

# THE ROLE OF EQUB IN PROMOTING THE GROWTH of MSEs (A CASE OF SELECTED WOREDAS IN TIGRAY REGION, ETHIOPIA)

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## ABSTRACT

*Investigating Equb's role in fostering the expansion of small and micro enterprises is the aim of this study. In order to gather information from 317 MSEs in a few chosen woredas in Tigray, the researchers employed standardized questionnaires. To find out how independent factors such as the firm's age, religion, attitude toward equb, availability of alternative credit, contribution amount, and equb's duration affected equb's participation, a binary logistic regression analysis was executed. The majority of the businesses are young and earn between 10,000 and 100,000 birr annually, according to the descriptive study. Mostly because equb offers everyday opportunities for savings, most respondents took part in it. Additionally, the majority of participants saved between 10% and 15% of their earnings. Additionally, according to the study, roughly 77% of the respondents preferred banks to financial institutions when it came to saving money. Even those with access to alternative credit report that it is insufficient, with the majority of respondents lacking any other means of credit. The duration (cycle) of equb, affordability, and perception of equb are statistically and negatively significant at 5%, according to the binary logistic regression analysis; the other factors are statistically insignificant. The age of the firm is unimportant. Lastly, cross-tabulation analysis was used in the study to determine how Equb affected the rise in MSEs. Equilibrium, then, contributes to the expansion of MSEs. Thus, raising knowledge of the advantages of equb should be a joint effort by all relevant organizations working on the development of society.*

**Keywords;** Equb participation, growth of MSEs, Tigray, Ethiopia

**Note:** Msc represent Medium and small enterprises

## Background the study

Even though informal saving and lending associations were common in ancient China, low-income nations still frequently use these associations (Bisrat, Kostas, & Feng, 2012). Among the oldest and most widely used savings institutions worldwide are Rotating Savings and Credit Associations, or RoSCAs. It is the way that individuals have thrived in both urban and rural environments, attempting to preserve their meagre household income in situations when official institutions appear unable to fulfil the demands of an expanding populace (Mushuku & Mayisa, 2014). According to Anderson, Baland, and Ove (2003), Rotating Savings and Credit Associations (RoSCAs) are among the most widely distributed unofficial financial institutions in developing nations.

Ethiopia is a developing nation with its own indigenous social, political, cultural, educational, and economic history, much like any other. According to a socioeconomic perspective, Ethiopia's long-standing informal financial institutions are the most important industries for the nation's economic growth. Dejene, (1993) wrote about Rotating Savings and Credit Associations, of which the Ethiopian version, known as "Of Equb," may have evolved over centuries from ordinary, ancient institutions (such as labor exchange agreements at the community level) based on pre-existing social relations. It's also possible that the "Equb" predates the establishment of the nation's current banking system. Furthermore, the author said that "Equb" is not just found in metropolitan regions but is also popular in rural areas, but it may be practiced to a lesser extent. It is composed of homogenous groups, such as persons from the same workplace, ethnic background, trade, educational background, or neighborhood. Additionally, Kedir (2005) described "Equb" as one of the most significant unofficial financial organizations in Ethiopia. Participants in the association construct a fund, which is distributed to each donor in turn until all contributors have received the fund. In Ethiopia, RoSCAs are common in both urban and rural areas. In many instances, however, their membership is homogeneous, consisting solely of women, traders, employees of a certain organization, and members of ethnic or religious groupings. Ibrahim and Kedir (2011). Informal financial institutions play a significant role in society, particularly for the impoverished, who typically lack access to official financing for a variety of reasons. Temesgen (2008) has examined how Equb is a major provider of financial services to households whose needs are unmet because of bureaucratic procedures and expensive collateral requirements, keeping them out of the official market. Moreover, additional studies have demonstrated the significance and possibilities of "Equb" involvement in Ethiopia's social and economic advancement. Among other things, Worku (2011) pointed out that most small and medium-sized businesses in Ethiopia struggle to get credit from official lenders like commercial banks on favorable conditions. Consequently, they frequently obtain the funds required for their operations from Equb schemes, which are financial institutions that lend interest-free funds donated by members to a single scheme participant at a time. Furthermore, Bekele (2008) noted that "Equb" plays a major role in the establishment, maintenance, and growth of urban micro, small, and medium-sized businesses. The majority (64%) of micro, small, and medium enterprises raised money from Equb schemes at least twice over the six-year study period. Out of the sampled 500 enterprises, 79% used "Equb" finance because they faced obstacles to accessing loans from formal financial institutions,

including commercial banks and government-supported microfinance institutions. According to Ibrahim, Kedir, and Torres' 2007 study, 21% of the 315 households in the studied group received their loans from the official sector, while 79% of the households received their loans from the informal and semi-formal sectors.

The main financial institutions only offer a very small range of financial services. Less than 8% of people have a deposit account, indicating that the banking sector is underdeveloped. This underdevelopment hinders economic growth because there are few domestic savings opportunities and few bank credit options available for small businesses to pursue entrepreneurial endeavors. Keatinge (2014) has discussed this issue. Furthermore, according to Amha (2001), there is a dearth of institutional credit available in Ethiopia, which discourages investment. Instead, the majority of the impoverished obtain their financial access through unofficial channels like moneylenders, Equb, Iddir, friends, relatives, traders, etc. Equb is the predominant type of saving and credit cooperative in Ethiopia, and it is well-liked in both urban and rural areas. Iddir, Mahber, and Equb are the three main and sustained semi-formal lending traditional organizations that cater to the financial and social requirements of the poor. Amha (2001). Equb has been expanding in Ethiopia, where a greater number of individuals from various social classes are involved. As a result, this group has helped several small and medium-sized businesses financially and mobilized a sizable amount of cash. Yimer and others (2014). MSEs play a significant role in the nation's economic progress, but a variety of dynamic circumstances can impact their future ability to contribute. Although there have been advances over the past few years, the performance of MSEs has fallen short of expectations due to a number of problems, according to research by the Ethiopian Economics Association. EEA (2015). The Ethiopian government has long acknowledged the significant role MSEs can play in reducing poverty, generating jobs, and advancing the private sector. Because of this, governments and donors have made an effort to support MSEs by providing both financial and non-financial services. Even with these initiatives to support MSEs, a number of studies show that funding is a barrier for MSEs in Ethiopia. A World Bank study reveals that one of the main obstacles to MS's ability to conduct business in Ethiopia is their lack of access to financing.

The majority of SME owners in Ethiopia, according to a Ministry of Trade and Industry survey, stated that their biggest operational challenge was a lack of adequate financing. Seneshaw and Yared (2008). Furthermore, the World Bank (2008) and Gebrehiwot and Wolday (2006) found that the main obstacle facing SMEs in Ethiopia is access to financing. Finance is required to assist MSEs in establishing and growing their businesses, developing new goods, and investing in more personnel or production facilities. World Bank, (2008) Finance availability affects an enterprise's capability in a number of ways, particularly when it comes to the selection of technology, market accessibility, and availability of necessary resources, all of which have a significant impact on a company's viability and success. However, it is acknowledged that the biggest barrier to Ethiopian small business growth is access to funding. MSEs are less likely to yield the intended outcome in the absence of sufficient access to funding. To address the aforementioned issues, conducting a thorough and methodical investigation is of the utmost importance.

Overall, a large body of research has demonstrated that informal finance contributes significantly to economic growth by filling in the gaps left by formal financing due to collateral requirements and bureaucratic procedures. This is especially true when giving the poor access to credit and creating chances for saving. In Ethiopia, Kedir & Ibrahim (2011) and Getasew (2017) did a fairly recent study that was specifically relevant to factors affecting Equb participation. In Arba Minch Town and urban Ethiopia, respectively, this research discussed the variables influencing member households' participation. Even still, a considerable number of Ethiopian academics have determined that Equb is the main source of funding for SMEs. To the best of the researcher's knowledge, no scientific studies have been done on the impact of Equb on MSEs. Therefore, it is essential to carry out thorough research to determine how Equb contributes to MSE growth by improving access to financing. The remainder of the article, excluding this introduction, is organized as follows: the study's objective; its methods and materials, its "Result and Discussions," "Conclusion," and its recommendations.

## **Objectives of the research:**

### **General Objective**

The purpose of this study is to examine how Equb aids in the expansion of micro and small businesses.

### **Specific Objectives**

This study assumes the following specific objectives:

- To examine the relationship between Equb participation and *MSE* growth
- To investigate the determinants of *MSE's* participation in Equb.
- To discuss the landscape of 'Equb' as a source of finance to *SMEs*.

## **Materials and Methods**

The study is a cross-sectional survey conducted at a regional level across selected woredas in Tigray.

### **Data Sources and Type**

Primarily, primary and secondary data sources are used in this study. Both quantitative and qualitative data were gathered using surveys and original sources. In order to collect information from primary and secondary sources, specific data collection tools have been designed based on the approach that is chosen. These tools include the following. Structured questionnaires from small and micro enterprises in the Tigray Regional State were used for the survey. Both open-ended and closed-ended questions are included in the questionnaires given to responders.

### **Sample Design and Sample Size**

A two-stage sampling approach was used in the investigation. The main sampling units chosen in the initial phase are the enumeration areas, which are the woredas designated for the regional state of Tigray. The sampling frame took into account all of Tigray's zones and randomly chose one urban wereda from each zone in order to control coverage errors,

which reduce the sample's representativeness. A second round of selection focused on specific responders from the chosen woredas. The respondents were chosen for sampling using a stratified sample technique. In Equib, MSE business entities were divided into SME participants and non-participants. The scientific approach must provide the least representative sample size because the investigation uses probability sampling. Zikmund provides a basic scientific formula to determine the minimal representative sample in this regard. Zikmund (1997) Table estimates that the representative sample size at a 95% confidence level for a population with a total size ranging from 100,000 to 500,000 is 321. In Tigray Regional State, there are thought to be 102,326 SMEs. At a 95% Confidence level and a 0.05 degree of precision, 321 is the representative sample size for MSE business organizations. The sample size was 350, and the researchers used 317 of them because several questionnaires were not fully filled out or returned. The number of respondents in each prefecture was taken into account while determining the sample size for that prefecture. The sample size for each stratum within the prefectures is distributed in accordance with the total number of respondents in each stratum. In the end, a list of MSE business organizations was used to randomly choose each respondent individually.

### **Data Collection Procedure**

A pilot test was conducted prior to the survey questionnaire being distributed to a larger sample size. This test is crucial in ensuring that the research is carried out successfully on a larger scale later. The purpose of the pilot test is to evaluate and uncover the weaknesses of the questionnaire prior to its distribution to respondents by identifying and eliminating the ambiguities and difficult questions, ensuring that the measurement scales are used correctly, and promoting that the questionnaire is well-structured. Based on feedback from the pilot test, all necessary corrections were made, and data was collected rounding home to home of selected samples. The data was collected through trained data collectors under the supervision of assistant researchers. The survey utilized the face-to-face method.

### **Methods of Data Analysis**

Following the completion of the data collection procedures, the filled-out and completed questionnaires were thoroughly examined to make sure the data was entered consistently and accurately. The data is then coded, which involves giving the population's responses symbols and classifying them to make data input easier, in order to verify the questionnaires' completeness. In conclusion, the data was analyzed after testing the binary logistic regression model, including tests for heteroskedasticity, multicollinearity, and fit of goodness. The study used a variety of analysis techniques to examine the data. The study's descriptive portion was presented using descriptive statistics such as percentages and frequencies. Binary logistic regression analysis is utilized to examine the factors influencing MSE's engagement in Equib.

### **Binary logistics Model**

This study uses a binary logistic regression model to examine the relationship between the independent and dependent variables. In cases when the dependent variable is categorical, OLS regression produces parameter estimates with an inefficient and heteroskedastic error structure. As a result, incorrect and misleading confidence interval construction and hypothesis testing result (Gujarati, 2004).

To solve these problems and generate useful results, the non-linear specification approach was thus used. More specifically, the logit and probit models—that is, the 0–1 response models—are commonly represented by the cumulative distribution function. The logit model assumes a cumulative probability distribution function, whereas the probit model is associated with the cumulative normal distribution (Gujarati, 2004). The cumulative logistic regression model is superior to the logit and probit models in terms of parameter estimations since it is more easily understood theoretically and provides a more significant interpretation for the odds ratio (Gujarati, 2004). According to Gujarati (2004), the cumulative logistic probability distribution model's related econometric specifications for this study are as follows:

$$P_i = F(Z_i) = \frac{1}{1 + e^{-(\alpha + \sum \beta_i X_i)}} \quad (1)$$

Where  $P_i$  is the probability that MES owners have participated given  $X_i$

$X_i$  represents the  $i^{\text{th}}$  explanatory variables

$\alpha$  &  $\beta_i$  are regression parameters to be estimated.

$e$  is the base of the natural logarithm

A logistic model could be expressed in terms of odds and log of odds to make the coefficients easier to understand. The probability that MSEs would have to take part in Equb ( $P_i$ ) divided by the probability that they wouldn't ( $1 - P_i$ ) is known as the odds ratio. That is,

$$\left( \frac{P_i}{1 - P_i} \right) = e^{Z_i} \quad (2)$$

and taking the natural logarithm of equation (2) yields:

$$\ln \left( \frac{P_i}{1 - P_i} \right) = Z_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_m X_m \quad (3)$$

If the disturbance term  $U_i$  is taken into account, the logit model becomes:

$$Z_i = \alpha + \sum_{i=1}^m \beta_i X_i + U_i \quad (4)$$

The dichotomous answer variable  $Z_i(Y_i) = 0$  or  $1$  indicates that the event of interest has occurred when  $Y=1$  and  $Y=0$  indicates otherwise. Dichotomous responses are characterized by the dummy variables, commonly referred to as indicators and bound variables. Due to the limited number of options in this study—"participation" or "no participation"—a binary model was established, with  $Y=1$  denoting MSE business entity membership in Equb and  $Y=0$  denoting non-participation. Thus, the study's logistic regression can be defined as follows:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + U_i$$

Where:  $X_1$ - $n$  are explanatory variables

$\beta_1$ - $n$  are the slope coefficients

$U_i$  is the error term

The finally employed model has the following form;

$$PAR = \alpha + \beta_1 AGE + \beta_2 EDU + \beta_3 REL + \beta_4 PER + \beta_5 PRO + \beta_6 CRE + \beta_7 CON + \beta_8 DUR + U_i$$

Where:

PAR= participation in Equb

AGE= Age of the enterprise

EDU= level of education

REL= Religion of the owner

PER= Perception on Equb

$\alpha$  = Constant (intercept)

CON= amount of contribution

DUR=duration cycle

PRO= Profitability of the entity

CRE= access to credit

$\beta_1 - \beta_{10}$  = Coefficients

$U_i$  = Error ter

## Result and Discussions:

### 4.1 DESCRIPTIVE ANALYSIS ON DEMOGRAPHIC FACTORS

This study included a sample size of 350 MSEs, and 317, or 90.5%, of the respondents, completed the survey. As a result, 317 MSEs in total took part in this research.

**Table 1 information about the role of participants**

What is the role of the organization?	Frequency	Per cent	Valid Percent	Cumulative Percent
Manager	6	1.9	1.9	1.9
Owner	311	98.1	98.1	100.0
Total	317	100.0	100.0	

**Source:** author's computation based on survey data 2022

Almost all of the respondents that are 98.1% are the owners and the remaining 1.9% are managers (Table 1).

**Table 2 educational status**

What is your education level?	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Primary	72	22.7	22.7	22.7
secondary	150	47.3	47.3	70.0
Tertiary	69	21.8	21.8	91.8
Other	26	8.2	8.2	100.0
Total	317	100.0	100.0	

**Source:** author's computation based on survey data 2022

Based on Table 2 majority of the respondents have the education level of secondary (high) school 47%, followed by primary school at 23%, tertiary at 21.8%, and other at 8%. Therefore, from the table, we can understand that most of the respondents may have a better knowledge about the benefits of participating in Equb since according to Varadharajan (2004), they may have better social

and economic interaction than those who are lower in their education status.

**Table 3 Religion of participants**

What is your religion?		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Christian	218	68.8	70.1	70.1
	Muslim	93	29.3	29.9	100.0
	Total	311	98.1	100.0	
Missing	System	6	1.9		
Total		317	100.0		

**Source:** author's computation based on survey data 2022

Based on

Table 3 the majority of the respondents are Christian 70.3% followed by Muslim 29.7%.

**Table 4 Age of firms**

What is the age of your firm?		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	(0-3]	179	56.5	56.5	56.5
	(3-6] years	94	29.7	29.7	86.1
	(6-9]years	25	7.9	7.9	94.0
	(9-12] years	19	6.0	6.0	100.0
	Total	317	100.0	100.0	

**Source:** author's computation based on survey data 2022

According to

Table 4, most firms' ages lie between 0 to 3 years, therefore, they are young. It may affect the respondents' participation in Equb. Since when they become young, they may not have enough capital to run the business, therefore, to strengthen it the owners may be forced to join Equb.

## EQUIB RELATED QUESTIONS

**Table 5 information about why individuals participate in equb.**

		Frequency	Per cent	Valid Percent
What is the major motive for your participation in equb?	Credit	54	17.0	25.2
	Saving	93	29.3	43.5
	Social relation	67	21.1	31.3
	Total	214	67.5	100.0
What is the cycle of your Equb?	Daily	103	32.5	53.4
	Weekly	90	28.4	46.6
	Total	193	60.9	<b>100.0</b>
What is the duration (cycle length) of your Equb?	(1-3 month]	7	2.2	3.9
	(3 - 6 months]	18	5.7	9.9
	(6 - 12 month]	77	24.3	42.5
	More than one year	79	24.9	43.6
	Total	181	57.1	100.0
What is the total size of capital for each lot?	(10,000-50,000] birr	66	20.8	36.7
	(50,000-100,000] birr	53	16.7	29.4
	(100,000-1000,000] birr	61	19.2	33.9
	Total	180	56.8	<b>100.0</b>
How much of your regular amount of money contributions for equb?	(0-5%]	42	13.2	21.8
	(10-15%]	91	28.7	47.2
	(15-25%]	41	12.9	21.2
	(25-50%]	19	6.0	9.8
	Total	193	60.9	<b>100.0</b>

**Source:** author's computation based on survey data 2022

### The major motive to participate in Equb

According to Table 5, respondents were asked to state their reasons for joining Equb. The majority of respondents, 43.5%, indicated they joined to save money. 31.1% joined to build social connections, while the remaining 25.2% participated to get credit. The majority of respondents utilised Equb for the goal of saving, as participation in Equb required compulsory savings until the completion of the first round. Surprisingly next to saving reason, users are joining Equb for social connection purposes instead of credit access. Participants may experience delays in receiving their funds due to the lottery system, resulting in a potential lack of timely access to the funds they require.

### Cycle of Equb.

Based on Table 5, participants in Equb were asked to describe their Equb cycle. According to the frequency table, 53.4% of respondents had a daily cycle for their Equb, while 46.6% had a weekly cycle. It suggests that the majority of participants would benefit by saving their daily money, and

Equb is considered one of the most effective methods for this purpose due to its compulsory nature. Additionally, 46.6% of the participants favour a weekly Equb cycle. However, no one chooses to save on a monthly basis due to either the utilisation of their income for other purposes or the presence of a large number of participants, which necessitates a shorter time for the Equb cycle.

#### **Duration of Equb (length of equip)**

According to Table 5, the largest proportion of respondents, 43.6%, reported that the duration of their Equb is more than one year. This was followed by 42.5% of respondents who reported a duration of 6 to 12 months, 9.9% who reported a duration of 3 to 6 months, and 3.9% who reported a duration of 1 to 3 months. From the information provided in this table and preceding questions, it can be inferred that despite the participants saving regularly on a daily and weekly basis, the large number of participants may be the cause for the prolonged duration of Equb. Hence, the involvement of individuals and others in Equb may have an impact, as certain individuals and companies may rely on Equb to address their existing issues.

#### **Total size (amount) of Equb**

Based on the data presented in Table 5, it can be observed that 36.7% of the respondents reported that the total capital of their Equb falls within the range of (10,000-50,000] birr. This is followed by 33.9% who indicated a total capital range of (100,000-1,000,000] birr, and 29.4% who reported a total capital range of (50,000-100,000] birr. Interestingly, no respondents chose a total capital range of (0-10,000] birr. This could possibly be attributed to the duration of the Equb, which typically takes one year or longer to accumulate such amounts.

#### **Amount of contribution**

According to Table 5, 47.2% of the respondents contribute between 10-15% of their income on a daily or weekly basis. The next largest group consists of respondents who contribute either 0-5% or 15-25% of their income, accounting for 21.8% and 21.2% respectively. Only 9.8% of the respondents save between 25-50% of their income. This table demonstrates that as the contribution of Equb increases, the number of participant's decreases. Conversely, when the contribution is low, a majority of the respondents have participated. Hence, the magnitude of Equb might influence an individual's involvement in Equb, as a larger quantity may render it unaffordable for many individuals.

#### **Question about saving accounts and alternative credit**

##### **Saving account**

According to frequency table 6 below, out of the 317 total respondents, 77% report having a savings account, while the remaining 23% do not have a savings account with a formal financial institution. Furthermore, among those who utilise formal financial accounts, 82.4% opt for banks while the remaining 17.6% prefer microfinance institutions. These findings suggest that the majority of our survey participants possess a strong understanding of the advantages associated with saving money in established financial institutions. The majority of individuals favour banks over microfinance institutions. Banks often have a wider network of branches across the region compared to microfinance institutions. This means that banks are more easily accessible to respondents, which may be why they choose them.

##### **Access to Alternative credit**

According to Table 6, although the percentages are somewhat similar, the majority of respondents, specifically 53.8%, do not have access to credit alternatives. However, the remaining 46.2% do have access to credit alternatives other than Equb. The majority, accounting for 29.7%, of those with

alternative credit obtain it through microfinance. 27.6% acquire it from acquaintances, 17.2% from banks, 13.1% from private moneylenders, and 12.4% from relatives. Nevertheless, among those individuals who possess the means to obtain alternative loans, a significant majority of 77.5% express dissatisfaction with the amount of credit they receive from any lender, seeing it insufficient for their needs. However, 22.5% of them affirm that the quantity is sufficient for their intended objective. Based on the data presented in the table, it is evident that a majority of persons lack access to financial resources, which could potentially serve as a driving factor for their interest in joining Equb. Among individuals with alternate means of obtaining financial resources, the majority rely on microfinance institutions. These institutions offer credit to financially disadvantaged groups without requiring collateral. However, the quantity of credit provided is insufficient to meet their demands. Consequently, this may serve as a motivation for people to become members of Equb.

Table 6 questions relating to savings accounts and access to credit

		Frequency	Per cent	Valid Percent
Do you have a savings account?	Yes	244	77.0	77.0
	No	73	23.0	23.0
	Total	317	100.0	100.0
If Yes, in which institution, was your savings account found?	Microfinance institution	43	13.6	17.6
	Banks	201	63.4	82.4
	Total	244	77.0	100.0
Do you have an alternative source of credit other than Equib so that you can borrow money as easily as you need?	Yes	145	45.7	46.2
	No	169	53.3	53.8
	Total	314	99.1	100.0
If your answer to the above question is Yes, who is your source of credit?	Relatives	18	5.7	12.4
	Friends	40	12.6	27.6
	private money lenders	19	6.0	13.1
	MFI	43	13.6	29.7
	Banks	25	7.9	17.2
	Total	145	45.7	100.0
Answer for question in the above Yes, do you believe that the creditor can offer an adequate amount of credit to you?	Yes	34	10.7	22.5
	No	117	36.9	77.5
	Total	151	47.6	100.0

**Source:** author's computation based on survey data 2022

## 4.2 DATA ANALYSIS AND REGRESSION

Since the dependent variable has only two outcomes that are participating in Equb or not. Therefore, it is appropriate to use binary logistic regression to identify the determinant factors of Equb participation.

**The reliability test**

Table 7 reliability test

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.424	.508	8

**Item-Total Statistics**

	Scale Mean if Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
What is your education level?	10.8544	4.403	-.193	.229	.625
what is your religion?	12.7093	3.718	.298	.523	.354
what is the age of your firm?	12.3717	2.172	.599	.619	.066
Profitability	11.8807	3.408	.266	.448	.349
Perception	12.7802	4.117	.117	.171	.416
Altcredit	12.0289	3.843	.404	.368	.348
Affordable	12.7566	3.750	.308	.680	.354
Length	12.6588	4.113	.058	.605	.437

**Source:** author's computation based on survey data 2022

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.625	.623	7

**Source:** author's computation based on survey data 2022

Cronbach's alpha, or coefficient alpha, is a statistical measure used to assess a system's internal consistency or dependability. The dependability of a test refers to its ability to accurately measure the intended construct. This can be indicated by the test's items having a high degree of correlation. However, the number of items in a test also has an impact on  $\alpha$ . A higher number of items can cause  $\alpha$  to increase, while a lower number of items can cause it to

decrease. The initial Cronbach's alpha for the regression analysis in this study was 42.4, indicating a value below 50%. Therefore, to increase the Cronbach's alpha to 62%, we exclude the variable of education level.(See Table 7)

Multicollinearity occurs in regression analysis when one or more independent variables are highly correlated with a combination of the other independent variables. The variance inflation factor (VIF) is a statistical metric used in multiple regression analysis to quantify the presence of multicollinearity. The computational definition of this word is 1 divided by the difference between 1 and R<sup>2</sup>, which is the inverse of tolerance. If the Variance Inflation Factor (VIF) falls within the range of 1 to 10, it indicates the absence of multicollinearity. (See 8)

Table 8 Multicollinearity test

**Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.064	.161		18.991	.000		
What is your religion?	-.074	.053	-.072	-1.388	.166	.536	1.864
What is the age of your firm?	-.093	.033	-.171	-2.809	.005	.389	2.571
Profitability	.057	.037	.078	1.523	.129	.553	1.809
Perception	-.292	.050	-.242	-5.803	.000	.832	1.201
Altered credit	-.077	.070	-.053	-1.101	.272	.632	1.582
Affordable	-.365	.073	-.336	-5.021	.000	.323	3.094
Length	-.224	.057	-.227	-3.961	.000	.441	2.267

Source: author's computation based on survey data 2022

**Correlation Matrix**

	Constant	religion	age	profitability	perception	credit	affordable	length
Step Constant	1.000	-.489	.260	-.056	-.322	-.630	.050	-.536
1 religion	-.489	1.000	-.531	-.256	-.016	.454	-.069	.113
age	.260	-.531	1.000	-.419	.104	-.204	-.138	.041
profitability	-.056	-.256	-.419	1.000	-.135	-.406	.361	-.069
perception	-.322	-.016	.104	-.135	1.000	-.024	-.184	.236
altcredit	-.630	.454	-.204	-.406	-.024	1.000	-.403	.314
affordable	.050	-.069	-.138	.361	-.184	-.403	1.000	-.559

length	-.536	.113	.041	-.069	.236	.314	-.559	1.000
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**Source:** author's computation based on survey data 2022

#### 4.3.2. BINARY REGRESSION RESULTS

One of this study's objectives is to determine the influence of the age of the firm, perception toward Equib, affordability, length (cycle) of Equib, religion, profitability, and having alternative credit access, on the participation of Equib.

In determining the impact of age, perception toward Equib, profitability, length of Equib, religion, and having alternative credit; it is necessary to use some econometric model. Therefore, for this study, the researchers applied a binary logistic regression model after applying the necessary test and the data should have to pass those tests to undertake regression by using this model. The Binary logistic regression model is important to find out the impact of all independent variables on the dependent variable i.e. participation in Equib based on the collected data from the MSEs.

Therefore, based on the binary logistic regression analysis age of the firm, perception toward Equib, affordability, and length (cycle) of Equib are statistically significant at 5%; whereas, religion, profitability, and having alternative credit access are statistically insignificant.

Table 9 binary regression

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
							Lower	Upper
Step 1 <sup>a</sup> Religion	-.543	.585	.860	1	.354	.581	.185	1.830
Age	-1.017	.416	5.985	1	.014	.362	.160	.817
profitability	.686	.438	2.456	1	.117	1.985	.842	4.681
perception	-2.133	.472	20.418	1	.000	.118	.047	.299
credit	-.657	.646	1.033	1	.309	.518	.146	1.840
affordable	-1.688	.597	7.989	1	.005	.185	.057	.596
length	-1.816	.493	13.542	1	.000	.163	.062	.428
Constant	10.298	1.619	40.454	1	.000	2.967E4		

a. Variable(s) entered on step 1: religion, age, profitability, perception, altcredit, affordable, length.

**Source:** author's computation based on survey data 2022

#### AGE OF THE FIRM

Ha1: The age of the firm has a positive impact on their participation in Equib.

According to the regression result in Table 9, the age of the firm is statistically and negatively significant at 5%, therefore, as the age of the firm is increased by one unit i.e. from (0-3] to (3-6], then the firm owners (managers) are likely to reduce the participation in Equb 0.362 times.

Therefore, this study rejects the alternative hypothesis since it says age has a positive impact on the participation of Equb. Furthermore, this study is not consistent with the findings of Anggraeni (2009), Mwangi (2012), & and Dagnelie and LeMay-Boucher (2007). All of them found that age positively affects participation in Equb. I.e. the age of the household head has a significant influence on their probability of participating in RoSCAs and the Households with older household heads are more likely to join RoSCA since they presumably have more control over household resources. Nevertheless, this result may show that when the age of the firm increases then it may have the probability of accessing more finance than those firms whose ages are young. Since they may have the collateral ability to access finance from different financial institutions than Equb.

## PERCEPTION TOWARD EQUIP

**Ha 2: There is a positive relationship between Individuals' perception and Equb participation**

Based on the regression analysis in Table 9, perception toward Equb is negatively and significantly correlated with participation in Equb at a 5% significant level. Therefore, a one-unit increase in perception toward Equb decreases participation in Equb by 0.118 times. So based on the current finding we reject the hypothesis since it says, perception and participation in Equb have a positive relation, however, this study has a negative relation with participation in Equb. Furthermore, the current finding is inconsistent with the finding of Gugerty (2005); he found that perception toward Equb participation has a positive effect on the participation of Equb, however, this study is supported by the finding of Mwangi (2012), he found that perception of Equb may also negatively affects the participation of Equb. According to the current finding, the respondents may not believe that participating in Equb does not bring economic or social benefits to them. Since the participants of Equb may not have access to take the pot when they need, therefore, it may not solve their financial need at the necessary time. Additionally, based on the descriptive analysis the respondents say simply they were not interested in Equb since it may not be secure, it is also a forced saving for the members so it may be difficult for them to save regularly and also the amount of contribution may not be affordable for some of the respondents.

## AMOUNT OF CONTRIBUTION

**Ha7: There is a negative relationship between contribution and Equb participation**

Based on above table 9, the amount of contribution is negatively correlated with equip participation at a 5% significant level. As a result, a one-unit change (increase) in the amount of contribution leads to the reduction in participation of Equb 0.185 times. Therefore, this study accepts the hypothesis since the hypothesis says the amount of contribution affects the participation of equip negatively. This study indicated that the amount of contribution is one of the important factors since in this study when the contribution of the amount is increased then it affects participation in Equb negatively. The possible reason for this study may be, that it is directly related to the financial ability of the participants since the basic

measurement of Equb participation requires regular payment of contributions, as a result, any increase in the amount of contribution of Equb that is specified by the institution may have a significant impact on the individual's participation in this institution. This study is in line with the finding of Anderson, Balandand Ove (2003),

which suggested that although the relationship has low correlation; contributions are negatively related to membership. In addition, it is also supported by Kedir & Ibrahim (2011) discussed that the efforts to increase the pot could be achieved by either increasing the size of the pot or the size of the contribution, but both often prove difficult during a given cycle because members might not be able to increase their contribution. The descriptive analysis also shows why individuals are not participating in Equb and they said that they could not afford the payment since it is too much for them.

## DURATION OF EQUIP

**Ha 8: There is a negative relationship between duration and Equb participation**

Duration of Equb has a significant and negative relationship with the participation of Equb at a 5% significant level. Thus, a one-unit increase in the duration of time for Equb leads to a decrease in Equb participation by 0.163 times. As a result, this study is consistent with the given hypothesis because both the current finding and the hypothesis say that, the duration of time negatively affects the participation of Equb. Therefore, this finding indicated that when the duration for Equb has become longer and longer, then the participants become less and less interested in participating in Equb. The reason may be that participants may need to use Equb only for short-term saving or credit access. In addition, individuals may not be comfortable saving for a long time due to the financial constraints they may have. This finding is supported by the study of Anderson, Balandand Ove (2003); they revealed that there is a negative relationship between cycle length and participation of Equb. In addition, the findings of Kedir& Ibrahim (2011) also suggested that participants should have equipped for the short cycle( see Table 9)

Based on the current finding, the remaining variables, that is, religion, profitability and having alternative access to credit have not an impact on the participation of Equb. Since all of them have a significant level of more than 5%.

## 4.4. THE CONTRIBUTION OF EQUIB FOR THE GROWTH OF MSEs

The main objective of this study is to identify the contribution of Equb to the growth of MSEs. So to identify the impact of Equb on the growth of MSEs, the researchers used cross-tabulation analysis.

Initially, the respondents are asked if they participated in Equb and then to explain the impact of Equb once they joined Equb on their assets change.

Table 10 cross-tabulation between Equb participation and change in assets of the participants

Do you participate in Equb? \* Would you say that the amount of the assets of your company has decreased, remained unchanged or increased after you joined Equb? Cross-tabulation

	Would you say that the amount of the assets of your company has decreased, remained unchanged or increased after you joined Equb?			
	Increased	remain unchanged	Not applicable, no Equb	Total
Do you participate in Yes	151	42	15	208
Equb? No	0	0	109	109
Total	151	42	124	317

**Source:** author's computation based on survey data 2022

Based on above table 10, of those individuals who participate in Equb majority of them i.e. 72.5% said their assets are changed once they join Equb. However, the remaining respondents who participate in Equb say either their assets remain unchanged or not applicable. Therefore, from this table, we can understand that participating in Equb can contribute to the growth of firms.

The next one is they are asked to answer about the impact of Equb on their annual income and the cross-tabulation result shows as follows,

Table 11 cross-tabulation between participation in equipping and change in turnover

Do you participate in Equb? \* Would you say that the turnover of your company has decreased, remained unchanged or increased after you joined Equb? Cross-tabulation.

Count						
		Would you say that the turnover of your company has decreased, remained unchanged or increased after you joined Equb?				
		increased	remain unchanged	decreased	Not applicable, no Equb	Total
Do you participate in Yes	Yes	141	47	5	15	208
Equb?	No	0	0	0	109	109
Total		141	47	5	124	317

**Source:** author's computation based on survey data 2022

Based on the above cross table 11, we can see that from those who participate in Equb around 68% of them say participation in Equb increases their turnover, however, the remaining

participants who were joined in Equb say either their turnover decreased, unchanged or it is not applicable for them. Therefore, this table tells us that, being a member of Equb has a benefit to increase their turnover.

Since they may use the received amount of Equb for the expansion of their business. Therefore, we can conclude that participation in Equb can contribute to the growth of the business.

### **participation in Equb and change in the number of employees**

The next one is they are asked to answer the impact of Equb on their number of employees and the cross-tabulation result shows as follows,

According to the table below, among those who participated in Equb, the majority of them i.e. around 63% said participating in Equb helped them to increase their number of employees, whereas, the remaining respondents who participated in Equb said that even though they joined Equb their number of employees were not changed or it is not applicable. Therefore, we can conclude that participation in Equb has a contribution to the growth of MSEs.

Table 12 cross-tabulation between participation in Equb and change in the number of employees

Do you participate in Equb? \* Would you say that the total number of permanent and temporary employees of your company has decreased, remained unchanged or increased after you joined Equib? Cross-tabulation.

Count					
		Would you say that the total number of permanent and temporary employees of your company has decreased, remained unchanged or increased after you joined Equib?			
		Increased	remain unchanged	Not applicable, no Equib	Total
Do you participate in Equb?	Yes	131	62	15	208
	No	0	0	109	109
Total		131	62	124	317

**Source:** author's computation based on survey data 2022

In general, from the above three tables, we can conclude that participation in Equb has a contribution to the growth of SMEs since after the participants were joined in Equb majority of them say their assets, turnover, and number of employees are increased.

Based on the following cross-tabulation, the researchers try to analyze whether they received a pot or not if they received the amount and for what purpose they used it.

### Equb participation and amount received

Table 13 cross-tabulation between Equb participation and the amount received

Do you participate in Equb? \* Did you receive a lot from Equb until now? Cross-tabulation

-Count					
		Did you receive a lot from Equb until now?			
		Yes	No	4	Total
Do you participate in Equb?	Yes	63	111	6	180
Total		63	111	6	180

**Source:** author's computation based on survey data 2022

Based on above table 13, of the participants of Equb 180 of them gave a response whether they received a lot or not and according to the cross-tabulation results, 111 of them did not receive a lot, and the remaining 63 participants received a lot. So this table shows that the majority of the respondents are not receiving the amount.

Table 14 Purpose of the received amount used

If you receive a lot, for what purpose the money you have used?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Working capital	20	6.3	31.7	31.7
	Establishing new business	24	7.6	38.1	69.8
	Purchasing capital items (Vehicle, House, etc.)	19	6.0	30.2	100.0
	Total	63	19.9	100.0	
Missing	System	254	80.1		
Total		317	100.0		

**Source:** author's computation based on survey data 2022

According to Table 14, those respondents who received a lot were asked to answer for what purpose they were used and based on their responses 38.1% of the respondents used the amount to Establish a new business, 31.7% used it for working capital purposes, and the remaining 30.2% are used for purchasing capital items. So based on this table, the majority of

the respondents were investing their income either to expand their business or to establish a new business. Therefore, this table supports the ideas explained in the above table about the contribution of Equb to the growth of MSEs.

#### 4.5. WHY INDIVIDUALS ARE NOT PARTICIPATE IN EQUB

Based on the following table the respondents were asked why they did not participate in Equb and they gave the following response.

Table 15 reasons why individuals not participated

If you did not participate in equib associations, what is your reason?					
		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	I have not enough income	60	18.9	48.4	48.4
	I use banks	16	5.0	12.9	61.3
	I use microfinance institutions	6	1.9	4.8	66.1
	Equb is not financially secured	21	6.6	16.9	83.1
	I am not interested in Equb	21	6.6	16.9	100.0
	Total	124	39.1	100.0	
Missing	System	193	60.9		
Total		317	100.0		

**Source:** author's computation based on survey data 2022

According to Table 16, respondents were asked to respond why they did not participate in Equb and based on the above table we can understand that the majority of the respondents i.e. 48.4% are not participating in Equb since they have not enough income, equally followed at 16.9% by those participants who said Equb is insecure. so they feel that they do not have a guarantee if any of the members is unable to pay his savings. With the same weight as above, the others say they did not participate in Equb since simply they were not interested in participating in Equb. It may be because of the negative perception of Equb. Of the other respondents, 12.9% did not use Equb since they preferred bank accounts that use Equb to save their income. The final reason is some respondents 4.8% use microfinance institutions.

Since microfinance institution requires forced savings to take a loan, it may be the reason they prefer microfinance institutions to Equb.

### **13. CONCLUSIONS**

Based on the comprehensive analysis conducted in this study, it is evident that participation in Equb among Micro and Small Enterprises (MSEs) has significant implications for various aspects of their operations and growth. Firstly, the demographic analysis revealed that the majority of respondents were owners of MSEs, predominantly with a secondary education level, Christian religion, and relatively young firms, primarily aged between 0 to 3 years. This demographic profile provides a foundational understanding of the participants involved in Equb. The motivations for participating in Equb were multifaceted, with saving being the predominant reason cited by 43.5% of respondents, followed by social relations (31.1%) and credit access (25.2%). This underscores the diverse needs and objectives of MSEs engaging in Equb, ranging from financial security to community networking. Furthermore, the operational dynamics of Equb, including its frequency and duration, shed light on the practicalities of its implementation. The majority of participants opted for daily (53.4%) or weekly (46.6%) Equb cycles, indicating a preference for shorter-term savings and financial transactions. Additionally, the duration of Equb cycles varied, with a significant portion (43.6%) extending beyond one year, potentially reflecting the challenges or complexities associated with accumulating funds within shorter time frames. The financial landscape surrounding Equb participation was explored, revealing patterns of savings, contributions, and alternative credit access among participants. While the majority had savings accounts (77%) and alternative credit sources (46.2%), the dissatisfaction with the amount of credit available highlights potential gaps in traditional financial services, motivating participation in Equb as an alternative avenue. Regression analysis provided deeper insights into the determinants of Equb participation. The age of the firm, perception toward Equb, affordability, and Equb cycle length emerged as significant factors influencing participation, while religion, profitability, and alternative credit access showed no significant impact. These findings underscore the nuanced interplay between organizational characteristics, perceptions, and financial considerations shaping Equb participation. Crucially, the contribution of Equb to the growth of MSEs was examined through cross-tabulation analysis. Participation in Equb was associated with positive changes in assets, turnover, and the number of employees, underscoring its role in fostering business expansion and development. In conclusion, the findings of this study emphasize the multifaceted nature of Equb participation among MSEs, encompassing demographic, operational, financial, and growth-oriented dimensions. Understanding these dynamics is crucial for policymakers, practitioners, and stakeholders seeking to leverage Equb as a tool for economic empowerment and enterprise development within the MSE sector. Further research and targeted interventions are warranted to maximize the potential of Equb in fostering sustainable growth and resilience among MSEs.

### **RECOMMENDATIONS**

Several recommendations can be made to improve the efficacy and impact of Equb on Micro and Small Enterprises (MSEs) based on the thorough analysis carried out in this study regarding the involvement in Equb among MSEs:

- ❖ **Education and Awareness Programmes:** Since the majority of respondents just completed secondary school, there is a chance to educate people about Equb's features and advantages. This can aid in correcting misunderstandings, enhancing understanding, and promoting greater engagement.
- ❖ **Financial services** that are specifically tailored to satisfy the needs of micro, small, and medium-sized enterprises (MSEs) are necessary given the financial constraints that these businesses confront. This encompasses providing adaptable credit options, reduced interest rates, and streamlined procedures for obtaining financial assistance.
- ❖ **Enhanced Perception Building:** Since attitudes about Equb were shown to negatively affect participation, efforts should be taken to raise participants' perceptions of the program's advantages. This can be accomplished by implementing focused marketing initiatives, presenting testimonials from contented participants, and highlighting success stories of micro and small enterprises (MSEs) that have gained advantages from Equb.
- ❖ **Cycle Length Adjustment:** The length of Equb cycles has to be reviewed and maybe changed in light of the negative association shown between Equb participation and cycle length. Reducing the length of cycles may motivate individuals to participate more often and alleviate their hesitation to commit to longer time periods.
- ❖ **Encouraging Alternative Credit Access:** Although Equb is a key financial instrument for many MSEs, it's important to encourage access to other forms of credit, particularly for individuals who might not find Equb to be a good fit for their needs. This can entail promoting the availability of microfinance institutions, fostering peer lending networks, and enhancing accessibility to conventional banking services.
- ❖ **Building capacity efforts** can help Micro and Small Enterprises (MSEs) improve their financial management abilities, business acumen, and overall competitiveness. Participating in training programmes, workshops, and mentorship opportunities can enhance the ability of MSE owners and managers to make well-informed decisions and efficiently utilise financial resources, including those offered via Equb.
- ❖ **Encouraging Networking Opportunities:** Since social connections are a major factor in Equb membership, encouraging networking opportunities among MSE owners can be helpful. Knowledge sharing, collaboration, and peer support platforms can create a community atmosphere and allow small and medium-sized enterprises (MSEs) to utilise shared resources to promote their collective growth and development.
- ❖ **Transparency and accountability** are essential for establishing trust and confidence among participants in Equb operations. Establishing unambiguous regulations, equitable protocols, and efficient oversight systems can effectively mitigate conflicts and guarantee the seamless operation of Equb collectives. Different NGOs who work on such issues should also teach the benefits of Equb to non-participants of Equb.

## Author Contributions

Conceptualization, T.Y.W and T.M.D; Methodology, T.Y.W, T.M.D AND J.R.; resources T.Y.W. T.M.D. And J.R.; data duration, T.Y.W. writing- original draft preparation, T.M.D AND J.R., Writing- review and editing, we have read and agreed to the publication version of the manuscript.

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## ➤ Data Availability Statement

Data are available upon request.

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