ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DETERMINANTS OF LOAN REPAYMENT PERFORMANCE OF MICRO AND SMALL ENTERPRISES: THE CASE OF OROMIA CREDIT AND SAVING SHARE COMPANY BRANCHES UNDER OROMIA SPECIAL ZONE AROUND ADDIS ABABA

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DECLARATION

I, the undersigned, declare that this thesis titled **"**Determinants of Loan Repayment Performance of Micro and Small Enterprises: The case of Oromia Credit and Saving Share Company Branches under Oromia Special Zones around Addis Ababa**"** is my own work and has never been presented in any other university or institutions for the award of any degree or diploma**.** I have carried out the research work under the guidance and supervision of my Advisor Dr. Degefe Duressa. All sources of materials used for this thesis have been appropriately acknowledged. The thesis deposited at the University Library to make available to borrowers under rules of the Addis Ababa University Library.

Researcher's Name	**Signature**	**Date**
Gobena Geleta	_____	December, 2018

CERTIFICATION

This is to certify that the thesis titled "Determinants of Loan Repayment Performance of Micro and Small Enterprises: The case of Oromia Credit and Saving Share Company Branches under Oromia Special Zones around Addis Ababa", submitted to Addis Ababa University, Department of Management for the award of Degree of Master of Business Administration in Finance and it is carried out by Gobena Geleta, under my guidance and supervision.

Therefore, I hereby declare that no part of this thesis has been submitted to any other university or institution for the award of any degree or diploma.

Advisor's Name	**Signature**	**Date**
Dr. Degefe Duressa	_____	December, 2018

LIST OF ACRONYMS

BNM - Bank Negara Malaysia
BRAC - Bangladesh Rural Advancement Committee
CGAP - Consultative Group to Assist the poor
CIDA - Canadian International Development Agency
DCSI - Dedebit Credit and Saving Institution
FMSEDA -Federal micro and small enterprises development agency
ICT -Information Communication Technology
KSCU -keleta saving and credit union
LR - Likelihood Ratio
LRP -loan repayment performance
MFI -Microfinance Institutions
MSE - Micro and Small Enterprises
NBE - National Bank of Ethiopia
NGO -Non-governmental organizations
OCSSCO - oromia credit and saving Share Company
OLS - ordinary least squares
PRIDE -Promotion of Rural Initiative and Development Enterprises
SME -Small and medium enterprises
SPSS -Statistical Package for Social Sciences
TOL - tolerance
VIF -Variance Inflation Factor

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ABSTRACT

The study was conducted in three special zones of Oromia regional states around Addis Ababa. It was intended or aimed to analyze the determinants of loan repayment performance of MSE's sectors that were financed by Oromia Credit and Saving Share Company operating in these three zones and this is because the loan repayment performance of MSE sectors for the successive past five years analyzed and the last year loan repayment status indicated that 9.2% default rate and averagely the last five years loan performance indicated that 7.9% default rate in the study area. In this study the determinants of loan repayment were categorized as enterprises related factors, lenders related factors and the external related factors and that were analyzed in study separately. The study employed explanatory and descriptive research design with quantitative and qualitative methods. This study was applied multi stage sampling design in order to select the enterprise leader respondents of MSE's sectors financed by three branches operating in the study area. Structured and interview based questionnaires were used in order to collect primary data whereas secondary data were used from published and unpublished documents of their office. Out of 310 total number of MSE's sectors leaders 144 sample size were selected and all the sampled respondents were filled the questionnaire properly. The collected data were analyzed by employing descriptive statistics and logit model by using STATA software version 12. This result indicates that out of 18 predicting variables used in this study 11 variables were found being significant and out of these variables, group leader's education level, Training offered by the loan officers of OCSSCO , loan follow up or loan supervision, market accessibility and technology advancement were positively influence loan repayment while loan interest rate, internal rules and regulations , loan accessibility(the chance for additional loan) , lack of group leaders experience in business, enterprise size and enterprise group formation were negatively influenced the loan repayment performance of MSE's sectors in the study area. On the basis of this study, some conclusions and recommendations were drawn and forwarded respectively .The borrowers who attained higher level able to pay better than the borrowers who were in lower level schooling .therefore ,OCSSCO should motivate educated people and also easy to provide training. If unreasonable and high interest rate charged by lenders it leads to default, so the loan interest rate charged by OCSSCO should be reasonable and affordable for the borrowers. The higher level of market access results the higher probability of getting profit and the greater level of enterprises loan repayment performance. So *MSE should work hard to have market demand by Preparing of different market exhibitions which help enterprises to get market access and market linkages for their products and services as well as share good habits of work among them that leads enterprises to sustain in the business.*

Key words: loan repayment, *Micro and Small Enterprises, oromia credit and saving Share Company.*

Chapter One

1. Introduction

1.1. Background of the Study

Micro finance is recognized as an effective tool to fight poverty by providing financial services to those who do not have access to bank or are neglected by the commercial banks.
Microfinance institutions are institutions that provide small loans or micro loans that are not bankable to the unemployed, to poor entrepreneurs and to others living in poverty, And they provide access to cheap capital which they loan out, so that people can have an opportunity to start a business, expand an existing business in bulk, so they can improve their profit margins as well as their lives.
Bayeh (2012) stated that microfinance institutions are considered as a tool for poverty alleviation through improving access to finance and financial services. Micro financing is an important strategy to alleviate poverty in developing countries (Fikirte, 2011).

The microfinance institutions services consists provision of micro loans, micro savings, micro insurance service, money transfer, leasing and other relevant schemes to the target poor peoples who have been excluded by the conventional commercial banks due to lack of collateral requirements and high transaction costs (Tolosa, 2014).
The main features of the microfinance institution, which differentiate it from other commercial institutions, are: they are a substitute for informal credit, provide micro credit, generally require no physical asset collateral, have simple procedures and less documentation, mostly group lending, easy and flexible repayment scheme, financial assistance of members of group in case of emergency.

The main objectives of the MFIs as development organizations were to serve the financial needs of the non-served and underserved poor peoples but who have the ability to work hard and change his/her life style due to the presence of these financial services. The major objectives to meet are as follows: Creating job opportunities, reducing poverty, empowering women, encouraging small and petty trades (Bayeh, 2012 and Tolosa, 2014). According to Gebrehiwot and Wolday (2002) microfinance institutions introduced in Ethiopia after the

dawn fall of the Derg regime following the policy of economic liberalization and the development activities of the institutions in Ethiopia is a recent phenomenon.

In such away, the Ethiopian government development strategy initiated a legal and policy framework for MFIs in the establishment of sustainable microfinance institutions serving large number of poor people in 1996 through Proclamation #40/1996 (Gebrehiwot and Wolday, 2002).

Sixteen MFIs have been licensed by the NBE and started delivering micro finance services since the issuance of this proclamation. Although the microfinance industry were started their financial services most lately, the industry has shown the remarkable growth in terms of clients outreaches and provision of diversified financial products for the needy societies at large (Wolday, 2000).

Currently, there are about 35 microfinance institutions operating in the country and providing different financial services like loan, savings, and insurance services to rural group based clients and urban small and micro enterprise practitioners .Their total capital and total asset also increased significantly by 23.2 and 20.2 percent and reached Birr 8.876billion and Birr 36.67billion, respectively. These micro-finance institutions mobilized deposits which went up by 25.2 percent and reached Birr 18.43billion (NBE, 2016).

The problem of loan default reduces the lending capacity of a financial institution. It also denies new applicants access to credit as the bank's cash flow management problems augment in direct proportion to the increasing default problem. In other words, it may disturb the normal inflow and outflow of fund a financial institution has to keep staying in sustainable credit market (Mesele Kebede *et al*, 2016).

As a result, the researcher were tried to identify and examine the determinants of loan repayment performance of MSE's sectors that are financed by Oromia Credit and Saving Share Company (OCSSCO) branches' under three oromia special zones around Addis Ababa. To sum up ,Oromia credit and saving Share Company is selected for the study because of that it is the one which has a large coverage, financially strong and high loan supplying capacity when compared to others especially for MSE's that is playing a vital role in reducing unemployment portion of the population in the study area.

1.2 Statement of the problem

The primary objectives of Ethiopia's MFIs are to offer financial services such as credit and saving to the poor in order to mitigate financial constraints of the public in the country. Accordingly, Microfinance institutions supply loans mostly to urban and rural peoples who cannot afford collaterals to get loans from banks. Microfinance institutions provide credit to the poor who lack access of formal credit from financial institutions. Though those micro-finance sectors offer credit to the poor, currently they faced a problem of loan repayment delay (defaulters) by clients. Since, Oromia Credit and saving Share Company is one of the micro finance institutions among those operating in the country particularly which is found in Oromia regional state is also facing a similar problem of defaulters (Facet, 2013) .

Tenishu Meshesha (2014) conducted a study on Micro finance credit rationing and loan repayment performance of private borrowers a case of Omo micro finance institution konso sub branch by using descriptive statistics and the probit model, the results reveals that education level, income, loan supervision, suitability of repayment period, availability of other credit sources and livestock are the significant factors which enhance the loan repayment performance while loan supervision and size are found to significantly increase loan default in the study area.

Also Tesfaye Ginbare et al (2014) was studied on analyzing the factors that influence group loan repayment performance of the private borrowers a case of Dedebit Credit and Saving Institution (DCSI) operating in the manufacturing sector as group owned of MSEs by using logit model. He points out that out of the eight explanatory variables, the five explanatory variables i.e. group initiation, peer pressure, suitability of repayment period, loan size and external shocks have statistically significant effect on loan repayment of the group borrowers; whereas the three explanatory variables i.e. internal rule and regulation, loan supervision, and training have statistically insignificant effect on loan repayment of the group borrowers. But, the authors excluded variables like, experience of the group in the business and group size of the borrowers in the sector. Similarly, TesfatsionSahlu et al (2015), studied on the factors influencing MFIs Group loan repayment performance a case of MSE‟s service delivering sector that are financed by Dedebit Credit and Saving Institution by applying explanatory (descriptive) research approach and employing chi-square test to examine the association of the independent variables with the loan repayment performance of clients. In this study eleven

explanatory variables were included which results in group formation (screening), peer monitoring, loan size, loan term and supervision have significant association with loan repayment performance of borrowers while the rest six variables (Business experience, social ties, internal rules and regulations, saving size, group size and training) have insignificant association with loan repayment performance of group borrowers. However, the researcher fails to include variables like; Homogeneity of the group and external shocks as well as the author's couldn't employ any econometric model.

As discussed in the empirical related literatures review different authors were conducted a study both from the inside and outside of the country on the factors that determine the loan repayment performance of MFIs borrowers by dividing those factors in to different characteristics and they were revealed those positively or negatively influence loan repayment performance of MFI borrowers .Even if they were conducted a study on the determinants of loan repayment performance of MFI borrowers except Tesfatsion (2015) no anyone authors analyzed successive past years loan repayment performance of MFIs borrowers (MSE) in order to identify whether currently there is a loan repayment problem or not. Also most of the researchers not included or considered external factors those influence loan repayment performance of MFIs borrowers during their investigations and no anyone authors conducted a study on determinants of loan repayment performance of MSEs by including all sectors (Manufacturing, Trade, Service, Construction and Agriculture) of MSEs except Fikirte (2011). But still as far as I know there is no similar studies conducted on the factors that determine loan repayment performance a case of MSEs by incorporating all sectors (Manufacturing, agriculture, construction, service and trade sectors) that are financed by OCSSCO in the study area.

So, since the causes of loan repayment delay by borrowers of micro finance institutions may differ from region to region, zone to zone and from one MFI to the other, the author try to include those excluded variables and conducted an empirical study on the determinants of loan repayment performance of MSE sectors by including all the five sectors that are financed by OCSSCO branches and conceptualizes the study in to three oromia special zones (Burayu ,Gelan ,and Sululta) of Oromia credit and saving Share Company branches.

Furthermore, the data overview from three oromia special zones of OCSSCO branches by focusing on the loan disbursed, loan paid back, and the amount defaulted and the defaulted rate of last five years is summarized as follows:

Table.1.1. Loan repayment performance of MSEs Sectors for the successive past 5years financed by three oromia special zone (Burayu ,Gelan ,and Sululta) of OCSSCO branches.

Years	**2012/2013**	**2013/2014**	**2014/2015**	**2015/2016**	**2016/2017**
Amount disbursed	25,657,181.00	27,901,888.00	35,551,689.00	37,145,863.00	47,227,842.00
Amount collected	22,737,194.00	25,800,622.00	33,744,157.00	34,914,685.00	42,655,713.00
Amount defaulted	2,919,987.00	2,101,266.00	1,807,532.00	2,231,178.00	4,572,129.00
Default rate	**11.4%**	**7.5%**	**5.1%**	**6%**	**9.7%**

Source: Burayu ,Gelan ,and Sululta OCSSCO Office (2017).

As discussed in the table1.1.above, the average default rate of the MSE's borrowers of different sectors for the last five years was reached about 7.9% at average which is greater than the National Bank of Ethiopia's (NBE) minimum requirement set for all financial institutions, i.e., <5 percent default rate or >95 percent expected to be collected. While it has been decreasing from 2013/2014 to 2014/2015 it is increasing for the last two years. This indicates that the loan repayment performances for the borrowers of MSE's Sectors have been fluctuating from time to time .The defaulting problem is random and influenced by certain factors , so this issue needs an empirical investigation in the study area. Thus, the author aims to find out the determinants of loan repayment performance of MSE's sectors by dividing in to lenders (MFI) related factors; Enterprise related factors and External related factors.

1.3. Objectives of the study

1.3.1. General objective

The main objective of the study is to analyze the determinants of loan repayment performance of micro and small enterprises: the case of Oromia Credit and Saving Share Company (OCSSCO) branches under three oromia special zones around Addis Ababa.

1.3.2. Specific objectives

Specific objectives of the study include:

- To identify the effect of lenders (MFI) related factors (Training, internal rules and regulations ,Loan supervision, loan interest rate, the loan repayment period, loan amount ,Ease of access to the loan) that determines the loan repayment performance of MSE's in the study area.
- To identify the effect of enterprise's related factors (i.e. enterprises experience in the business, enterprise leader's education level, enterprise member group size, enterprise formation) that influence their loan repayment performance in the study area.
- To analyze external related factors (Market Accessibility, Infrastructure availability, and Technology advancement) that contribute to the dalliance of the loan repayment performance of MSEs in the study area.

1.4. Hypothesis

In light of these study objectives, the researcher has hypothesized the following factors to evaluate their effects on the loan performances of MSEs'.

H1: There is a positive relationship between training and loan repayment performance of micro and small enterprises.

H2: There is a positive relationship between loan supervision and loan repayment performance of micro and small enterprises.

H3: There is a negative relationship between loan interest rate and loan repayment Performance of micro and small enterprises.

H4: There is a negative relationship between loan repayment period and loan repayment Performance of micro and small enterprises.

H5: There is a negative relationship between loan amount and loan repayment Performance of

micro and small enterprises.

H6: There is a negative relationship between ease of access to the loan and loan repayment performance of micro and small enterprise.

H7: There is a positive relationship between internal rules &regulations and loan repayment performance of micro and small enterprises.

H8: There is a positive relationship between enterprise experiences in the business and loan repayment performance of micro and small enterprises.

H9: There is a positive relationship between MSE leader's education level and loan repayment performance of micro and small enterprises.

H10: There is a negative relationship between enterprise members' group size and loan repayment performance of micro and small enterprises.

H11: There is a negative or positive relationship between enterprise formation and loan repayment performance of micro and small enterprises.

H12: There is a positive relationship between market accessibility and loan repayment performance of micro and small enterprises.

H13: There is a positive relationship between infrastructure availability and loan repayment performance of micro and small enterprises.

H14: There is appositive relationship between technology advancement and loan repayment performance of micro and small enterprises.

1.5. Significance of the Study

As it was discussed earlier in the background of the study, MFIs provide financial services which are intended to fulfill the financial gaps of the poor that have not considered by other commercial banks to access credits on their demand. Those micro finances which are operating specifically in Oromia region have engaged in delivering credit services and other financial schemes to the ultimate low income groups of the community. The existence of secured loan repayment rate is the key success for the financial institutions to provide the service in a profitable and sustainable manner. This requires the lending institutes to work on enhancing an efficient loan repayment performance of the borrowers.

Although some empirical studies have been conducted on the credit schemes of MFIs in Ethiopia, but as per the researcher knowledge, no empirical study has been done on loan

repayment performance of MSE borrowers of OCSSCO branches under three oromia special zone around Addis Ababa (namely Burayu ,Gelan and sululta) those are faced loan repayment performance problem at different time. So this study tried to provide a detailed empirical analysis on the loan repayment performance of MSE borrowers of OCSSCO branches under three oromia special zones around Addis Ababa.

So the finding of this study is helping the studied institution in order to address proper loan repayment performance and to achieve their intended future objective by using the output of this study. This study aims at establishing the determinants of loan repayment thus it findings will be benefits to MSEs to get knowledge that is used to prevent or reduce the factors that influence their ability to repay loans. This is useful for both MSE and MFI to earn credit continuously, and continual operation (sustainability) respectively. Also the findings of this study may be help to indicate the direction for latter researcher in this title area.

1.6 Scope and Limitations of the study

1.6.1 Scope of the study

This study was conducted on OCSSCO branches that are operating in three oromia special zones of Oromia Regional state those found around Addis Ababa namely Burayu ,Gelan,and Sululta. This microfinance provides loans to MSEs those engaged in manufacturing, agriculture, construction, service and trade. As a result, the study was aimed to analyze the determinants of loan repayment performance of MSE's sectors in oromia regional state by taking three branches of oromia Credit and saving Share Company mentioned above as a case.

1.6.2. Limitations of the study

Even though the sustainability of Micro financial institutions are based on financial, economic, institutional and borrower viability, a problem of loan repayment delay by borrowers is one of the current issue affecting the healthy performance and operational continuity of the financial institution, here the study only limited to a single institution and three branches that may not provide appropriate generalization to other similar institutions and oromia regional state OCSSCO branches. The study focused on small-scale enterprise borrowers financed by OCSSCO. In fact, other MFIs are also engaged on financing this sector

of the economy. However, this study didn't incorporate borrowers of other MFIs because of time and financial constraints. The study concentrated on OCSSCO because it is the forefront loan provider for MSEs recently. Accordingly, this study was only focused on the aspect of factors that influence the enterprise borrower's capability and the determinants of loan repayment performance of MSE's sectors that is only restricted to Oromia credit and saving Share Company. Also collecting questionnaires from MSE's managers of different sectors might be time consuming.

1.7. Organization of the paper

This study composed of five main chapters. The first chapter consists of the introduction parts. The second chapter consists of review of the theoretical and empirical related literatures. The third chapter describes the methodology of the study. The fourth chapter consists of all the results and discussions involved by using descriptive and logit model. Finally, in the fifth chapter summary, conclusions and recommendations in the study area were discussed.

Chapter two

2. Review of related literatures

In this chapter, the review of related literature is intended to review that both theoretical and empirical literature concerning the factors that influence loan repayment performance of borrowers of MFIs.

2.1 Theoretical literature review

The theoretical review of related literatures explains that the definition of terms, Lending methodologies of MFIs.

2.1.1 Definition of Microfinance

Different authors and organizations have defined Microfinance institutions in different ways. However the concept or the meaning of the definitions is usually the same in which microfinance refers to the provision of financial services; primarily savings and credit to the poor and low income households that don't have access to commercial banks service (Arsyad, 2005).

Microfinance is a development approach that provides financial as well as social intermediation.

The financial intermediation includes the provision of savings, credit and insurance services, while social intermediation involves organizing citizens' groups to voice their aspirations and raise concerns for consideration by policy makers and develop their self-confidence (Robinson, 2001). Moreover, Conroy (2002) stated that microfinance is the provision of a broad range of financial services such as deposits, loans, payment services, money transfers, and insurance to poor and low-income households and the micro and small enterprises.

The World Bank defines microfinance as "…. Small-scale financial services – primarily credit and savings – provided to people who farm or fish and who operate small enterprises or microenterprises where goods are produced, recycled, repaired, or sold; who provide services; who work for wages or commissions; who gain income from renting out small amounts of land, vehicles, draft animals, or machinery and tools; and to other individuals and groups at the local levels of developing countries, both rural and urban" (Robinson, 2001).

However, Bank Negara Malaysia (BNM) defined microfinance as the provision of small loans/financing up to RM50, 000 to microenterprises or self-employed individuals, for their business activities.

Proclamation No. 626/2009 defines micro financing business as "the provision of financial services like accepting savings, extend credit, drawing and accepting drafts payable, providing money transfer services and others specified in the Article 3(2) of the proclamation.

Consultative Group to Assist the poor (CGAP,2012) defined "microfinance" the provision of formal financial services to poor and low-income people, as well as others systematically not benefited from the financial system. As noted, "Microfinance" it is not only providing a range of credit products (for consumption, smoothing for business purposes, to fund social obligations, for emergencies, etc.) only, but also savings, money transfers, and insurance.

The other researcher defined about MFIs is that, it offers financial services to poor people. The aim of Access to financial services for poor people is help to alleviate risks, build their assets, improve their income, and furthermore contribute to development of the focal community (Cull et al, 2009).

Even different microfinance institutions' definitions differ. Acción International, one of the world's biggest microfinance institutions, for instance, defines microfinance as:

"Banking and/or financial services targeted to low-and-moderate income businesses or households, including the provision of credit" (Acción International, 2011)

The Bangladesh-based MFI, BRAC, defines their microfinance activities as:

"…provide access to financial services to the poor, who are unable to obtain credit from mainstream banks due to lack of necessary assets and referrals" (BRAC, 2011)

Grameen America, the American counterpart to the famous Grameen Bank in Bangladesh, on the other hand, state that:

"Microfinance is made up of a variety of financial services usually available to low-income entrepreneurs" (Grameen America, 2011)

Microfinance is a form of financial institution that has primarily focused on alleviating poverty through rendering financial services to the lower income society or the poor. People think of microfinance, as being microcredit, which is lending small amounts of money to the poor. Microfinance is not only offering this service, but also it provides broader services including insurance, transactional services, and savings (Barr, 2004). Canadian International Development Agency (CIDA, 2007) defined microfinance as, "the provision of a wide range of financial services to poor women and men that enable them to increase their incomes, build assets and reduce lack of access to formal financial institutions.

According to (Christen et al, 2003) microfinance" means the provision of banking services to lower-income people, especially the poor and very poor. The term "microfinance" is often used in a much narrower sense, referring principally to microcredit for tiny informal businesses of micro entrepreneurs and they initially deliver such services since 1980 mainly by socially-oriented non-governmental organizations (NGOs). Since microfinance is a system that distributes small loans to poor people in order for them to generate income and start their own small businesses, it has the ability to lessen poverty as well as promote entrepreneurship, social and economic development in poor communities (Lazar et al, 2008).

2.1.2. Micro and Small Enterprises' Definition

Micro and small enterprises are defined in a variety of ways using various factors. These factors include number of employees, volume of sales, and the capital value of the business (Zemenu& Mohammed, 2014). Generally there are two types of definitions. The first is operational definition, which are largely used for working purposes and the other is theoretical definition, which are generally, employed to characterize the sector. In recent times, there has been some degree of convergence in MSE's definitions particularly in Europe. The European Commission defines MSEs using a combination of employee numbers, annual turnover or balance sheet total and ownership.

A definition of MSEs in the developed world would differ from how MSEs are defined in the third world. An enterprise categorized as micro enterprise in USA may be treated as medium enterprise in Africa for the fact that the definition of MSE is relative to economic development. The other factor commonly used in defining MSEs is annual turnover. Again, the acceptable figures differ from country to country, depending among other factors on population and stage of economic development. For example, the accepted definition of small enterprises in USA is "an entity with average annual gross revenues for the preceding three years not to exceed $15 million, and very small enterprises (Micro enterprises) as an entity with average annual gross revenues for the preceding three years not to exceed $3 million". This shows that there is no common definition of MSEs and that the definitions vary from country to country depending largely on the size of the economy, the levels of development, culture and population size of a country.

In Ethiopian, the MSE development strategy defines MSEs according to the number of employees and capital (FeMSEDA, 2010). Micro Enterprise under the industry sector

(manufacturing, construction and mining) is an enterprise operates with less than or equal to 5 people including the owner and/or their total asset is not exceeding Birr 100,000. Under service sector (retailer, transport, hotel and Tourism, Information Communication Technology (ICT) and maintenance service) Micro enterprise are an enterprise operating with less than or equal to 5 persons including the owner of the enterprise and/or the values of total asset is not exceeding Birr 50,000. Small Enterprises in the industrial sectors are an enterprise operating with 6-30 persons and/or with a paid up capital of total asset Birr 100,000 and not exceeding Birr 1.5 million. Similarly, in the service sector, small enterprises are an enterprise operating with 6-30 persons and/or with a paid up capital of total asset Birr 50,000 and not exceeding Birr 500,000 (FMSEDA, 2010).

Table 2. 1: Definition of MSE applicable in Ethiopia

Enterprise	Sector	Employee	Capital
Micro-enterprise	Industry	≤ 5	≤ ETB 100,000.00
	Service	≤ 5	≤ ETB 50,000.00
Small-enterprise	Industry	6-30	≤ ETB 1,500,000.00
	Service	6-30	≤ ETB 500,000.00

Source: FMSEDA, (2010)

2.1.3. Definition of loan and its repayment

Loan is defined as a type of debt and like all debt instruments which entails the redistribution of financial assets over time between the lender and the borrower. It is also typically, the money which is expected to be paid back in regular installments or partial repayments periodically that each installment being of the same amount (Signoriello, 1991 as cited in Savio *et al*, 2017). Additionally, according to Rose (2007), successful loan repayment is defined as the ability to repay the loan as per the loan agreement and loan defaulting as the inability to repay the loan by either failing to complete the loan as per the loan agreement or neglect the loan. As to Rose the causes of default in government micro credit programs in Kenya are found to be determined by a strong relationship between major sources of income, diversion of funds and domestic problems.

2.1.4. Lending Methodology of MFIs

Lending methodologies may differ with respect to clients whether loans are made to groups or to individuals. The selection of lending methodology greatly influences product design, client

selection, the way of application or approval process, and loan repayment monitoring and portfolio management activities of MFIs. Lending methodology also impacts the institutional structure and staff requirements, including training and compensation (Wood, 2013).

2.1.4.1. Individual Based Lending

Individual based lending requires greater honest on analysis of clients and their cash flows, sometimes physical collateral and frequent close contact with clients during the term of the loan approvals and amounts are based on an applicant's eligibility and debt capacity, which in turn are dependent upon a number of factors, including personal and business characteristics, for example, age, gender, or character, sources and amount of income, age of business, cash flow, and available collateral (Wood, 2013).

2.1.4.2. Group Based Lending

Group based lending is one of new approaches of lending small amounts of money to a large number of clients that are organized as MSEs who cannot offer collateral. The size of the group can vary, but most of the time groups have between 4 to 8 members. The group selection is one of the factors that influence the member's loan repayment activities. Most MFIs require a percentage of the loan that is supposed to be saved in advance, which points out that the ability to make regular payments and serve as collateral (Boros and Murray, 2002).

According to (Boros and Murray, 2002) group members of the MSEs are jointly accountable for the repayment of each other's loans. To ensure repayment, peer pressure and joint liability works very well. The defaulter group will be disqualified and will not be eligible for further loans, even if one member of the group becomes fails to pay the loan. The creditworthiness of the borrower is therefore determined by the members rather than by the MFI.

According to Nawai and Shariff (2010) group-based borrowers has to form a group before applying loans because they are responsible to all of their members. If one member fails to pay the loan, the others will be responsible to pay the loan otherwise they will be denied access for the next loans.

Group lending is an approach of lending small amount of money to a large number of borrowers who cannot offer collateral. Group members are jointly accountable for the repayment of each other loans through peer pressure. The entire group members will be

disqualified and will not be eligible for further loans, even if one member of the group becomes a defaulter. The size of the group can vary, but most groups have between three to eight members, the group self-selects its members before acquiring a loan (Abdullahi, 2008).

2.2 .Empirical literature review

The empirical related literatures tried to review several studies that were conducted both inside and outside the country by different researchers on Loan repayment performance of clients' of MFIs and summarized as follows.

2.2.1 Empirical studies in developing countries

Several studies have been conducted in different developing countries regarding determinants that affect loan repayment performance and some of them can be reviewed and summarized as follows:

Samwel and Kevin (2016) carried a study on the factors affecting clients on loan repayment for PRIDE microfinance institutions in Arusha, Tanzania .They selected sample by using random sampling method and they obtained data from primary and secondary sources. They collected primary data through using the questionnaires and analyzed the collected data by using the descriptive analysis. Hence, they didn't employ any econometrics model. According to their finding clients' characteristics (age, gender, and level of education), nature of business (business type) and loan characteristics (repayment period, repayment mode and repayment amount) were among the factors that influenced borrowers in repaying their loans. They revealed that borrowers age of 40 years and above had loan repayment problems and higher financial commitments to family could be the reason. Also the lending policies and procedures being used by the lending institution and loan administration (loan size , and Credit Officers experience) which constituted the factors affecting loan repayment performance of clients . Lack of business knowledge was another factor mentioned by clients which leads to low productivity hence failure to have enough fund to repay their loans.

The study further revealed that there was a significant relationship between loan repayment performances with clients' businesses challenges, loan diversification to other non-income activities, and other outside factors such market imperfections, higher interest charges, drought, among others

Shu-Teng et al (2015) investigated the Determinants of Microfinance Repayment Performance of Small Medium Enterprises in Malaysia. They used judgment sampling method and collected the primary data through survey interviews using a structured questionnaire. For comprehensive data analyses they were used a statistical software program, SPSS version 21. Also they used descriptive analysis to summarize and describe the sample characteristic of the respondents while disclosing the general pattern of the response and they try to found out the determinants of loan repayment performance of Small Medium Enterprises by using nine (9) variables grouping in to four .Those are: borrower characteristics (age of borrowers, gender of borrowers, and educational level of borrowers); business characteristics(total sales generated and business experience in months); loan characteristics(amount of loan borrowed and loan tenure or loan term); and lender factors (monitoring and training) . In their finding they pointed that borrower's characteristics (education level), business characteristics (business experience) and loan characteristics (amount of loan and loan tenure) have significant effect on the loan repayment performance of small and medium enterprises. Whereas the remaining five variables have no significant effect on the loan repayment performance of Small Medium Enterprises.

Yogendrarajah and Semasinghe (2016) had studied on the An Empirical Analysis of Micro Credit Repayment in Northern Sri Lanka. According to the researchers the all variables such as Amount of Loan, Loan interest, Decision making, control over assets and Loan management were positively influence on repayment of micro credit. The researchers had employed Linear multiple regression model to estimate the equation of loan repayment and they analyzed & presented the results of the study by using the SSPS software 16 versions.

Also they were used Multi-stage stratified random sampling technique to select the sample from population of self-employable women who have experience more than two years and collected the data through structured questionnaire.

Nancy and Mohamed (2014) had analyzed the Determinants of Loan Repayment in Small Scale Enterprises in Developing Countries, Kariobangi Division in Nairobi. The result showed that the personal characteristics (higher education level and large family size), loan characteristics (large amount of loan applied and longer duration of business) result in increased loan repayment and vice versa. Whereas an increase in age, interest rate and change in gender leads to more loan default and vice versa.

Ann mukono (2015) used the Logit regression model and examined the determinants of loan repayment by small and medium Enterprises in Nairobi country, Kenya. Simple random and stratified sampling methods were used to select 160 respondents from the owners and managers of MSE formed population elements. Hence the only 122 questionnaires were returned fully responded to. The study employed both primary and secondary and both structured and unstructured questionnaire was used to collect the primary data. The data collected was classified, summarized, and analyzed using the descriptive statistical tools and inferential statistics.

The study used the Cronbach alpha coefficient to determine the instruments reliability. The results showed that firm characteristics, borrower characteristics, loan characteristics and lender characteristics yielded Cronbach alpha coefficients of 0.740, 0.848, 0.897 and 0.769 respectively. These results indicate that the study instrument was reliable since all the alpha coefficients were beyond 0.7 which is the accepted benchmark for reliability. The study also undertook a correlation analysis to establish the correlation that exists between the study variables.

The study indicated that loan repayment status has a weak positive correlation with firm and borrower characteristics as indicated by correlation coefficients of 0.002 and 0.47 respectively. And the loan and lender characteristics have a weak negative correlation with loan repayment status by small and medium enterprises as indicated by the correlation coefficients of -0.076 and -0.024 respectively. These results indicate that there is a weak correlation between loan repayment status and the study variables. The study revealed that *firm characteristics* (Ownership structure, Type of firm , Firm location , Firm size, Age of the business, Registration status, Profitability , Asset ownership ,Type of business e.g. partnership, sole proprietor etc. and Type of business activity) and *borrower characteristics* (Age of borrower, Gender of the borrower, Level of education , Business experience , Household size , Credit use experience, Household income, Non- business income, Type of business activity, Amount of business investment, Borrower's attitude and Family background) are positively influence loan repayment by small and medium enterprises. Whereas *loan characteristics* (Loan size/amount ,Loan repayment period ,Collateral value ,Number of installments ,Loan application costs ,Loan type ,Purpose of loan ,Previous loan repayment mode and Length of time before repayment) and *lender or firm characteristics*

(Interest rate, Penalty for lateness ,Credit analysis procedure ,Lending policies ,Time lag between loan application and disbursement , and Stringent loan procedures) are negatively influence loan repayment by SMEs.

Wafula (2016) was conducted a study on the Determinants of Loan Repayment by Borrowers from Micro-Financial Institutions in Nakuru Country Kenya. He revealed that education level, income level and age have negative coefficient but significant determinants of loan repayment. The results showed that many borrowers have low education levels and yet they are associated with loan repayment better than those educated counterparts and as income level increases loan repayment decreases (Lower income borrowers repaid loans than higher income borrowers). Also Youths are associated with loan repayment than their old counterparts. The study used stratified random sampling method and the data was collected by using questionnaire. The researchers employed a descriptive analysis and linear multiple regression model to estimate the equations and analyze the results.

Benjamin et al (2017) examined the Microcredit Loan Repayment Default among Small Scale Enterprises in the Upper West Region of Ghana by Applying the Tobit and the double hurdle models. The results showed that enterprise size, interest rate, loan duration, level of profit and loan amount are the simultaneous determinants of probability and rate of default. However, the age and educational attainment of the enterprise owner, number of dependents and loan repayment schedule influence the probability of default but not the rate of default. more educated clients are 26.6% less likely to default; Entrepreneurs with more dependents are 59.6% more likely to default; Enterprises that have operated for relatively longer years record smaller default rates as compared to young enterprises; Enterprises that secured loans with higher interest rates are more probable of defaulting ;enterprises that make large profits are 7.1% less likely to default in loan repayment and Amount of loan is a positive determinant of probability of loan repayment default. This means that enterprises that secured larger loan amounts are 6.1% more likely to default.

2.2.2 Empirical studies in Ethiopia

Some empirical studies were carried out by different researchers at different time on the factors that influence the loan repayment performance of MFIs borrowers throughout the country reviewed as flows.

Yilkal (2015) studied on the Factors Affecting Women's Effectiveness in use of Microfinance and Microcredit Services; Jimma Zone, Southwest Ethiopia. The researcher found that family size of the household, health status of the respondent, loan diversion, time of loan application and distance from credit source variables are statistically significant and negatively affect the loan repayment performance of borrowers. While, the age of the borrower, education level of the respondent, experience of the borrower, celebrating of social ceremony, monthly expenditure, application of machinery, installment period and loan size variables are statistically insignificant in affecting the loan repayment performance of borrowers however their sign was positive. He recommended that microfinance institutions should give due attention on the family size of the respondents, distance from the credit source and health status of the respondents before applying the disbursement of the loan. The examiner has been used Logit model to estimate the equations.

Tolosa (2014) conducted a study on the Performance of Loan Repayment Determinants in Ethiopian Micro Finances and revealed that the age of respondents negatively and significantly determines the loan repayment performance of borrowers. This indicates that the elder respondents have better repayment performance than youngsters (as argued by Fikirte (2011) and Mesele Kebede et al (2016). Hence Education level and Time laps between loan application and disbursement were positively and significantly influencing borrowers' loan repayment performance at 1% and 5% significance level. Whereas Age of respondents, Loan size, Loan diversion, Repayment period, Number of dependents within and out household, Training, and Supervision and advisory visits had influence negatively and significantly the borrowers' loan repayment performance at 1% significance level. The researcher employed binary logistic regression model to estimate and analyze the result.

Abreham (2017) was conducted a study on the assessment of factors affecting loan repayment performance of borrowers on selected microfinance institutions in oromia region. The researcher concluded that income from other sources, monitoring utilizations of other members in a group, credit timeliness, repayment time suitability, repayment trend on monthly basis and training adequacy are found significant and positively influence loan repayment performance of borrower. While loan utilization for the intended purpose, repayment trend on irregular basis and visit & follow-up on irregular basis was found negatively influence the repayment performance of borrowers. Also he revealed that Male

borrowers in a given enterprise were found to be more defaulters than females although they have relatively higher utilization rate of the loan for the intended purpose as compared to that of females (as cited by Jemal 2003, as opposed by fikirte 2011 and supported by Tenishu 2014). The researcher has used multistage sampling methods and he has collected the primary data by using the structured questionnaires, semi-structured interviews and focus group discussions. The descriptive statistics analysis and probit regression model was employed to estimate the model and analyze the results of findings.

Firafis (2015) investigated the determinants of loan repayment performance in Harari microfinance institutions and he revealed that saving habit of borrowers ,loan size ,perception of borrowers on repayment period ,source of income ,availability of training ,business experience ,business type ,family size ,and the purpose of saving have been found as significant factors of loan repayment performance of borrowers at 1%,5% and 10% significance level.

He identified that the probability of default increase as the family size increases, when the borrowers has negative perception on repayment period, less training, low business experience ,poor saving habit and only single source of income .He has employed descriptive statistics and logistic regression (binary logit) model to estimate the equations and analysis the result of finding.

Fikirte (2011) examined the Determinants of loan Repayment Performance of Addis Credit and Saving Institution borrowers in the Addis Ababa, Ethiopia. Accordingly, the study revealed that out of eleven explanatory variables, eight variables were found to be significant factor for the probability of being defaulter, that is age and all five business types (baltina& petty market, kiosk & shop, services providing, weaving & tailoring, and urban agriculture) were important in influencing loan repayment performance of the borrower. In addition, sex and business experience of the borrowers were found to be significant determinants of loan repayment rate. However, the remaining explanatory variables namely, education level, family size, and dependency ratio had no significant effect on the probability of being defaulter. She used a binary logit model and descriptive statistics to estimate the equations and analysis the result.

Mesele et al, (2016) conducted a study on the Factors Affecting Loan Repayment Performance of Small Scale Enterprises Financed by Micro Finance Institutions on Private

Borrowers around Wolaita and Dawuro Zone .They were revealed that out of total of 15 explanatory variables considered in the econometric model six variables were found to be significant. These were age, Education level, Number of dependents within and out house hold, Tropical livestock unit, Value of equipment, Repayment suitability. The coefficients of these all significant variables were negative and positive. They a two limit Tobit model to analysis the result.

Balamurugan (2017) assessed the credit default risk in oromia credit and saving share company (OCSSCO). His finding outcomes revealed that the OCSSCO default rate increased over the review period. The major causes of default were found to be poor business performance, in terms of low profitability or business losses. Besides, credit diversion to unprofitable uses, poor timing, inadequate supervision to borrowers, inadequate loan size, unfair screening mechanism, non-flexibility of the nature of repayment period, not quick process were other factors that caused credit default and in addition natural disaster, poor infrastructure, poor management and presence of negligent staffs were identified and taken as causes for credit default risk. Further, the inference results of the descriptive statistics show that awareness creation is important and significant factors that enhance the credit repayment performance. He used stratified sampling method and collected the primary data by using structured and unstructured questionnaires. The researcher employed Descriptive statistics and SPSS version 20 software to analysis the collected data.

Tenishu (2014) has examined Microfinance Credit Rationing and Loan Repayment Performance and concluded that education, income, loan supervision, suitability of repayment period, availability of other credit sources and livestock are important and significant factors that enhance the loan repayment performance, while loan diversion and loan size are found to significantly increase loan default. In addition female borrowers were found better in terms of loan repayment.

Million (2012) conducted a study on the factors affecting loan repayment performance of Smallholder farmers in eastern Hararghe, Ethiopia. The results indicated that among 16 explanatory variables, which it was hypothesized, influence the loan repayment performance, seven variables were statistically significant for all the respondent population at less than 5 percent level of probability. Agro ecological zone, off-farm activity, frequency of contact with extension agents positively and significantly influenced loan repayments while, production

loss, informal credit, social ceremonies, and loan income ratio negatively influenced the loan repayment performance of small holder farmers in the study area. Primary data was collected through structured questionnaires .Descriptive statistics were used to describe the socio-economic characteristics of the respondents, and the two-limit I obit model was used to analyze the factors influencing loan repayment of smallholder farmers in the study area.
Solomon and Addisu, (2013) also studied on determinants of rural households loan repayment performance: case of Oromia credit and saving share company (OCSSCO) and keleta saving and credit union (KSCU) in Dodota woreda in oromia regional state. The employed logistic regression analysis which shows that; age, sex, number of oxen owned, land holding size, and loan supervision were positively and significantly contributes to pay full and timely loan. However house hold size and level of interest rate are the major factors which contribute to increase the default rate.

Tesfatsion et al (2015) conducted study on the factors influencing MFIs Goup loan repayment performance a case of MSE's service delivering sector that are financed by Dedebit Credit and Saving Institution by applying explanatory (descriptive) research approach and employing chi-square test to examine the association of the independent variables with the loan repayment performance of clients. In this study eleven explanatory variables were included which results in group formation (screening), peer monitoring, loan size, loan term and supervision have significant association with loan repayment performance of borrowers while the rest six variables (Business experience, social ties, internal rules and regulations, saving size, group size and training have insignificant association with loan repayment performance of group borrowers.

Savio (2017) carried a study on the loan repayment performance of micro small enterprises in Wolaita Sodo and concluded that Variables relating to SMEs loan repayment form the most dominant group of determinants of bad loans, accounting about 82.7% of the variability. The variables are Beneficiary size of the enterprises, business related experience, loan size, loan supervision, loan initiation and suitability of repayment situation. Also revealed that the evidence of both descriptive analysis and multiple regression show that business related experience is found to be one of the major determinants adversely affecting the loan repayment performance having the value of 64.2% by taking the variable while others are

constant. This indicates that in the study area MSEs did not have enough business related experience to manage their own activities properly and as the result they fail to repay the loan they received. Another important point to rise is loan size and that decreasing the loan size increases the loan default rate. Stratified Random sampling method was used and data collected by structured questionnaire. Regression model (multiple regression models) and descriptive statistical tools was employed to estimate the equations and analysis the results.

Firafis (2016) analyzed the Credit Rationing and Repayment Performance in the Ambo Woreda Eshet Microfinance Institution by using Binary Logit model.

The findings revealed that major factors considered by Eshet Microfinance institutions were credit rationing, loan sizes, loan diversion, family size, business experience and education. The study also found out that among the factors that were used for credit rationing in Microfinance age influenced loan repayment performance. Credit rationing system needs to take into account the factors that influence loan repayment performance when rationing loan applicants. The study revealed that the overall repayment performance of the borrowers and the screening technique which the institution follows to ration loan to its clients, were found to be sound. Similarly, it was found that the credit scheme has contributed positively in terms of improving the incomes, access to education, access to health facilities and nutritional status of the borrowers.

Specifically, loan diversion was found to be one of the important and significant factors influencing loan repayment performance negatively, i.e., it increases default risk significantly. On the other hand evidences in this study show that female borrowers have performed better in terms of loan repayment than their male counterparts.

Ababiya, et al (2015) studied the Performance of Micro and Small Enterprises and Its Determinants in Hadiya Zone, Ethiopia. The result revealed that age of enterprises, age of operators, education level, number of employees, amount of initial capital, entrepreneurial skill, experience of manager, access to training and access to market were statistically significant at less than 1% significance level and had positive relationship with the performance of enterprises. They employed Descriptive analyses and multiple linear regression models to estimate the equation and analysis the result.

2.3. Conclusion and Research gap

As discussed in the above empirical related literatures review different authors were conducted a study both inside and outside of the country on the factors of loan repayment performance of MFIs borrowers by dividing those factors in to different characteristics and they were revealed those positively or negatively influence loan repayment performance of MFI borrowers .

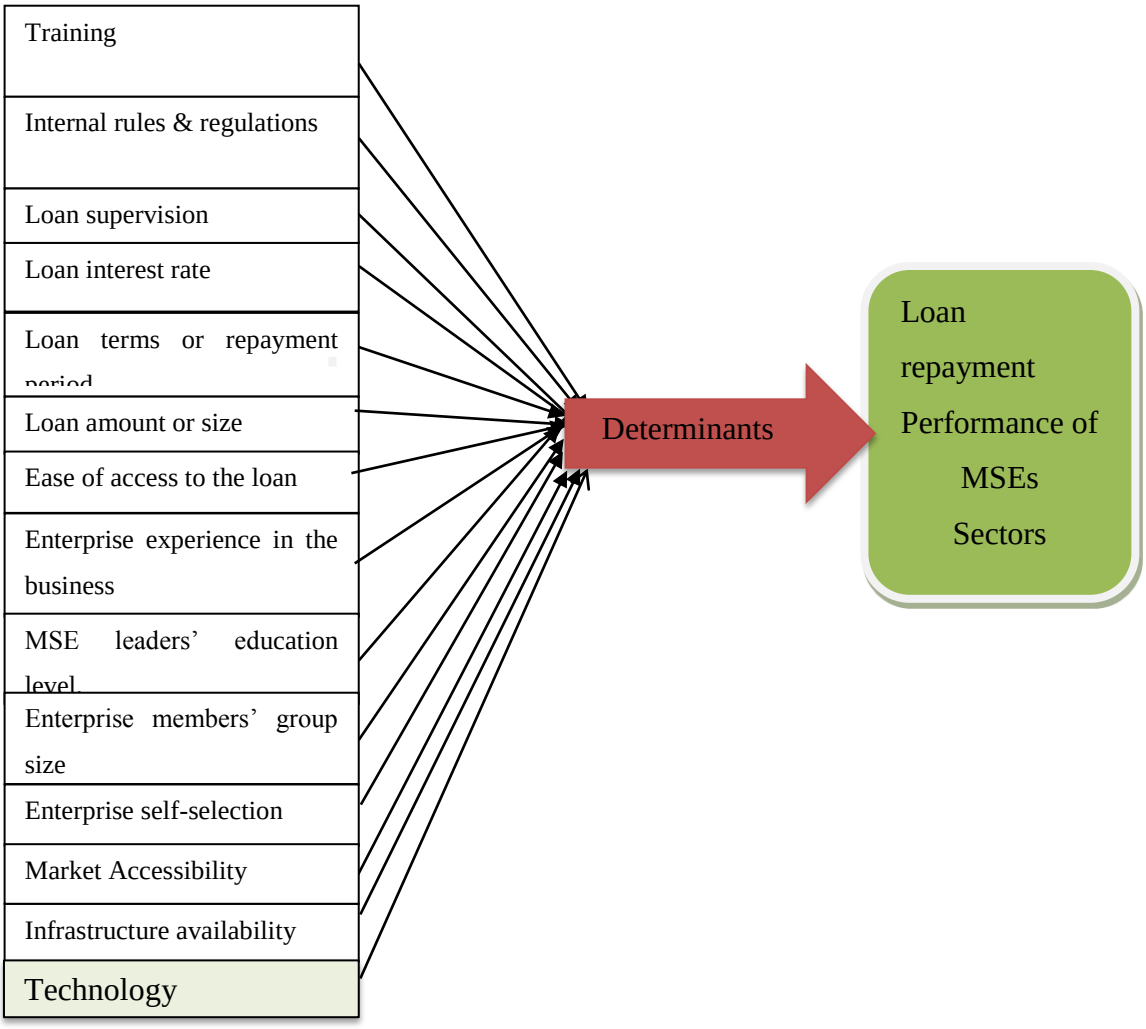
Even if they were conducted a study on the factors or determinants of loan repayment performance of MFI borrowers except Tesfatsion (2015) no anyone authors analyzed successive past years loan repayment performance of MFIs borrowers (MSE) to identify the current loan repayment problem or whether currently there is a loan repayment problem or not. Also most of the researchers not included or considered external factors those influence loan repayment performance of MFIs borrowers during their investigations and no anyone authors conducted a study on determinants of loan repayment performance of MSEs by including all sectors (Manufacturing, Trade, Service, Construction and Agriculture) of MSEs except Fikirte (2011). But still as far as I know there is no similar studies conducted on the factors that determine loan repayment performance a case of MSEs by incorporating all sectors (Manufacturing, agriculture, construction, service and trade sectors) that are financed by OCSSCO in the study area. So conducting further study on determinants of loan repayment performance of borrowers (MSE) by analyzing their past successive year loan repayment performance, by including external related factors and by including all MSE sectors might provide an additional solution for the gap and might help the MFI practitioners to improve their lending strategies.

2.4. Conceptual Framework of the Study

As it has been reviewed from previous empirical studies in the above sections, factors that affect loan repayment performance of MSE Sectors were divided into **Lenders related factors** (i.e. Training, internal rules and regulations ,Loan supervision, loan interest rate, Loan terms or the loan repayment period, loan amount or size ,Ease of access to the loan); **Enterprises related factors** (i.e. enterprises experience in the business, enterprise leader's education maturity, enterprise member size, enterprise formation), and overall **external related factors** like: Market Accessibility, Infrastructure availability ,and Technology

advancement . Thus, this study has constructed the following conceptual framework based on the reviewed empirical findings.

Figure: 2.1.Conceptual Frameworks of the Study.



Source: Adapted from Jemal (2003) and Fikirte(2011); Ababiya et al (2015) and Tesfatsion et al (2015) and modified by researcher.

Chapter Three

3. Methodology of the study

3.1. Research design

The study employed explanatory and descriptive research design with quantitative and qualitative methods. The qualitative data method were employed to collect the primary data by using structured questionnaires from the sample respondents in relation to the Lenders or MFI related factors**,** enterprises related factors and external related factors that influences the repayment performance of MSE sectors .Whereas, the quantitative data approaches were employed to gather the relevant information from various sources such as the lending institutes, and National Bank of Ethiopia.

3.2. Data type or sources and data collection instruments

This employed both primary and secondary data sources. Primary data was collected through structured and interview based questionnaire containing both close and few open ended one from MSE's leaders. While the secondary data was collected from published and unpublished documents at OCSSCO branches under three oromia special zones around Addis Ababa (Burayu, Gelan and Sululta), concerning determinants of the loan repayment performance of MSE's sector levels in the study area.

3.3 Population of the study

The 310 micro and small enterprise leaders those are financed by three oromia special zones of OCSSCO branches are the target population of the study for this case study. This is because enterprise leader is the one who looked after their members and supervised them, so that, they know the required information concerning their members and enterprise in detail in the study area. Also due to time and financial constraints, it is difficult to study entire population of micro and small enterprise sectors.

3.4. Sample Design

For the study OCSSCO MFI was selected purposively due to its predominately providing loan for MSEs than other MFIs recently as observed from NBE 2016 report. Also OCSSCO

branches those found under oromia special zones were selected purposively .Because the government and micro and small enterprise office recently worked hardly to form MSEs with a belief that micro and small enterprises were input for industry development, a tool to reduce unemployment and to create job . Also those special zones were on the way of growing fast and attracted many investors. Besides hope fully the numbers of MSE sectors were increased to serve those investors. Lastly the three oromia special zones OCSSCO branches were selected by random sampling method.

The target populations in this study were categorized in to two strata's such as; Non-defaulter and Defaulter groups with their respective MSE's Sectors i.e. Manufacturing, Construction, Agriculture, Service and Trade sectors a case of Oromia Credit and Saving Share Company branches operating in three oromia special zones around Addis Ababa .

This study was applied multi stage sampling design in order to select the enterprise leader respondents of MSE's sectors financed by three branches operating in the study area based on the borrowers loan repayment performance of those branches to keep the population proportion with respect to the enterprise members' loan repayment status of MSE's Sectors.

3.5. Sample size Determination

This study was conducted in oromia regional state a case of Oromia credit and saving share company branches under three oromia special zones .The targeted population of this study were 310 leaders of different MSE's sectors those are financed by the above OCSSCO branches. Hence, this study was mainly focusing on the leaders of different MSE's sectors those are financed by each branches of OCSSCO in the study area. The total population included in the study were selected based on the classification and structure made by NBE that is given to micro finance institutions as a report format to be reported accordingly concerning the loan repayment status of MSE's borrowers of different sectors in which they are classified into two groups as: non-defaulter -All borrowers of the MFI's those have repaid their loans on time or when the due date and defaulter -are borrowers those who didn't repay their loan three months after the due date .

Hence, this study was tried to choose those targeted populations based on the purpose of data analysis from the surveyed data showing the credit status of MSE's in sectorial bases which is used to determine the sample size needed for the study from the targeted total population in the study area. The target populations(different MSE sectors leaders) were selected

purposively and grouped by stratified sampling method in to two strata's as; defaulter and non-defaulter with respect to MSE's Sectors i.e. manufacturing, construction, agriculture, service and trade sectors. Lastly by using proportionate stratified sampling method the sample size for each of the five MSE's sectors was determined by allocating their respective number in which they are categorized.

According to Watson', (2001) the initial sample size (n) proportionally to each strata's (none defaulter and defaulter) with respect to all sectors can be calculated by using his sample size formula shown in the table 3.1 below.

Table.3.1. Determination of sample size for each respondent.

Types of sectors	**MSEs loan repayment status**					**Total**
	Defaulter			Non defaulter		
	Total	Sample	total		Sample	
Manufacturing	39	18	28		13	
Construction	15	7	34		16	
Agriculture	19	9	39		18	
Service	39	18	41		19	
Trade	19	9	37		17	
Total populations (N)	**131**	**_**	**179**		**_**	**310**
Samplesize=131*144 / 310		**61**			**83**	**144**

Source: Burayu, Gelan and Sululta OCSSCO Office, (2017).

Thus, the sample size was determined by using the Watson's, (2001) standardized statistical formula and calculated as flows:

$$n = \frac{\frac{p[1-p]}{\frac{A^2}{Z^2}+\frac{p[1-p]}{N}}}{R} \qquad \text{.....} \quad .(3.2)$$

Where, n = sample size required

N =a number of the total population included in the study (310)

P = estimated variance in population, as a decimal: (0.2).

A = Precision desired, expressed as a decimal (i.e., 0.05, for 5%)

Z = 1.96 for 95% confidence level.

R = Estimated Response rate, as a decimal i.e. 95 %(0.95).

$$n = \frac{\frac{0.2[1-0.2]}{\frac{0.05^2}{1.96^2}+\frac{0.2[1-0.2]}{310}}}{0.95}$$

$\underline{n= 144}$

According to Watson's, (2001) the proportional sample size (n) with respect to the total population was calculated as $\boldsymbol{n = \frac{131*144}{310}} = \mathbf{61}$, similarly, a sample of **83** were selected to be respondents of the study from the two strata's with respect to sectors level respectively.

As a result, the determined proportionate sample size from the total population (310) is 47% representative of the total targeted populations in the study ar ea. Hence, a total of one hundred forty four (144) respondents that were believed to make appropriate analysis regarding the determinants of loan repayment performance of micro and small scale enterprise's sectors that are financed by three OCSSCO branches those are operated under three oromia special zones around Addis Ababa (Burayu, Gelan,and Sululta) would include in the study.

3.6. Methods of Data Analysis and Discussion

The data gathered from the respondents by using structured questionnaire was analyzed by applying explanatory and descriptive statistics such as percentages, frequency, and also T-test and Chi-square test are used for comparing defaulters and non-defaulters in various explanatory variables. This study employed logit model by using STATA software version 12.00. Lastly, the analyzed data was presented in the form of table, bar graphs, pie charts and the presented data were also interpreted to provide detailed conclusions and recommendations regarding to the effect of independent variables on the dependent variables that influence the loan repayment performance of MSE's sectors indicating that those enterprise borrowers may fall in which type of the two categorized population in the study area.

3.7. Description of the study Variables

The study variables composed of both dependent and independent variables through which the independent variables counter acts on the dependent variables**.**

3.7.1. Dependent Variable: loan repayment performance

For the purpose of analysis, the dependent variables of the study is loan repayment performance (LRP) that are classified into two groups of borrowers as; good borrowers (non-defaulter) who repaid the loan on time and defaulter borrowers who couldn't pay the loan in full for three months (90 days) from the past due date. As it discussed earlier under the statement of the problem the average default rate of the MSE's borrowers of different sectors for the last five years was reached about 7.9% at average which is greater than the National Bank of Ethiopia's (NBE) minimum requirement set for all financial institutions, i.e., <5 percent default rate or >95 percent expected to be collected. This shows there is the loan repayment performance problem which needs to be solved. Thus, the out coming variable considered in this study is the loan repayment performance of MSE's sectors which is financed by Oromia Credit and Saving Share Company branches under three oromia special zones around Addis Ababa. Hence, this study was carried out by collecting data through structured questionnaire from MSE's leader respondents of all sectors in the study area.

3.7.2. Independent Variables

Based on the existing literature on the determinants of loan repayment performance of micro and small enterprise's sectors and the effect associated with the dalliance in loan repayment performance reviewed both in the developing and our country context fourteen explanatory variables were considered.

The general approach intended to explain was why a particular population group falls under the two credit repayment categories. In such away based on those literatures, the variables which may significantly affect the loan repayment performance of MSE's sectors on the basis of this study were determined quantitatively in the model was specified in table 3.2 **(See Appendix 1).**

3.8. Econometric Model

3.8.1. Specification of the Logit Model

In dummy regression variable model, it is assumed implicitly that the dependent variable Y is quantitative whereas the explanatory variables are either quantitative or qualitative .There are certain type of regression models in which the dependent or response variable is dichotomous in nature, taking a 1 or 0 value. In this study MSEs in the study area are assumed to be either non-defaulting or defaulting depending on their loan repayment performance. This stands for 0 if the borrower is a non-defaulter and 1 if the borrower is defaulter. Therefore, loan repayment treated as dichotomous dependent variable.

Loan repayment is, therefore, a non-continuous dependent variable that does not satisfy the key assumptions in the linear regression analysis. When the dependent variable to be modeled is limited in its range, using ordinary least squares (OLS) may result in biased and inconsistent parameter estimates. To examine the factors affecting the loan repayment, discrete choice model should be used. Thus, the most widely used and appropriate qualitative response models are the logit and probit models (Verbeek, 2008).

Logit regression (logit) analysis is auni (multivariate) technique which allows for estimating the probability that an event occurs or not, by predicting a binary dependent out come from a set of independent variables.

In this study the logit model is used to examine the relationship between the independent variables and dependent variable (loan repayment performance of MSEs).The justification for using logit model is its simplicity of calculation and that its probability lies between 0 and 1(two categories). Moreover, its probability approaches zero at a slower rate as the value of explanatory variable gets smaller and smaller, and the probability approaches 1 at a slower and slower rate as the value of the explanatory variable gets larger and larger (Gujarati, 2004). Hosmer and Lemeshew (1989) pointed out that the logistic distribution function (logit model) has got advantage over the others in the analysis of dichotomous outcome variable in that it is extremely flexible and easily used model from mathematical point of view and results in a meaningful interpretation. Hence, the logistic or logit model has been selected for this study.

In this study, since only two options are available, namely “repayment loan” or “non - repayment loan” (non -defaulting or defaulting) a logit model is set up to define Y=0 for

situation where MSEs repay loan to OCSSCO micro financial institutions and Y=1 for situations where MSEs did not repay the loan to OCSSCO.

According to Gujarati, (2004), the cumulative logistic probability distribution model for this study is econometrically specified as follows:

$$P_i\ (Yi = 1|Xi) = \frac{1}{1+ e^{-(\alpha + \sum \beta i Xi)}} \quad (1)$$

Where: Pi is the probability that MSEs repay loans on time. Y represents the dependent variable which is loan repayment performance, Xi represents the ith explanatory variables; α & βi are regression parameters to be estimated and e is the base of the natural logarithm.

For ease of exposition, we write (1)

$$Pi = \frac{1}{1+ e^{-zi}} \quad (2)$$

Where $Zi = \alpha + \sum \beta i Xi$ and z_i= loan repayment for the i^{th} borrower

Equation (2) represents what is known as the (cumulative) logistic distribution function. It is easy to verify that as Zi ranges from $-\infty$to$+\infty$, Pi ranges between 0 and 1 and that Pi is nonlinearly related to Zi (i.e., Xi), thus satisfying the two requirements considered earlier. But it seems that in satisfying these requirements, we have created an estimation problem because Pi is nonlinear not only in X but also in the β's as can be seen clearly from (1). This means that we cannot use the familiar OLS procedure to estimate the parameters. But this problem is more apparent than real because (1) can be linearized, which can be shown as follows.

For ease of interpretation of the coefficients, a logit model could be written in terms of the odds and log of odd. The odds ratio is the ratio of the probability that MSEs would repay loan on time (Pi) to the probability that MSEs would not have repay loan on time (1- Pi). That is,

$$1- Pi = \frac{1}{1+ e^{zi}} \quad (3)$$

Therefore, we can write

$$\frac{Pi}{1- Pi} = \frac{1+ e^{zi}}{1+ e^{-zi}} = e^{Zi} \quad (4)$$

and taking the natural logarithm of equation (4) yields:

$$\ln\left(\frac{Pi}{1-Pi}\right)=Zi = \alpha +\beta_1X_1+\beta_2X_2+\ldots\ldots + \beta_n X_n \quad (5)$$

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

$$zi = \alpha + \sum_{i=1}^{n} \beta iXi + ui \quad (6)$$

The dummy variables, also known as indicators and bound variables, characterize dichotomous responses. The dichotomous response variable Zi(Yi)= 0 or 1 . In this study, since only two options are available, namely "repay the loan " or "not repay the loan" a binary model was set up to define Yi=0 for situation where MSEs repay the loan on time and Yi=1 for situations where MSEs did not repay the loan on time to the OCSSCO microfinance institutions .

The logit model in this study can therefore be specified as:

Yi = α +β1X1+ β2X2+ …… βnXn + Ui ……. (7)

Where: Yi is a dependent variable (the observed variable, representing the proportion of loan repayment); X1 …n are explanatory variables; β1….. βn are the slope coefficients; α - Constant (intercept) and Ui- is error term .

The finally employed model has the following form:

LRP = α + β1 TR + β2LS + β3 LIR + β4LT + β5LA + β6 EAL + β7IRR + β8LGLEB +

β9GLEL + β10 ES + β11 EF + β12 MA + β13 IA + β14TA + Ui ---------- (8).

Where**,** LRP – refers to the loan repayment status of MSE's sectors while the symbols of independent variables already explained in the table 3.2 which is found in the Appendix 1.
Ui- error terms in the study, α - refers to the intercept (Constant) and $\beta_1, \beta_2, \beta_3 - - - -\beta 14$ refers to coefficients of the parameters to be estimated (Agresti, 2007).

3.9. Econometric model test

In order to establish significant variables, exploratory factor analysis using principal factors were be used. Using the exploratory factor analysis, the dependent variable (the loan repayment status of the borrowers) will be summarized into a new and smaller set of uncorrelated components (i.e., factors affecting loan repayment performance of micro and small scale enterprise's sectors in the study area with a minimum loss of information (Ngai et al., 2004, cited in Cheng and Choy, 2007). Variables that are not pure, with factor loadings greater than 0.50, will be deleted (Cheng and Choy, 2007).

After extracting the factors by the exploratory factor analysis, reliability assessment will be conducted by calculating the extracted factor model in order to ensure that the variables comprising each success factor are highly reliable and internally consistent (Hair et al., 1998, cited in Cheng and Choy, 2007). If the calculated extracted factor is greater than the critical point of 0.70 (Nunnally, 1978, cited in Cheng and Choy, 2007), the proposed success factor is said to be highly reliable and internally consistent.

3.9.1. Goodness-of-Fit Test

A goodness-of-fit test**,** in general, refers to measuring how well do the observed data correspond to the fitted (assumed) model.

The measure of goodness-of-fit test used in the logit regression model was the pseudo R^2, Chi-square and p- value of the model output. In such away, pseudo R^2 is a measure that at least lies in the [0, 1] interval (Windmeijer, 1995). Usually the value found in range 0.1 up to 1 is normal in logit regression model (Pindyck&Rubinfeld, 1998).

The most common measure is the Model Chi-square, which can be tested for statistical significance. This is an omnibus test of all of the variables in the model. Note that the chi-square statistic is not a measure of effect size, but rather a test of statistical significance. Larger data sets will generally give larger chi-square statistics and more highly statistically significant findings than smaller data sets from the same population.

3.9.2. Multicollinearity Test

Before running a model, in our case the logit, explanatory variables will be checked for Multicollinearity (Verbeek, 2008). When the independent variables are correlated, it is regarded as a problem in the model and this problem is called multicollinearity. Since, Multicollinearity is a problem when the explanatory variables logit model is highly correlated and provides redundancy information about the response. The existence of Multicollinearity in the model may cause large variance, large T-value and misleading results (Hosmer, &Lemeshow, 1980). Thus, the two popular methods which used to detect the presence of Multicollinearity are Variance Inflation Factor (VIF) and Tolerance (TOL) that calculated as follows;

$\text{VIF}_i = \frac{1}{1-R_i^2}$; $TOL = 1\text{-}R_i^2$ ---------- (3.2)

Where, R^2 is calculated by analyzing the independent variables in the model using STATA software, as the common rule of Verbeek indicates that if VIF is 10 or greater than 10 and a TOL of 0.10 or less it may indicate the presence of Multicollinearity otherwise free from the problem.

3.9.3. The Link Test in the Model

The link test used to evaluate the relationship among the dependent and independent variables in the model by analyzing **Prob> F, P>t,** hatsq and etc in order to test the significance and the fits of the model (Gujarati, 2004).

3.9.4. Hypothesis tests

Expectation and hypothesis test

Table 3.3 presents a summary of the expectation model results and formulation of hypothesis test. In order to determine whether to reject or does not reject the null hypothesis, we compared the absolute value of t -calculated to t- critical value.

If the absolute value of t–calculated (t-statistics) is greater than t-critical value the null hypothesis will be rejected, that means, the explanatory variable is statistically significant, or statistically different from zero, at the given significance level or the explanatory variable is significantly influence the dependent variables (Wooldridge,2012).

t-calculated or test statistics = $\frac{estimated\ coefficient - being\ estimated\ null\ hypothesis\ value}{standard\ error\ of\ of\ the\ coefficient}$

$= \frac{\hat{\beta}-\ddot{\beta}}{SE(\hat{\beta})}$, where $\ddot{\beta}$ is the value of β under the null hypothesis.

$= \frac{\hat{\beta}}{SE(\hat{\beta})}$, because $\ddot{\beta}$is equal to zero.

The tests statistics (t -value) can be calculated by the above formula for all null hypotheses and the t-critical value can be obtained from the t-distribution table of two-tailed test by using Significance level and the degree of freedom.

df =n-k ,where n is no of observation and k is no of parameters in the model.

Table 3.3 summary of expectation of model result and hypothesis test

Variables	Expected model result	Hypothesis: Two-tailed test
TR	+	$H_0:\beta_1=0;H_1:\beta_1\neq0$
LS	+	$H_0:\beta_2=0;H_1:\beta_2\neq0$
LIR	_	$H_0:\beta_3=0;H_1:\beta_3\neq0$
LP	_	$H_0:\beta_4=0;H_1:\beta_4\neq0$
LA	_	$H_0:\beta_5=0;H_1:\beta_5\neq0$
EAL	_	$H_0:\beta_6=0;H_1:\beta_6\neq0$
IRR	+	$H_0:\beta_7=0;H_1:\beta_7\neq0$
LGLEB	+	$H_0:\beta_8=0;H_1:\beta_8\neq0$
GLEL	+	$H_0:\beta_9=0;H_1:\beta_9\neq0$
ES	_	$H_0:\beta_{10}=0;H_1:\beta_{10}\neq0$
EF	+	$H_0:\beta_{11}=0;H_1:\beta_{11}\neq0$
MA	+	$H_0:\beta_{12}=0;H_1:\beta_{12}\neq0$
IA	+	$H_0:\beta_{13}=0;H_1:\beta_{13}\neq0$
TA	±	$H_0:\beta_{14}=0;H_1:\beta_{14}\neq0$

Source: Author

CHAPTER FOUR

4. Result and Discussions

The results of analysis have been conducted to address the main and specific objectives of the study. This part was divided in to four major sections. The first section of this part presents demographic characteristics of sampled respondents such as, gender, age, marital status, educational level and sectors which they can lead. In the second section, the statistical descriptions of the factors that influence the loan repayment performance of MSE's sectors in the study area were discussed.

In the third section, the econometric specification of the model and their respective tests were conducted. In the fourth section, the econometric results and the interpretations of the independent variables having three sub categories like, lenders related factors; enterprise related factors and external related factors that were identified as the most important determinants of loan repayment performances were explained in detail.

Generally, this chapter presents the results from the descriptive and econometric analyses. The descriptive analysis made by using statistical tools such as, tables, percentage, mean and frequency distribution .In addition, the t- statistics were employed to test the hypothesis with respect to some explanatory variables. Econometric analysis was employed logit model in order to identify the most important factors that affect the loan repayment performance and to measure the relative importance of significant explanatory variables on loan repayment.

4.1. Descriptive Analysis

This part firstly, presents demographic characteristics of sampled respondents such as, gender, age, marital status, educational level and sectors they can lead. Secondly, the statistical descriptions of the factors that influence the loan repayment performance of MSE's sectors based on the descriptive analysis were discussed.

4.1.1. Demographic characteristics of the sampled respondents.

In this section, based on summary statistics of respondent's the enterprise leaders demographic characteristics were presented with particular reference to gender, age, marital status, education level and sectors which they can lead were discussed in the table consecutively as follows.

Table 4.1.Loan repayment performance and Gender of the sampled respondents.

Loan Status	**Gender**			Total
	Female		Male	
Defaulter non	32		51	83
Defaulter	30		31	61
Total	62		82	144

Source: computed from the survey data, 2018

Out of 310 total targeted population of the study area, 144 sample respondents were selected for this study by using sample size determination formula which was discussed earlier in the methodology part. Accordingly all the selected respondents were filled out the questionnaire properly.

As showed in the table 4.1 above**,** from 144 sample respondents; male respondents were acquired a larger share accounting 56.94 % and followed by females accounting 43.06%. This indicates majority of clients in the study microfinance institutions are male dominate. This implies the participation of female clients in loan based business is less than male clients. Also from the total defaulter respondents male respondents' were relatively more defaulter than the female respondents.

Table 4.2.Loan Repayment performance and Age of the sampled respondents

Loan Status	**Age**			**Total**
	18-37	38-57	58 and above	
defaulter Non	41	33	9	83
Defaulter	33	21	7	61
Total	74	54	16	144

Source: computed from the survey data, 2018.

As presented in the table 4.2 above, among the sampled respondents of the enterprise leaders of the various Sectors; 51.39% of them belong to the age category of 18-37 years old and followed by the age between 38-57 then 58 and above years accounting 37.50% and 11.11% respectively in the study area. This shows young people's more involved in MSE sectors than the adult and followed by elder respondents. Also the cross-tabulation shown in the table 4.2 indicates that youngster respondents were more defaulter than both adult and elder respondents.

Table 4.3.Loan repayment performance and Marital Statuses of the sampled respondents

Loan Status	Marital Status				Total
	Single	married	Divorced	Widowed	
non defaulter	28	25	17	13	83
Defaulter	23	14	11	13	61
Total	51	39	28	26	144

Source: computed from the survey data, 2018.

Results from table 4.3 above, revealed that single sampled respondents had the highest percentage share of the marital status and followed by married, divorced and then widowed respondents. This implies that participation of single respondents in MSE was very high and followed by married, divorced and then widowed respondents. Also single respondents were more defaulters and followed by married, widowed and divorced respondents respectively.

Table 4.4. Loan repayment performance and Group leader respondents' education Level

Loan Status	Group leaders education levels						Total
	below primary school	Just Primary school	Secondary school	preparatory	TVET school	Degree and above	
non defaulter	9	5	12	10	13	34	83
defaulter	29	9	7	7	6	3	61
Total	38	14	19	17	19	37	144

Source: computed from the survey data, 2018.

As expressed in the table 4.4 above, among the sampled respondents the highest share of educational level by the leader respondents were those who attained below primary school accounting 26.39% and followed by respondents those who attended Degree and Above, TVET School, Secondary School, Preparatory school , and Primary school accounting 25.70%, 13.20%, 13.20% ,11.81%and 9.7% respectively. This shows that more educated borrowers more likely repay their loan timely than those less educated borrowers. In other

expression MSE those attained lower education levels were more defaulter than those attained higher education level

Table 4.5. Loan repayment performance and MSE's sectors that the respondents are engaged in

Loan Status	MSE sectors					Total
	Construction	services	manufacturing	agriculture	trade	
non defaulter	16	19	13	18	17	83
Defaulter	7	18	18	9	9	61
Total	23	37	31	27	26	144

Source: computed from the survey data, 2018.

As indicated in the table 4.5 above among the sampled respondents those who lead service sector had the highest percentage share accounting 25.69% and followed by manufacturing ,agriculture , trade and construction accounting 21.53%,18.75%,18.06% and 15.79% respectively. Also this indicated that respondents those who are involved in service sectors and manufacturing sectors were more relatively equally defaulter and followed by those involved in agriculture, trade and construction sectors.

4.1.2. Statistical descriptions of the factors that influence Loan Repayment Performance of MSE's sectors

Table 4.6. Effect of Training provided by lenders

lack of training does not lead to default	Freq.	Percent	Cum.
strongly disagree	62	43.06	43.06
Disagree	37	25.69	68.75
Neutral	11	7.64	76.39
Agree	14	9.72	86.11
strongly agree	20	13.89	100.00
Total	144	100.00	

Source: computed from the survey data, 2018.

As indicated in the table 4.6 above 43.06% and 25.69 % of the all respondents were respond strongly disagree and disagree while 9.72 % and 13.89% of the responders were agree and strongly agree respectively. So most of the respondents were respond by opposing the question. This indicated that as lack of training leads to default.

Table 4.7. Enterprise supervision or follow up by financing agency

High follow up or supervision does not improve loan repayment.	Freq.	percent	Cum
strongly disagree	43	29.86	29.86
Disagree	17	11.81	41.67
Neutral	22	15.28	56.94
Agree	31	21.53	78.47
strongly agree	31	21.53	100.00
Total	144	100.00	

Source: computed from the survey data, 2018.

As expressed in the table 4.7 above from all the respondents 29.86 % responded that strongly disagree, where as 21.53% of respondents were respond strongly agree .This shown us high follow up or supervision undertaken by loan officer of OCSSCO helps to improve loan repayment and it decreases the probability of default.

Table 4.8.Effect of loan interest rate on loan repayment

Loan interest rate is reasonable and does not affect the loan repayment performance.	Freq.	Percent	Cum
strongly disagree	41	28.47	28.47
Disagree	47	32.64	61.11
Neutral	17	11.81	72.92
Agree	24	16.67	89.58
strongly agree	15	10.42	100.00
Total	144	100.00	

Source: computed from the survey data, 2018.

Table 4.8 above showed that from all sampled respondents almost similar respondents were respond strongly disagree and disagree. This shown us loan interest rate is not reasonable and

affect their loan repayment performance and 16.67% of the respondents were responded agree by supporting loan interest rate charged by the financing agency was reasonable and does not affect the their loan repayment performance.

Table 4.9. The impact of internal rule and regulations of the lenders

The internal rule and regulations of the OCSSCO influence the smooth functioning of your enterprise loan repayment performance.	Freq.	percent	Cum
strongly disagree	25	17.36	17.36
Disagree	28	19.44	36.81
Neutral	31	21.53	58.33
Agree	15	10.42	68.75
strongly agree	45	31.25	100.00
Total	144	100.00	

Source: computed from the survey data, 2018.

Table 4.9.Revealed that from all the sampled respondents 31.25% of them were responded as internal rule and regulation by financing agency had impact on their loan repayment performance. While some of the respondents were responded strongly disagree and disagree by accounting 17.36% and 19.44% respectively as the internal rule and regulation of OCSSCO does not affect their smooth functioning of the loan repayment and 21.53 % of respondents were free from providing suggestion on the effect of OCSSCO internal rules and regulations.

Table 4.10. The impact of enterprise leaders experience in the business area.

Lack of experience leads to delay loan repayment	Freq.	percent	Cum
strongly disagree	32	22.22	22.22
Disagree	14	9.72	31.94
Neutral	21	14.58	46.53
Agree	25	17.36	63.89
strongly agree	52	36.11	100.00
Total	144	100.00	

Source: computed from the survey data, 2018.

As stated in the table 4.10 above from all sampled respondents 36.11 % responded as the lack of experience leads to fail to repay the loan, but out of the respondents 22.22% of them responded as lack of experience in the business area does not lead to delay the loan repayment.

Table 4.11. Effect of the Enterprise members group size

Enterprise members' group size can affect loan repayment performance.	Freq.	percent	Cum
strongly disagree	30	20.83	20.83
Disagree	29	20.14	40.97
Neutral	25	17.36	58.33
Agree	19	13.19	71.53
strongly agree	41	28.47	100.00
Total	144	100.00	

Source: computed from the survey data, 2018

As indicated in table 4.11 above from all sampled respondents more of them were responded strongly agree by accounting 28.47 % and almost similar respondents were respond strongly disagree and disagree.This shown us enterprise members group size has impact on the loan repayment performance of MSEs sectors in the study area**.**

Table 4.12 .Enterprise group formation

Enterprise group members those organized by government more repay their loan than those organized by self-selection.	Freq.	Percent	Cum.
strongly disagree	43	29.86	29.86
Disagree	49	34.03	63.89
Neutral	14	9.72	73.61
Agree	26	18.06	91.67
strongly agree	12	8.33	100.00
Total	144	100.00	

Source: computed from the survey data, 2018.

As revealed in the table 4.12 above 34.03 % and 29.86% of respondents were responded disagree and strongly disagree respectively, while 8.33 % and 18.06 % of respondents were respond strongly agree and agree respectively on the statement enterprise group members those formed by other bodies are repaid loan more than those formed by self- selection . This shown us loan is better repaid if group members are organized by self-selection rather than by other bodies.

Table 4.13. Effect of the market accessibility

Market accessibility does not enhance loan repayment.	Freq.	Percent	Cum
strongly disagree	42	29.17	29.17
Disagree	49	34.03	63.19
Neutral	18	12.50	75.69
Agree	10	6.94	82.64
strongly agree	25	17.36	100.00
Total	144	100.00	

Source: computed from the survey data, 2018.

As expressed in the above table 4.13 most respondents were responded disagree and strongly disagree by accounting 34.03 % and 29.17% respectively by indicating market accessibility for both raw material and finished products or services around their working area has

enhance their loan repaying. Where 17.36 % and 6.94 % of the sampled respondents were pointed as market accessibility does no help them to repay their loan by responding strongly agree and agree respectively. So we concluded that market accessibility is useful for loan repayment.

Table .4.14. Impact of adoption of advance technology

Adoption of an advance technology can increase the probability of default.	**Freq.**	**Percent**	**Cum.**
strongly disagree	50	34.72	34.72
Disagree	40	27.78	62.50
Neutral	24	16.67	79.17
Agree	20	13.89	93.06
strongly agree	10	6.94	100.00
Total	144	100.00	

Source: Computed from the survey data, 2018.

As showed in the table 4.14 above most respondents were responded strongly disagrees and disagrees by accounting 34.72% and 27.78% respectively ,where some respondents are responded agree and strongly agree by accounting 13.89% and 6.94 respectively. This indicated that adoption of an advance technology helps MSE to repay their loan and decrease the probability of default in the study area.

4.2. Logit or logistic regression model

4.2.1. The Econometric model tests, results and analysis

4.2.1.1. Model Specification Tests

Before extracting the factors of the exploratory variables, reliability assessment were conducted by testing various types of tests that the model needs in order to ensure that the variables comprising each factors are highly reliable and internally consistent (Hair et al., 1998, cited in Cheng and Choy, 2007).

4.2.1.1.1. Goodness of fit test of the model

The measure of goodness-of-fit test used in the logit regression model was the pseudo R^2, Chi-square and p- value of the model output. In such away, pseudo R^2 is a measure that at least lies in the [0, 1] interval (Windmeijer, 1995). Usually the value found in range 0.1 up to 1 is normal in logit regression model (Pindyck&Rubinfeld, 1998).

As shown in table 4.17 below the model output showed that the pseudo R^2, Chi-square and the p- value were 0.583, 114.59 and 0.0000 respectively. This reveals that the logit model was correctly predicted by the predicting variables incorporated in this study. Thus, the probabilities that the loan repayment performance of MSE's sectors assumed that the proportion of the statistical parametric values where suited with the model and tried to be answered by using STATA software version 12 as well as the model result were interpreted below (**See Table 4.17**).

4.2.1.1.2. Multicollinearity Test

Before running a model, in our case the logit, explanatory variables will be checked for Multicollinearity (Verbeek, 2008). When the independent variables are correlated, it is regarded as a problem in the model and this problem is called multicollinearity. Since, Multicollinearity is a problem when the explanatory variables logit model is highly correlated and provides redundancy information about the response. The existence of Multicollinearity in the model may cause large variance, large T-value and misleading results (Hosmer, &Lemeshow, 1980). Thus, the two popular methods which used to detect the presence of Multicollinearity are Variance Inflation Factor (VIF) and Tolerance (TOL) that calculated as follows;

$$\text{VIF}_i = \frac{1}{1-R_i^2} \; ; TOL = 1\text{-}R_i^2 \text{----------} \quad (3.2)$$

Where, R^2 is calculated by analyzing the independent variables in the model using STATA software, as the common rule of Verbeek indicates that if VIF is 10 or greater than 10 and a TOL of 0.10 or less it may indicate the presence of Multicollinearity otherwise free from the problem **(See Appendix 2)**

4.2.1.1.3. The link test in the model

The link test looks for a specific type of the model's specification error by evaluating the following statistical measurements.

Table 4.15.The Link Test in the Model

Source	**SS df**	**MS**	**Number of obs = 144**	
	F(2, 141)	= 95.51	**Prob > F = 0.0000**	
Model	20.2283376	2 10.1141688	**R-squared = 0.5753**	
Residual	14.9313847	141 .105896345	**Adj R-squared = 0.5693**	
Total	35.1597222	143 .245872183	**Root MSE = 0.32542**	
Loan_Status	**Coef.**	**Std. Err. T**	**P>t [95% Conf.**	**Interval]**
_hat	.6642022	.1576053 4.21	0.000 .3526273	.9757771
_hatsq	.4060158	.1685847 2.41	0.017 .0727354	.7392963
_cons	.0140866	.0416945 0.34	0.736 -.0683406	.0965137

Source: computed from the survey data, 2018

From this table, it is indicated that, **Prob> F = 0000**,**P>t = 0.000** shows that the model fits well and significant as well as the lower **hatsq (0.406)**indicates the lower the link error among the dependent and independent variables and it is insignificant which means that there is no miss specified variables in the model.

4.2.1.1.4. Hypothesis test result

In order to determine whether to reject or does not reject the null hypothesis, we compared the absolute value of t -calculated to t- critical value.

If the absolute value of t–calculated or estimated is greater than t-critical value ($|\frac{\hat{\beta}-\ddot{\beta}}{SE(\hat{\beta})}| > c$) , where c is t- critical value the null hypothesis will be rejected, that means, the explanatory variable is statistically significant, or statistically different from zero, at the given significance level or the explanatory variable is significantly influence the dependent variables **(**Wooldridge ,2012).

T-calculated or test statistics $= \frac{\text{estimated coefficient} - \text{hypothesized value}}{\text{standard error of of the coefficient}}$

$= \frac{\hat{\beta} - \ddot{\beta}}{SE(\hat{\beta})}$, where $\ddot{\beta}$ is the value of β under the null hypothesis.

The tests statistics (t -value) can be calculated by the above formula for all null hypotheses and the t-critical value can be obtained from the t-distribution table of two-tailed test by using Significance level and the degree of freedom.

df =n-k ,where n is no of observation and k is no of parameters in the model.

Example: t- estimated value for TR $= \frac{.3798221 - 0}{.2239791} = 1.69579$ and | 1.69579 | =1.69579

The 10% critical value for a two-tailed test with large (> 120) df is 1.645, the 5% critical value for a two-tailed test with large (> 120) df is 1.96, and the 1% critical value for a two-tailed test with large (> 120) df is 2.576 **(**Gujarati, 2004).

It is useful to use several significance levels. Let us begin with a significance level of 0.1 because the value of t is relatively small. So 1.69579>1.645, then the null hypothesis is rejected at 10%**,** and for the significance level of 0.05 &0.01 the critical values are 1.96 &2.576 respectively which is greater than t-statistics, then the H_0 is not rejected at 5% &1%.Therefore, training is, statistically significantly influence the loan repayment performance at 10% Significance level.

So test statistics value or t-calculated value and test decision of independent variables those explained in the null hypothesis can be calculated and presented as follow.

Table 4.16. Hypothesis t-estimated value and test decision

Variable	Estimated coefficient	Standard error of the coefficient	t-estimated value	| t-estimated |	Df (144-15)	Significance level	t-critical value	Test decision
TR	.3798221	.2239791	1.69579	1.69579	129	10%	1.645	rejected
						5%	1.96	not rejected
						1%	2.576	not rejected
LS	.4130598	.2078933	1.98688	1.98688	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	not rejected
LIR	-.6439661	.2483635	-2.59284	2.59284	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	rejected
LP	.0098441	.253753	0.03879	0.03879	”	10%	1.645	not rejected
						5%	1.96	not rejected
						1%	2.576	not rejected
LA	.1109636	.2266092	0.48967	0.48967	”	10%	1.645	not rejected
						5%	1.96	not rejected
						1%	2.576	not rejected
EAL	-.4073693	.2230924	-1.82601	1.82601	”	10%	1.645	rejected
						5%	1.96	not rejected
						1%	2.576	not rejected
IRR	-1.076473	.2535541	-4.24554	4.24554	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	rejected
LGLEB	-.4269884	.2159868	-1.97692	1.97692	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	not rejected
GLEL	.61855	.1811592	3.41440	3.41440	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	not rejected
ES	-.4322627	.251352	-1.71975	1.71975	”	10%	1.645	rejected
						5%	1.96	not rejected
						1%	2.576	not rejected
EF	-.6299905	.2754041	-2.28751	2.28751	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	not rejected
MA	.5425733	.2609029	2.07959	2.07959	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	not rejected
IA	-.1554278	.2477443	-0.62737	0.62737	”	10%	1.645	not rejected
						5%	1.96	not rejected
						1%	2.576	not rejected
TA	.5004965	.2533302	1.97567	1.97567	”	10%	1.645	rejected
						5%	1.96	rejected
						1%	2.576	not rejected

Source: computed from the survey data, 2018

Table 4.16. Revealed that out of all the independent variables those were stated under the null hypothesis eleven independent variables were found that statistically significantly influence the loan repayment performance at 1%, 5% and 10%Significance level.

That means, Loan interest rate and internal rules and regulations were found that highly statistically significantly influence the loan repayment performance of MSEs at 1% Significance level. Also statistically significant at other significance level.

Loan supervision, Enterprise leaders' lack of experience in the business, Enterprise leaders' education level, Enterprise formation, Market Accessibility and Technology advance were found that statistically significantly influence the loan repayment performance of MSEs at 5% Significance level. Whereas, Ease of access to the loan, Training and Enterprise size were found that purely statistically significantly influence the loan repayment performance of MSEs at 10% significance level.

This indicates that the null hypotheses (H_3&H_7) are rejected at 1% level of significances. Whereas, (H_2, H_8, H_9, H_{11}, H_{12} and H_{14}) are rejected at 5% level of significances and (H_1, H_6 &H_{10}) are rejected at 10% level of significances. If a given hypothesis is rejected at 1% significance level, it will be also automatically rejected at 5% so that there is no need to actually state the later. It should be noted that 1% is a higher hurdle than 5%! **,** but I simply tested by with all significance level.

Thus, this concludes that Training, Internal rule and regulations, Loan supervision, Ease of access to the loan, Loan interest rate, Enterprise leaders lack of experience in the business, Enterprise leaders education level, Enterprise size, Enterprise formation, Market Accessibility, and Technology advance were found to be statistically significantly affect the loan repayment performance at 1%,5%, and 10% significance level. But, the three null hypotheses (H_4, H_5& H_{13}) are not rejected at 1%, 5% and 10% level of significance. If H0 is not rejected, we say that the independent variable is statistically insignificant at the given level of significance. So loan repayment period, loan size or amount and Infrastructure availability are statistically insignificant at1%, 5% and 10% level of significances. That means both are not influence loan repayment performance of micro and small enterprises.

4.2.2.logit or logistic regression model results.

In dummy regression variable model, it is assumed implicitly that the dependent variable Y is quantitative whereas the explanatory variables are either quantitative or qualitative .There are certain type of regression models in which the dependent or response variable is dichotomous in nature, taking a 1 or 0 value. In this study MSEs in the study area are assumed to be either non-defaulting or defaulting depending on their loan repayment performance. This stands for 0 if the borrower is a non-defaulter and 1 if the borrower is defaulter. Therefore, loan repayment treated as dichotomous dependent variable.

Loan repayment is, therefore, a non-continuous dependent variable that does not satisfy the key assumptions in the linear regression analysis. When the dependent variable to be modeled is limited in its range, using ordinary least squares (OLS) may result in biased and inconsistent parameter estimates. To examine the factors affecting the loan repayment, discrete choice model should be used. Thus, the most widely used and appropriate qualitative response models are the logit and probit models (Verbeek, 2008).

Hosmer and Lemeshew (1989) pointed out that the logistic distribution function (logit model) has got advantage over the others in the analysis of dichotomous outcome variable in that it is extremely flexible and easily used model from mathematical point of view and results in a meaningful interpretation. For this reason, the logistic or logit model was employed for this study.

4.2.2.1. The summary Statistics of the Variables in the Model

The summary statistics of both the dependent and independent variables in the model were presented by using the statistical tools like mean, standard deviation, the minimum and maximum values across all individual observations included in the study **(See Appendix 3)**

Thus, the logit or Logistic Regression model output of the variables included in this study was presented as follows.

Table 4.17. Logit model result

Logit or regression model **Number of obs = 144**

Log likelihood = - 40.829166 **LR chi^2 (18) = 114.59**

Prob> chi^2 = 0.0000

Pseudo R^2 = 0.5839

Loan_Status	Coef.	Std. Err.	Z	P>z	[95% Conf.Interval]	
Demographic characteristics of respondents						
Gender	-.945779	.6356954	-1.49	0.137	-2.191719	.3001611
Age	.5378304	.4616292	1.17	0.244	-.3669462	1.442607
M. Status	.0490704	.3025382	0.16	0.871	-.5438936	.6420343
GLEL	.61855	.1811592	3.41	0.001*	.2634845	.9736155
MSES	.0822212	.234721	0.35	0.726	-.3778235	.542266
lenders or MFI related factors						
TR	.3798221	.2239791	1.70	0.090***	-.0591687	.818813
LS	.4130598	.2078933	1.99	0.047**	.0055964	.8205231
LIR	-.6439661	.2483635	-2.59	0.010*	-1.13075	-.1571826
LP	.0098441	.253753	0.04	0.969	-.4875026	.5071908
LA	.1109636	.2266092	0.49	0.624	-.3331823	.5551095
IRR	-1.076473	.2535541	-4.25	0.000*	-1.57343	-.5795165
EAL	-.4073693	.2230924	-1.83	0.068***	-.8446224	.0298837
The enterprises related factors						
LGLEB	-.4269884	.2159868	-1.98	0.048**	-.8503148	-.003662
ES	-.4322627	.251352	-1.72	0.085***	-.9249036	.0603783
EF	-.6299905	.2754041	-2.29	0.022**	-1.169773	-.0902084
External related factors						
MA	.5425733	.2609029	2.08	0.038**	.031213	1.053934
IA	-.1554278	.2477443	-0.63	0.530	-.6409977	.3301421
TA	.5004965	.2533302	1.98	0.048**	.0039784	.9970147
_cons	1.782851	1.761639	1.01	0.312	-1.669899	5.235601

Source: computed from the survey data, 2018

*, **& *** indicates that the level of significance are at **1** percent, **5** percent and **10** percent respectively.

As presented in the 4.17 above, at the top of the output we see that 144 0bservations in this data set were used for analysis. The likelihood ratio Chi-square **(18)**of **114.59** with p- value of **0.0000** tells us that this model composed of more suitable significant variables comparative

to insignificant predictors and this indicates that whether the combined effect of all the variables in the model is different from zero or not. Also tell us how the model as a whole is significantly fit. The log likelihood **- 40.829166** indicating how quickly the model converged (**see appendix 4**)

4.2.3. Interpretations and discussions of the model result.

4.2.3.1. Interpretations of the coefficients in the model

In this model we are not allowed to interpret the magnitude of the independent variables rather only the sign of the variables across the model was interpreted based on the classifications of the independent variable's related factors such as; the lenders or MFI, enterprise and the external related factors that influence the loan repayment performance of MSE sectors financed by three oromia special zones of OCSSCO branches focusing on the significant variables (**"P>z"< 0.1**) in the model. A total of 18 explanatory variables were considered in the econometric model. Out of which 11 variables were found to be significant. These were group leaders' education level, training, loan supervision, loan interest rate, internal rules and regulations, the chance for repeat or additional loan, enterprise leaders' lack of experience in the business area, enterprise group size, and enterprise members organized by government bodies, market accessibility and technology advancement. The coefficients of these all significant variables were negative and positive.

4.2.3.2. The effect of Demographic characteristics of respondents that influence repayment performance of MSE's sectors.

In this case the effects of the variables listed under the Demographic characteristics of respondents factors were interpreted based on the sign of each independent variable. As we observed in the table 4.17 above from demographic related factors only GLEL (group leaders' education level) can significantly influence loan repayment performance. This variable was found to be positively highly statistically significantly influences loan repayment performance at 1% significance level.

The education level was found to influence loan repayment positively and highly statistically significantly at 1% significance level. Holding other variables constant an increase in a one year schooling of MSE leaders would increases the probability of the loan repayment rate by 0.62% in the study area. The higher years of group leaders' education level, the more likely to

be repaying the loan than less educated MSE leaders. So as the education level increases the probability of repaying the loan increases and the probability of not repaying the loan decreases. This is agreed with the expectation and with the finding result of Shu-Teng et al (2015); Nancy and Mohamed (2014); Ann mukono (2015); Benjamin et al (2017); Yilkal (2015); Tolosa (2014); Mesele et al, (2016); Tenishu (2014) and Ababiya et al (2015).However, this is not agreed with the econometric result of Wafula (2016).

4.2.3.3 .The effect of lenders (MFI) related factors that influence loan repayment performance of MSE sectors.

Under this the effect of the variables listed under the lenders related factors were interpreted based on the sign of each independent variable included in the study area.

Training was found to determine loan repayment performance positively and statistically significantly at 10% significance level. Holding other variables constant an increase a one-time in the frequency of training by loan officer of OCSSCO leads to increase the probability of loan repayment by 0.38 % in the study are. With the higher frequency of training activities by the loan officer of OCSSCO in the business, the more likely to be performing loan repayment by MSE sectors. So more trained MSE leaders repay their loan than those less trained MSE leaders. This result is similar with the prior expectation and with the result of Abreham(2017) and Ababiya et al (2015).But; it contradicts with the result of Tolosa (2014) and Mesele et al (2016).

Loan supervision or follow up was found that positively and statistically significantly influence loan repayment performance at 5% significance level. Holding other variables constant an increase a one-time in the frequency follow up activities by the loan officer of OCSSCO in the business leads to increase the probability of MSE repaying the loan by 0.41% in the study area. In other case when follow up or supervision activity increases by the loan officers of OCSSCO the probability of default decreases. Also this result is in line with the prior expectation and with the result of Firafis (2015); Tenishu (2014) and Tesfatsion et al (2015).But; this result is not agreed with the result of Tolosa (2014); Abreham(2017) and Balamurugan (2017).

Loan interest rate was found to determine loan repayment performance negatively and highly statistically significantly at 1% significance level. Holding other variables constant an

increase a one unit in the loan interest rate offered by the OCSSCO would decrease the probability of loan repayment by 0.64% in the study area. Which means that with the higher loan interest rate charged by OCSSCO, the MSE sectors fails to repay their loan at its repayment schedule. As the interest rate charged by lenders institution (OCSSCO) increased the probability of default to be increase. This result is similar with the prior expectation and supported by the result of Nancy and Mohamed (2014) and Ann mukono (2015).But; this result is inconsistent with the result of Yogendrarajah and Semasinghe (2016) and Benjamin et al (2017).

Internal rules and regulations were found that determine loan repayment negatively and highly statistically significantly at 1% significance level. With the weak internal rules and regulations implemented by OCSSCO, the more likely to be increases fail to repay the loan. Which means strong internal rules and regulations implemented by lenders leads the MSE sectors to repay their loan timely. If the internal rules and regulations are strong or internal rules and regulations process increases the probability of being defaulter decreases. Internal rules and regulations influence MSEs not to perform well their loan repayment activities. This result is similar with the prior expectation and supported by Ann mukono (2015).

Easily access to the loan (Chance for getting additional loan) was found that influence loan repayment performance negatively and statistically significantly at 10% significance level. Holding other variables constant an increase a one-time chance for getting additional loan offered by the OCSSCO would decrease the probability of repaying the loan by 0.41% (increases the probability of not repaying the loan or defaulting) in the study area. With having the chance for getting additional loan from the lenders institutions (OCSSCO), the more likely to be failing to repaying the loan by MSE timely. This means as the chance for additional loan of MSE increased in one times the probability of being defaulter is increase by 0.41%.

Generally both training and loan supervision or high follow up positively influence the loan repayment performance of MSE sectors at 10% and 5% significance level respectively. While the loan interest rate and internal rules and regulations' negatively influence loan repayment performance of MSE sectors at 1% significance level and the chance for additional loan

influence the loan repayment performance of MSE sectors negatively at 10% significance level in the study area.

4.2.3.4. The effect of enterprise related factors that influence loan repayment performance of MSE sectors.

In this case the effect of the variables listed under the enterprise related factors were interpreted based on the sign of each independent variables included in the study area and analyzed in the table 4.17 above.

The lack of group leaders experience in the business area was found to influence loan repayment performance negatively and statistically significantly at 5% significance level. With the enterprise leaders lack of experience in the business, the more likely to be the MSE sectors defaulter ,which means that the enterprise leaders those have lack of experience in the business would be the more likely fail to repay their loan timely at the repayment schedule in the study area . Having more experience leads to non -defaulter category of MSE loan repayment performance status whereas lack of experience leads to defaulter category of MSE loan repayment performance status. This result is agreed with the prior expectation and in line with the study made by Firafis (2015);Fikirte(2011) and Savio (2017).However, the result is no agreed with the result of Shu-Teng et al (2015) and Ababiya et al (2015).

The enterprise members' group size was negatively and statistically significantly influences the loan repayment performance at 10% significance level. Holding other variables constant an increase in a one individual in the enterprise members group size would decreases the probability of the loan repayment rate by 0.43% in the study area. This means that MSE sectors those have higher members group size would be more likely to fail to repay their loan timely at the repayment schedule in the study area. This result is the same with the prior expectation and supported by the finding of Benjamin (2017).

Enterprise group formation: MSE group members which organized by government was found to determine the loan repayment negatively and statistically significantly at 5% significance level. Holding other variables constant an increase in a one group formed by government would decreases the probability of the loan repayment rate by 0.63% in the study area. Which means enterprise those organized by self-selection would be more likely repaid their loan timely than those organized by government bodies. So enterprise those organized

by other bodies were found that fail to repay their loan timely in the study. This result is completely disagrees with the study result of Tesfatsion et al (2015).

Generally both lack of group leaders experience in the business and enterprise group formation were found to influence loan repayment performance of MSE negatively at 5 % level of significance, while enterprise size was found to influence loan repayment performance of MSE negatively at 10 % significance level in the study area.

4.2.3.5 .The effect of external factors that influence loan repayment performance of MSE sectors.

Under this the effect of the variables listed under the external related factors were interpreted based on the sign of each independent variables included in the study area and analyzed in the table 4.17 above.

Market accessibility was found that positively and statistically significantly determine loan repayment performance at 5% significance level. Holding other variables constant an increase a one-time in the frequency of market accessibility for in -put and out- put material in the working area for MSE sectors increase the probability of MSE loan repayment rate by 0.54% in the study area. With the higher market accessibility for in -put and out- put material in the working area for MSE sectors the more likely to be increases the probability of non-defaulting the loan. Which means market accessibility was found to be that leads or pushes the MSE sectors more likely to be repaying their loan timely. This result is similar with the prior expectation and with the result of Ababiya et al (2015).

Technology advancement was positively and statistically significantly affects the loan repayment performance at 5% significance level. Holding other variables constant an additionally adopting a one unit advance technology by MSE sectors in their business increase the probability of MSE loan repayment rate by 0.50% in the study area. This means MSE sectors those adopt advance technology was found to be repay their loan timely, whereas MSE sectors those couldn't adopt advance technology fail to repay their loan timely.

Generally both market accessibility and technology advancement were found that positively and statistically significantly influence loan repayment performance of MSE sectors at 5% level of significance in the study area.

CHAPTER FIVE

5. Summary, Conclusions and Recommendations

5.1. Summary

Microfinance institutions are institutions that provide small loans or micro loans that are not bankable to the unemployed, to poor entrepreneurs and to others living in poverty, and they provide access to cheap capital which they loan out, So that people can have an opportunity to start a business, expand an existing business in bulk, So they can improve their profit margins as well as their lives.

Micro Finances are financial institutions that are supplying loans and small credits to finance small business entities to help the poor and unemployed individuals through forming them in micro and small enterprises (MSE's) which enables them to earn their daily income and to be able to better their living standard. These MSE's are financed by three oromia special zones of OCSSCO branches and this study was concerned with the factors that influence the loan repayment performance of micro and small enterprises by categorizing these factors as the lenders or MFI, enterprise, and the external related factors in the study area for analyzing the purpose. This study were employed both descriptive and explanatory research design with both qualitative and quantitative research method. Also multistage sampling technique was used and both descriptive and logit model were employed in order to analyze the data collected through structured questionnaire from all 144 sampled MSEs leaders those selected from 310 total populations (MSE leaders) included in the study. Thus, the result of this study indicates that the loan repayment performance of MSE sectors were positively influenced by various factors like; education level of MSE leaders, Training provided by OCSSCO, loan supervision undertaken by OCSSCO , market accessibility and technology advancement in the study are . Whereas loan interest rate charged by OCSSCO , internal rules and regulations, the chance for additional loan from OCSSCO , enterprise leaders lack of experience in the business area, enterprise members group size and enterprise group formation by other bodies influenced the loan repayment performance negatively in the study area.

5.2. Conclusions

This study were employed both the descriptive and logit model in order to identify the factors that determine loan repayment performance of MSE sectors by categorizing them as

demographic related factors, the lenders or MFI ,enterprises, and the external related factors. Thus, the author identified that the loan repayment performance of MSE sectors were influenced positively or negatively.

- Enterprise leaders' education level: The education level attained by the enterprise leaders was statistically significant and had appositive relationship with loan repayment. In this study the leaders with more education was more likely to be successful in MSE sectors .That is the enterprise leaders with higher education level has greater chances of succeeding than those with less education. More educated borrowers know how to prepare business plan, manage expenses', generate revenue, save, invest and etc. So borrowers who attained higher education are repaying their loan better and easy to provide training than those attained lower education.
- Training: Training accessibility was found to determine loan repayment positively and statistically significant. Access to training for enterprises refers to the facilitation of different trainings which assists the operators of the enterprises to perform in a suitable way. Capacity building trainings would better prepare enterprises to perform in the business they engaged. Therefore, enterprises which have sufficient access of training are repaid their loan than those less trained. In other way delivering of well-organized and sufficient training properly for borrowers lessen the probability of being defaulter.
- Loan supervision or follow up: Supervision affects the loan repayment performance positively and statistically significant. Enterprise those who supervised showed good performance to settle their loan because supervision may avoid the problem of diverting the loan for other purpose and encourages the members to make the full effort required for their investment projects to be successful.
- Loan interest rate: Loan interest rate was negatively and statistically significantly influences loan repayment. This study showed us enterprise more repay their loan if the interest rate charge is less. So rising interest rates can cause the loan repayment failure and discourage business to grow in the sense that a big part of the profit generated goes back to the financial institution to service the loan that was once given to the borrower. Generally, if high interest rate is imposed by the lenders institutions it leads to default.

- Internal rules and regulations: Internal rules and regulations were found to determine loan repayment negatively and statistically significant. Enterprise those followed the strong internal rules and regulations implemented by the lenders are repaid their loan successfully. So if strong internal rules and regulations applied by the lenders institutions it pushes the enterprise to repay their loan timely, whereas weak internal rules and regulations lead to default.

- Easily access to the loan: Loan accessibility was influence the loan repayment performance negatively and statistically significant. Loan accessibility includes the time lag between loan application and loan disbursement, the chance for getting additional loans, the chance for getting loan after repaying the previous loan, and etc. In this study the chance for getting additional loans was considered. This study revealed that enterprise those obtained or got additional loans was fail to repay their loan because the chance for getting additional loan results in the credit over burden and become beyond their capacity to pay back the sum of principal and the interest.
- Enterprise leaders lack of business related experience: Lack of business related experience was found that negatively and significantly affect loan repayment. This shows that enterprises managed by inexperienced managers have higher probability of failing to repay the loan. It has been known that business related experience is one of the determinants that affect the loan repayment rate of borrowers. Experience is the best teacher .Borrowers' problem of pre-selection of business activity, lack of financial statement preparation, lack of business management knowledge, inability to generate additional income from other activities, failure to satisfy customers in delivering quality service/product and failure of the business. All these variables revolve around the effectiveness of the business related experience of the MSEs.
- Enterprise members' group size: The enterprise members' group size was statistically significant and negatively related with the loan repayment performance. This study indicated that enterprise those have lower members' group size well performed their loan repayment than those have large members' group size. The larger members' group size of the MSE sectors results in the conflict of interest that leads to create disagreement among members and it leads to increases their cost which in turn affects

their loan repayment activities. Therefore, micro and small enterprise those contains large members' group size could be fail to repay their loan.

- Group formation: Group formation was affect loan repayment performance negatively and statistically significant. Group formation based on self-selection of members showed good loan repayment performance as compared to those groups initiated by other than member themselves (by other bodies). Enterprise those organized by self-selection performed better loan repayment than those organized by governments or other bodies. In general, selecting of creditworthy group member is more effective with groups that are formed by the members themselves because they know the behavior of one another.
- Market accessibility: market accessibility was determining loan repayment positively and statistically significant. Access to market refers to the availability of market demand for the particular product or service. Enterprises create different market access for their products and services insure the existence of market alternatives for their product. So the higher level of market access results the higher probability of getting profit and the greater level of enterprises loan repayment performance.
- Technology advancement: Advance technology was found that positively and significantly affects loan repayment. An advance technology is very important for MSEs to produce more good within a short period of time, to save time, to reduce labor cost and to provide fast service for their customers to satisfy and attract them. This can help them to generate income, to get more profit, sustainable and repay their loan. Today businesses equipped with advanced technology do have high probability of success. Enterprise who has employed a modern technology while running their respective businesses could have high possibility of success which in turn enables them to repay the loan timely. On the contrary, borrowers who have not employed the best technology could earn less profit as compared to others.

5.3. Recommendations

In this finding, depending up on the above analyzed data and conclusions drawn, the following recommendations were forwarded based on the logit model result, about the determinant of the loan repayment performance of MSE sectors that were classified as lenders

related, enterprise related and external related factors in order to reduce significantly loan default and make profitable and sustainable both MSE and OCSSCO.

- The borrowers who attained higher level able to pay better than the borrowers who were in lower level schooling .therefore ,OCSSCO should motivate educated people and also easy to provide training.
- Capacity building trainings would better prepare enterprises to perform in the business they engaged. Therefore, enterprises which have sufficient access of training are repaid their loan than those less trained. In other way delivering of well-organized and sufficient training properly for borrowers lessen the probability of being defaulter. So loan officers of OCCSCO should provide a frequent training activities to MSE sectors and they aware out their financial management activities like saving habit, the financial statement recording experience that enables them to manage the expense and revenue related activities of their business in the study area.
- Enterprise those who supervised showed good performance to settle their loan because supervision may avoid the problem of diverting the loan for other purpose and encourages the members to make the full effort required for their investment projects to be successful. Therefore, OCSSCO should make continuous follow up and guidance to borrowers on how to use loan in general and pay regular visits to evaluate the loan utilization and repayment. Such continuous supervision:
    - Makes borrowers to discharge their obligation and improve the proper utilization of the loan there by improving repayment performance.
    - Also may source of information.
- If unreasonable and high interest rate charged by lenders it leads to default, so the OCSSCO should impose reasonable and competitive loan interest rate for the borrowers to ensure effective repayment.
- If strong internal rules and regulations applied by the lenders institutions it pushes the enterprise to repay their loan timely, whereas weak internal rules and regulations lead to default. So OCSSCO should have to establish its own strong internal rules and regulations and must implement it when it is necessary.
- Enterprise those obtained or got additional loans was fail to repay their loan because the chance for getting additional loan results in the credit over burden and become

beyond their capacity to pay back the sum of principal and the interest. So OCSSCO should not disburse additional loan simply without deep scanning about the enterprise's financial strength.

- Enterprise those managed by inexperienced managers have higher probability of failing to repay the loan. So an assessment of the borrowers business related experience should be conducted by OCSSCO before loan disbursements and also they should include experience in their loan criteria.
- To avoid conflict of interest that leads to create disagreement among MSE members and to reduce their cost which in turn affects their loan repayment activities OCSSCO should aware the enterprises that the lower group size performs well in paying their loan than the larger group size in the study area.
- Enterprise those organized by government bodies are more defaulter than those organized by self- selection .So it is better for loan repayment if enterprise members group are organized by self -selection . Therefore, OCSSCO should encourage the MSE to be formed by self-selection and check whether the MSE group was organized or formed by self-selection during loan application.
- Enterprises create different market access for their products and services insure the existence of market alternatives for their product. So the higher level of market access results the higher probability of getting profit and the greater level of enterprises loan repayment performance. Therefore, MSE should work hard to have market demand by Preparing of different market exhibitions which help them to get market access and market linkages for their products and services as well as share good habits of work among them that leads enterprises to sustain in the business.
- To produce more goods within a short period of time, to produce and provide quality goods and services, to save time, to reduce labor cost and to provide fast service for their customers to satisfy and attract them MSE should adopt advance technology which is relative to their financial capacity and which is not much expensive as much as possible. This may help them to generate more income, to get more profit, sustainable and repay their loan timely.

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Appendixes

Appendix 1: Descriptions of independent variables'

Table 3.2: Summery for the Descriptions of study variables•

Variables	Descriptions	Value of labels
Dependent Variable	Loan repayment performance of MSE various sectors	0= Non defaulters ,1= Defaulters
Independent variable	**Demographic characteristic of respondents**	
Gender	Gender of the respondents.	0= Female, 1= Male
Age	Age of the respondents.	18-37=0;38-57=1; 58 and above=2
M Status	Marital status of respondents.	0= Single;1= Married;2= Divorced; 3=Widowed
GLEL	MSE's group leader respondent's education level.	0=Below primary school;1= just Primary school 2=Secondary school;3=Preparatory school 4=TVET school;5= Degree and above
MSES	The sectors that MSE's group leader respondents engaged in.	0= For Construction;1= For Service 2= For Manufacturing;3= For Agriculture, 4= For Trade
	The lenders or MFI related factors	
TR	The effect of training	Lack of training does not lead to default. 0-if strongly disagree 1-if disagree 3-if agree 4-if strongly agree
LS	It refers to continuous follow up and supervision visit by loan officer to evaluate the loan utilization and repayment.	High follow up or supervision does not improve loan repayment. 0-if strongly disagree 1-if you disagree 2-if neutral 3-if agree 4-if strongly agree
EAL	Ease of access to the loan or the chance for getting additional loan.	The chance for additional loan discourages repaying the previous loan• 0-if strongly disagree 1-if you disagree 2-if neutral

		3-if agree 4-if strongly agree
LIR	Interest charged by OCSSCO for loan provided.	Loan interest rate is reasonable and does not affect the loan repayment performance of borrowers. 0-if strongly disagree 1-if you disagree 2-if neutral 3-if agree 4-if strongly agree
LP	Loan repayment period of time	The loan repayment period given to this firm is convenient. 0-if strongly disagree 1-if you disagree 2-if neutral 3-if agree 4-if strongly agree
LA	The amount of loan given or borrowed to the enterprise.	The amount of loan granted is enough to due reasonable business and repay our loan. 0-if strongly disagree 1-if disagree 2-if neutral 3-if agree 4-if strongly agree
IRR	Effect of the internal rules and regulations of OCSSCO influencing the loan repayment performance of the enterprises	The internal rule and regulations of the oromia credit and saving share company influence the smooth functioning of your enterprise loan repayment performance. 0-if strongly disagree 1-if you disagree 2-if neutral 3-if agree 4-if strongly agree
	The enterprise related factors	
LGLEB	Enterprise leaders lack of experience in the other similar business.	Lack of experience leads to delay loan repayment. 0-if strongly disagree;1-if you disagree;2-if neutral 3-if agree;4-if strongly agree

ES	The number of enterprise members	Enterprise member's size can affect the loan repayment performance. 0 -if strongly disagree 1-if you disagree 2-if neutral 3-if agree 4-if strongly agree
EF	It indicates that how the enterprise are formed.	Enterprise group members those organized by government bodies are more repay their loan than those organized by self-selection. 0-if strongly disagree 1-if you disagree 2-if neutral 3-if agree 4-if strongly agree
	The external related factors	
MA	The availability of market	Market accessibility does not enhance loan repayment. 0-if strongly disagree 1-if you disagree 2-if neutral ;3-if agree;4-if strongly agree
IA	Lack of Infrastructure suitability	Shortage of water supply, electric interruption, and lack of enough road accessibility does not influence your business running and your loan repayment ability 0-if strongly disagree 1-if you disagree 2-if neutral , 3-if agree 4-if strongly agree
TA	The effect of adopting technological advancement.	Adoption of an advance technology can increase the probability of default. 0-if strongly disagree, 1-if you disagree 2-if neutral, 3-if agree ,4-if strongly agree

source :author

Appendix 2: Multicollinearity test

Variable	VIF	1/VIF
EAL	1.56	0.640755
IRR	1.50	0.668033
IA	1.49	0.669667
MA	1.44	0.692361
ES	1.43	0.697297
LP	1.31	0.765755
GLEL	1.27	0.789563
TA	1.25	0.796911
LA	1.23	0.811398
MStatus	1.22	0.816479
EF	1.22	0.817421
Age	1.21	0.829366
LIR	1.20	0.830584
Gender	1.17	0.852961
LGLEB	1.16	0.859857
TR	1.13	0.885579
LS	1.12	0.895372
MSES	1.11	0.897975
Mean VIF	1.28	

Appendix 3 : Summary statistics of the variables in the model

Variables	Obs	Mean	Std. Dev.
Loan_Status	144	.4236111	.495855
Gender	144	.5694444	.4968823
Age	144	1.402778	.6826465
M_Status	144	1.201389	1.113049
GLEL	144	2.423611	1.973885
MSES	144	1.972222	1.348112
TR	144	1.256944	1.447189
LS	144	1.930556	1.549432
LIR	144	1.479167	1.337824
LP	144	1.472222	1.305954
LA	144	1.319444	1.412496
IRR	144	2.1875	1.491087
EAL	144	2.583333	1.507557
LGLEB	144	2.354167	1.579894
ES	144	2.083333	1.521409
EF	144	1.409722	1.308462
MA	144	1.493056	1.424052
IA	144	1.763889	1.577757
TA	144	1.305556	1.269755

Appendix 4:Logit model result

Iteration 0: log likelihood = -98.126039

Iteration 1: log likelihood = -43.579468

Iteration 2: log likelihood = -40.913015

Iteration 3: log likelihood = -40.829356

Iteration 4: log likelihood = -40.829166

Iteration 5: log likelihood = -40.829166

Number of obs = 144

LR chi2(18) = 114.59

Prob > chi2 = 0.0000

Log likelihood = -40.829166 Pseudo R2 = 0.5839

LoanStatus	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
Gender	-.945779	.6356954	-1.49	0.137	-2.191719	.3001611
Age	.5378304	.4616292	1.17	0.244	-.3669462	1.442607
MStatus	.0490704	.3025382	0.16	0.871	-.5438936	.6420343
GLEL	.61855	.1811592	3.41	0.001	.2634845	.9736155
MSES	.0822212	.234721	0.35	0.726	-.3778235	.542266
TR	.3798221	.2239791	1.70	0.090	-.0591687	.818813
LS	.4130598	.2078933	1.99	0.047	.0055964	.8205231
LIR	-.6439661	.2483635	-2.59	0.010	-1.13075	- .1571826
LP	.0098441	.253753	0.04	0.969	-.4875026	.5071908
LA	.1109636	.2266092	0.49	0.624	-.3331823	.5551095
IRR	-1.076473	.2535541	-4.25	0.000	-1.57343	- .5795165
EAL	-.4073693	.2230924	-1.83	0.068	-.8446224	.0298837
LGLEB	-.4269884	.2159868	-1.98	0.048	-.8503148	-.003662
ES	-.4322627	.251352	-1.72	0.085	-.924903	.0603783
EF	-.6299905	.2754041	-2.29	0.022	-1.169773	-.0902084
MA	.5425733	.2609029	2.08	0.038	.031211	.053934
IA	-.1554278	.2477443	-0.63	0.530	-.6409977	.3301421
TA	.5004965	.2533302	1.98	0.048	.0039784	.9970147
_cons	1.782851	1.761639	1.01	0.312	-1.669899	5.235601

ADDIS ABABA UNIVERSITY

SCHOOL OF POST GRADUATE STUDIES

COLLAGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMEN

Questionnaire to be filled by MSEs leaders:

Dear respondents,

This questionnaire is designed to gather data about the **Determinants of Loan Repayment Performance of Micro and Small Enterprise's Sectors**: **The Case of Oromia Credit and Saving Share Company Branches under Oromia Special Zones around Addis Ababa**. Your genuine responses will have greater value for the success of the study. Therefore, I would like to assure you that all the information provided would be kept confidential and only used for the purpose of academic award for the partial fulfillment of Master's Degree in Business Administration from Addis Ababa University.

Thank you very much for your cooperation in advance!!

Part I

Demographic related characteristics about enterprises leaders

Please go through each question and give genuine answers by filling the blank space and making a thick mark (√) in the box provided where you want to indicate.

1. Gender of the respondent: Male ☐ Female ☐

2. Age of managers or enterprise leaders.

18-37 ☐ 38-57 ☐ 58+ ☐

3. Marital status: Single ☐ Married ☐

Divorced ☐ Widowed ☐

4. Managers Level of education attained.

Below primary school ☐ Just primary school ☐

Secondary school ☐ preparatory school ☐

TVET school ☐ Degree and above ☐

5. Do you have similar business experience before becoming a manager of this micro and small enterprise? Yes ☐ No ☐

6. If your answer is **yes** for question **No** 5 above how many years do have? _____

7. In which type of sector does the business enterprise you are leading operates in?

Manufacturing ☐ Agriculture ☐ Construction ☐ vice ☐ de ☐

8. What is the status of your enterprise? Defaulter ☐ Non defaulter ☐

Part II

Please mark the given statements according to your level of agreement by ***making a thick mark (√)*** under each level of agreement. The numbers 0-4 represent levels of agreement from strongly disagree to strongly agree as detailed in Table 1 below.

Table 1: Levels of agreement

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
0	1	2	3	4

No		Levels of agreement				
		0	**1**	**2**	3	4
A	**Leaders (MFI) related factors questions:**					
1	Lack of training does not lead to default.					
2	High follow up or supervision does not improve loan repayments.					
3	The loan interest rate is reasonable and does not affect the loan repayment performance.					
4	The loan repayment period given to this firm is convenient.					
5	The amount of loan granted is enough to due reasonable business and repay our loan.					
6	The chance for getting additional loan discourages repaying the previous loan.					
7	The internal rule and regulations of the oromia credit and saving share company influence the smooth functioning of your enterprise loan repayment performance.					

B	**Enterprise (borrowers) factors related questions:**					
8	Lack of experience leads to delay loan repayment.					
9	Enterprise members' group size can affect loan repayment performance.					
10	Enterprise group members those organized by government bodies are more repay their loan than those organized by self-selection.					
C	**External factors related questions:**					
11	Market accessibility does not enhance loan repayment.					
12	Shortage of water supply, electric interruption, and lack of enough road accessibility does not influence your business running and your loan repayment ability.					
13	Adoption of an advance technology can increase the probability of default					

Part III

General Questions

Please, give genuine answers by filling the blank space

14. What do you recommend to the loan officers of OCSSCO for further improvement? ,while the loan processes as their client? _____

_____

15. Please, give your general comments on the factors that influence the loan repayment Performance of your enterprise with relative to your sector.

_____

_____

Thank you!!