DETERMINANTS OF CREDIT ACCESSIBILITY IN THE INFORMAL SECTOR: THE CASE OF SMALLHOLDER BUSINESSES IN MIGORI COUNTY, KENYA.

BY

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DECLARATION

I, Francis Onyango Ojwang, declare that this Thesis is my original work and has not been submitted in any institution of learning for the award of any certificate in any program.

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DEDICATION

I dedicate this thesis to my lovely daughter MaryAnne Jaelyne and son Delephone Armstron.

ABSTRACT

The informal sector, estimated to constitute 98% of businesses in Kenya, represents 83% of total employment and created 768,000 new jobs which represents 90.7% of total new jobs created in 2019 alone. Despite the critical role played by the sector in job creation and employment, it is faced with numerous challenges and constraints one of them being access to credit. Access to credit does not only have adverse effects on the informal smallholder businesses alone but on the entire economy. The study seeks to analyze the determinants of credit accessibility in the informal sector for the smallholder businesses in Migori County. The specific objectives of the study were to identify and determine the effects of the Demographic, Socio-Economic, and the Institutional factors that significantly affect credit accessibility by the smallholder businesses in Migori County, Kenya. The study employed descriptive survey research design. Targeting 4,756 traders in total, a three-stage stratified random sampling method was employed to select the smallholder traders in the study area represented by a sample size of 476 businesspersons. Structured questionnaires and interview schedules were developed, pre-tested and used for collecting quantitative data for the study. Piloting of the study was carried out to ascertain the validity and reliability of the data collection instrument. The targeted sample smallholder businesspersons successfully interviewed were 446 in total, representing a response rate of 93.70%. Descriptive statistics and the logit model were used in analyzing quantitative data. The output from the study model indicates that 245(54.9%) of the sampled businesspersons were credit users whereas the remaining 201(45.1%) were non-credit users. Of the demographic factors (gender, age and educational level), only one variable (age) significantly and positively affected credit accessibility by the smallholder traders at 5% level (.045, p =.036). The result was consistent with the prior expectation that those with higher age may have more access to credit from the formal sources than their younger counterparts. The gender of the respondents was statistically insignificant and negatively related to credit accessibility in the study area (-.254, p =.567), contradicting the expected hypothesis that males have more access to credit. The level of education was categorized into three mutually exclusive levels namely less than high school, high school, and college/ university levels. Two dummies for the level of education were statistically insignificant though related consistently to the prior research expectations. For those with less than high school education, access to credit by the smallholder businesspersons was negatively related and statistically insignificant (-1.078, p =.130), consistent with the a priori expectation. The estimated coefficient was consistent with the a priori expectation even though statistically insignificant (.70, p =.895) for those with high school education. The dummy variable for college/university level of education did not show significant variation among the sampled businesspersons. For this reason it was not retained in the model. Experience in credit use, one of the socio-economic factors expected to influence credit accessibility was statistically significant and positively related to credit access at 1% probability (.335, p = .001), in line with the prior research expectations. Even though positively related and consistent with the a priori expectation, the contribution of the propensity to take risks by the smallholder businesspersons was insignificant (.515, p = .743) at 5%. However, all the institutional factors were found to be statistically insignificant and negatively related to credit accessibility. Even though consistent with the a priori expectation, the contribution of distance from credit source in the prediction of the model was insignificant at 5% (-.034, p = 0.215). Membership by the smallholder businesspersons to multi-purpose cooperatives and or business associations was negatively and insignificantly related to credit access by the same group in the study area, contradicting the a priori expectation (-.274, p =.529). The outcome of the study would be useful to policy makers, MFIs, academicians and future researchers in identifying innovative options and institutional arrangements that would serve as an input for formulating credit policy and advancing arguments in future research. The study concludes that a large number of the informal sector smallholder businesspersons have never accessed credit which implies a very huge potential demand for credit.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA – Analysis of Variance

CIDP – County Integrated Development Plan

ESS – Ethiopian Socioeconomic Survey

GoK- Government of Kenya

GDP-Gross Domestic Product

GII – Gender Inequality Index

ILO-International Labour Organization

K-REP- Kenya Rural Enterprise Programme

Kshs – Kenya Shillings

KNBS – Kenya National Bureau of Statistics

KWFT- Kenya Women Finance Trust

LPM-Linear Probability Model

MFIs-Microfinance Institutions

MLE–Maximum Likelihood Estimator

MTP – Medium Term Plan

MSEs – Micro and Small Enterprises/Establishments

MSMEs - Micro, Small and Medium Enterprises/Establishments

NASSEP - National Sample Survey and Evaluation Programme

NGOs - Non-Governmental Organizations

OLS-Ordinary Least Square

PWD- Persons with Disabilities

SDGs – Sustainable Development Goals

SE- Standard Error

SHG- Self Help Group

SMEs- Small and Medium Enterprises

SPSS-Statistical Package for Social Scientists

SSEs – Small-Scale Enterprises

VIF - Variance Inflation Factor

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

1.1.1 General view of the Informal Sector

Amongst practitioners, that is, the actual people working in the informal sector, the term *Jua kali* is popularly used to describe the sector (Ngui et al, 2014). *Jua kali* is a *Kiswahili* term which literally means "fierce sun". The name stems from the fact that the workers in the informal sector work under the hot sun heating on their heads and backs, while working on metal, wood or selling wares on the streets (Amenya, 2007). The sector refers to those activities conducted in open sites in which people work wholly exposed to harsh environmental hazards like heat from the sun, rain and dust. The term continues to be used up to now even for activities carried in permanent structures (Ngui et al, 2014). Such activities associated with the informal sector include, among others, selling fruits and vegetables, food operation, sale and processing, selling clothes and shoes (both second-hand and new), kiosks selling various items, water kiosks, small retailers or hawkers who sell cereals, home suppliers, fuels and other goods, small manufacturing, production, construction and repair of goods (World Bank, 2006).

The informal sector includes three groups of active participants namely the survivalists, self-employed, and micro-enterprises. Survivalists are very poor people who generally work in this sector for the purpose of generating an income for survival. Self-employed people produce goods for sale, purchase goods for resale, or offer services. Micro-enterprises are very small businesses that usually operate from a fixed location with regular hours (Abdel, 2005). Other names used for the informal sector include Micro Enterprises which refers to enterprises with 10 workers and below, Small-Scale Enterprises (SSEs), which include all

firms with 50 workers and below, Medium Enterprises which refers to enterprises employing 50-99 workers and Large Enterprises, which refers to enterprises employing 100 and above workers (Ngui et al, 2014).

With the shrinking job creation in the formal establishments, majority of the youth who exit from learning institutions and individuals who leave formal employment easily join the informal sector. According to the Economic Survey 2020 by the Kenya National Bureau of Statistics (KNBS), the informal sector represents an important part of the economy and plays a major role in employment creation, production and income generation as well as poverty alleviation (KNBS, 2020). For instance, the total employment stood at 18.1 million persons in 2019 up from 17.3 million in 2018. While a total of 79,000 jobs were created in the modern sector, the informal sector created 768,000 new jobs, which constituted 90.7 per cent of total new jobs created outside small-scale agriculture. It is estimated that, as of 2019, the informal sector represents 83% of total employment (see Table 1.1).

Table 1.1 Total Estimated Employment by Sector, 2015 - 2019

Formal Establishments	**2015 '000**	**2016 '000**	**2017 '000**	**2018 '000**	**2019* '000**
Wage Employees	2,598.5	2,683.1	2,792.5	2,859.9	2,928.3
Self-employed and	123.2	132.5	139.4	152.2	162.7
Sub-Total	**2,721.7**	**2,815.6**	**2,931.9**	**3,012.1**	**3,091.1**
Informal Sector[1]	**12,036.8**	**12,749.9**	**13,539.6**	**14,283.6**	**15,051.6**
Total	**14,758.5**	**15,565.5**	**16,471.5**	**17,295.7**	**18,142.7**

* Provisional

[1] Estimated

Source: Kenya National Bureau of Statistics (2020)

According to IFC, 2012 (as cited in Farazi, 2014), around 80% of total Micro, Small and Medium-sized Enterprises (MSMEs) in developing countries are in the informal sector. The

2016 National Micro, Small and Medium Establishment (MSME) survey establishes that there are 1.56 million licensed and 5.85 million unlicensed MSMEs in Kenya (KNBS, 2016). From the survey, the unlicensed MSMEs account for more than 78% of all businesses. Currently, the informal sector is estimated to constitute 98% of businesses and contributing a paltry 3% of Kenya's GDP (Rotich, 2022).

1.1.2 Smallholder Businesses and Credit Accessibility in Kenya

Though the smallholder businesses in the informal sector have continued to contribute immensely to the growth of the Kenyan economy, today they face myriad problems that make them to remain uncompetitive in the national, regional and global market including, but not limited to access to markets, limited access to financial services most importantly the investment and operational cash, inadequate skills and technology, limited infrastructure, inadequate business skills, standardization and lack of appropriate relevant and useful business information. According to the Daily Nation 2011 September 14th Launch of the SME Handbook pages 42-43, most small businesses use low level technology and crude production techniques which make them unproductive and uncompetitive (Omondi , 2011).

Despite the critical role played by the smallholder businesses in the informal sector, they are faced with numerous challenges and constraints that include unfavorable policy, access to financial services and markets, inadequate business know-how and linkages with large enterprises, gender inequality, job quality deficits, limited access to information, impact of HIV/AIDS pandemic, unsatisfactory occupational health and safety standards (Ngima, 2014). Available literature argues that poor access to credit has been identified as one of the challenges facing micro and small business activities in the informal sector (World Bank 2010). This lack of credit causes the business persons to lose opportunities as they are bypassed by programs and policies that are meant to benefit them. Further, this challenge

extends to those small businesspeople lacking information on how to run their businesses which is the bane of many businesses (Aremu and Adeyemi, 2011 as cited in Ochido, 2016).

1.1.3 Smallholder Businesses and Credit Accessibility in Migori County

The number of micro-lending institutions have steadily increased over the last decade in Africa, and particularly in Kenya. Migori County, like other parts of the country, has also witnessed this increase in the number of micro-lending institutions over the past decade. This sharp increase could be attributed to the kind of occupation dominating the area, especially farming and small scale businesses. People working in these informal sectors are low income earners who do not qualify for credit facilities from the financial institutions (Omondi & Ogaga, 2015).

Migori County is the home of the giant Sony Sugar Company which manufactures sugar and also an area associated with the mineral gold deposits. It has also witnessed the influx of NGOs that work hand in hand with the locals to alleviate poverty and education as a result of the aids scourge. With the high population, agriculture, mineral deposits and influx of NGOs, there has been demand for smallholder businesses to tap the capital provided by the NGOs, cash from farming and mineral deposits to provide the necessary services and commodities for the high population (Oyoo, 2016).

The Migori County Trade Development Credit Scheme Act, 2016 of the County Assembly establishes a trade development credit scheme to provide access to affordable credit to start-ups, micro, small and medium enterprises, and agribusinesses to promote trade development and economic growth of the people of Migori and for related purposes (Republic of Kenya, 2016). The second Migori County Integrated Development Plan (CIDP II) for the period 2018-2022 identifies key policy actions, reforms, programmes, and projects that the Migori County government in collaboration with the national government and other partners shall implement in line with its priorities, Kenya 2010 Constitution and the long-term objective of

Vision 2030 in its aspiration to become a vibrant and prosperous county. The CIDP II is anchored on the Kenya Vision 2030, SDGs, MTP III and the President's "Big Four" Agenda, and gives priority to infrastructural expansion, food security, socio-economic transformation and good governance. On socio-economic transformation pillar, the Plan seeks to provide empowerment to women and PWDs, to facilitate trade, investment and fair trade practices, and to develop a vibrant and a self-sustaining cooperative movement among other programme and sub-programme objectives (County Government of Migori, 2018).

Despite the influx of micro-lending financial institutions and NGOs in Migori County, an established trade development credit scheme and an operational development plan, the Gender Inequality Index (GII) for Migori County is 0.69 against the Country's 0.65. This shows a negative trend. In Migori County, less than 40% of the women groups are involved in productive businesses while the implementation of the Gender Policy stands at below 10%, same as the adoption by the various sectors on gender mainstreaming. The financially and economically empowered population increases by less than 50% while the number of medium, small and micro enterprises increases by less than 60%. Trade infrastructure increases by less than 40%. The number of stable and performing societies increases by less than 10% while the number of legally compliant societies increases by less than 20% (County Government of Migori, 2018).

1.1.4 Determinants of Credit Accessibility by the Smallholder Businesses

According to the international statistical standards adopted by the 15th International Conference of Labour Statisticians (ICLS), the informal sector consists of a subset of unincorporated enterprises (i.e. not constituted as separate legal entities independent of their owners) that are also not registered with a national government authority. Most informal enterprises are single-person operations or family firms/farms; very few are owned or operated by employers with hired workers. Typically, they operate at a low level of

organization, on a small scale and with little or no division between labour and capital as factors of production (Bonnet et al, 2019). Small businesses in most cases do not hire many people and are either run by the owners or the managers and the performance of the business heavily rely on the ability of the people running the business (Nofsinger and Wang, 2011 as cited in Ochido, 2016). According to Zeller, 1994 (as cited in Sisay, 2008), when taking credit as a decision making process, then it starts with the decision if the individual to apply for credit In fact, the demand for credit depends on the self-financing potential, access to credit facilities and risk taking ability of the borrowers (Sisay 2008). Demand is therefore an important factor in determining access to credit by the smallholder businesses in Migori County. Entrepreneur characteristics such as level of education and individual experience are considered to be strong determinants of accessibility to credit (Ochido, 2016). The determinants of credit accessibility by the smallholder businesses are broadly categorized into demographic, socio-economic and institutional factors.

1.1.4.1 Demographic Factors and Credit Accessibility

There are a myriad of studies that have investigated the effect of demographic factors (gender, age and educational level) on access to credit by the smallholder businesses. A number of studies report that, on matters gender, women are less likely to access credit from formal sources in Kenya (Samba, 2014; Mwaura, 2017; Kimani, 2017), Uganda (Buyinza et al, 2018), Ethiopia (Eshetu, 2015), Tanzania (Onyango, 2020) while other studies in Ethiopia (Sisay, 2008; Aregawi & Nigus, 2014), Ghana(Sekyi, 2017), Benin (Assogba et al, 2017), Senegal (Abdoulaye, 2021) surprisingly report that men are less likely to access credit compared to the female gender. With regard to age, contrary to the longstanding belief that as an individual's age progresses, businesspersons would be more conservative and reluctant to access credit, studies in Ethiopia (Aregawi & Nigus, 2014; Eshetu, 2015; Getachew, 2017; Gezahegn et al, 2018), Ghana (Sekyi, 2017; Musah et al, 2016), Tanzania (Onyango, 2020)

find the same a significant determinant of credit accessibility. However other, studies for instance, Sisay (2008); Assogba et al, (2017); Mwaura (2017) in Ethiopia, Benin and Kenya respectively reveal that age is statistically insignificant in explaining access to credit. Though most existing studies tend to report presence of a positive association between educational level and access to credit, there are inconsistencies in the findings of studies conducted in different countries and regions. For instance, educational status was found to have a positive influence on credit access in Kenya (Wanjiku, 2016; Mwaura, 2017), Benin (Assogba et al, 2017), Ethiopia (Eshetu, 2015; Getachew, 2017), Uganda (Buyinza et al, 2018), Nigeria (Silong & Gadanakis, 2020), Ghana (Musah et al, 2016). Surprisingly, other studies in Ethiopia (Sisay, 2008; Aregawi & Nigus, 2014), Kenya (Omboi & Wangai, 2011) report absence of a significant relationship between educational level of an entrepreneur and access to credit.

1.1.4.2 Socio-Economic Factors and Credit Accessibility

Mounting evidence indicate that socio-economic factors (attitude towards risk and experience in credit use) determine access to credit by smallholder businesspersons. A study based in South Africa (Chauke et al, 2013) opines that the attitude of smallholder farmers towards risk contributes significantly to their access to credit. In Ethiopia, Fikadu (2016) finds the risk taking propensity to be a significant variable in determining credit access while another study (Sisay, 2008) finds contradicting results. In Ghana, Alhassan & Sakara (2014); Mahammood et al (2014) find both experience in credit use and attitude towards risk significant factors in explaining access to credit. In Kenya (Atieno 2001; Kosgei, 2015) indicate that experience in credit use (past credit participation) significantly explained credit accessibility by the small scale entrepreneurs. Yet, another study in Ethiopia (Sisay, 2008) confirms the same view that experience in credit use significantly influence credit accessibility.

1.1.4.3 Institutional Factors and Credit Accessibility

Extant literature associate institutional factors (distance from lending institutions and membership to cooperatives/business associations) do have significant effects on credit accessibility by the smallholder businesses. According to Efa & Ndinda (2017), studies conducted in Nigeria (Oni et al, 2005; Akpanet et al, 2013), Ghana (Akudugu, 2012), Pakistan (Khan & Hussain, 2011) and China (Bing et al, 2008) report a negative and significant relationship between distance to the lending agency and credit access. In South Africa, Chauke et al (2013) reveals that the distance from credit source significantly affect access to credit. On the local scene, Atieno (2011); Kosgei (2015); Kiplimo et al (2015) find a significant association between distance and credit access. Sisay (2008); Musah et al (2016); Buyinza et al (2018); Silong & Gadanakis (2020) in Ethiopia , Ghana, Uganda and Nigeria respectively observe that membership to cooperatives/business association was a significant factor in explaining access to credit while another study in Benin (Assogba et al, 2017) finds contradicting results.

1.2 Statement of the problem

Although studies increasingly focus on the informal sector, the sector's extent of credit accessibility has not been well documented in Kenya. Little information currently exists on informal sector credit access, the use to which the available credit can be maximally utilized and how policy can effectively influence the informal sector outcomes for the smallholder businesses in Kenya. It is acknowledged that the informal sector plays a key role in generating a pattern of economic growth that is generally labour-intensive, pro-entrepreneurship and competitive especially among the smallholder businesses. In Kenya, this is illustrated by the number of persons employed by the sector growing at an annual average rate in excess of 750,000 for the period 2015-2019 compared to the less than 10,000 annual employment growth for the formal establishments in the same period. It is notable that

the smallholder businesses in the informal sector account for a significant proportion of firms and employment in Kenya, yet they contribute very little to the country's GDP. This is partly due to the financial constraints they encounter. As observed, there are many studies that have been conducted on determinants of credit accessibility by the smallholder businesses but these studies are wide and varied from region to region. This presents a difficulty in establishing a clear distinction between variables that influence credit in different regions and also points on the thinness of such studies. These studies do not offer conclusive results of how the various demographic, socio-economic and institutional factors determine access to credit by the smallholder businesses generally in Kenya and specifically in Migori County. In addition, the aforementioned contradictions and various inconsistencies in the literature indicate that it is quite important to thoroughly investigate determinants of access to credit in the study area. This calls for context specific investigations across various cultural groups and or communities. On the account of this background, the study seeks to fill the information gap on the determinants of credit accessibility in the informal sector for the smallholder businesses of Migori County, Kenya.

1.3 Research Objectives

The broad objective of the study was to analyze the determinants of credit accessibility in the informal sector for the smallholder businesses of Migori County, Kenya.

The specific objectives of the study were to:

1. Identify the Demographic factors that significantly affect credit accessibility by the smallholder businesses of Migori County.
2. Determine the Socio-Economic factors that influence credit accessibility.
3. Assess the effect of Institutional factors on credit accessibility by the smallholder businesses in the study area.

1.4 Research Hypotheses

The following hypotheses were tested during this study:

1. $H_0: \lambda_i = 0$ where $i = 1, 2, 3, 4, 5.$

   $H_1: \lambda_i \neq 0$

   λ_i represents the demographic parameters namely Gender, Age and the dummies for Educational Level (Less than High School, High School, and University/ College Education).

2. $H_0: \mu_i = 0$ where $i= 1, 2.$

   $H_1: \mu_i \neq 0$

   μ_i represents the socio-economic parameters namely Attitude of Smallholder Businesspersons towards Risks and Experience in Credit Use.

3. $H_0: \Omega_i = 0$ where $i= 1, 2.$

   $H_1: \Omega_i \neq 0$

   Ω_i represents the institutional parameters namely Distance from Lending Institutions and Membership to Business Cooperatives/Associations.

1.5 Scope and Limitations of the Study

The study aims at identifying determinant factors that affect smallholder businesspersons' access to credit and assess the status of women and different wealth groups' access to credit. The scope of the study was limited to Migori County, Nyanza Region, Kenya. This was mainly because of limited availability of resources and time to undertake the study on a wider scale.

1.6 Significance of the Study

The findings of the research would be of great policy use. The study of factors that affect smallholder businesspersons' access to formal credit and assessing the status of women and

different wealth groups in the study is important in providing information that will enable effective measures taken by lending institutions and policy makers to improve access to credit. Microfinance service providers and promoters, and development policy makers could use the findings of this study to improve microfinance products and services as well as to justify investment in the sector. Therefore the outcome of the study would be useful to identify innovative options and institutional arrangements that would serve as an input for policy makers and Micro-Financial Institutions in formulating credit policy.

The findings of the research will increase the knowledge on the determinants of access to credit by the Micro and Small enterprises. It will also be important to academicians and future researchers who may want to use the findings of this research as a basis for advancing their arguments.

1.7 Conceptual Framework

A conceptual framework illustrates the linkage between dependent and independent variables of the Study (Mugenda & Mugenda, 2003). The conceptual framework for this study was adapted from Sisay (2008) by modifying it to suit the current research purpose. Sisay (2008) employs logistic regression in examining the determinants of smallholder farmers' access to credit in Matema Woreda, North Gondar, Ethiopia. The study analyses the effect of demographic, socio-economic, institutional and communication factors on the smallholder farmers' access to formal credit. Therefore Sisay (2008) was very relevant in conceptualizing this research.

The following conceptual framework depicts the most important variables expected to influence smallholder business persons' access to credit in the study area. The smallholder businesspersons' access to credit, the dependent variable, is depicted to be explained by the Demographic, Socio-Economic, and Institutional factors as shown:

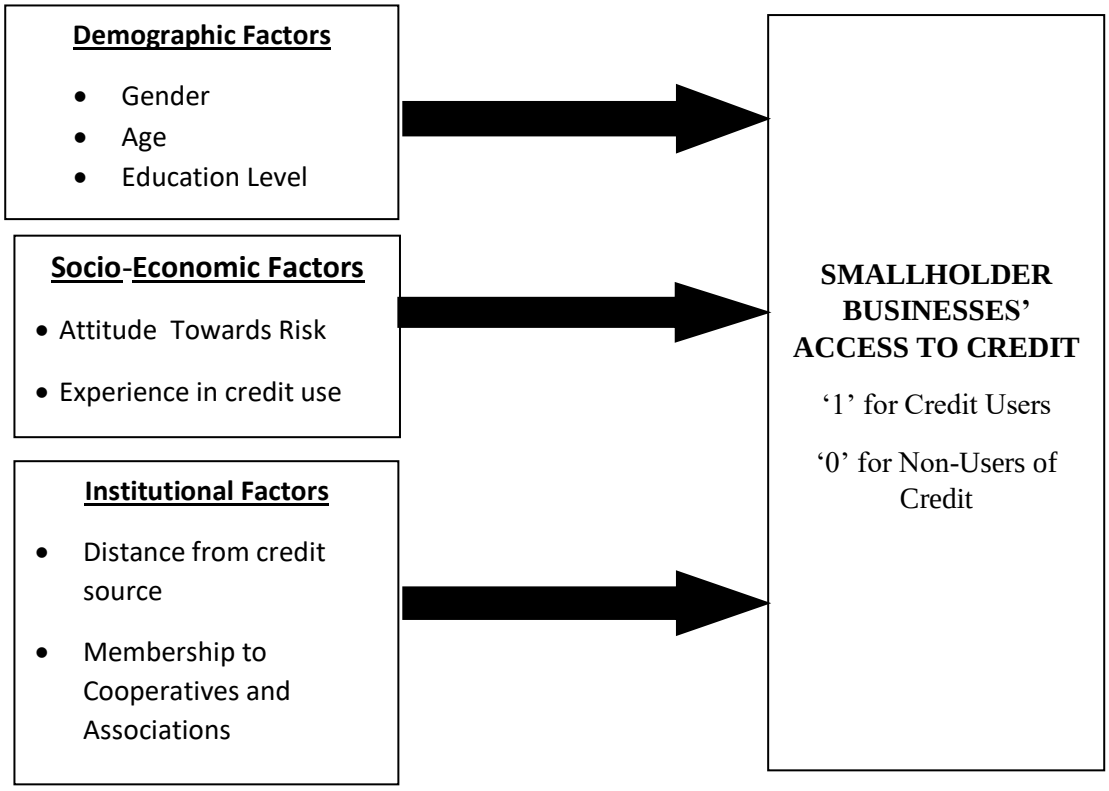

Figure 1.1 Demographic, Socio-Economic and Institutional factors affecting Smallholder Businesspersons' access to credit.

Source: Adapted and Modified from Sisay (2008)

1.8 Operational Definition of Terms

Credit - An agreement in which a borrower receives financial services and agrees to repay the lender at some later date.

Credit Accessibility – the possibility for smallholder businesses to access financial services.

Informal Sector - all unregistered and unstructured economic activities which contribute to officially calculated or observed Gross Domestic Product in a country. In Kenya, the informal Sector is also called '*Jua Kali*' Sector.

Business – an economic unit producing goods and services. Other terms used interchangeably with businesses are enterprises, firms or establishments.

Smallholder Businesses – businesses that are not registered and do not comply with the legal obligations concerning safety, taxes and labour laws.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of theoretical and empirical frameworks that guides the study. Specifically, it is devoted to presentation of the theoretical literature review and also examines some empirical studies which have been done in and outside Kenya's economy. The deficiency of the previous studies and gaps to be filled in this study are presented in section 2.3.

2.2 Theoretical Literature Review

This study situates its arguments on Information Asymmetry Theory and the Theory of Equilibrium Credit Rationing.

2.2.1 Information Asymmetry Theory

Joseph Stiglitz, 1961, George Akerlof, 1970 and Michael Spence, 1973 (as cited in Matagu, 2018), are the three proponent economists who developed the theory of asymmetric information which was formalized in 2001. Information asymmetry theory assumes that at least one party to a transaction has relevant information whereas the other(s) do not (Nderi & Muturi 2015). In perfect markets settings, with perfect and costless information available to both transacting parties, and no uncertainties regarding present and future trading conditions, the transacting parties do not suffer from market failure of information. However, information in the real world is neither perfect nor costless, and additionally small businesses finance market is characterized by risk and uncertainty regarding future conditions.

Information is distributed asymmetrically between the lender and borrower (Matagu, 2018). Spence & Stiglitz, 2001 (as cited in Nderi & Muturi, 2015) demonstrated that a market may

break down completely in the presence of asymmetric information and the three distinct consequences emerge namely: adverse selection, moral hazard, & monitoring cost. From the lenders perspective, it has incomplete information with regard to underlying quality of the project and the management of small firms, giving rise to the problem of adverse selection (Stiglitz and Weiss, 1981 as cited in Matagu, 2018). Furthermore, the management of small firms may fail to perform to their full capabilities, giving rise to the problem of moral hazard.

Moral hazard, a consequence of asymmetric information, arises because it is too costly for lenders especially banks to effectively monitor small firms' projects, thereby resulting in equilibrium credit rationing and a shortfall in finance provision (Bester, 1987 as cited in Matagu, 2018). The general problem of information asymmetry can manifest itself in one of three ways namely: acceptance of the loan application but at a higher than risk-adjusted interest rate; acceptance but with strict collateral requirements; or outright rejection of the loan application (Matagu, 2018). The existence of asymmetric information provides a rationale for concluding that MSEs are limited in their access to credit.

2.2.2 Theory of Equilibrium Credit Rationing

One of the most important theories that focused on financing gap analysis is the Theory of Equilibrium Credit Rationing by Hodgeman, 1960 (as cited in Mutinda et al, 2019). Hodgeman developed the theory based on default risk and defines credit rationing as a situation where all or some loan applicants are not awarded the entire loan amount they applied for at a prevailing interest rate (Mutinda et al 2019). In this model, lenders evaluate potential borrowers on the basis of the loan's expected return-expected loss ratio. In addition, it is assumes that there is a maximum repayment that the borrower can credibly promise, which effectively limits how much the lender will offer the borrower regardless of the interest rate. In this case the expected losses become too great relative to the expected return .In

addition, the theory is of the view that lenders do not provide all the loans that borrowers wish to obtain because they cannot distinguish between safe and risky borrowers. It also assumes imperfect credit markets due to information asymmetry, which lenders attempt to solve by imposing interest rate and collateral. Further, it assumes that demand for commercial bank loans exceeds their supply at the prevailing interest rate and that borrowers need to provide equal amount of collateral. He observed that whenever a borrower's demand curve intersects with a vertical portion of the relevant supply curve, the particular borrower will be unable to obtain additional borrowed funds by promising to pay additional interest. Furthermore as the supply curve shifts to the left and upward, the borrower will encounter more stringent restrictions on the supply of funds which he will be unable to overcome by offering to pay more interest. However, Hodgeman observed that another borrower with a good credit rating may continue to borrow as much as he wishes and may not be required to pay much additional interest to meet the qualifications imposed by the lender. The theory is important to this study because financial institutions normally classify MSEs as high risk borrowers thus leading to some obtaining credit while others are rationed or denied.

2.3 Access to credit and its benefits in the informal sector

According to the free online dictionary, Encyclopedia (undated), the term credit was coined from the Latin word *Credito* which means Faith – an agreement by which something of value-goods, services or money is given in exchange for a promise to pay at a later date. Credit is a transaction between two parties in which one, acting as creditor or lender, supplies the other, the debtor or borrower, with money, goods, services or securities in return for the promise of future payment. As a financial transaction, credit is the purchase of the present value of money with the promise to pay in the future according to a pre-arranged schedule and at a specified cost defined by the interest rate. It was also defined by Ellis (1992) that credit is a sum of money in the favor of the person whom control over is transferred, and who

undertakes to pay it back. Moreover, Beckman & Foster (1969) defined credit as the power or ability to obtain goods or services in exchange for a promise to pay later.

Penchansky & Thomas (1981), states that "to some authors, 'access' refers to entry into or use of the health care system, while to others it characterizes factors influencing entry or use". Moreover, according to the free online dictionary (undated) access can be defined as the right to obtain or make use of or take advantage of something (as services or membership). Diagne et al, (2000) stated that a household is said to have access to a type of credit if at least one of its members has a strictly positive credit limit for that type of credit. Similarly, a household is classified as credit constrained for a type of credit if at least one of its members is constrained for that type of credit.

According to Karanja et al (2014) access to flexible financial services empowers and equips the underprivileged in our society to match out of poverty in a self-determined and sustained way. Kasim and Jayasoria, 2001 (as cited in Mwaura, 2017) noted that one of the ways to reduce poverty particularly among the hard-core poor is through credit as it has the ability to mitigate the heat of the economic turmoil by raising productivity of self-employment in an economy's informal sector.

2.4 Empirical literature review of the factors determining access to credit

According to Coughlan et al (2013), the purpose of empirical literature review is to summarize and synthesize all previous studies that relate or argue positively with the study's hypotheses. Cronin et al (2008) opine that empirical literature review should offer a concise summary of findings describing current knowledge and offering a rationale for conducting further research. They further indicate that any knowledge gaps that have been identified should lead logically to the purpose of the study.

Several factors determine credit accessibility by the smallholder businesspersons. These factors can be categorized as the demographic, socio-economic and institutional factors. The

more favorable they are, the greater the chances of accessing the credit with ease. These factors are as discussed below.

2.4.1 Demographic Factors and Access to Credit

Assogba et al (2017) analyses the determinants of credit access by smallholder farmers in North-East Benin. The study utilizes the logit regression analysis which reveals that access to credit among smallholder farmers is determined by the number of years of schooling. However age and gender were not significant in determining access to credit among the smallholder farmers in the study area. The study mixes up both the supply and demand side factors that determine access to credit among smallholder farmers while current study focuses on the demand side factors hypothesized to determine access to credit by the smallholder businesspersons. Moreover, in the agricultural sector, on which the study is based, is predominantly male due to more access to agricultural resources by the male farmers than their female counterparts.

Gezahegn et al (2018) undertakes a study on the determinants of bank credit access for the case of women owned business enterprises in Robe, Goba, and Ginnir Towns of Bale Zone, Ethiopia. The study employed descriptive, cross sectional study design and collected data using both primary (questionnaire, interview) and secondary sources (bank loan procedure manuals). Utilizing the logistic regression model, the study reveals that age was a significant determinant for businesswomen's credit access in the study area. The study's choice of the econometric model was appropriate but it is criticized for focusing on licensed businesswomen only. The current study focusses on all smallholder businesspersons, gender and the licensing aspect notwithstanding.

A study was conducted in Gujranwala District, Pakistan by Hussain (2012) to examine factors influencing demand for credit from formal and informal sources. A cross-sectional

data from 313 respondents to questionnaire were randomly selected and analyzed by using multiple regressions. The study finds that the level of education (literacy level) had a positive significant relationship with demand for credit from the banks, which lend at low interest rates while literacy level had an insignificant positive relationship with demand for credit from the arties (informal sources). The study is criticized for focusing on loan beneficiaries (credit users) only. The current study however focusses on both users and non-users of credit in the study area.

Malenya et al (2013) analyses education level as a determinant of micro credit access by Women owned MSEs in Kakamega Town. The study incorporated the use of descriptive research design and adopted stratified random sampling approach to select the sample. Data was analyzed by the use of descriptive and inferential statistics with the aid of SPSS and thereafter presented in the form of tables. The study established that education level of the women does not influence micro credit access since the significance level for the chi-square statistic was greater than 0.05 (0.740).

Samba (2014) analyses the determinants of access to credit by small and medium enterprises in the informal sector in Ongata Rongai Township, Kajiado County, Kenya. The study applies descriptive statistical analysis and Heckman Probit model to analyze the data. Results obtained from the probit model shows that women SME owners are less likely to apply and receive credit and that women have low access to credit from formal financial institutions. However the study is criticized on the use of probit model. The current study utilizes the logit model. According to Erdem, 2009 (as cited in Assogba et al, 2017), in as much as the probit and logit models yield similar results, the advantages of the logit regression model is its consistency in heteroscedasticity, the simplicity of the method, and the easiness it offers for the results interpretation. Even though not all variables considered in the study are of interest to the current study, it is relevant to the findings of the same.

Aregawi & Nigus (2014) assess the determinants of MSEs' access to finance in Asella Town of Oromia Regional State of Ethiopia. The main objective of this study was to assess the major determinants of access to finance by using semi structured questionnaire administered to 134 randomly selected MSEs. Binary logistic regression was used to identify major determinants of access to credit from formal financial institutions and test the hypotheses. The result of the study revealed that the age and educational level of the operator are significant factors that affect MSEs' access to credit.

A study was carried to determine access to credit by smallholder farmers in Kenya in the Western (Bungoma and Siaya) and Eastern (Embu, Meru and Tharaka Nithi) regions by Kiplimo et al (2015). This study used primary and secondary data where 613 smallholder farmers in both regions were randomly sampled according to the total number of households in each division. The study uses logistic regression model to determine the factors influencing credit access. Access to credit was measured by actual receipt of credit, financial service from any given source. The result indicated that education level (literacy) in years had significant positive effects on access to credit. The choice of binary logit model was appropriate since the dependent variable was categorical.

Mwaura (2017) presents the factors influencing access to microcredit in Kenya. Using the FinAccess Survey 2016 dataset, the study analyses the influence of gender, location, education level, income level, age and marital status on microcredit financing. The study uses descriptive statistics and probit model for data analysis. The probit regression indicates that gender and education levels are positive and significant factors the influence access to microcredit financing in Kenya. However this work is criticized on the use of the FinAccess Survey 2016 dataset which limited the variables since not all variables of interest were captured in the survey. Besides, the study utilizes the probit model based on the researcher's convenience despite its glaring limitations.

A study by Akshaya (2017) presents an analysis of microenterprise participation and credit seeking behavior of small traders in Nekemte Town. The study seeks to analyze the main determinants of the households' decision to participate in microenterprises activities and their credit seeking behaviors in the study area. Both primary and secondary data were used. For the collection of primary data questionnaires was developed and interviews were conducted Statistical and econometric method of analysis, were employed. Binary probit regression was used for the analysis of both microenterprise participation and credit seeking decisions. The study finding shows that education level and age of the household head positively and significantly determines the household decision to group participation in the Microenterprises.

Obebo et al (2018) analyses the determinants of participation of Micro and Small Enterprises in Microfinance in Kenya. Drawing data from the 2016 FinAccess dataset, the study estimates the determinants using a probit model. The results revealed that the age of firm owner and tertiary education level are some of the key determinants of participation in microfinance.

A study by Eshetu (2015) presents the determinants of credit constraints in Ethiopia. Regression based on bivariate probit model with sample selection using maximum-likelihood estimations was performed on the 2013 Ethiopian Socioeconomic Survey (ESS) dataset. Using descriptive methods to shed additional light on the available survey, the study uncovers that the age, gender, education of the household head influences the households' fate in the credit market.

Omboi & Wangai (2011) examines the factors that influence the demand for credit for credit among Small-Scale investors in Meru Central District, Kenya. Using a sample survey data collected from Meru Central District, descriptive statistics and logistic regression models

were employed to analyze factors that may influence demand for credit among the small-scale entrepreneurs. The study results show that education level of an entrepreneur is a significant factor that influences small-scale entrepreneurs to borrow credit from formal credit institutions.

Getachew (2017) analyses the factors affecting Micro and Small Enterprises in accessing credit facilities in Hadeya Zone, Hosanna Town of Southern Ethiopia. Binary logistic regression and descriptive analysis were used to identify major factors affecting access to credit from formal financial institutions and test the hypotheses. The result of the study revealed that age of operator and educational level were significant factors that affect MSEs' access to credit.

Wanjiku (2016) analyses the factors affecting credit access among the small and medium entreprises in Murang'a County. From the study, it emerged that literacy levels was one of the most significant factors that affect access to credit among SMEs in the study area.

Kimani (2017) determines the factors affecting access to formal finance by youth owned SMEs in Kiambu County. Descriptive statistics was used to analyze data that was collected and the research findings revealed that respondents' gender influence access to finance.

Buyinza et al (2018) are also find that gender and educational level contribute to credit accessibility by the Micro and Small Enterprises in Uganda. However, Sisay (2008) reveals that all the demographic factors (gender, age and educational level) were less powerful in explaining smallholder farmers in Matema Woreda, North Gondar, Ethiopia.

Onyango (2020) looks at the effects of personal characteristics of Tanzania Nationals on access to finance. A multivariate regression model was used to link the loan amount received to the dependent variables namely age, marital status and sex. By utilizing the Tanzania National Panel Survey data of 2014-2015 the study concludes that there is a correlation between age and sex and the loan amount.

2.4.2 Socio-Economic Factors and Access to Credit

A study by Sisay (2008) on the determinants of smallholder farmers' access to formal credit in Metema Woreda, North Gondar, Ethiopia reveals the farmers' perceptions of the strengths and weaknesses of formal financial institutions, the status of women and different wealth groups' access to formal and informal credit, and, by use of the logit model, identifies the most important factors that affect smallholder farmers' access to formal credit. The study notes that the maximum likelihood estimates of the logistic regression indicates that smallholder farmers' experience in credit use from formal sources and membership of farmers' cooperatives were important factors influencing smallholder farmers' access to formal credit in the study area. The other variables of the study such as age, sex, education level, extension contact, attitude towards risk, distance from lending institutions, repayment period and time, lending procedures and family labour working in the farm were less powerful in explaining smallholder farmers' access to formal credit indicating that both users and non-users of credit were homogeneous with regard to these variables. The study however focuses on smallholder farmers in Metema Woreda, North Gondar, Ethiopia which is purely an agricultural zone with majority household heads involved in agriculture out of which 63.4% and 36.6% are male and female headed households respectively. Besides, the smallholder farmers exhibited a quite homogeneous gender composition (50.5% are males and 49.5% are females). The current study focusses on smallholder businesspersons of Migori County who are heterogeneous with regard to the Demographic factors (age, sex and educational level).

Alhassan & Sakara (2014) examines the socio-economic determinants of Small and Medium Enterprises' access to credit from the Barclays Bank in Tamale, Ghana. The population for the study was members of the Association of Small Scale Industries (ASSI), the branch Manager and credit officer of the Barclays Bank Tamale, the Regional Manager and

Accountant of National Board for Small Scale Industries and a Project Officer of Macrofinance and Small Loan Centre (MASLOC) . The results indicated that the number of employees, experience in credit use, number of fixed assets possessed, attitude towards risk, business size, and form and sector of business in the economy are the critical success factors in accessing bank finance by the Small and Medium Enterprises in the study area.

Mahammood et al (2014) analyses Micro and Small Enterprises' access to credit from the Barclays Bank in Tamale, Northern Ghana. Proportional stratified and simple random sampling was used to select a sample of 250 respondents for the study. Both qualitative and quantitative techniques were used to analyse the data. The study revealed that the number of employees of a business, experience in credit use and number of fixed assets possessed, attitude towards risk, business size and new or existing business were considered as key determinants for credit by MSEs.

Fikadu (2016) assesses determinants of access to credit and credit source choice by SME entrepreneurs in Nekemte, Ethiopia by using structured questionnaire from 173 entrepreneurs. The study shows that the major source of finance for SME is own source finance. The results of binary logistic regression reveals that there is statistically significant relationship between firms' access to credit and risk taking propensity of the firm head.

2.4.3 Institutional Factors and Access to Credit

Kosgei (2015) presents the factors affecting access to credit by the small business producer groups in Trans-Nzoia County. The study uses cross sectional design while data was collected through in-depth personal interviews administered through open-ended interview guides from which content analysis was used to analyze the data collected. The research finds that access to credit was influenced by lender-borrower distance, distance to credit sources, past credit participation.

Atieno (2001) presents an empirical assessment of the formal and informal financial institutions' lending policies and access to credit by small-scale enterprises in Western Kenya. The study carried out during July and August 1998 in the market centres in the rural areas of five Districts of Western Kenya namely Kisumu, Siaya, Vihiga Bungoma and Kakamega focusses on small-scale entreprises engaged in farming, wholesale and retail trade, and primary processing of agricultural products. The study finds that the small-scale entrepreneurs who did not seek credit because they had relatively higher wealth values might have not necessarily meant that they did not need credit but rather that the type of loans they required did not exist, an implication that the credit market does not serve the needs of enterprises seeking to expand their businesses. The end result therefore is a credit gap capturing those enterprises too big for the informal market, but not served by the formal market. The study further notes that the large number of potential borrowers who did not seek credit does not mean that they did not need credit because only 15% of the sample were found not to be credit constrained, a suggestion that the lack of supply creates a lack of demand displayed in the low revealed demand. The study indicates that the distance to credit sources and past credit participation were significant variables that explain the participation in credit markets by the small-scale entrepreneurs in Western Kenya. However this work is criticized on the use of Analysis of Variance (ANOVA). ANOVAs overproportions can lead to hard-to-interpret results because confidence intervals can extend beyond the interpretable values between 0 and 1, rendering an interpretation of the outcome variable as a proportion of correct answers impossible (proportions above 1 are not defined). One way to think about the problem of interpretability is that ANOVAs attribute probability mass to events that can never occur, thereby likely underestimating the probability mass over events that actually can occur. This intuition points at the most crucial problem with ANOVAs overproportions of categorical outcomes which easily leads to spurious results.

Assogba et al (2017) analyses the determinants of credit access by smallholder farmers in North-East Benin. The study utilizes the logit regression analysis which reveals that access to credit among smallholder farmers is determined by membership to an association or group.

Buyinza et al (2018) examines the factors affecting access to formal credit by Micro and Small Enterprises in Uganda. The research analyzes the data drawn from the Gender and Enterprise Survey of 2015, a collaborative study conducted in Ghana, Kenya and Uganda. Employing a probit model, the study findings show that owner's education level, belonging to a business association, belonging to business group, and gender of the owner are positively associated with access to formal credit. The Gender and Enterprise Survey, whose dataset was analysed, focused on enterprises that were in operation for at least three years before May 2015 and it covered only enterprises with trading activities at the time of the survey.

Silong & Gadanakis (2020) presents the credit sources, access and factors influencing credit demand among rural livestock farmers in Nigeria. The research adopted mixed methods for an in-depth investigation into the problem. There were 216 research participants split into equal halves of men and women from six Local Government Areas of Nasarawa State, Nigeria. Data collection methods employed structured interviews, focus group discussions, closed/open-ended, and key informant interviews. Analytical tools involved descriptive statistics, the logit and multinomial logit models to determine participants' socioeconomic characteristics, sources of credit, access, factors influencing credit demand generally, and from the various sources of credit identified. The research findings reveal that only 47.6% of the participants accessed credit, with fewer women accessing than men. Factors having significant influence on credit demand generally are education and group membership among other factors.

2.5 Summary of Literature Review and Research Gap

The literature review above has revealed a number of valuable studies on credit accessibility. The studies done so far in and outside Kenya's economy mentioned earlier concentrated more on determinants of credit access by smallholder farmers and other societies in general (Sisay, 2008; Hussain 2012; Kiplimo et al, 2015; Kosgei, 2015; Eshetu, 2015; Assogba et al , 2017; Gezahegn et al, 2018; Onyango, 2020; Silong & Gadanakis. 2020).

Atieno (2001); Kosgei (2015); Wanjiku (2016) and Kimani (2017) present determinants of credit accessibility by the small and medium enterprises in Western Kenya, Trans-Nzoia, Murang'a, and Kiambu Counties respectively. Fikadu (2016) assesses determinants of access to credit and credit source choice by SME entrepreneurs in Nekemte, Ethiopia. These studies employ descriptive statistics only for analysis but lacks an econometric model. On the other hand, Samba (2014); Eshetu (2015); Mwaura (2017); Akshaya (2017); Buyinza et al (2018) using descriptive statistics and the probit model, analyzes determinants of credit access. The researchers utilize the probit model based on their own convenience despite its glaring limitations. When a comparison is made between the probit and logit models, the latter model is better and less complex in interpretation. The log of odds ratio in a logit model is easy to compute as some softwares such as SPSS gives them directly. Since the dependent variable is dummy (binary), the logit model is user friendly and takes care of it. Identified practical advantages of logit model over probit model are the simplicity of its structural form and interpretability of the results. The transformation for the logit model is directly interpretable as log-odds, but the inverse transformation for the probit model does not lend itself to direct interpretation. The current study therefore utilizes the binary logistic (logit) model.

Gezahegn et al (2018) appropriately utilizes logistic regression analysis model but focusses only on the licensed businesswomen. Studies by Malenya et al (2013); Musah et al (2016) are equally criticized for focusing only on women-owned MSEs in Kenya and Ghana

respectively. Similarly, the works of Alhassan & Sakara (2014), Mahammood et al (2014) are criticized for focusing strictly on entrepreneurs who are both members of an association and accessed credit from one particular source (Barclays Bank).

The works of Mwaura (2017); Obebo et al (2018); Eshetu (2015) are criticized for drawing data from the 2016 FinAccess and 2013 ESS datasets respectively which limited their scope. Moreover, no published research result has been observed concerning determinants of credit access by the smallholder businesspersons in Migori County. This study therefore tries to narrow the research gap paying attention to determinants of access to credit in the case of smallholder businesspersons incorporating as much as possible all the relevant variables using descriptive statistics and econometric model analysis.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter features components of the research methodology that was employed in the study. Specifically, it presents the research design, description of the study area, target population, sample size and sampling procedure, data collection procedures and analysis. The chapter also discusses ethical considerations for the study, model specification, and the definitions of dependent and independent variables. Measurement of the variables and their a priori expectation is also presented.

3.2 Research Design

According to Bhattacherjee, 2012 (as cited in Kimani, 2017), research design is the arrangement of the conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. It is the conceptual structure in which research is conducted and constitutes the blue print for the collection, measurements and analysis of data.

In this study, a descriptive survey research design was adopted. Descriptive research is directed at making careful observations and detailed documentation of a phenomenon of interest. Descriptive survey research design was used since it is considered as the best method available to social scientists and other educators who are interested in collecting original data for purposes of describing a population which is too large to observe directly. According to Ary, Jacobs & Razavieh, 1990 (as cited in Mahammood et al, 2014), descriptive research studies are designed to obtain information which concerns the current status of phenomenon. Descriptive research design was therefore considered appropriate in studying the

determinants of credit accessibility by the smallholder businesses in Migori County since the researcher did not have to manipulate such factors as they had already occurred.

3.3 Study Area

Migori County has a population of 1,116,436 represented by 536,187 males and 580,214 females with the remaining 35 being intersex. With 2,613 km^2 total land area, the county boasts of 427 persons per square kilometer (KNBS, 2020).

Migori County is located in south-western Kenya at an altitude of 1,322-1,550 meters above sea level. Migori County's neighbouring counties are; Homa-Bay County to the north, Kisii County, Narok County to the east and the Republic of Tanzania to the south. The County is endowed with good rainfall (between 25-1000 mm), fertile and arable land which is capable of producing various sorts of cash crops such as sugarcane, tobacco, bananas and horticultural crops. Rainfall reliability declines towards the western parts of Migori County like Nyatike and parts of Uriri, which causes reduction of the cropping period. There has been proof of gold and copper deposits in the area.

The economic activities carried out by the inhabitants include: fishing along Lake Victoria, tourism, small scale mining(gold mining activities), agriculture especially sugarcane farming, maize, beans, sorghum, groundnuts, cassava, sweet potatoes, bananas, and trading on goods and services produced within the County and beyond.

The major Financial Institutions operating within Migori County include: Kenya Commercial Bank, Barclays Bank, Co-operative Bank, Equity Bank, Family Bank, Standard Chartered Bank, K-REP, and Post Bank. The study area map is appended in Appendix IV.

3.4 Target Population

Target population in statistics is the specific population from which information is desired. The target population for the study was made up of the smallholder informal sector businesses of Migori County, Kenya. The population of smallholder businesspersons was identified in the study region with the help of Senior Market Attendants (Market Dues section) in the Revenue Departments of each Sub-County. The total target population was 4,757 smallholder traders out of which 2,531 and 2,226 were males and females respectively as shown in table 3.1.

Table 3.1 Population Distribution

Business Category	Awendo Sub-County		Migori Sub-County		Kuria West Sub-County		
	M	F	M	F	M	F	Total
1	289	600	391	630	480	520	2910
2	430	156	240	130	701	190	1847
TOTAL	719	756	631	760	1181	710	4757

Source: field data, 2018

Description: M = Male

F = Female

1=General Trade e.g. Wholesale, Retail, Stores/Stalls, Shops and Hawkers

2=Personal, Professional and Technical Services e.g. Shoe Shiners, Barbershops, Salons, Taxis, Welding and Fabrication etc.

3.5 Sample and Sampling Procedure

The data collection process required a preliminary survey in order to construct the sampling frame and draw a sample. The preliminary survey used the National Sample Survey and Evaluation Programme (NASSEP) frame which is based on a three-stage stratified random sampling design for the entire Migori County where three Sub-Counties out of the ten that make up the county were randomly selected. The population from which to pick the sample was subdivided into two strati namely the smallholder businesses owned by male or female and business category i.e. general trade or personal, professional and technical services. Stratified random sampling was preferred as it enabled collection of data from male or female business owners and the category of business they operate based on their proportion of the entire population in each sub-county. Later random sampling was carried out to pick the smallholder business owners. According to Oyugi & Jagongo (2020), stratified random sampling technique is appropriate when the target population is significantly heterogeneous and the specific subgroups will need to be highlighted and create representative samples from even the smallest inaccessible subgroups. The population therefore, having been divided into smaller subgroups in each sub-county based on the shared attributes of the smallholder business owners, a random sample was taken from each sub-county in a number that is proportional to the number of smallholder business owners in each sub-county.

The survey was carried out in the market centers of the three sub-counties namely: Awendo, Migori and Kuria West. Since there was no official register of individual entrepreneurs operating in these markets, it was not possible to have a listing of all traders. Respondents were therefore randomly selected from this population in the selected markets using a random start with a total of 476 smallholder businesspersons comprising 253 males and 223 female smallholder businesspersons targeted for the study. Scholars do not agree on the exact proportion of the accessible population that should form the sample size. Mugenda &

Mugenda (1999) suggest that in descriptive studies 10% of the survey population is representative enough to generalize characteristics being observed. In this study therefore 10% of the accessible population constituted the sample size. The process of sample selection of the smallholder business owners is illustrated in table 3.2.

Table 3.2 Sample Smallholder Business Owners

	Cluster 1:Awendo				**Cluster 2:Migori**				**Cluster 3: Kuria**							
Business	**Sub-County**				**Sub-County**				**Sub-County**				**Total**			
Category	MALE		FEMALE		MALE		FEMALE		MALE		FEMALE		MALE		FEMALE	
	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S
1	289	29	600	60	391	39	630	63	480	48	520	52	1160	116	1750	175
2	430	43	156	16	240	24	130	13	701	70	190	19	1371	137	476	48
Total	719	72	756	76	631	63	760	76	1181	118	710	71	2531	253	2226	223

Source: field data, 2018

Description: P=Population

S=Sample

1=General Trade e.g. Wholesale, Retail, Stores/Stalls, Shops and Hawkers

2=Personal, Professional and Technical Services e.g. Shoe Shiners, Sources of Data Barbershops, Salons, Taxis, Welding and fabrication etc.

3.6 Data Collection

3.6.1

The data used in this study was obtained from the informal sector smallholder businesspersons in Migori County.

3.6.2 Data Collection Instrument

To ensure that data collected address the study objectives, the data collection instrument must be selected appropriately to avoid collecting irrelevant information (Hanry, 2004 as cited in Ochieng, 2014). In this study, questionnaires were prepared for purposes of obtaining data from the owners of smallholder businesses in Migori County. The questionnaire items were comprised of both closed-ended and open-ended questions that gave the advantage of collecting both qualitative and quantitative information.

3.7 Data Analysis

Both qualitative and quantitative techniques were used to analyze the data. Quantitative data was analyzed using descriptive statistics such as mean, percentages, standard deviation, tabulation, ratio and frequency distribution. In addition the t-test and the Chi-square statistics were employed to measure the mean and percentage differences between credit users and non-credit users. A binary logit model which best fits the analysis for the determinant factors that affects small holder businesspersons' access to credit was also employed. The unit of analysis was the owners of the smallholder businesses, one from each business in case where there were more than one owner.

3.8 Model Specification

The dependent variable is a dummy, which takes a value of zero or one depending on whether or not smallholder businesses accessed credit or not. However, the independent variables are both continuous and discrete. There are several methods to analyze the data involving binary outcomes. However, for this particular study, logistic model (hereafter the logit model) was selected over discriminant and linear probability models. If the independent variables are normally distributed the discriminant-analysis estimator which follows ordinary least square procedures (OLS) is the true maximum likelihood estimator (MLE) and therefore asymptotically more efficient than the logit model which requires maximum-likelihood method (Sisay, 2008). However, if the independent variables are not normal, the

discriminant-analysis estimator is not consistent, whereas the logit MLE is consistent and therefore more robust (Maddala, 1983; Amemiya, 1981).

The linear probability model (LPM) which is expressed as a linear function of the explanatory variables is computationally simple. However, despite its computational simplicity, as indorsed by Amemiya (1981), and Gujarati (1988), it has a serious defect in that the estimated probability values can lie outside the normal 0-1 range. Hence logit model is advantageous over LPM in that the probabilities are bound between 0 and 1. Moreover, logit best fits the non-linear relationship between the probabilities and the explanatory variables (Sisay, 2008).

In the analysis of studies involving qualitative choices, usually a choice has to be made between logit and probit models. The statistical similarities between logit and probit models make the choice between them difficult (Amemiya, 1981). According to Gujarati, 1995(as cited in Sisay, 2008), the justification for using logit is its simplicity of calculation and that its probability lies between 0 and 1. 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 (see Figure 3.1).

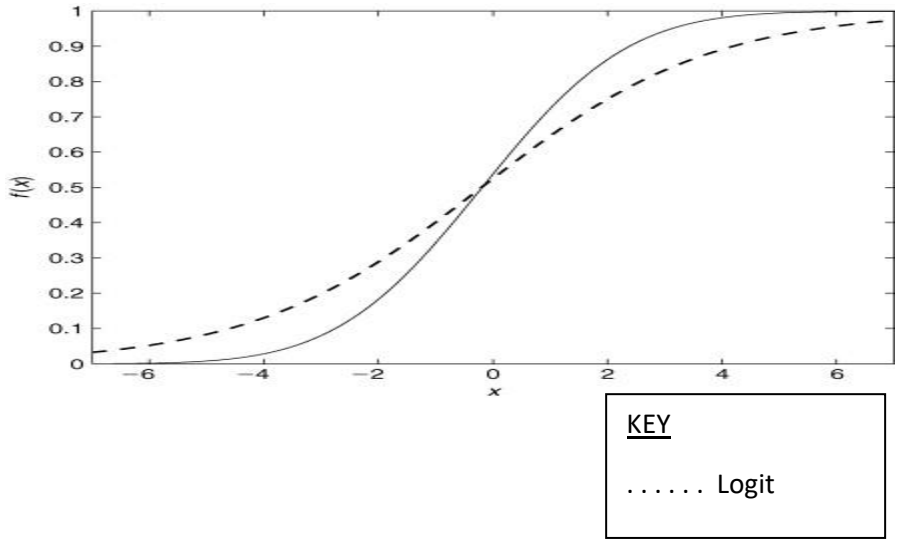

Figure 3.1: Comparison between probit and logit functions

Hosmer & Lemeshew (1989) pointed out that the logistic distribution (logit) 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 these reasons, the logistic model is selected for this study.

Therefore, the cumulative logistic probability model is econometrically specified as follows:

$$P_i = F(z_i) = F\left(\alpha + \sum \beta_i X_i\right) = \frac{1}{1+e^{-z_i}} \quad \text{……..... (3.1)}$$

Where;

P_i = the probability that the i^{th} businessperson accessed credit given X_i i= 1, 2, 3 …k

e = the base of natural logarithms, which is approximately equal to 2.718;

X_i = the i^{th} explanatory variable;

α = the constant of the equation

β_j = parameters to be estimated; j = 1 ,2, 3, …k

Hosmer & Lemeshew, 1989 (as cited in Sisay, 2008) points out that the logit model could be written in terms of the odds and log of odds, which enables one to understand the interpretation of the coefficients. The odds ratio implies the ratio of the probability (P_i) that an individual would choose an alternative to the probability (1-P_i) that he/she would not choose it.

$$(1-P_i) = 1 - \frac{1}{1+e^{-z_i}} = \frac{1}{1+e^{z_i}} \quad \text{…….. (3.2)}$$

Therefore,

$$\frac{P_i}{1-P_i} = \frac{\frac{1}{1+e^{-z_i}}}{\frac{1}{1+e^{z_i}}} = \left[\frac{1+e^{z_i}}{1+e^{-z_i}}\right] = e^{z_i} \quad \text{…… (3.3)}$$

Where

$1-P_i$ = the probability that the i^{th} smallholder businessperson did not access credit from any financial institution.

$\frac{P_i}{1-P_i}$ = the odds ratio of accessing credit from a financial institution by the i^{th} smallholder businessperson.

Taking the natural logarithm of equation (3.3),

$$Z_i = Ln\left[\frac{P_i}{1-P_i}\right] = \alpha + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_m X_m \quad \text{.. (3.4)}$$

If the disturbance term (u_i) is taken into account, the logit model becomes

$$Z_i = \alpha + \sum_{1}^{m} \beta_i X_i + u_i \quad \text{...(3.5)}$$

The specific form of the equation is as follows:

$$Z_i = \alpha_0 + \lambda_1 D_{1i} + \lambda_2 X_1 + \lambda_3 D_{2i} + \lambda_4 D_{3i} + \lambda_5 D_{4i} + \mu_1 D_{5i} + \mu_2 X_2 + \Omega_1 X_3 + \Omega_2 D_{6i} + u_i \quad \text{... (3.6)}$$

Where: $Z_i \equiv$ a binary variable representing smallholder businesspersons' access to credit.

α_0, λ_1, λ_2, λ_3, λ_4, λ_5, μ_1, μ_2, Ω_1 and Ω_2 are parameters to be determined

D_{1i}}, i = { 1, if a smallholder businessperson is male; 0, otherwise

X_1 = Age of smallholder businesspersons

D_{2i}}, i = { 1, if less than high school education; 0, otherwise

D_{3i}} = { 1, if high school education; 0, otherwise

D_{4i}} = { 1, if college/ University education; 0, otherwise

$D_{5i}\} = \begin{cases} 1, \text{ if smallholder businesspersons fear taking loans} \\ 0, \text{ otherwise} \end{cases}$

X_2 = Experience in credit use

X_3 = Physical distance from lending institution

$D_{6i}\} = \begin{cases} 1, \text{ if a smallholder businessperson is a member of a cooperative and or business association} \\ 0, \text{ otherwise} \end{cases}$

The assumptions governing the disturbance term u_i are as follows:

1. The zero mean assumption: Formally,

   $E[u_i|X_i] = 0$ for each i $i = 1, 2, 3, \ldots k$ ……………………………….….. (3.7)

2. The assumption of homoscedasticity or equal variance of u_i:

   $Var[u_i|X_i] = E[u_i - E(u_i)|X_i]^2 = E(u_i^2|X_i) = \delta^2$ $i = 1, 2, 3, \ldots k$ …………….(3.8)

3. The assumption of non-autocorrelation between the disturbances u_i and u_j $(i \neq j)$:

   $Cov(u_i, u_j|X_i, X_j) = E\{[u_i - E(u_i)|X_i][u_j - E(u_j)|X_j]\}$

   $= E(u_i|X_i)(u_j|X_j) = 0$ $i = 1, 2, 3, \ldots k$

   $j = 1, 2, 3 \ldots k$ …………….(3.9)

4. The disturbance term is normally distributed:

   $u_i \sim N(0, \delta^2)$ ………………………….(3.10)

5. Assumption of no multicollinearity:

There is no set of constants ℓ_1, ℓ_2 ... ℓ_k not all zero, such that

$$\sum_{j=1}^{k} \ell_j X_j = 0 \quad j = 1, 2, 3 \ldots k \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(3.11)}$$

3.9 Definition of Variables

3.9.1 Definition of Dependent variable

The dependent variable for the logit analysis is of dichotomous in nature representing small holder businesspersons' access to financial credit. This is to distinguish or discriminate between those users or non-users of credit in the study area. It takes value of "1" for users and "0" for non-users to credit.

3.9.2 Definition of Explanatory variables of the study

Review of literatures on factors influencing smallholder' access to financial credit, past research findings (see Atieno, 2001; Sisay, 2008; Hussain, 2012; Samba, 2014; Aregawi & Nigus, 2014; Mwaura, 2017, Akshaya, 2017; Assogba et al, 2017, Gezahegn et al, 2018) and the author's knowledge of the credit schemes of the study area were used to establish working hypotheses of this study. In other words, among a number of factors, which have been related to access to formal credit, in this study, the following demographic, socio-economic and institutional factors were hypothesized to explain the dependent variable:

3.9.2.1 Economic Factors

3.9.2.1.1 Gender

This is a dummy variable that assumes a value of "1" if male and "0" otherwise. According to Buvinic et al (1979), "there are two major factors which restrict women's access to formal credit more than men's. These are related to women's lack of control over economic resources and the nature of their economic activity". With this background including the existing gender differences; males have mobility, participate in different meetings and have

more exposure to information; therefore it is hypothesized that males have more access to use formal credit.

3.9.2.1.2 Age

It is a continuous variable, defined as the businessperson's age at the time of interview measured in years. According to Tang et al, 2010 (as cited in Eshetu, 2015), older credit participators tend to benefit more based on their social network and capital. The younger credit participants are categorized as more risky customers while their older counterparts are perceived to have established credit history and collateral. Therefore, those businesspersons having a higher age due to life experience will have much better association with cooperatives and other formal credit institutions, and it is hypothesized that those with higher age may have more access to credit from the formal sources than their younger counterparts.

3.9.2.1.3 Education Level

It is qualitative in nature which can be categorized into three mutually exclusive levels: less than high school, high school and college/University. Businesspersons with more education are expected to have more exposure to the external environment and accumulate knowledge. They have the ability to analyze costs and benefits. The more educated the businessperson, the more credit he will use for consumption purposes. Buyinza et al (2018) shows the importance of education in general as it equips potential entrepreneurs with the literacy that they are trainable and can manage business on their own because they are able to do business record keeping. Besides, level of education empowers individuals with financial literacy and this enables them to process loan application with financial institutions. By implication, education increases the efficiency of choices made by individuals and serves to enlighten them on the different financial services available as well as creating awareness on the best

way to manage the available service. Further, education builds human capital resulting to higher earning power; therefore, the income serves to increase their repayment capacity (Mwaura, 2017). Therefore, it is expected that those who have higher education have better credit requirements that leads to access to use formal credit sources.

3.9.2.2 Socio-Economic Factors

3.9.2.2.1 Attitude towards Risk

The other factor, which influences the smallholder businesspersons' access to formal credit, is their attitude towards risk. Many businesspeople, as can be expected, are very risk-averse that even when credit is available, they do not like to venture into activities due to risks of repaying loans. It was measured based on their positive or negative perception. This is a dummy variable which takes "1" if they respond as they don't fear risk to take loans and "0" otherwise. Therefore, it is expected that businesspersons who are risk averse will not demand credit and it negatively affects access to use credit from the formal credit institutions.

3.9.2.2.2 Experience in credit use from the formal sources

This refers to the number of complete months a smallholder businessperson has used credit from financial institutions. According to Sisay (2008) for the case of smallholder farmers, a farmer having more experience in formal credit use will have higher tendency towards using the formal credit sources and vice versa. Hence, this variable is assumed to have positive influence on access to credit by the smallholder businesspersons.

3.9.2.3 Institutional Factors

3.9.2.3.1 Physical distance from lending institutions

The physical distance from business location to nearest financial lending institution was measured in complete kilometers. Availability of the lending institutions in one's locality has

a location advantage and the smallholder businesspersons can contact the lender easily. They also have more access to information than those who live more distant locations. The probability of accessing credit facilities increases with a decrease to the nearest financial services provider (Kiplimo et al, 2015). According to Hussien, 2007 (as cited in Sisay, 2008), households are discouraged to borrow from lending institutions if they are located farther. This is because both temporal and monetary cost of transaction especially transportation cost increase with lender-borrower distance which raises the effective cost of borrowing. Therefore, location advantage is expected to increase access to credit from the formal institutions.

3.9.2.3.2 Membership to Multipurpose Cooperatives and Associations

This is a dummy variable which takes a value "1" for membership and "0" otherwise. Some of the smallholder businesspersons are members of the multipurpose service cooperatives and associations where they get different services including credit. According to Buyinza et al, (2018), SMEs whose owners are members of a business group are more likely to get formal credit than their counterparts who are non-members. Therefore, it was hypothesized that businesspeople who are members of cooperatives and associations have more access to credit from cooperative source and other Business Association(s) to which they are members.

The assumptions governing the explanatory variables are as follows:

1. They are non-stochastic in nature
2. Have fixed values in repeated sampling
3. As $m \rightarrow \infty$, the sample variance tends to a fixed constant($s^2_x = k$)
4. In multiple regressions, there is no multicollinearity between two or more regressors.

3.10 Variable Measurement and A Priori Expectation

The measurement of the Dependent and Independent variables as well as the expected signs of the corresponding estimated coefficients are presented in Table 3.3.

Table 3.3 Variable Measurement and A Priori Expectation

Variable	Definition/Measurement	Expected Sign
Dependent Variable		
Access to Financial Credit	Smallholder businesspersons' access to credit captured as a dummy(1= credit users, 0 = Non-credit users)	
Independent Variables		
1. Gender	Gender of the smallholder businessperson. Dummy (1= Male, 0 otherwise)	Positive
2. Age	Age of the smallholder businessperson measured in complete years	Positive
3. Education Level	Dummy (1=Less than High School Education, 0 otherwise)	Negative
	Dummy (1= High School Education, 0 otherwise)	Positive
	Dummy (1= College/University Education, 0 otherwise)	Positive
4. Attitude towards risk	Measure of smallholder businesspersons' level of risk-averseness. Dummy (1= Lack of fear of loans as risky, 0 otherwise)	Positive
5. Experience in credit use	The number of complete months a smallholder businessperson has used credit from financial institutions	Positive
6. Distance from Lending Institutions	Physical distance from business location to nearest financial lending institution measured in complete kilometers	Negative
7. Membership to Multipurpose Cooperatives and or Associations	Dummy (1= Membership, 0 otherwise)	Positive

3.11 Ethical Considerations

For researchers, it would be impossible to conduct any research and project works successfully if they do not receive the help of other people and effectively manage ethical issues (Dawson, 2002 as cited in Gezahegn et al, 2018). These are important considerations which any study must take care of in order to ensure high quality results and also protect the integrity of the researcher and also the respondents (Mugenda & Mugenda, 2003). As cited in Lumumba (2016), William (2006) lists some of the ethical issues as informed consent,

confidentiality and anonymity. A research study is inherently intrusive and the data obtained can be easily abused. The researcher was guided by a number of ethical principles, no harm was allowed to the respondents and or participants as a result of their participation in the research; the respondents' right to privacy was respected; no undue pressure was put on the respondents; and no minor was allowed to take part in the study. Respondents were provided with sufficient initial information about the survey to be able to give their informed consent concerning participation and the use of data, permission to conduct the survey was sought from respective authorities and the researcher maintained confidentiality by using the data gathered exclusively for academic purposes.

CHAPTER FOUR

RESULTS ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the survey data. To achieve each specific objective of the study, the data obtained from the survey was analyzed using descriptive statistics (like frequency, percentage, mean, and standard deviation) and inferential statistics by use of an econometric analysis model (binary logistics analysis) to explain the determinants of credit access by the smallholder businesspersons in Migori County. Finally, the chapter presents a discussion of the research findings.

4.2 Pilot Results

A pre-testing of questionnaires was conducted before carrying out the main study. Research instruments piloting is meant to authenticate quality of research instrument as per study research questions and objectives (Kothari, 2009 as cited in Kathure, 2021). The main aim of pilot studies was to assess the feasibility so as to avoid potentially disastrous consequences of embarking on a large study which could potentially drown the whole research effort. As cited in Kathure (2021), Ngugi (2013) points out at issues argued by Cooper and Schindler (2008) which explains that a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample. In fact, through piloting a study can examine respondents understanding of research instrument. Piloting approach ought to mimic the actual approach to be adopted by the actual study. (Kathure, 2021). Kothari (2004) (as cited in Jerono, 2017) and Bryman (2012) (as cited in Kathure, 2021) argues that piloting ought to be at least 10% of sample size. Consequently 48 respondents who were not involved in the actual study were randomly drawn from Rongo and Uriri Sub-Counties during piloting. The researcher prepared copies of the questionnaire and

self- administered it to the pre-test sample that was similar to the actual study sample in major characteristics. This was significant as it helped to reveal aspects of ambivalence depicted by the questionnaire items that were subsequently reframed relative to the responses obtained from the respondents.

The main aim of pre- testing the research instrument is to ensure that it is both valid and reliable for data collection (Jerono, 2017). The pilot results for reliability and validity are presented in sections 4.1.1 and 4.1.2 below.

4.2.1 Reliability Analysis

Reliability of a research instrument refers to its ability to produce consistent and stable measurements. Cronbach's alpha is the most common reliability coefficient and it estimates internal consistency by determining how all items in a test relate to other items and to the total test - internal coherence of data (Wanjiku, 2016). This reliability is expressed as a coefficient between 0 and 1.00. The higher the coefficient, the more reliable is the test. The coefficient was checked against the recommended standards (Cronbach's alpha $\geq$ 0.70) mainly to ensure that they are reliable indicators of the constructs (Muijs, 2004 as cited in Gezahegn et al, 2018). Reliability of a research instrument can be evaluated through test retest, split half amongst others (Kathure, 2021). In this study, a test retest reliability measure was employed by administering the questionnaire items twice to the same sample in a span of two weeks. The first test having been taken and results noted, the second test was subsequently administered and the results taken. The Cronbach's alpha calculated during pilot test showed that the items score an alpha value of 0.76 for the demographic factors, 0.73 for the socio-economic factors and 0.78 for the institutional factors confirming that the data collection instrument was reliable. This was consistent enough to adequately represent the

determinants of credit access for the case of smallholder businesspersons of Migori County, Kenya. The reliability of the constructs is shown below in Table 4.1 as follows.

Table 4.1 Reliability Analysis

	Reliability	
Variables	**Cronbach's Alpha**	**Comments**
Demographic Factors	0.76	Accepted
Socio-Economic Factors	0.73	Accepted
Institutional Factors	0.78	Accepted

4.2.2 Validity Analysis

Validity is the extent to which a concept, conclusion, or measurement is well-founded and corresponds precisely to the real world. Validity is a measure of the degree to which differences found with a measuring instrument depict true differences among the items being measured (Kothari, 2005 as cited in Lumumba, 2016). In other words, the validity of a measurement tool such as a questionnaire is said to be the degree to which that tool measures what it claims to measure. Validity test seeks to determine whether the instrument is able to serve the purpose of collecting the purported data. A valid instrument must meet the reliability threshold (Kimberlin & Winterstein, 2008 as cited in Jerono, 2017). Validity of the research instruments was addressed by ensuring that the questionnaire items sufficiently covered the research objectives and this was subsequently confirmed by the pilot study. Besides, instruments validity was also ascertained by exposing the questionnaire to the experts for judgment and peers for review.

4.3 Response rate

The smallholder businesspersons were categorized into two categories namely: General Trade and Personal/professional/Technical services and also male and female. Targeting a sample size of 476 businesspersons with an estimated response rate of 90%, 527 contacts were made. The target sample businesspersons successfully interviewed were 446 distributed as shown in table 4.2.

Table 4.2 Distribution of Response Rate

Region of operation	Target Sample size	Successfully Interviewed	Percentage Response Rate
Awendo Sub-County	148	138	93.24%
Migori Sub-County	139	129	92.81%
Kuria West Sub-County	189	179	94.71%
OVERALL	476	446	93.70%

The overall response rate was 93.70%. This was found to be fit for analysis. According Mugenda & Mugenda, 2010 (as cited in Mohamed, 2017), any response rate of 70% and above is considered excellent for analysis and making recommendations.

4.4 Descriptive Statistics Results

This section gives an outline of the characteristics of the smallholder businesspersons in Migori County who accessed credit or otherwise. It also presents the sources of credit for the same group in the study area.

4.4.1 Characteristics of the Smallholder Businesspersons

Smallholder businesspersons' access to credit is influenced by demographic, socio-economic and institutional factors. This section is devoted to the background and the difference between users and non-users of credit on variables pertinent to the concern of the thesis. Access to credit by smallholder businesspersons in the context of this study is measured in terms of credit users and non-users.

4.4.1.1 Demographic Characteristics of Sampled Entrepreneurs.

These include gender, age, and the education level of the smallholder businesspersons in the study area as presented in tables 4.3, 4.4 and 4.5 respectively.

Table 4.3 Respondents' Gender Composition, Region of Operation, and Access to Credit

	Respondents' Region of Operation					**Respondents' Access to Credit**			
Respondents' Gender	**Cluster1: Awendo Sub-County**	**Cluster2 :Migori Sub-County**	**Cluster 3:Kuria Sub-County**	**Total**	**% of Total**	**Credit users**	**Non-Credit users**	**Total**	**% of Total**
Male	64	65	114	**243**	**54.5**	145 (59.7%)	98 (40.3%)	**243**	**54.5**
Female	74	64	65	**203**	**44.5**	100 (49.3%)	103 (50.7%)	**203**	**45.5**
Total	138	129	179	**446**	**100**	245	201	**446**	**100**
% of Total	**30.9**	**28.9**	**40.1**	**100**		**54.9**	**45.1**	**100**	

Source: field data, 2018.

As shown in Table 4.3, out of the 446 respondents successfully interviewed the Male businesspersons were 243(54.5%) while Female businesspersons were 203 (representing 45.5 %) out of which 138(30.9%), 129(28.9%) and 179(40.1%) were operating within Awendo, Migori and Kuria Sub-Counties respectively.

With regard to credit accessibility, 245(54.9%) and 201(45.1%) were credit and non-credit users respectively. Out of these, 59.7% of the credit users were males while, of the non-credit users, 50.7% were females. The number of credit user female businesspersons is lower than those for males while the reverse is true for non-credit users. The implication is that male businesspersons have more access to credit than their female counterparts.

Table 4.4 Respondents' Age

	Total	**Minimum**	**Maximum**	**Mean**	**Std. Dev**
Respondents' Age in Years	**446**	**19**	**64**	**35.4327**	**10.51692**

As indicated on Table 4.4, the average age of the businesspersons was 35.4327 years, with minimum and maximum ages of 19 and 64 years respectively.

Table 4.5 Respondents' Level of Education

	Respondents' Level of Education				
Credit Accessibility	**Less Than High School**	**High School**	**College/ University**	**Total**	**% of Total**
Credit users	83	151	11	**245**	54.9%
Non-Credit Users	102	92	7	**201**	45.1%
Total	**185**	**243**	**18**	**446**	**(100%)**
% of Total	(41.5%)	(54.5%)	(4.0%)	(100%)	

Source: field data, 2018.

From Table 4.5, 185(41.5%), 243(54.5%) and 18(4.0%) of the sampled respondents had Less than High School, High School and College/University level of education respectively. Out of these, those with High school and College/University education had more credit users than the non-credit users. For those with Less Than High School education, there were more non-credit users than the users. This may probably mean that businesspersons, having attained higher education levels, have more exposure to the external environment and information which helps them easily associate to credit sources and consequently access credit.

4.4.1.2 Socio-Economic Characteristics of the Sampled Entrepreneurs

The Socio-economic characteristics include the respondents' attitude towards risk and experience in credit use.

Table 4.6 Respondents' attitude towards risk

Characteristic	Score	Credit Accessibility		Total	% of Total
		Credit users	Non-Credit Users		
Attitude towards Risk	**YES**	162(66.1%)	138(68.7%)	**300**	**67.3**
	NO	83(33.9%)	63(31.3%)	**146**	**32.7**

Source: field data, 2018.

Table 4.6 reveals that on overall, 67.3% of the respondents perceive borrowing as risky. With regard to credit accessibility, both user and non-user groups perceive borrowing as risky due their high numbers (66.1% and 68.7% respectively) compared to those who didn't perceive it so (33.9% and 313% respectively).

The smallholder businesspersons' experience in credit use was measured in complete months a smallholder businessperson has used credit from financial institutions.

Table 4.7 Respondents' Experience in credit Use

	Total	Minimum	Maximum	Mean	Std. Dev
Respondents' Experience in credit use	**446**	**0**	**216**	**31.4484**	**43.80914**

Experience in credit use from the financial sources varied among the sampled businesspersons. The average number of months of credit experience of the sampled businesspersons was 31.4484 months(slightly more than 3.5 years) and the maximum and minimum experience were 216 months(18 years) and 0 months respectively.

4.4.1.3 Institutional Characteristics of the Sampled Entrepreneurs

These include the distance from lending institutions and membership to multipurpose co-operatives or business associations.

The distance from lending institutions was measured as the physical distance from the business location to the nearest financial institution measured in complete kilometers.

Table 4.8 Distance from lending institutions

	Total	Minimum	Maximum	Mean	Std. Dev
Distance from Lending Institutions	**446**	**0**	**50**	**8.0767**	**10.15006**

As shown in Table 4.8, the distance from the respondents' business location to the nearest lending institutions in complete kilometers were assessed where the average distance was found to be 8.0767km, with minimum and maximum distances of 0 and 50 km respectively**.**

Table 4.9 Respondents' Membership to multipurpose Co-operatives and or Business Associations

Characteristic	Score	Credit Accessibility			
		Credit users	Non-Credit Users	Total	% of Total
Membership to a Co-operative and or a Business Association	**YES**	171(69.8%)	87(43.3%)	**258**	**57.8**
	NO	74(30.2%)	114(56.7%)	**188**	**42.2**

On Membership to Multipurpose Cooperatives/Business Associations, 258(57.8%) are members while the rest are not. Majority of the credit users (69.8%) are members to Multipurpose Cooperatives/Business Associations in the study area while, for the non-credit users, the reverse is observed where only 43.3% of the non-users are members to the Multipurpose Cooperatives/Business Associations. The implication is that membership to a Cooperative /Business Association is not a guarantee to credit accessibility but nonetheless influences the ease with which businesspersons' access credit.

4.3.2 Sources of Credit for the Smallholder businesspersons

Table 4.10 below shows, along gender lines, the major credit sources for the smallholder businesspersons in Migori County:

Table 4.10 Major Credit Sources for the Smallholder Businesspersons by Gender

	Gender					
	Male (N=243)		Female (N=203)		Total (N=446)	
Credit Source	**N**	**%**	**N**	**%**	**N**	**%**
Own saving (Starting Capital)	241	99.2	188	92.6	429	96.2
Own saving (Working Capital)	220	90.5	175	86.2	395	88.6
Saving +partner's (Starting Capital)	69	28.4	75	37	144	32.3
Saving +partner's (Working Capital)	76	31.3	108	53.2	184	41.3
Gifts/loans from spouse (Starting Capital)	38	15.6	29	14.3	67	15
Gifts/loans from spouse (Working Capital)	30	12.3	27	13.3	57	12.8
Gifts/loan from relatives (Starting Capital)	33	13.6	20	9.9	53	11.9
Gifts/loan from relatives (Working Capital)	43	17.7	37	18.2	80	17.9
Loan from NGOs and Banks(Starting Capital)	16	6.6	20	9.9	36	8.1
Loan from NGOs and Banks(Working Capital)	45	18.5	34	16.7	79	17.7
Loan from MFIs (Starting Capital)	93	38.3	64	31.5	157	35.2
Loan from b MFIs (Working Capital)	108	44.4	77	38	185	41.5

Source: Computed from the field survey data, 2018

Table 4.10 shows the major credit sources for the smallholder businesspersons by gender. As shown on the table, own savings was the major credit source with 96.2% and 88.6% for starting and working capital respectively, followed by loan from MFIs with 35.2% and 41.5% for starting and working capital respectively. Savings + Partner's also contributed significantly as a credit source with 32.3% and 41.3% for starting and working capital respectively.

4.5 Econometric Analysis of the determinants of credit accessibility

Before the most significant explanatory variables were identified by the model output, it was necessary to undertake a multicollinearity test and assess the model for goodness-of- fit.

4.5.1 Multicollinearity Analysis

Prior to running the logistic regression model, the explanatory variables were checked for the existence of multicollinearity problem. The problem arises when at least one of the independent variables is a linear combination of the other(s). The existence of multicollinearity might cause the estimated regression coefficients to have wrong signs and smaller t-ratios that might lead to wrong conclusions (Sisay, 2008).

According to Gezahegn et al (2018), researchers may test for multicollinearity problem between the independent variables by either using correlation matrix or Variance Inflation Factor (VIF).

The decision rule for correlation coefficients is that when its value approaches -1 or +1, there is a problem of association between the variables. According to Getachew (2017), multicollinearity is a problem when the correlation result is above 0.80 and below -0.80. In this study it is between 0.230 and -0.338 (see Table 4.11).

Table 4.11 Correlation Matrix for the Independent Variables

		1	2	3	4	5	6	7
1	Pearson Correlation	1.00	-.113	-.102	.085	-.022	-.012	-.121
	Sig. (2-tailed)		.135	.180	.264	.768	.873	.109
2	Pearson Correlation		1.00	-.143*	.046	.230***	.050	-.134
	Sig. (2-tailed)			.057	.548	.002	.514	.077
3	Pearson Correlation			1.00	-.053	.105	.137*	.069
	Sig. (2-tailed)				.487	.167	.070	.361
4	Pearson Correlation				1.00	-.338***	.033	-.175**
	Sig. (2-tailed)					.000	.662	.021
5	Pearson Correlation					1.00	.012	.061
	Sig. (2-tailed)						.873	.425
6	Pearson Correlation						1.00	-.071
	Sig. (2-tailed)							.351
7	Pearson Correlation							1.00
	Sig. (2-tailed)							

*** Significant at 0.01 level (2 tailed)

** Significant at 0.05 level (2 tailed)

* Significant at 0.10 level (2 tailed)

Description: 1=Respondent's Gender

2=Respondent's Age

3=Respondent's Level of Education

4=Membership to Multipurpose Cooperative or Business Association

5=Total Number of Months of Credit Use Experience

6=Physical Distance from Lending Institutions measured in complete Kilometers

7=Respondent's Perception of Borrowing as Risky.

Based on the results of table 4.11, the data was found to have no serious problem of multicollinearity and therefore they were retained in the model. Additionally, the dependent variable (access to credit) was designed as a binary outcome variable. Hence, the data and variables met the assumption underlying the logistic regression model.

4.5.2 Model of Goodness-of-fit Test

The sample businesspersons were classified into two mutually exclusive categories namely: Credit and Non-Credit Users. According to Gezahegn et al, (2018) there are three ways of assessing the goodness-of-fit for a model. The first method is to observe the model summary of Cox & Snell's and Nagelkerke's R squares which provide some approximations of R^2 statistics in logistic regression. Secondly, the assessment can be done by looking into the Hosmer Lemeshow test. Lastly, another way of assessing the goodness of the fit model is to see how well the model classifies the observed data by looking at the proportion of cases the model has managed to classify correctly. The current study utilizes the latter method.

By looking at the proportion of users and non-users of credit who have been classified correctly, the classification table printed out by SPSS tells how many of the cases (users and non-users of credit) have been correctly predicted (see table 4.12).

Table 4.12 SPSS Classification Table

		Predicted		
		Respondent's Access to Credit		**Percentage**
Observed		**Non-Users**	**Users**	**Correct**
Respondents' Credit Access	**Non-Users**	198	3	98.5
	Users	19	226	92.2
Overall Percentage				**95.1**

Source: field data, 2018.

In the Classification table (Table 4.12), the columns are the two predicted values of the dependent, while the rows are the two observed (actual) values of the dependent. In a perfect model, all cases will be on the diagonal and the overall percentage correct classification will be 100%. In this study, 98.5% were correctly classified for non-users of credit group and 92.2% for the users group. Overall 95.1% were correctly classified.

4.5.3 Empirical Results of the binary logistic regression analysis

In this section, variables characterizing small holder businesspersons and their differences among the credit user and non-user groups were identified. Six variables(Gender of smallholder businesspersons, Age of smallholder businesspersons, Membership to multipurpose cooperative, Experience in credit use, Physical distance from lending institution, and Attitude towards risk) and three Dummy Variables for Educational Level(Less Than High School, High School and College/University Education) were hypothesized to explain small holder businesspersons' access to credit. Out of these, two variables were found to be significant; six variables were insignificant in explaining access to credit while one variable did not show variation among sample businesspersons. The results of the model output are shown in table 4.13 below:

Table 4.13 Maximum Likelihood Estimates of the Logit Model and the Effects of the Explanatory Variables on the probability of access to credit.

Explanatory Variables	Estimated Coefficient (B)	Odds Ratio {EXP(B)}	SE	Wald Statistics	df	Significance Level
Constant	-3.294	.037	1.690	3.799	1	.051
Gender	-.254	.776	.444	.328	1	.567
Age	.045	10.46	.021	4.397**	1	.036
Less Than H Sch. Educ.	-1.078	.340	.712	2.294	1	.130
High School Education	.070	1.073	.532	.018	1	.895
Attitude towards Risk	.515	16.74	.442	1.361	1	.743
Credit Use Experience	.335	13.99	.051	43.525*	1	.001
Distance	-.034	.967	.027	1.539	1	.215
Coop Membership	-.274	.760	.435	.397	1	.529

Source: field data, 2018.

***** and ** represent level of significance at 1% and 5% respectively.

Table 4.13 above has several important elements. The Wald statistic, which has a chi-square distribution, and the associated probabilities provide an index of the significance of each predictor in the equation. The simplest way to assess Wald is to take the significance values and if less than .05 reject the null hypothesis as the variable makes a significant contribution. In this case, it is noted that the age of the businesspersons and credit use experience contributed significantly to the prediction (p = .036, and .001 respectively) but Gender, the dummies for educational level, Attitude towards risk, Distance from lending institutions/Office and Membership to Multipurpose Cooperative/business Association did not (p = .567, .130, .895, .743, .215 and .529 respectively).

The maximum likelihood estimates of the logistic regression model show that the age of the smallholder businesspersons (Age), Months of Experience in Credit Use (Credit Use Experience) were important factors influencing smallholder businesspersons' access to credit in the study area (refer Table 4.13). Gender of the small holder businesspersons (Gender), the dummies for Less the High School and High School Education Levels, Perception that borrowing is risky (Attitude towards Risk), Distance from lending institution/office (Distance), and Membership to a Multipurpose Cooperative/Business Association (Coop Membership) were less powerful in explaining the sample businesspersons' access to credit indicating that the two groups (users and non-users of credit) were homogeneous to these variables.

4.6 Discussion of Research Findings

This section presents an elaboration of both significant and insignificant explanatory variables in sections 4.5.1, 4.5.2 and 4.5.3 respectively.

4.6.1 Demographic Factors

The demographic factors of interest to the study include gender, age and educational level of the smallholder businesspersons.

Gender was a discrete variable taking a "1" for Males and "0" otherwise. From the results of the model output, the variability in gender was statistically insignificant and negatively related to credit access by the smallholder businesspersons of Migori County (-0.254, p = .567). This is contrary to the a priori expectation since the estimated coefficient associated with the gender variable had an unexpected negative sign. Contrary to what previous empirical analysis suggested, this study found that the gender of an enterprise's owner (being male) had a negative effect on the probability of it having access to credit. In fact, it found that accessing credit was more likely when the enterprise's owner was a female. The negative

relationship between being male and credit access implies empowerment of the female gender. Alternatively, it may be construed to mean that female business owners are more likely to access credit than their male counterparts. This finding can probably be attributed to the fact that in the study area acquisition of credit is not restricted by social identities and that gender segregation is minimal. As a result, women can step-up outside their traditional roles by taking a more independent and entrepreneurial approach in their economic lives. This finding, which is contrary to expectations, could be associated with the dynamism and reputation of women entrepreneurs when it comes to repaying loans. Sisay (2008), Aregawi & Nigus (2014); Sekyi (2017); Assogba et al (2017); Abdoulaye (2021) find similar results on the effect of gender on credit accessibility. However, this finding goes contrary to what is widely believed in empirical literature that the male headed households have a positive demand for credit (Samba, 2014; Eshetu, 2015; Mwaura, 2017; Kimani, 2017; Buyinza et al, 2018; Onyango, 2020).

The parameter for age is positive and statistically significant (0.045, p = .036). Therefore age of the sample businesspersons, which was measured in complete years, was found to be an important and statistically significant variable in accessing credit. The Wald Statistics corresponding to the variable for age show that it is positively related and significant to credit access in the study area at 5% level. The odds favoring access to credit increases by a factor of 10.46 for a unit increase in age of a businessperson by one more year. This is consistent with the prior expectation that those with higher age may have more access to credit from the formal sources than their younger counterparts. This finding corroborates the results of the works of Aregawi & Nigus (2014); Getachew (2017); Eshetu (2015); Sekyi (2017); Gezahegn et al (2018); Onyango (2020) which revealed that age was an important determinant for credit access. According to Swain, 2001 (as cited in Sekyi, 2017), an increase in age is often associated with experience, practical and professional wisdom of the

household head which increase his/her income generating capabilities and hence increase his/her demand for credit. In addition, due to capability of the older entrepreneurs to accumulate assets which are used as collaterals, formal financial institutions perceive them as creditworthy. As a result, they are more likely to access credit from formal financial institutions than the younger entrepreneurs (Getachew, 2017). The above results pertaining the significance of age on credit accessibility however contradicts with the results of other studies by Sisay (2008), Mwaura (2017) and Assogba et al (2017) which reports insignificant contribution of age on credit accessibility.

The level of education was categorized into three mutually exclusive levels namely: Less than high school, High school, and College/ University levels. For those with less than high school education, access to credit by the smallholder businesspersons was negatively related and statistically insignificant (-1.078, p = .130). The negative relationship is consistent with the a priori expectation. However the significance level implies that it is statistically insignificant at 5%. For this reason, the null hypothesis is accepted as the variable does not make a significant contribution to credit access in the study area. For those with High school education, the estimated coefficient was consistent with the a priori expectation even though statistically insignificant (.70, p = .895). The estimate of the coefficient for those with High School Education was positively related but statistically insignificant at 5%. The dummy variable for College/University level of education did not show significant variation among the sampled businesspersons. For this reason it was not retained in the model. A study by Phan et al, 2002 (as cited in Kirimi & Guyo, 2014) found out that the negative relationship between education level and the propensity to start business may be due to perceptions of risk and the high opportunity cost of human capital. Highly educated people would like to recoup their investments as quickly and as safely as possible making self-employment unattractive. Chen and Chivakul, 2008 (as cited in Abdul-Jalil, 2015) also argue that, education, at primary

and secondary level may affect credit demand positively, but at for a four-year university education level, education has negative but insignificant effect. This could imply that highly educated individuals already enjoy high income and wealth and therefore have little need to borrow. Sisay (2008); Aregawi & Nigus (2014); Omboi & Wangai (2011) reports insignificant contribution of educational level on credit accessibility in line with the results of the current study. On the contrary, Eshetu (2015); Getachew (2017); Assogba et al (2017); Mwaura (2017); Buyinza et al (2018); Silong & Gadanakis (2020) find education level a significant factor in determining access to credit.

4.6.2 Socio-Economic Factors

The socio-economic factors pertinent to the current study include smallholder businesspersons' attitude towards risk and experience in credit use.

The attitude towards risk measured the risk taking propensity among smallholder businesspersons. It was a dummy variable measured by "1" for lack of fear of loans as risky and "0" otherwise. Even though positively related and consistent with the a priori expectation, the relationship was insignificant (.515, p = .743) at 5%. The result is as expected and is consistent with Sisay (2008) which establishes a positive but insignificant relationship between credit access and attitude towards risks. However, Alhassan & Sakara (2014); Mahammood et al (2014) find contradicting results.

Experience in credit use was another factor which was positively related to credit access and that it was significant at 1% probability level (.335, p =.001). The estimated coefficient is consistent with the a priori expectation. The odds ratio in favour of accessing credit increases by a factor of 13.99 for a unit increase in credit use experience by one month. The reason behind this is that a businessperson having more experience in credit use will have more tendencies using that source. This finding corroborates the results of Atieno (2001); Sisay

(2008); Alhassan & Sakara (2014); Mahammood et al (2014) who observed that past credit participation favours access to credit.

4.6.3 Institutional Factors

The institutional factors included the distance from credit sources and membership to multipurpose co-operatives and or business associations.

The variable for Distance measured the physical distance from the business location to the nearest lending institution in complete kilometers. Even though consistent with the a priori expectation, its contribution to the prediction of the model was insignificant at 5% (-0.034, p = 0.215). Sisay (2008) also finds similar results which indicate an insignificant contribution of distance from a credit source in determining credit accessibility. The results for Atieno (2011) and Kiplimo et al (2015) however contradict the current study with regards to the effect of distance in determining access to credit.

Membership by the smallholder businesspersons to multi-purpose cooperatives and or business associations was negatively and insignificantly related to credit access by the same group in the study area (-0.274, p =.529). This result contradicts the a priori expectation but is consistent with the results of other studies which establishes that membership insignificantly affects credit accessibility (see Assogba et al, 2017; Silong & Gadanakis, 2020). On the contrary, Sisay (2008) and Buyinza et al (2018) find membership a significant variable in explaining access to credit.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the research, conclusions, and policy recommendations from the findings of the study. It also highlights limitations of the study and suggestions for further research.

5.2 Summary of Major Findings

The study focused on the problems that affect smallholder businesspersons' access to credit in Migori County. A multi-stage sampling technique was applied in the study. In the first stage, Sub-Counties were selected and in the second stage, the required respondents were selected. The businesspersons were categorized into two categories namely: General Trade and Personal/professional/Technical services and also male and female. Targeting a sample size of 476 businesspersons with an estimated response rate of 90%, 527 contacts were made. The target sample businesspersons successfully interviewed were 446 distributed as follows: Awendo Sub-County: 138 respondents, Migori Sub-County 129 and finally Kuria West Sub-County with 179 respondents.

In order to explain the determinants of credit access by the smallholder businesspersons in the study area, the researcher employed Econometric analysis (binary logistic regression model) in addition to descriptive statistics with the help of SPSS software. The overall accuracy of the model to predict credit access among smallholder businesspersons in the study area was 95.1%. The survey results indicates that 245(representing 54.9%) of the sample businesspersons were credit users whereas the remaining 201(45.1%) were non-users. Out of these, 243 (54.5%) were males while 203 (45.5%) were female businesspersons. The

Smallholder businesspersons' access to credit is influenced by demographic, socio-economic and institutional factors.

5.2.1 Demographic factors

The logistic regression analysis results show that among demographic factors which determine access to credit by the smallholder businesspersons in Migori County, the age of the respondents was positively related and statistically significant (at 5% level) to credit access, in line with the a priori expectations.

The gender of the respondents was negatively related and statistically insignificant to credit accessibility in the study area. The negative relationship between gender and credit access contradicts the expected hypothesis that males have more access to credit.

The level of education was categorized into three mutually exclusive levels namely: Less than high school, High school, and College/ University levels. For those with less than high school education, access to credit by the smallholder businesspersons was negatively related and statistically insignificant. The negative relationship is consistent with the a priori expectation. For those with High school education, the estimated coefficient was consistent with the a priori expectation even though statistically insignificant. The dummy variable for College/University level of education did not show significant variation among the sampled businesspersons. For this reason it was not retained in the model.

5.2.2 Socio-economic factors

Of the two socio-economic factors, months of credit use experience was statistically significant to credit access at 1% probability level while the attitude towards risk was insignificant.

However both were positively related to credit access by the smallholder businesspersons in the study area, in line with the a priori expectations.

5.2.3 Institutional factors

The institutional factors under consideration by the study included the physical distance from a credit source and membership to multipurpose cooperatives or business associations.

Both variables were negatively related to credit access, with the variability in distance from a credit source on credit accessibility consistent with the a priori expectation. Interestingly, the two institutional factors were less powerful in explaining the variation in credit accessibility by the smallholder businesspersons.

5.3 Conclusions

A number of conclusions can be drawn from the results of this study. One major conclusion is that quite a large number (45.1%) of the informal sector smallholder businesspersons have never accessed credit from formal financial sources which implies a very huge potential demand for credit.

The composition and participation of the informal sector smallholder businesspersons is gender balanced given the numbers of male and female traders in the sector. Given the negative relationship between being male and access to credit, it may be concluded that in the study area acquisition of credit is not restricted by social identities and that gender segregation is minimal. It also shows that microfinance has the potential to contribute significantly to gender equality in the financial markets.

College and University graduates shy away from participation in the informal sector due to clamour for white collar jobs.

The informal sector smallholder businesspersons do not fear taking up loans.

A very large proportion on non-credit users are not members to multi-purpose co-operatives and or business associations in the study area.

5.4 Policy Recommendations

Some policy implications can be drawn from the results of this study. Given the relatively abundant financial resources of the formal financial institutions compared with the informal sources, there is need for policy measures to increase access of smallholder businesses to formal credit. There should be a way to transform the huge potential demand for credit by the smallholder businesspersons to be actual demand. This can be achieved through the establishment of credit insurance schemes protecting the financial institutions against default risks which may result in credit rationing.

The formal financial institutions such as Banks and MFIs should also be encouraged to diversify their loan portfolios so as to enable to cater for the different financial needs of the informal sector. The MFIs should move towards a more gender-balanced portfolio to benefit all the poor, gender notwithstanding.

Smallholder businesspersons should be encouraged to create social capital through their membership of associations relevant to their businesses. The business progress of one member could encourage others to participate.

Understandably, the distance to the nearest credit source had a negative influence on access to credit by the smallholder businesspersons. This is not surprising as distance is directly related to the cost of borrowing, information asymmetry and accessibility. This has important policy implications for government and financial institutions in terms of improving infrastructure and distribution of branch networks.

5.5 Limitations of the study

Limitations include the study's restricted focus on smallholder businesspersons within one geographical area. The study focused on Migori County only, and considering the diversity of the country, the findings may not be a representative of the whole population of the smallholder businesses in Kenya.

Though the researcher was determined to undertake the study to completion within the given time frame, various constraints were encountered as earlier envisaged. The time allocated for data collection may not have been sufficient to enable the respondents complete the questionnaires as accurately as possible. A number of MSEs are not permanently located at a particular place where they can be found all the time. Many are also busy moving up-and-down hawking their wares while those in particular locations are ever serving their customers. They therefore may not have had ample time to respond to questionnaires or take part in physical interviews. Some respondents were also uncooperative and failed to fill up the entire questionnaire or failed to present it back completely. Travel and other logistics were also a big challenge due to limited financial capacity.

In mitigation, a humble explanation to the respondents on the importance of the study was made. The researcher administered questionnaires for those who are highly mobile at their own convenient time. The significance of the study was objectively articulated to the prospective respondents during both the piloting phase and the actual study. The explanation indicated to them that the recommendations of the study were geared towards improving the smallholder businesses in the informal sector. It was further clarified that the study was solely for academic purposes.

5.6 Suggestions for Further Research

The study mainly dealt with the demand side factors influencing credit accessibility among the smallholder businesspersons of Migori County Kenya. The researcher recommends further studies in the following areas:

The researcher recommends other demand-side factors not included in this study to be investigated. Quite a number of such factors expected to influence credit accessibility among smallholder businesspersons in the informal sector were not included in the study including but not limited to size of the collateral provided, age of the enterprise, marital status of the smallholder businesspersons, location of the enterprise as to whether rural or urban, poverty levels, household size, income, among other factors.

A study on the supply-side factors influencing credit accessibility should be done. These includes but not limited to the interest rates, repayment period, restrictions on credit use, among other factors.

Another area of consideration emanates from the fact that Kenya is diverse in terms of agro-ecological, socioeconomic, cultural and religious features. Due to this heterogeneity, there cannot be a specific policy recommendation that can fit all areas and circumstances. Since diverse environments are not expected to fit to a single policy recommendation, a feasible direction is to try to devise relevant policies in tune with the diversity. In this connection, a study limited to Migori County might not be relevant for other counties in Kenya. Therefore, another possible extension of this study is to try to replicate it in other socioeconomic and agro-ecological settings of the country to further understand and explain variations and similarities among different locations. This will enrich the results obtained in this study and can improve policy recommendations.

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APPENDICES

APPENDIX I: BUDGET FOR THE RESEARCH STUDY

ITEM	AVERAGE COST (Kshs.)
1. Stationery, Supplies and Equipment	
a) Printing	15,000
b) Photocopying and Binding	25,000
c) Stationery	10,000
d) Purchase of SPSS V22 Software for Data Analysis	10,000
SUB-TOTAL	**60,000**
2. Transport Expenses	
Travelling Allowance for the Researcher (Ksh 400 @ 10 days)	**4,000**
3. Subsistence Allowance	
a)Accommodation @ Ksh 1000 for 10 days	10,000
b) Food (@Ksh 1000 for 10 days)	10,000
SUB-TOTAL	**20,000**
4. Communication and Postage	**26,000**
5. Literature Search (Maseno University and Other Libraries)	
a) 10 Night outs @Ksh 3000	30,000
b) Transport Cost	15,000
SUB-TOTAL	**45,000**
TOTALS	**155,000**
Contingencies (15% of Sub Totals)	**23,250**
GRAND TOTAL	**178, 250**

APPENDIX II: ACTIVITY SCHEDULE/ RESEARCH WORKPLAN

ACTIVITY						MAY 21	JUN 21
1. Preparation. Identification and development of research focus. Develop data collection tools							
2. Data collection. Literature review Present research proposal Pre-test questionnaires Data collection. Statistical analysis of the data.							
3. Report writing. 1st and 2nd draft report generation. Final report compilation							
4. Report submission.							

APPENDIX III: QUESTIONNAIRE FOR INFORMAL SECTOR TRADERS

Part I: Interview Schedule for Smallholder Businesspersons

Kindly provide answers to the questions below.

Use a tick (✓) where necessary. Do not write your name anywhere on this paper. Your responses will be accorded utmost confidentiality.

1. Respondent Characteristics

1.1 Region of Operation (Please Tick appropriately)

1. Rongo ☐
2. Awendo ☐
3. Migori ☐
4. Nyatike ☐
5. Kuria ☐

1.2 Your gender: Male ☐ Female ☐

1.3 Your age (please give your age in years) ……

1.4 Level of education: Less than High School ☐

High School ☐ College/University ☐

Any other (specify)……

1.5 Marital Status: Married ☐ Divorced/Separated ☐ Widowed ☐ Single ☐ Never Married ☐

1. 6 Position in the household: Head ( ) Spouse ( ) Other household member ( )

2.0 Access to Credit by Smallholder Businesspersons

2.10 Have you had access to credit before?

1. YES ☐ 2. NO ☐

2.11 When did you get to know about MFIS? .....

Name those that you know.

2.12 If you have been a credit user, please provide month, year and total number of months since first loan taking.

Month..... Year.....Total Number of Months.....

2.13 State the sources of loan, amount of the loan and purpose of borrowing

Source	Amount of loan	Purpose of borrowing
TOTAL LOAN OBTAINED		

2.14 Have you repaid the loan?

1. Fully Repaid ( ) 2. Partially 3.No

If you haven't repaid the loan, state your reasons for not repaying. ( )

2.15 What guarantee did you give to the MFI for giving the loan?

1. Group responsibility ( )
2. Guarantee of salaried individuals ( )
3. Guarantee of individuals having assets like a home, a car etc. ( )
4. Other (specify)……..

3. Risk taking ability of Smallholder Businesspersons

3.10 In your view is borrowing from financial institutions risky? 1. YES ☐ 2.NO ☐

3.11 Did you give up taking loans from lending institutions due to fear of risk in the last 12 months? 1. YES ☐ 2.NO ☐

4. Constraints and Difficulties faced by Smallholder Businesspersons

4.11 How far is your home from the nearest lending institution/office in kilometers? .....

4.12 Are you a member of a Cooperative or a Business Association in the area?

1. Yes ( ) 2. No.

4.13 Have you and your group been willing to accept people without any asset and business activities as group members?

1. Yes ( ) 2. No. ( )

4.14 If your answer for 4.13 is NO, state why you have not been willing to accept people without assets as group members.

4.15 Did you spend the total amount you borrowed on the purposes intended?

1. Yes ( ) 2. No

If your answer for 4.16 above is NO state the other purpose on which you spent the money. ( )

…….....

4.16 Was the loan sufficient to carry your purpose?

1. Yes ( ) 2. No ( )

If your answer is NO, what alternative steps did you take to carry on the business?

……

……

……

4.17 Has the loan repayment been suitable for you?

1. Yes ( ) 2. No. ( )

If NO, note why it has not been suitable for you

Reasons ……..

4.18 Have you ever been faced with problem for not repaying loans?

1. Yes ( ) 2. No. ( )

If YES, state the problems ……..

5. Ways of Credit Accessibility by Smallholder Businesspersons

5.10 What was your main source of starting capital? (Please place a tick where appropriate)

Source of credit	Starting capital		Working capital	
	YES	NO	YES	NO
Own saving				
Saving +partner's				
Gifts/loans from spouse				
Gifts/loan from relatives				
Loan from NGOs				
Loan from Banks				

THANK YOU VERY MUCH FOR SHARING WITH ME.

APPENDIX IV: LOCATION OF MIGORI COUNTY AND THE MAJOR TOWNS

Source: Google Maps