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## Article

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## MANAGEMENT | RESEARCH ARTICLE

# The role of microfinance on women's entrepreneurship development in Western Ethiopia evidence from a structural equation modeling: *Non-financial service is the way forward*

Abraham Abebe<sup>1\*</sup> and Meketaw Kegne<sup>1</sup>

**Abstract:** Microfinance institution services are emerging as a potent tool for poverty eradication and aim to decrease poverty and empower women. However, fewer women than men manage and run businesses in many parts of the world. Therefore, this study investigates the role of microfinance services on women's entrepreneurship development in Benishangul Gumuz Credit and Saving Institution Assosa town, Western Ethiopia. The study employed an explanatory research design and a quantitative approach. The data for the study were collected from 165 respondents using a five-point structured questionnaire and analyzed through the statistical package for social science (SPSS) 26 and AMOS 23 software. A Confirmatory Factor Analysis is employed to establish the construct validity and reliability of the measurements. Then, the Structural Equation Model was used to test the hypotheses developed to examine the effect of microfinance institutions on women's entrepreneurship development. The findings from the structural equation analysis indicated a positive and significant effect of access to finance and saving on the development of women's entrepreneurship. Finally, the structural equation model analysis finding revealed that the microfinance institution's service significantly positively affected women's entrepreneurship development.

**Subjects:** Small Business Management; Higher Education; Women

**Keywords:** women entrepreneurship; microfinance; access to finance; saving; business support; skill training; structural equation model

## 1. Introduction

Microfinance is a sector that allocates small amounts of credit to low-income individuals excluded from the banking system to improve their quality of life by issuing loans that stimulate economic activity (Bel Hadj Miled, 2022). Microfinance is a no-collateral loan given to the poorest people in rural areas where traditional banks have disregarded these communities due to a lack of collateral and regulatory systems that make borrowers' loan repayments exceedingly difficult, if not impossible (Minai et al., 2021). In a more general sense, microfinance offers both financial and non-financial services; the former includes small business loans to low-income clients, savings, insurance,



mortgages, and retirement plans, all of which represent small sums of money for those who have been denied such services by traditional banking and financial institutions (Thaher et al., 2021).

Microfinance is emerging as a potent tool for poverty eradication in the new economy. Most microfinance programs aim to decrease poverty and empower women (Tariq & Sangmi, 2019). More specifically, microfinance services as development organizations are to serve the financial needs of un-served or underserved markets to meet development. It includes reducing poverty, allowing them to earn an independent income, and empowering women or other disadvantaged population groups to create employment (Ledgerwood, 2000; Tariq & Sangmi, 2019). Also, as Elson (2009) argued, putting resources in the hands of underprivileged women through microfinance institutions while promoting gender equality in society yields considerable development benefits. As a result, the fundamental purpose of microfinance is to provide small-scale loans to rural women while educating them on how to succeed in business or other endeavors (Vossenber, 2013).

Even though, because of microfinance programs, millions of women worldwide have been brought into commercial, economic activities that they could previously not have participated in. However, fewer women than men manage and run businesses in many parts of the world. Many women-run businesses are in less profitable areas or grow more slowly; in most cases, they are likely to fail. Because most prospective businesswomen cannot obtain credit from the existing banking system or have sufficient funds, they turn to Microfinance institutions (MFIs) for assistance (Kuzilwa, 2005). This also confirms significant gender differences in perceived feasibility and desirability, such that although they feel more supported by their families, females are less self-confident, tense, reluctant, and concerned about entrepreneurship (Dabic et al., 2012). Therefore, due to these facts, donors, international public institutions, governments, non-governmental organizations (NGOs), private enterprises, charities, knowledge institutes, and businesses have all created initiatives or policies to encourage and support female entrepreneurs. They undertake programs to build entrepreneurial skill capacity, strengthen women's networks, facilitate funding and training, or design policies to promote better company startups and expansion. They all believe that female entrepreneurship is essential for growth and development. Women are considered less likely than men to be involved in entrepreneurial activity globally (Saskia Vossenber, 2013).

Microfinance was introduced in Ethiopia, and the proclamation in 1996 served as the catalyst. Before the declaration, it also stated that only a few non-governmental organizations (NGOs) and the Development Bank of Ethiopia provided limited and isolated microfinance services ad hoc (Temesgen, 2017). Benishangul Gumuz Credit and Savings Institution was established in January 2001 with a mission that mainly focuses on providing financial services to potential region's poor to alleviate poverty, ensure food security, and secure institutional sustainability. Hence, to assure its sustainability and to offer a wide range of services to the active poor, particularly to poor women clients, the institution strives to expand services, increase the area coverage, the number of active poor who earns loan, increase the number of savers, the loan disbursement, loan portfolio qualities and mobilization of saving which is the primary source of loan for the institution. Since its establishment, the institution has constantly expanded its scope of services, and currently, it has opened three districts and 22 branch offices across the region. When we examine the overall performance of the loan distribution at the Kebele level, 456(89%) of the total 511 Kebeles in the region benefited from the service. The number of customers reached 47,252; only 15.8% of 7467 were women. The total amount of the loan distributed in customers' hands reached 533,127,882.73 million Birr, 93379,830.87 (17.52%) was distributed in the hands of women clients, and Birr. 198,518,747.41 of the outstanding loan is in the hands of Assosa branch clients. Also, In the 2020/2021 fiscal year, it is planned to distribute 436,389,097.17 Birr to 34,719 customers, and 376,788,973.35 (86.34%) loans have been distributed to 13,847 (40%) customers. In 2021, 43926,301.09 (12%) loans were distributed to women. Further, when considering saving mobilization (compulsory and voluntary), the institution mobilized 242,303,352.40 Birr, of which

Birr 44,210,908.2 of the savings was mobilized from Assosa Branch customers. The above discussion concludes that despite a relative increase in microfinance institutions outreach in Benishangul Gumuz Regional State, the number of women's clients was low, and access to credit remains one of the most significant barriers to women entrepreneurs.

Therefore, recognizing the importance of women's empowerment on the overall economic growth and social transformation of the society, this study investigates the role of MFI service on women's entrepreneurship development in the context of a Benishangul Gumuz Credit and Saving Institution Assosa Area Branch in Ethiopia by employing a structural equation model to address the following dual objectives.

- (1) To investigate the effect of microfinance institutions' financial (credit and saving) and non-financial (skill development training and business support) on the development of women's entrepreneurship.
- (2) To examine the structural effect of microfinance institutions' services on women's entrepreneurship development.

## **2. Literature review and hypothesis development**

### **2.1. Microfinance and women entrepreneurship development**

Microfinance can be described as the supply of financial services to clients not served by the regular banking system due to their lower economic standing. By eliminating collateral requirements and establishing a banking system based on confidence, financial services typically take the form of loans and savings. Microfinance, according to this simplistic definition, is aimed at low-income persons who do not have access to the traditional lending system (Rehman et al., 2015). MFIs are dedicated to assisting underserved areas in their efforts to boost economic growth by extending their entrepreneurial activities. The latter include capacity building services, management, vocational skills training, consultation, advisory services, marketing support, information, technical development, transfer, and market linkage promotion (Bruton et al., 2011; Khavul et al., 2013). In general, MFIs are widely utilized to solve issues such as poverty alleviation, financial assistance to micro-entrepreneurs, and gender development (Tariq & Sangmi, 2019). Further, Bel Hadj Miled (2022) states that microfinance institutions assist women in underdeveloped nations in forming microenterprises to overcome economic and social constraints. Poor women have used the informal sector to generate income, integrate with development, and battle poverty and isolation.

However, despite its significance, little work has been done to study the growth of women-owned enterprises until recently. There was a lack of cumulative knowledge to adequately conceptualize and build explanatory theories on women-owned enterprises' growth process (Brush & Cooper, 2012). Most of the work conducted was on women's motivation to start a business and the subsequent effect of those motivations on growth performance and the effect of size and sector on business development (Du Rietz & Henrekson, 2000). The main objective of microfinance services is to allow people to access financial services to engage in income-generating activities. Though women have a crucial role in their communities and families' economic development, hurdles such as poverty, joblessness, low earnings, and societal bias have obstructed them from effectively performing that role. Unlike their male counterparts, women entrepreneurs cannot easily access finance to facilitate their entrepreneurial activities in some countries.

### **2.2. Access to credit and growth of women entrepreneurial**

Access to finance is critical in the startup phase of entrepreneurship development (Etim & Iwu, 2019) and lays the business's foundation (Verheul et al., 2006). However, women experience disproportionately high levels of gender discrimination and bias while accessing finance; hence, their options for creating businesses are constrained (Etim & Iwu, 2019). Several scholars have also

concluded that microfinance schemes embarked on in many developing countries have yielded positive results (Baruah & Bezbaruah, 2020; Elson, 2009; Mauchi et al., 2014; Verheul & Thurik, 2001). Verheul and Thurik (2001) argued that even though female and male entrepreneurs have equal access to capital, there may be gender-related impediments to obtaining it. Sahu et al. (2021) investigated the success of a microcredit scheme in creating employment and transforming the livelihood status of tribal women entrepreneurs in India using the ordinary logistic regression model. The finding indicated that loan amounts significantly improved the livelihood of women entrepreneurs. Meressa (2020) examined determinants of micro and small-scale enterprises' growth operating in Benishangul-Gumuz Regional State, Ethiopia. The findings from the regression analysis indicated that initial investment, access to finance, sectoral engagement, market linkage, and business experience are significantly related to micro and small enterprises' growth. Bettoni et al. (2023) studied the impact of microcredit on small firms in Brazil and found that access to credit increases monthly revenues and profits by nearly 4.5%. Further, women in Sub-Saharan Africa, on the other hand, are not known to own property or instruments that can be mortgaged, creating an additional fence to accessing finance. Therefore, as per the above discussions, access to finance has a significant and positive effect on women-owned businesses, and the following hypothesis is developed based on these facts.

**H<sub>1</sub>:** Access to finance positively and significantly affects women entrepreneurs' development.

### **2.3. Savings and growth of women entrepreneurial ventures**

Microfinance institutions in most countries provide both financial and non-financial services. Small business loans to low-income clients, savings, insurance, mortgages, and retirement plans are among the financial services offered to persons denied services by traditional banking and financial organizations (Salum, 2014). As a result, saving is an essential component of development because it creates an income that can be fed back into the business or utilized to get a loan. Mkpado and Arene (2007) underlined the importance of saving for income protection while also using it to secure loans and reinvest in the firm. Several studies have investigated the influence of saving and the growth of women entrepreneurs. Mathur et al. (2021), in a survey conducted in Pakistan, found that microfinance institutions' services of micro-savings have a significant relationship with entrepreneurship development. Also, Mkpado and Arene (2007) indicated that savings as a microfinance factor enable people with few assets to save because they can make weekly savings and contribute to group savings. Hence, the following hypothesis was developed based on the above discussions.

**H<sub>2</sub>:** Saving positively and significantly affects women's entrepreneurship development.

### **2.4. Skill development training and women entrepreneurship development**

Business skill development training plays a crucial role in developing women's entrepreneurship. It equips them with the necessary knowledge, skills, and tools to start, manage, and grow a successful business. As stated by Dabic et al. (2012), organizing effective entrepreneurship education programs to promote students' success in an entrepreneurial career is one way to increase participation in entrepreneurial activities. In the study conducted by Henning and Akoob (2017), a lack of financial and business skills' was ranked as the biggest obstacle to keeping the business running. Also, Beriso (2021), in a survey conducted in Ethiopia, found that entrepreneurship training improved the economic growth of entrepreneurs, and trained women generated more income when compared with those not trained. Further, Thaher et al. (2021), in a study conducted in Jordan, indicated that a lack of skills and knowledge in running a business is a major factor in women running businesses. In contrast, lack of education and training hinders these developments, significantly affecting women's performance. Moreover, in a quantitative study conducted in Bangladesh, Sobhan and Hassan (2023) found entrepreneurial attitudes and

education as a more important factor for female entrepreneurship development. Therefore, given the unusual circumstances of most women in third-world countries, who are trapped in poverty, have low educational levels, and face other societal discriminations, training is a critical component in the MFI where women can be provided with adequate training and be exposed to the experiences required to run a business (Porter & Nagarajan, 2005). As a result of these issues, microfinance institutions, particularly in developing countries, provide non-financial services in addition to their primary duty of providing financial services to bridge their clients' skill and knowledge gaps. Hence, the following hypothesis was developed based on these premises.

**H<sub>3</sub>:** Skill development training positively and significantly affects women entrepreneurs' development.

### **2.5. Business support service and women entrepreneurial development**

Business and government support can significantly impact the development of women's entrepreneurship. Some studies on business support services and women's entrepreneurship development have been conducted. Thaher et al. (2021) indicated that providing incentives, psychological support, creating marketing linkage, and periodic monitoring and evaluation can positively affect women entrepreneurs' success in Jordan. Also, Beriso (2021) assessed the determinants and challenges of the economic achievement of women entrepreneurs in Ethiopia. The finding shows that entrepreneurship training, lack of supporting institutions, and business experience significantly influence the economic achievement of women entrepreneurs. Further, Mathur et al. (2021), in a survey conducted in Pakistan, found that microfinance institutions' services of micro-savings, skill development, and business assistance have a significant relationship with entrepreneurship development. The above facts lead to the development of the following hypothesis.

**H<sub>4</sub>:** The business support service positively and significantly affects women entrepreneurs' development.

### **2.6. Microfinance and women entrepreneurship development**

Women are active participants in the global economy, and it is vital to understand how they contribute and the opportunities and limitations in such settings (Greene et al., 2001). Despite the critical role that women entrepreneurs play in the economic development of their families and countries, it has been observed that women entrepreneurs outperform their male counterparts in business. Therefore, microfinance institutions (MFIs) can significantly promote women's entrepreneurship development by providing access to credit, financial services, and other forms of support. Many studies have been undertaken on the influence of Microfinance Institutions (MFIs) on the success and development of female entrepreneurs. Jalil (2021) studied the impact of microfinance institutions' service on the sustainable development of rural micro-enterprises in Malaysia using the structural equation model. The study's findings reveal that microfinance institutions' financial assistance significantly influences rural micro-enterprises development. Also, Mengstie (2022) investigated the role of microfinance institutions in empowering women in Ethiopia. The study demonstrated that microfinance positively impacts the development of women's entrepreneurship. Furthermore, Khursheed (2022), in a case study conducted in Pakistan, investigated the role of MFI in women's empowerment by employing a qualitative research methodology. The study results revealed that microfinance is an effective tool for developing women's empowerment and entrepreneurship. In a quasi-experimental study conducted in India, Khan et al. (2023) found that microfinance programs substantially empowered women in economic, political, social, and psychological dimensions. Therefore, the microfinance institution service is highly beneficial to the development of women who own businesses, and based on these premises, the following hypothesis was developed.



**H<sub>5</sub>:** Microfinance positively and significantly impacts women entrepreneurs' development.

### **2.7. The framework of the study**

The above literature review shows that MFI's financial and non-financial service directly affects the development of women entrepreneurs. This study examined the independent variable, i.e., micro-finance institutions' service, using four variables: access to loans, saving, skill development training, and business support services. The items included in this study to measure the four dimensions of the MFI's service are adopted from (Bel Hadj Miled, 2022; Boateng & Poku, 2019; Thaher et al., 2021; Yousfani et al., 2019) and modified according to the study area context. The items used to measure the dependent variable, i.e., women entrepreneurship development, were adopted from (Ferdousi, 2015; Yousfani et al., 2019) and also adopted according to the context of the study area.

## **3. Research methods**

### **3.1. Research design and approach**

The study employed an explanatory design and quantitative approach. First, an explanatory research design to examine the causal relationship between microfinance services and women's entrepreneurship development in Benishangul Gumuz Credit and Saving Institution in Assosa town. Also, a quantitative research approach addressed the study's main objectives.

### **3.2. Sampling and data collection method**

The primary data were collected from 165 selected women clients of Benishangul Gumuz Credit and Saving Institution in Assosa town through a five-point Likert structured questionnaire. Further, the secondary data related to the number of women clients and other relevant data were collected from the institution's annual reports.

### **3.3. Data analysis**

The data collected through the questionnaire were analyzed through the statistical package for social science (SPSS) 26 software and with AMOS 23. First, the data were analyzed with descriptive statistical analysis to provide frequency and percentage for respondents' interpretation and firm characteristics. Then, A Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) analysis were employed to establish the measurements' validity and reliability and test five hypotheses developed to examine the role of microfinance institutions' services on women's entrepreneurship development, respectively, with AMOS 23.

### **3.4. Ethical considerations**

This study does not include any human subjects' experimentation. It is a pure survey, and the data was collected through a questionnaire. Thus, only the consent of the respondents is required to participate. As a result, all participants were informed of the study's objective, and their verbal consent was obtained before completing the questionnaire. In addition, the study was conducted according to the established ethical guidelines of Assosa University.

## **4. Findings and hypothesis testing**

### **4.1. Respondents demographic profile**

Along with many other constraints for the development, success, and long-term profitability of MSEs, the owner or manager's experience and education level have a significant impact. The result in Table 1 indicates that 37.6 % and 32.7% of respondents were aged "between" 20–34 and below 20 years, respectively. At the same time, the remaining 25.5% and 4.2% of respondents were aged "between" 35–50 and above 50 years, respectively. The above result indicates that the majority, i.e., 70% of the respondents, were below 35 years. The finding concludes that a significant representation of young and productive workforces is geared towards improving their living standards and the general development of their communities. When we examine the respondents' highest level of education, the findings show that half of the respondents, 49.7% and 25.5%, have primary



and secondary/high school level education, respectively. In contrast, 9.1%, 8.5%, and 7.3% of respondents have a first degree, vocational education, and no formal education, respectively. The above finding means that most surveyed women have attained basic literacy skills and could understand and utilize the economic importance of microfinance services. The response of sampled women on their marital status reveals that 66.1% are married, 24.2% are divorced, and the remaining 9.7% are widowed, respectively.

#### 4.2. Enterprise characteristics

Table 2 presents firm characteristics. The result indicates that 48.5% of women-owned MSEs were established “between” 2011 and 2020, and 43.6% joined the sector after 2020, respectively. The remaining 6.1% and 1.8% of enterprises were found “between 2000–2010” and before 2000. Concerning the type of businesswomen engaged, about 43.6% are involved in the retail trade sector, the service sector accounts for 23.6% of the sample enterprises, the manufacturing sector accounts for 13.9%, the construction sector accounts for 12.7% and 6.1% of surveyed women-owned businesses were other types of business. The enterprises’ initial and current status results indicate that the majority, 88.5%, were initially established at a micro-level. Only 11.5% of surveyed enterprises were found at a small-scale level. However, from the status of these enterprises, it’s noted that 83.6% were operating at the micro-scale level. This result indicates that, from the total of 146 enterprises initially established at the micro-scale level, only eight enterprises were promoted to the next level, i.e., to the small-scale level. This may be due to a lack of continuous follow-up from local government agencies on evaluating the growth and performance of MSEs to promote from one level to the other. Therefore, it shows the need for serious follow-up from local government to promote micro and small enterprises from micro to small, small to medium, and the like based on capital growth and employment level.

#### 4.3. Confirmatory Factor Analysis (CFA)

A Confirmatory Factor Analysis (CFA) is a multivariate method for researchers to confirm that a hypothesized relationship among latent variables can be inferred from observed variables (Phakiti, 2018; Schreiber et al., 2006). Also, according to Phakiti (2018), in CFA, the extent to which the items used to measure a latent variable are related and the latent variable can be determined by examining the factor loadings of observed variables. Furthermore, the following two points from Streiner (2006) will further justify adopting a CFA in this study. First, compared to classical statistical data analysis techniques, a CFA gives better results in testing a scale’s validity and reliability and comparing the scale’s consistency across different versions and populations. Second, a CFA is used to compare the psychometric properties of different versions of measurement scales (Streiner, 2006). Therefore, this

**Table 1. Respondents demographic profile**

Variable	Description	Frequency	Per cent
Age	20–34	62	37.6
	<20	54	32.7
	35–50	42	25.5
	>50	7	4.2
Level of Education	Elementary Education	82	49.7
	Secondary/Highschool	42	25.5
	First Degree and Above	15	9.1
	Vocational School	14	8.5
	No Formal Education	12	7.3
Marital Status	Married	109	66.1
	Single	40	24.2
	Divorced	16	9.7

**Table 2. Enterprise characteristics**

Variable	Description	Frequency	Percentage
Enterprise Year of Establishment	Between 2011–2020	80	48.5
	After 2020	72	43.6
	Between 2000–2010	10	6.1
	Before 2000	3	1.8
Type of the Business	Service	72	43.6
	Retail Business	39	23.6
	Manufacturing	23	13.9
	Construction	21	12.7
	Others	10	6.1
Enterprise Status During Establishment	Micro	146	88.5
	Small	19	11.5
Enterprise Current Status	Micro	138	83.6
	Small	27	16.4

study employed a CFA to establish the validity and reliability of the measurement variables and to examine the measurement model's fitness to the data.

#### 4.3.1. Reliability analysis

Reliability analysis was subsequently done using Cronbach's Alpha and composite reliability, which measures the internal consistency that a particular item within a scale measures the same variable. The Cronbach's alpha coefficient of all five variables was between 0.854–0.938 (Table 3), which is relatively greater than the minimum recommended value of 0.7 (Field, 2005; Nunnally, 1978). Further, the composite reliability (C.R.) results using the CFA were calculated for five variables and found between 0.885–0.942 (Table 3), which is also well above the suggested value of 0.6 (Hair et al., 2010). The results in Table 3 indicate that Cronbach's alpha and C.R. values for all the latent variables were well above the required level, showing the internal consistency of the items in the scale.

#### 4.3.2. Validity of the constructs

Validity refers to the ability of the instrument to measure what is supposed to be measured for a latent construct (Field, 2005). Validity refers to the accuracy of the measuring instrument to show the correct and truthful results (Pallant, 2020). This study examined convergent and divergent validity to check the measurement instrument's accuracy.

**4.3.2.1. Convergent validity.** Convergent validity refers to the extent of understanding between several methods of measuring a latent variable that provides the same result (Cooper & Schindler, 2008). It entails the degree to which multiple items measure the same concepts agree. Therefore, if the factor loadings for all items exceeded 0.6, the Average Variance Extracted (AVE) value was greater than 0.5, and Composite Reliability values were greater than 0.7, convergent validity is no problem (Hair et al., 2010). Table 4 shows that all items' factor loadings are within 0.657 and 0.908, above the recommended value of 0.6. The composite reliability values of women's entrepreneurship development, business support, access to finance, saving practice, and business skill development are between 0.875 and 0.942, well above the recommended value of 0.7. Further, all variables' average variance extracted values are 0.554, 0.589, 0.699, and 0.618 above the recommended value of 0.5 (Table 4). Therefore, this result indicates that there are no problems with convergence validity.

**4.3.2.2. Discriminant validity.** The discriminant validity measures the degree to which items differentiate among constructs or measure distinct concepts; Cheung and Lee (2010) examined the

**Table 3. Cronbach's alpha and composite reliability result**

Factors	Cronbach's alpha ( $\alpha$ )	Composite Reliability	Number of Indicators
Women entrepreneurship development	0.938	0.907	6
Business support	0.918	0.875	4
Access to finance	0.889	0.932	5
Saving practice	0.877	0.942	5
Business Skill Development	0.854	0.885	4

correlations between constructs and the square root of the average variance extracted for that construct (Fornell & Larcker, 1981). The criteria described by (Chauhan, 2016; Hair et al., 2010) were used to test the discriminant validity of the measurement scales. Accordingly, the discriminant validity of the factor is assured when the maximum shared Variance (MSV) < Average Variance Extracted (AVE) and Average Variance Extracted (AVE) < Composite Reliability (C.R.). See Table 5. Therefore, the measurement model demonstrated no problem with convergent and discriminant validity.

**Table 4. Convergent validity**

Latent Variables	Measurement Items	Loadings	CR	AVE
Women Entrepreneurship Development	ED1	0.751		
	ED2	0.810		
	ED3	0.839		
	ED4	0.801	0.907	0.554
	ED5	0.908		
	ED6	0.860		
Business Support	BS1	0.874		
	BS2	0.888		
	BS3	0.865	0.875	0.589
	BS5	0.718		
Access to Finance/ Credit	AF1	0.891		
	AF2	0.792		
	AF3	0.768	0.932	0.699
	AF4	0.676		
	AF5	0.742		
Saving Service	SV1	0.830		
	SV2	0.847		
	SV3	0.740	0.942	0.765
	SV4	0.679		
	SV5	0.741		
Skill Development Training	SD1	0.682		
	SD2	0.760		
	SD3	0.764	0.885	0.618
	SD4	0.793		

**Table 5. Discriminant validity**

L.V	CR	AVE	MSV	SV	WED	BS	AF	SD
SV	0.942	0.765	0.329	<b>0.875</b>				
WED	0.907	0.554	0.288	0.537	<b>0.745</b>			
BS	0.875	0.589	0.032	0.178	−0.003	<b>0.768</b>		
AF	0.932	0.699	0.210	0.408	0.458	−0.144	<b>0.836</b>	
SD	0.885	0.618	0.329	0.574	0.377	0.156	0.368	<b>0.786</b>

Where: LV=Latent Variable, SV=Saving Service, WED=Women Entrepreneurship Development, BS=Business Support, AF=Access to Finance, SD=Skill Development Training.

#### 4.4. The structural model fitness

A structural equation model (SEM) is a statistical technique that separates relationships for each set of dependent variables, and it gives a robust framework for investigating complex interactions between variables and testing theoretical theories (Byrne, 2001; Phakiti, 2018). However, in this study, the adoption of the SEM is justified primarily by two reasons. First, the study is based on well-established theoretical frameworks that imply a causal association between latent factors. Hence, SEM enabled robust investigation of these latent constructs and tests their hypothesized relationship, resulting in a full grasp of the underlying theoretical framework (Babin et al., 2008; Chin et al., 2008). Second, as indicated by Dogan (2004), SEM can be used to evaluate and portray models to demonstrate hypothesized interrelationships between latent variables through non-rational path diagrams and has a practical ability to solve real-life complex problems, which a multiple linear regression cannot model because of certain problems and violations. SEM can be categorized into two primary models: measurement and structural models. The measurement model enables the researcher to use several variables for a single independent or dependent variable. The structural model is the path model, which relates the independent to dependent variables (Hair et al., 2014). The primary purpose of the structural equation model is to examine the extent to which a hypothesized model “fits” or, in other words, adequately describes the sample data. The results demonstrated a relatively good fit of the CFA overall measurement and the structural models to the data based on several fit statistics. The CFA overall measurement model fit statistics ( $\chi^2/df = 1.274$ , GFI = .825; CFI = .92 = 960; TLI = .955; PCFI = 0.845; RMSEA = .067) See Table 6 and Figure 1 Annex I. Structural model 1, i.e., considering MFI Service as a first order with four factors (Credit, saving, skill development training, and business support) & women entrepreneurship development model fit statistics ( $\chi^2/df = 2.054$ , GFI = .802; CFI = .937; TLI = .929; PCFI = 0.832; RMSEA = .079) See Table 6 and Figure 2. Finally, the structural model 2, i.e., considering MFI Service as a second order one construct & women entrepreneurship development model fit statistics ( $\chi^2/df = 1.742$ , GFI = .814; CFI = .953; TLI = .937; PCFI = 0.844; RMSEA = .067) See Table 6 and Figure 3. Therefore, the above model fit statistics results were well above the recommended values, and the data fit the measurement and structural equation model.

#### 5. Results and discussions of findings

This study has a dual objective to achieve. First, to investigate the effects of microfinance financial (Credit and saving) and non-financial service (skill training and business support) on women’s entrepreneurship development. The first four hypotheses correspond to this objective. Second, to examine the effect of microfinance institution service on women’s entrepreneurship development, the last hypothesis corresponds to this objective. A structural equation model (SEM) has been employed using maximum likelihood criteria to check the five hypotheses corresponding to the above two objectives. Therefore, this section will present the findings and discussions of the hypothesis testing related to the two developed objectives.

The results of data analysis show that the estimated parameter of the effect of access to finance (Credit service) on women’s entrepreneurship development shows a significant effect with a C. R. value of 3.713 (greater than 1.96) and a significance value of 0.000 (smaller than the actual level

**Table 6. Goodness-of-fit statistics**

Models	Model Fit Indices					
	$\chi^2/df$	GFI	CFI	TLI	PCFI	RMSEA
<b>CFA</b> Overall Measurement Model	1.274	0.825	0.960	0.955	0.845	0.047
<b>Model 1:</b> MFI Service Four factors & WED.	2.054	0.802	0.937	0.929	0.832	0.079
<b>Model 2:</b> MFI Service & WED.	1.742	0.814	0.953	0.937	0.844	0.067
Recommended Value	<3 <sup>a</sup>	>0.8 <sup>b</sup>	>0.9 <sup>a</sup>	>0.9 <sup>a</sup>	>0.8 <sup>a</sup>	<0.08 <sup>c</sup>

<sup>a</sup> (Bentler, 1990; Chauhan, 2016; Hair et al., 2014)

<sup>b</sup> (Bryne, 2010)

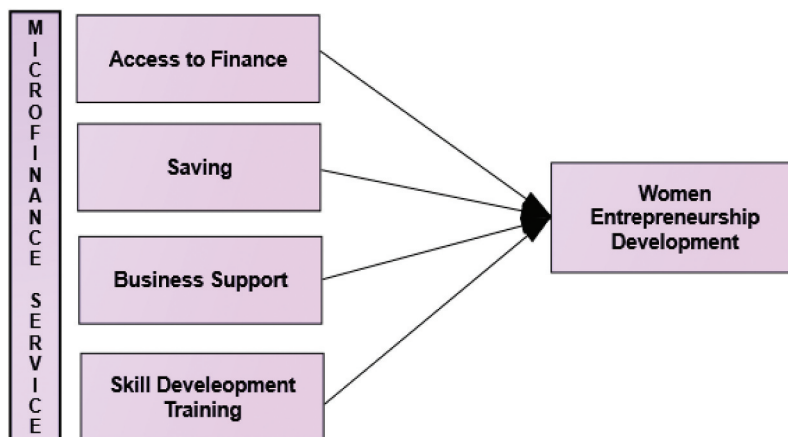
<sup>c</sup> (Browne & Cudeck, 1993; MacCallum & Hong, 1997)

Where: MFI = Micro Finance Institution, WED = Women Entrepreneurship Development.

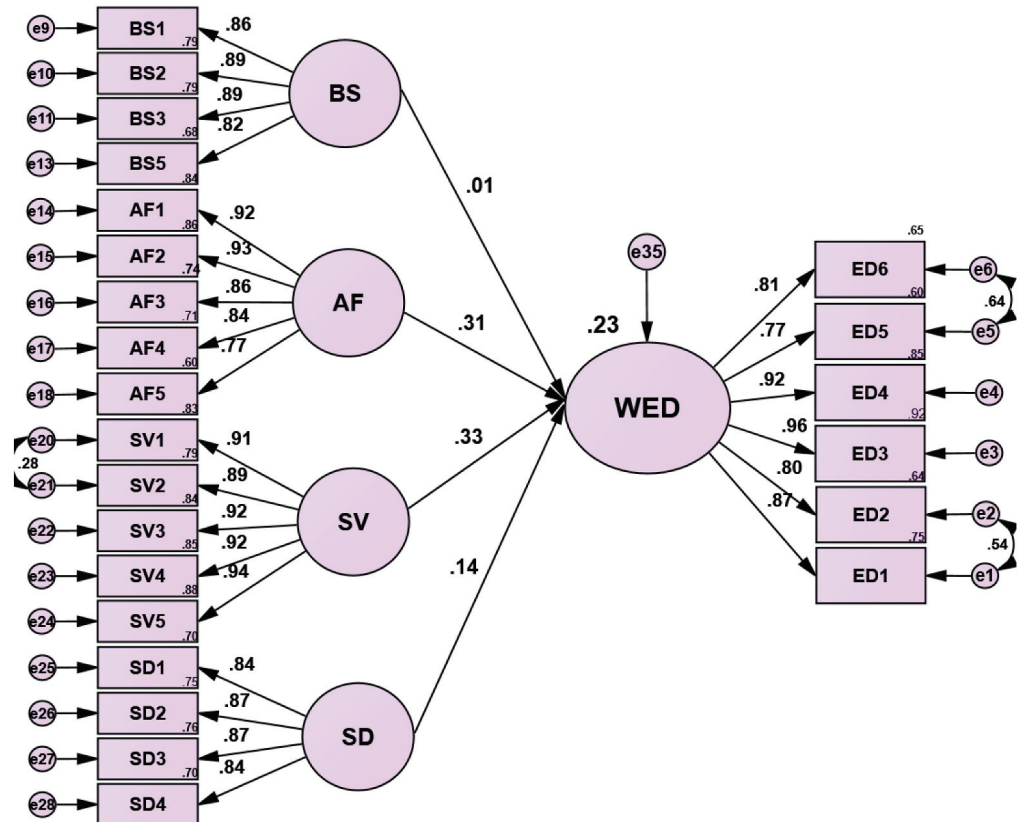
of 5%) See Table 7. The resulting standardized regression weights (path coefficients) of influence is a positive 0.31 (See Figure 2), meaning the microfinance institution's credit service, i.e., making finance accessible, has statistically a significant and positive effect on women's entrepreneurship development. Thus, the first hypothesis that states access to finance positively and significantly affects women entrepreneurs' development is accepted (H<sub>1</sub> Supported). The above findings of the SEM indicate that access to finance (Credit service) has a strong and direct influence on entrepreneurship development among surveyed women clients of the Benishangul Gumuz Credit and Saving Institution in Assosa town. This finding agrees with the previous studies. Bel Hadj Miled (2022) investigated the effects of microfinance on women's entrepreneurship and empowerment in Tunisia using logistic regressions and fuzzy-set qualitative comparative analysis. This result indicates that the amount of micro-credit and skill development training positively and significantly affects women's empowerment and entrepreneurship development, especially during the COVID-19 pandemic. Also, Mathur et al. (2021), in a survey conducted in Pakistan, found that microfinance institutions' services of micro-credit, micro-savings, skill development, and business assistance have a significant relationship with entrepreneurship development. Further, Jalil (2021) studied the impact of microfinance institutions' service on the sustainable development of rural micro-enterprises in Malaysia using structural equation modeling. The study's findings reveal that microfinance institutions' financial service significantly influences rural micro-enterprises

**Figure 1. Proposed study framework.**

Source (Authors)



**Figure 2. Path diagram of the structural model 1.**

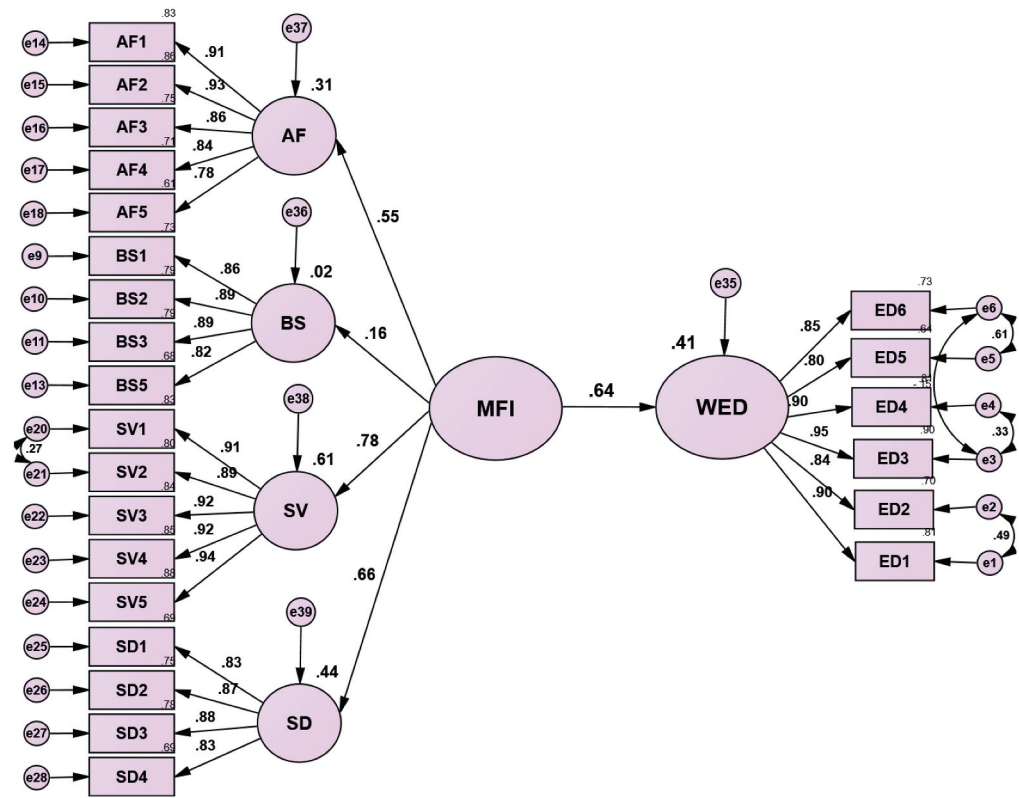


development. As a result, having a sufficient loan repayment period and simple procedures, a few criteria or requirements for credit access, providing an adequate loan amount to clients, implementing simple methods to obtain the loan, and charging a reasonable interest rate on loan are all significantly and positively related to the growth of women entrepreneurs.

Also, in this study, results of the SEM show that the estimated parameter of the effect of saving on women's entrepreneurship development shows a significant effect with a C.R. value of 3.629 (greater than 1.96) and a significance value of 0.000 (smaller than the actual level of 5%) See Table 7. Further, the resulting standardized regression weights (path coefficients) of influence is a positive 0.33 (See Figure 2), meaning the microfinance institutions saving service has the strongest direct and positive effect on women's entrepreneurship development. Thus, the second hypothesis, which states that saving positively and significantly affects women entrepreneurs' development, is accepted ( $H_2$  Supported). The above finding indicates that microfinance institutions' saving services have the most substantial and positive influence on entrepreneurship development among surveyed women clients of the Benishangul Gumuz Credit and Saving Institution in Assosa town. This finding is also similar to several previous studies in the area. Mathur et al. (2021), in a survey conducted in Pakistan, found that microfinance institutions' services of micro-savings service have a significant relationship with entrepreneurship development. Adams and Bartholomew (2010), in a descriptive study conducted in Ghana, indicated that lack of savings is a major factor that generally influences entrepreneurial performance. Akula and Singh (2022) empirically proved that women saving as well as property with the name of women and the hold on the family's financial resources could lead them towards entrepreneurship activities in a study conducted in India. Using a quantitative approach, Mashapure et al. (2023) investigated the factors that influence rural women's entrepreneurship development in the Manicaland province of Zimbabwe. The results indicated that financial and psychological factors positively drove women's entrepreneurship development and livelihood improvements. Therefore, the results of



**Figure 3. Path diagram of the structural model 2.**



this study also indicate that microfinance institutions can significantly contribute to fostering women's entrepreneurship by offering access to capital and investment opportunities.

The Structural Equation Model estimated direct parameter effect result regarding skill development training, i.e., one of the microfinance institution's non-financial services shows a non-significant effect on women's entrepreneurship development with a C.R. value of 1.617 (less than 1.96) and a significance value of 0.106 (greater than the actual level of 5%) See Table 7. The resulting standardized regression weights (path coefficients) of influence is an insignificant positive 0.14 (See Figure 2). This result shows that skill development training had a positive but statistically insignificant effect on the development of women's entrepreneurship. Hence, the third hypothesis states that skill development training positively and significantly affects women entrepreneurs' development is not accepted ( $H_3$  not supported). This finding is not similar to a few previous studies on the topic. Zhang and Ayele (2022) investigated the factors affecting small and micro-enterprise performance in Amhara Region, Ethiopia. The findings from the structural equation model revealed that entrepreneur training positively and significantly affects micro and small enterprises' performance. Also, Beriso (2021) also found that entrepreneurship training was negatively related to the income of women entrepreneurs. Therefore, even though the MFI's skill development training service has an insignificant positive effect, having an effective business training service plays a crucial role in the development of women's entrepreneurship as it equips them with the necessary knowledge, skills, and tools to start, manage, and grow a successful business.

Further, the SEM result of the estimated parameter of the business support program effect on women's entrepreneurship development shows a non-significant effect with a C.R. value of 1.184 (less than 1.96) and a significance value of 0.854 (greater than the actual level of 5%) See Table 7. The resulting standardized regression weights (path coefficients) of influence is a positive 0.01 (Figure 2). This result indicated that business support, i.e., microfinance institutions' non-financial

Table 7. Direct effect between constructs									
Hypothesis	Path Direction		Estimate	S.E.	C.R.	P	Decision		
H <sub>1</sub>	WED	<—	AF	0.319	3.713	***	Supported		
H <sub>2</sub>	WED	<—	SV	0.089	3.629	***	Supported		
H <sub>3</sub>	WED	<—	SD	0.091	1.617	0.106	Not Supported		
H <sub>4</sub>	WED	<—	BS	0.097	0.184	0.854	Not Supported		
H <sub>5</sub>	WED	<—	MFI	0.200	5.553	***	Supported		

services, had a statistically insignificant effect on the growth of women entrepreneurship. Thus, the fourth hypothesis states that a business support program positively and significantly affects women entrepreneurs' development is not accepted (H4 Not Supported). This finding is also not similar to a few previous studies on the topic. For instance, Endalew (2020) explored determinants influencing women entrepreneurs' performance in micro and small enterprises in northwest Ethiopia. The study's findings revealed that access to business information and government support significantly explain women entrepreneurs' performance. Also, Beriso (2021), in a study conducted in Ethiopia, indicated that entrepreneurship training, lack of supporting institutions, and business experience significantly influence the economic achievement of women entrepreneurs. Further, Adera and Abdisa (2023) investigated the relationship between financial inclusion and women's economic empowerment in Ethiopia and found a positive and statistically significant impact of financial inclusion on women's economic empowerment.

The second main objective of this study was to examine the direct effect of microfinance institutions' services on women's entrepreneurship development in Assosa town. The result of the standardized regression weights ( $\beta$ ) of 0.64 (Figure 3) indicates a positive and significant effect of the microfinance institution (MFI) service on women's entrepreneurship development at the significant level of ( $p < 0.01$ ) See Table 7. This means that if women entrepreneurs utilize MFI services, their chances of developing their businesses increase. The coefficient of determination ( $R^2$ ) of 0.41 (Figure 3) indicates that the MFI service can explain 41% of the variation in women entrepreneurship development variance at BGRS Microfinance and Saving Institution Assosa town women clients. Therefore, the MFI service is essential in promoting women's entrepreneurship development, but other factors may also contribute to it.

## 6. Conclusions

Several studies have demonstrated that supporting women is the best way to improve family and societal standards for health and education. Women generally require easy access to small loans (mainly for working capital), creative collateral options, frequent payback schedules better suited to their businesses' cash flows, streamlined application processes, and increased savings account accessibility. In this study, the structural equation analysis finding indicated a positive and significant effect of MFI financial service, i.e., access to finance and saving, on the development of women entrepreneurs. On the other hand, the non-financial service, i.e., skill development and business support, was found to have an insignificant effect on the development of women entrepreneurs.

The structural equation model indicates that access to finance has a significant and practically meaningful positive effect on women's entrepreneurship development. This finding indicates that improving women's access to financial resources may effectively promote and support female entrepreneurship. The significant positive effect suggests that while access to finance is important in women's entrepreneurship, other factors are likely to contribute to their success. Further, the study findings also show that the saving services provided by microfinance institutions have a strong positive relationship with the development of women's entrepreneurship. This indicates that microfinance institutions can significantly contribute to fostering women's entrepreneurship by offering access to capital and investment opportunities. Therefore, policymakers and governments should encourage and support microfinance institutions in providing savings services to women entrepreneurs, enhancing their economic empowerment, and ultimately promoting economic development. This indicates that the financial services offered by Benishangul Gumuz Credit and Saving institutions make the most substantial contribution to the development of women entrepreneurs than non-financial services.

Also, the results of the SEM indicated that non-financial service, i.e., skill development and business support, was found to have a positive but insignificant effect on the development of women entrepreneurs. However, women's micro and small business growth and sustainability are also highly dependent on the availability of effective non-financial services, such as

providing training related to business skills and other support programs, including creating market linkages. Business training service is crucial in developing women's entrepreneurship as it equips them with the necessary knowledge, skills, and tools to start, manage, and grow a successful business. Also, the business support service can profoundly affect women's entrepreneurship development by providing access to mentorship and networking opportunities. Therefore, supporting women in financial and non-financial assistance is vital since it directly impacts activities that generate income, increasing women's empowerment and boosting business performance.

Finally, the study finds a significant positive effect between the utilization of MFI services and women's entrepreneurship development. This suggests that MFI services play a crucial role in enhancing the growth and success of women-led businesses. The coefficient of determination indicates that the MFI service explains a considerable portion of the variation in women's entrepreneurship development, highlighting the importance of MFI services in promoting women's economic empowerment. Generally, it was found from the study that Benishangul Gumuz Credit and Saving institution played significant roles in the development of women-owned micro and small enterprises in Assosa town by opening credit to entrepreneurs, empowering underprivileged entrepreneurs, and expanding savings opportunities for women business owners.

### **7. Implications of the study**

In developing economies, microfinance is emerging as a possible instrument for poverty eradication and women's empowerment. As a result, most microfinance programs aim to alleviate poverty and empower women. Despite the growing number of microfinance organizations, access to finance remains one of the most significant impediments to women's entrepreneurship. According to research, investing in women is the most effective approach to improving family health, nutrition, hygiene, and educational standards and society. Rural women's entrepreneurship, on the other hand, includes major risks, hard labor, enormous sacrifice, and sincerity of purpose, all of which must be conquered in the face of multiple impediments. Therefore, formal government policies are required to create an appropriate environment that supports female entrepreneurs with resources to assess business feasibility and legal counsel at each stage of starting a new business. Further, it is also important to consider the collaboration between microfinance institutions (MFIs) and higher education institutes (HEIs). Because HEIs can provide training and education to women entrepreneurs on topics such as financial literacy, business management, marketing, and product development. This can help women entrepreneurs develop the skills and knowledge they need to run their businesses more effectively and efficiently.

### **8. Limitations and suggestions for future research**

Though the study provided reliable information on the pre-conceived research question, it is not without limits. Some limitations and recommendations for future research are given below. As an enhancement, future research headings are proposed to continue this research. The first weakness of this study is that it employs a cross-sectional design. As a result, this allows future researchers to perform studies on the same topic using a longitudinal survey design with more women entrepreneurs and geographical coverage. Second, this study examined the influence of MFI's four services, i.e., credit and saving (financial service), skill development training, and business support (non-financial service), on women's entrepreneurship development. However, further research is necessary to identify additional factors contributing to women's entrepreneurship development to create a more comprehensive approach to supporting women-led businesses. Further, self-reported data may exaggerate or under-report certain behaviors due to social pressure, leading to biased outcomes. However, in this study, efforts were made to eliminate respondent bias from the structure of the survey questionnaire to check the collected data's reliability, validity, and model fit before analyzing the data using a structural equation model. Therefore, future researchers

should consider collecting data through interviews, focus group discussions, and survey questionnaires. Moreover, CFA and SE are highly sensitive to sample size. Although we took precautions to ensure an acceptable sample size, it is important to note that bigger sample sizes often offer more robust and comprehensive results.

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# Annex I

Figure A1. Confirmatory factor analysis (measurement model).

