (H5)
AW → WQF	0.205	0.039	5.256	0.000	Accept (H6)
GP → WQF	0.239	0.100	2.390	0.01	Accept (H7)
MF → WQF	0.450	0.150	3.000	0.000	Accept (H8)
EP → WQF	0.308	0.081	3.802	0.000	Accept (H9)
PA → WQF	0.599	0.173	3.462	0.001	Accept (H10)
WQF → SSWE	0.673	0.224	3.004	0.000	Accept (H11)

Note(s): DV = Sustainable Scheme for Women Empowerment (SSWE), M = Waqf (WQF)

Variable IV	Direct effect X → Y	Indirect effect X–M-Y	Effect mediation	Degree of mediation	Result	Result
Awareness	0.195	0.205	Sig: 0.000	AW-WQF-SSWE	Partial	Accepted
Government policy	0.278	0.239	Sig: 0.000	GP-WQF-SSWE	Partial	Accepted
Market force	0.070	0.450	Sig: 0.000	MF-WQF-SSWE	Full	Accepted
Entrepreneur	0.210	0.308	Sig: 0.000	EP-WQF-SSWE	Partial	Accepted
Poverty alleviation	0.673	0.599	Sig: 0.000	PA-WQF-SSWE	Partial	Accepted

Note(s): $*p < 0.05$, $**p < 0.01$, $***p < 0.001$
Source(s): Designed by authors

(Hair *et al.*, 2017). Discriminant validity results in Table 4, based on AVE, are above 0.5 (Hair *et al.*, 2017) and the square root of AVE exceeds the off-diagonal elements across rows and columns, all below the recommended threshold of 0.85 (Hair *et al.*, 2017). Furthermore, Table 4 presents the measurement model fit indices, including GFI, AGFI, IFI, CFI, TLI, and RMSEA, as suggested by Byrne (2013).

Table 5 reports the hypothesis testing, including direct effects and mediation analysis. All hypotheses are supported except for H3, which is rejected. The mediation analysis shows partial mediation for all relationships, except for one —MF-WQF-SSWE —which demonstrates full mediation. The study verifies the relationship between Waqf microfinance and the Sustainable Scheme for Women's Empowerment, focusing on variables such as AW, GP, MF, PA, and EN. In all cases, a positive correlation is observed between the direct effect and the mediating variables.

Moreover, promoting Waqf microfinance for various socioeconomic and cultural functions is crucial for microeconomics development and fostering sustainable women's empowerment. The inability of state institutions to provide civic, policy-driven, or interest-based demands has severely disrupted societal balance. Therefore, it is necessary to establish a formal Waqf microfinance system, by creating dedicated institutions and regulatory frameworks to manage endowment and finance microbusinesses. Compared to individual endowments, Waqf institutions offer greater sustainability and effectiveness due to their perpetual nature and the profitability of endowed properties. The findings also confirm both the direct and indirect relationships and highlight the mediating role of Waqf microfinance in promoting sustainable empowerment schemes for women in Northern Nigeria (see the raw data in Supplementary file).

Conclusion

The study demonstrates how Waqf microfinance focuses on ethical and domestic funding sources that can reduce government expenditures on women's empowerment women and significantly lower the cost of essential services at the state level. Five factors are found to strengthen the Sustainable Scheme for Women's Empowerment and support its mediation through Waqf microfinance. This study further confirms that Waqf may serve as a viable funding source for advancing the Sustainable Scheme for Women's Empowerment.

The concept can be applied in various world regions, particularly developing countries; however, the study is limited to Northern Nigeria. Future research may investigate how Waqf microfinance addresses the Sustainable Schemes for Women's Empowerment. The study recommends using Waqf microfinance institutions to finance the sustainable scheme for the women's empowerment sector.

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Further reading

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Supplementary material

The supplementary material for this article can be found online.

About the authors

Tijjani Muhammad PhD, is currently a Post-doctoral fellow at Institute of Islamic Banking and Finance, at International Islamic University Malaysia (IIUM). Tijjani Muhammad is the corresponding author and can be contacted at: hajiteee@fugashua.edu.ng

Fahd Al-Shaghdari, PhD, is currently an Assistant Professor at the Institute of Islamic Banking and Finance (IIIBF) at the International Islamic University of Malaysia (IIUM). He specializes in Finance, Financial Technology, Islamic Banking and Finance.