

**AN ANALYSIS OF THE DETERMINANTS OF ACCESS TO CREDIT BY SMALL AND
MEDIUM ENTERPRISES IN THE INFORMAL SECTOR IN ONGATA RONGAI**

BY

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DECLARATION

This is my original work and has not been presented for any degree award in any other university.

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This research paper has been submitted for examination with our approval as the university supervisors.

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DEDICATION

This work is dedicated to my family for their support, inspiration and encouragement in the course of writing this project.

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I wish to specially acknowledge and thank my supervisors Dr. Joy Kiiru and Mr. Jasper Okelo for their contribution and input which made the work a reality.

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Abstract

Despite the efforts that have been made by governments and NGOs to provide credit in many developing countries, the majority of SMEs in the informal sector still report limited access to credit. It is often argued that women are particularly more credit constrained than men. This study was conducted in order to determine the factors that affect the SMEs accessibility to credit to enable the relevant authorities develop interventions that will result in an increased credit availability and uptake. The specific research question addressed is the factors that determine access to credit for SMES in the informal sector. In conducting this study primary data was collected. The data collection took place between August and September, 2014, covering Ongata Rongai Township in Kajiado County. In total, 155 firms were surveyed. Descriptive statistical analysis and Heckman Probit model were applied to analyze the data. Results obtained from a probit model showed that women SME owners are less likely to apply and receive credit, that women had low access to credit from formal financial institutions. Other than gender, the factors that significantly determine access to credit according to study findings are financial training for the entrepreneur, firm's turnover and length of operation of the firm. The study suggests the need to initiate a comprehensive women empowerment programme to create more awareness on the availability of credit facilities, their conditions and application procedures. It is also important to create knowledge on the economic use of credit for the reduction of poverty.

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LIST OF ACRONYMS

GDP	-	Gross Domestic Product
ICDC	-	Industrial and Commercial Development Corporation
IDB	-	Industrial Development Bank
ILO	-	International Labour Organization
KIE	-	Kenya Industrial Estates
KREP	-	Kenya Rural Enterprise Programme
MFI	-	Micro-finance Institutions
OECD	-	Organization for Economic Co-operation and Development
SMEs	-	Small and Medium Enterprises
DFI	-	Development Financial Institution

CHAPTER ONE

INTRODUCTION

1.0 Background

1.1 Small and Medium Enterprises (SMEs)

The development of small and medium sized enterprises (SMEs) has long been regarded as a seedbed for industrialization and therefore crucial for the achievement of broader developmental goals. The 1972 International Labour Organization (ILO) report confirmed that SMEs play a significant role in employment and wealth creation and as a result many countries have implemented various programs for encouraging growth of SMEs. It is worth noting that SMEs have become the “backbones” of most economies as they serve as seedbeds for entrepreneurship, create new jobs and provide innovation and technological development (Mullei, 2003).

Of importance to note is that there is no clear and universally accepted definition of SMEs. According to Ronge and Nyangito (2002), there are generally three main criteria that can be used in defining their activities. These are: definitions based on the number of employees engaged by the enterprises; the degree of legal formality that distinguishes the formal and informal sector enterprises and definitions based on the amount of capital and skills per worker. This proposal employs the definition of SMEs according to their number of employees, that is, SMEs are defined as those non-primary enterprises whether in the formal or informal sector that employ 1 – 50 persons. Firms that employ more than 50 persons are considered as large enterprises.

According to studies by OECD (2004), SMEs contribute to over 55% of gross domestic product (GDP) and over 65% of total employment in high-income countries, over 60% of GDP and over 70% of total employment in low-income countries, and over 95% of total employment and about 70% of GDP in middle-income countries. Nguyen et al (2004) further indicates that SMEs generate more new jobs than large firms as they tend to introduce relevant innovative ideas, products and business methods. The SMEs tend to introduce business methods, products, and services that help restructure weak agricultural sectors or other uncompetitive transition economies, thereby absorbing labour that would otherwise

drop into the ranks of the poor. This helps in the spread of the benefits of economic growth by engaging low-income groups in national development.

Migiroy and Wallis (2006) indicated that in both developing and developed countries, SMEs play important roles in the process of industrialization and economic growth. In addition to increasing per capita income and output, SMEs create employment opportunities, enhance regional economic balance through industrial dispersal and generally promote effective resource utilization considered critical to engineering economic development and growth of any country.

1.1.1 SMEs in Kenya

Since independence, the significance of SMEs' activities has continued to grow and play a critical role in promoting growth in incomes and employment. Mulei and Bokea (1999) highlight that the economic space and opportunities created by the set of legislation and the subsequent slowdown in economic activity, especially beginning in the mid-1970s, the number of SMEs, continued to grow. This trend continued into the 1980s and early 1990s. In the latter period, the SME sector witnessed a bustling of activity and a dramatically renewed interest by both external agencies and the national government in informal sector activities, with a desire to intervene directly in this sector.

As noted by Wanjohi and Mugure (2008), the Kenyan government has continued to design policies and programmes with the intention of creating an enabling environment for the development of the SME sector in the country. The sector emerged as one of the key strategies of economic growth in the early 1980s as noted in the 1986 Sessional Paper on Economic Management for Renewed Growth and further reinforced in the Sessional Paper of 1989 on The Strategy for Small Enterprise Development in Kenya: Towards the Year 2000. This paper presented mechanisms for mitigating constraints to growth of the SME sector. It is in this paper that the government made firm commitments to the growth and development of SMEs. In 1992, the government published the Micro and Small Enterprises policy report, Sessional Paper No. 2 Small Enterprises and Jua Kali Development in Kenya that was reviewed in 2002, leading to a new policy framework that provided a balanced focus to SME development in line with the national goals of fostering growth, employment creation, income generation, poverty reduction and industrialization.

The 1999 National Micro and Small Enterprise Baseline survey estimated the number of SMEs to have grown from 910,000 in 1993 to about 1.3 million in 1999. The survey indicated that the SMEs employed 2.4 million persons in 1999. The number of employed persons increased to 5.1 million persons in 2002 (approximately 675,000 jobs per year) and 6.6 million persons in 2005 (Republic of Kenya, 2008). This number increased further to 8.3 million in 2009 (Republic of Kenya, 2010). The SMEs since the year 2002 have accounted for over 74 % of the total persons employed in the country. From these data, it is worth mentioning that employment in the sector has been growing by at least 400,000 jobs each year.

Tadesse (2007) presents a comparison of the proportion that the SME sector contributes in terms of employment of the labour force in selected countries in Africa. Table 1.1 below illustrates this.

Table 1.1: SME Share of Employment in Africa

Country	Proportion (in %)
South Africa	21
Burundi	20
Cameroon	19
Ivory Coast	33
Kenya	38
Malawi	39
Tanzania	32
Zambia	37
Zimbabwe	15

Source: Ayyagari et al, 2007.

From the table above, it is evident that the SME sector contributes significantly towards employment in the various African countries. In comparison to the other countries, Kenya lies second as the sector contribute at least 38% of the employment.

Regardless of an early recognition of the importance of SMEs in development and recommendation of various interventions by the Kenyan government to improve the sector, majority of the SMEs still find it difficult to graduate into large-scale enterprises. Sessional Paper No. 2 of 1992 on Small Enterprises and Jua Kali Development in Kenya (Republic of Kenya, 1992) lists constraints that limit the graduation of SMEs indicating the government's cognizance of the challenges facing the sector and hence establishment of various institutions/agencies such as development finance institutions (DFIs) to address them.

1.1.2 Development Finance Institutions

Development finance institution (DFI) is a generic term used to refer to a range of alternative financial institutions including microfinance institutions, and revolving loan funds. DFIs are institutions established to provide thrust to economic development by providing medium and long-term finance, to both commercial enterprises and social dimension programmes that can normally not be accessed from traditional banking institutions whose specialization is in short-term lending (KIPPRA: Policy Brief No 2/2006).

In Kenya, the establishment of DFIs was dictated by two fundamental factors as noted by the Kenya Institute for Public Policy Research and Analysis (Policy Brief No 2/2006). These factors were the need for rapid development of the industrial, commercial and agricultural sectors and the lack of a financial sector that could play a developmental role that entailed medium and long-term lending. Based on this, the government of Kenya established key DFIs that included Industrial and Commercial Development Corporation (ICDC), the Kenya Industrial Estates (KIE), the Industrial Development Bank (IDB) among others, as specialized arms of government to offer a variety of services to this segment of industrialization and commerce. While IDB and ICDC dealt with commercial and industrial enterprises at the upper part of the development pyramid (medium & large industries), KIE dealt with the base and middle level of the industrial pyramid that comprised of SMEs (KIPPRA: Policy Brief No 2/2006).

These DFIs offered a wide range of products, which included provision of workspace, business development services, long-term capital, technical assistance and equity participation. By financing development programs, they filled a gap that private sector banking and financial institutions were not able to cater for (KIPPRA No 2/2006).

However, the DFIs were constrained by their ownership structure, financing strategies, regulatory framework, and their interaction with the other institutions. This led to their overall poor performance in the execution of their legal mandate. The World Bank and other international donor agencies declined to give any further concessionary funds to these institutions hence bringing most of their programs to a halt. Government funding also dwindled over time thus resulting in less impact of their programs on the economy.

Over time, the DFIs have been unable to fill the development gap as initially envisaged. Despite their poor performance, various government development strategies such as Sessional Paper No 2 of 1997 on industrialization and the Economic Recovery Strategy for Wealth and Employment Creation still indicate their vital role in facilitating local investment and development of SMEs. This is because the private sector has not managed to supply long-term credit while the stock exchange remains shallow and thin limiting long-term resource mobilization by enterprises (KIPPRA 2/2006).

1.1.3 Provision of Credit to SMEs

According to Mwai (2011), the main sources of credit to SMEs are friends, relatives, formal banks, micro-finance institutions (MFIs), welfare associations, moneylenders and personal savings. Despite efforts from the public and private sector to enhance provision of financial support to the SMEs, the SMEs have persistently faced barriers in accessing funds for investments.

As indicated by Atieno (2001), there has been an increased tendency to fund credit programmes in developing countries targeting the SMEs. Despite this emphasis, access to credit by the SMEs remains one of the major constraints. In a survey conducted on SMEs in 1995, at least 33% of the entrepreneurs surveyed mentioned lack of capital as their principal problem, while only about 10% had ever received credit (Daniels et al., 1995). In addition to this, the lending policies used by the main credit institutions in Kenya did not ensure efficient

and profitable use of credit funds, especially by farmers, and result in a disparity between credit demand and supply (Atieno, 1994). This view is further supported by a 1995 survey by the Kenya Rural Enterprise Programme (KREP) showing that whereas credit is an important factor in enterprise expansion, it will most likely led to enterprise contraction when not given in adequate amounts (Daniels et al., 1995). Hence, despite the existence of a sophisticated financial system, it has not guaranteed the access to credit by small-scale enterprises.

Atieno (2001) further indicates that there are a number of formal institutions that provide credit to the SME sector and include commercial banks, non-bank financial institutions, non-government organizations, multilateral organizations, business associations, and rotating savings and credit associations. Although many financial institutions, especially commercial banks have emerged with SME products targeting the sector, they still emphasize on collateral which most SMEs lack. Few enterprises are able to provide the marketable collateral and guarantee requirements of commercial banks, with the result that SMEs lacking such requirements have not been able to obtain credit from banks.

Although there is limited literature on the informal financial sector in the country, there is a consensus that it is an important source of finance to the SME sector as noted by Dondo (1994). Whereas in the formal credit market only a selected few qualify for the predetermined loan portfolios, in the informal market the diversified credit needs of borrowers are better satisfied. The problems of formal financial institutions, especially security, loan processing, inadequate loans given, unclear procedures in loan disbursement and high interest rates, all underscore the importance of informal credit and the need to redesign the structures of the formal credit market to improve access to and the use of credit facilities by the SMEs.

In a study conducted by Hansen et al (2011) on Kenya, Ghana, Tanzania and South Africa credit accessibility, firms indicated access to finance as the major constraint in their development. At least 53% of the small-scale firms and 24% of the medium scale firms in Kenya indicated access to finance as a major handicap to their growth. Various factors were linked to the access to finance and these included interest rates (cost of finance), high fees or charges, lack of financial management skills by SMEs, lack of accurate financial information by SMEs, risk averse behaviour by SMEs and stringent collateral requirements amongst others.

It is apparent from the foregoing that the financial market especially the formal segment does not meet the silent demand for credit by SMEs in the country. The introduction of government programmes through the DFIs does not also seem to satisfy this increasing demand. It is in this view that the study seeks to shed light on the factors that determine the SMEs access to the available credit facilities in the country.

1.2 Problem Statement

It is acknowledged that SMEs play a key role in generating a pattern of economic growth that is generally labour-intensive, pro-entrepreneurship and competitive. The SMEs are seedbeds of innovations and the backbones of majority of the economies in the world as indicated by Mullei (2003). In Kenya, this is illustrated by the number of persons employed by the sector growing at an average annual rate of 400,000 that indicates either an increase and/or expansion of existing SMEs in the sector and eventually contribution to the national GDP (Republic of Kenya, 2010). The SMEs contribute significantly towards broad-based development and poverty reduction. The relatively minimal capital needs of SMEs generally observed also foster an efficient use of capital, which is a scarce factor of production in developing countries. In addition to these highly desirable social and efficiency-enhancing attributes of an SME-friendly pattern of economic growth, SMEs tend to make use of available local resources, thus minimizing transport and engendering environmental sustainability.

The socio-economic rationale for SME financing, development and support is not difficult to understand. The SME sector thus serves as a ‘nursery’ and a proven training ground for ‘higher level’ entrepreneurship and innovation. Their product ranges tend to reflect local technology and are often seen as more likely to satisfy the needs of the poor than large enterprises’ products or foreign technology. In addition, SMEs not only satisfy local needs by making differentiated varieties of products, by being spread all over the country they also help ensure some form of equitable distribution of income-earning opportunities.

Despite the commendable government efforts in attempting to unlock the full potential of the SME sector to reap the full benefits other countries such as India and Brazil are currently

enjoying as a result of a robust SME sector, Kenyan SMEs have continued to face challenges related to accessing credit. The commercial banks are still bargaining with the issue of collateral while the DFIs still present various hurdles that limit the accessibility. It is notable that the SMEs account for a significant proportion of firms and employment in Kenya, yet they contribute very little to GDP. This is partly due to the financing constraints they encounter. It is on this background that this study seeks to establish the determinants of access to credit in Kenya.

1.3 Research Objectives

1.3.1 General Objective

The main objective of the study is to analyze the determinants of access to credit by small and medium scale enterprises in the informal sector.

1.3.2 Specific Objectives

The specific objectives of the study are:

- i). To identify the factors that determine access to credit by SMEs in the informal sector.
- ii). To generate policy recommendations in light with the study findings.

1.4 Research Questions

To be able to realize the answers to whether there are factors that affect SMEs access to credit in the informal sector, the study will attempt to answer the following research questions:

- i). What are the determinants of access to credit by the SMEs in the informal sector?

1.5 Significance of the Study

With the SMEs becoming the backbone and principal drivers of the Kenyan economy, it is important to understand the challenges they face in accessing credit. An increase in credit uptake by the SMEs will drive the growth and innovations of the sector to greater levels and hence increase the sectors contribution to the country's GDP.

In the present global economy, there is need for entrepreneurs and their enterprises to advance beyond their initial capabilities and operate at optimum levels yielding the best returns possible for their ideas and innovations. This calls for creation of enabling environments by the governments to enable the SME sector realize maximum benefits from their activities. It is necessary to identify the significant factors that affect the SMEs accessibility to enable the relevant authorities develop interventions that will result in increased credit availability and uptake. Thus, the findings of the study will be of crucial benefit to the stakeholders that include the government and its agencies, SME associations and individual SMEs, and the academic society at large in understanding the challenges that SMEs face accessing credit within the country.

1.6 Scope of the Study

The study will focus on SMEs that are located in Kajiado County area in specific Ongata Rongai Town. The choice of this area is due to the fact that the town has experienced accelerated growth in the business sector heavily driven by the informal sector.

1.7 Hypothesis of the Study

The study will test the hypothesis that access to credit by SMEs in the informal sector is significantly determined by entrepreneur's financial training such as book keeping, cash flow management and entrepreneur's gender.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter focuses on literature gathered in relation to the study. The chapter is organized into three sections; the first section providing theoretical literature presenting different theoretical perspectives on SMEs accessibility to finance and the second section presents the empirical literature on studies undertaken on SMEs access to credit in different countries and an overview of literature review.

2.1 Theoretical Literature Review

Various theoretical models have been developed which describe the growth of SMEs.

One class of theoretical models focuses on the learning process, either active or passive, and the other models refer to the stochastic and deterministic approaches.

2.1.1 Passive Learning Model

In the Passive Learning Model (PLM) (Jovanic 1982 cited in Agaje 2004), a firm enters a market without knowing its own potential growth. Only after entry does the firm start to learn about the distribution of its own profitability based on information from realized profits. By continually updating such learning, the firm decides to expand, contract, or to exit. This learning model states that firms and managers of firms learn about their efficiency once they are established in the industry. Firms expand their activities when managers observe that their estimation of managerial efficiency has understated actual levels of efficiency. As firm ages, the owner's estimation of efficiency becomes more accurate, decreasing the probability that the output will widely differ from one year to another. The implication of this theoretical model is that smaller and younger firms should have higher and more viable growth rates (Stranova, 2001, Cunningham and Maloney 2001 and Goedhuys, 2002).

2.1.2 Stochastic and Deterministic Approaches

The other set of growth theories of firms include the Stochastic and Deterministic Approaches. The stochastic model, which is also known as the Gibrat's Law, argues that all changes in size are due to chance. Thus, the size and age of firms has no effect on the growth of SMEs. According to Becchetti and Trovato (undated) empirical of the law has indicated that it only considers size and age as potential variables which may significantly affect firm growth by neglecting other explanatory variables which may significantly affect firm growth. The deterministic approach assumes, on the contrary, that differences in the rates of growth across firms depend on a set of observable industry and firm specific characteristics (Becchetti and Trovato, undated and Pier Giovanni et al 2002).

Finance theorists view of access to credit (referred to as credit rationing) exists due to adverse selection, moral hazard and contract enforcement problems.

The adverse selection theory of credit markets originates with the paper by Stiglitz and Weiss (1981) in which they explained why the interest rate could not equate the supply and demand in the credit market. As discussed by Stiglitz and Weiss (1981), borrowers have 'inside information' about the nature of the project they want financed and may reap substantial rewards from "talking up" their projects. Moreover, while the lender gains if the loan is repaid with interest, it is not a beneficiary of any upside gain in the firm's performance; it is, however, a victim of any downside losses in the case of default. Lenders like banks therefore face difficulties in discriminating between good and bad credit risks and simply increasing the price of credit to all potential borrowers can lead to adverse selection; rather than driving potential non payers out of the market, there may be systematic reasons why some of the highest risk firms are those willing to pay high interest rates (Pollard, 2003).

The other problem, moral hazard can arise when lenders are unable to discern borrowers' actions that would affect the distribution of returns from an investment. This means, after a lender has extended finance to a firm they are exposed to moral hazard, the risk that the firm will not perform in a manner sufficient to meet the contract. For example, once a loan has been secured, a borrower could use the proceeds of the loan for a higher risk purpose or a non income generating activity, necessitating costly ex post monitoring of the financial contract.

The third reason to cause credit rationing is the contract enforcement problems. Mushinski (1999) argued that credit market imperfections in developing countries derive not only from moral hazard and adverse selection problems but also from costly monitoring and contract enforcement. In contrast, countries characterised by well functioning legal systems, the problems are not as pronounced as in those where the mechanisms for enforcement of contracts, property verification and ownership are weak. Hence, the main reason for the contract enforcement problem is the poor development of property rights. Although this argument is not specifically drawn at SMEs, these problems are more associated with SMEs than large companies.

The above literature review demonstrates that information and enforcement problems inherent in credit transactions can lead to imperfect credit markets. It is also clear from the above arguments that the small firms' access to financing may either come from supply side market failure (rejection from the bank's side for reasons not connected with the viability of the proposal or high risk and costs associated with such loans) or demand side market failure (insufficient information in the project proposal, high cost of bank credit etc). A survey of literature dealing with financing SMEs indicated significant gap in knowledge of the determinants of access to finance by the SMEs in developing countries. Limited studies undertaken that investigated the determinants of bank credit are however limited to one category of determinants and do not give an overall picture of determinants of access to credit. This is cited by Pandula (2011) as several studies build upon human capital theory examining education, age, work experience and social background of the SME owner as significant factors when accessing credit from banks. Other studies investigate the firm characteristics such as size, age of the business, legal status and financial characteristics (profit, fixed assets base). Based on this, Pandula (2011), examined the determinants of access to bank finance in SMEs in Sri Lanka by employing all three characteristics namely entrepreneur characteristics, firm characteristics and financial characteristics as significant aspects.

Although the significance of rapidly growing small businesses in creating employment is very obvious to many, the empirical and theoretical understanding of the growth of small firms remains sketchy. This is partly because of the fact that small firms which makes the transition from small to large changes in character (Penrose 1959). What Penrose pointed out about small firms changing in characters encouraged a number of researches to be done on the changes in a firm associated with growth.

2.2 Empirical Literature Review

In studying the factors that affected credit access, Bebczuk (2004) sampled 140 Argentine SMEs and established that the acceptance of overdraft lines at high interest rates and very short maturity was an important factor regarding the probability of getting a bank loan, while the availability of collateral did not affect such probability. Further results are provocative indicating risk taking behaviour of the banks which is contradictory to the more conservative strategy that most banks in the world adopt in lending to SMEs. The study further indicated that asset tangibility (collateral) was less statistically significant variable in determining access to credit.

Fatoki and Odeyemi (2010) investigated empirically the determinants of access to trade credit by new SMEs in South Africa. The study revealed that out of 417 SMEs, only 71 were able to access trade credit. The results of the logistic regression indicated that managerial competency, the availability of business plan, belonging to trade associations, previous relationship, location, business size, insurance and incorporation were significant determinants of access to trade credit by new SMEs.

The managerial competencies were categorized as sets of knowledge, skills, behaviors and attitudes that contributed to personal effectiveness. The study identified that the lack of these skills resulted in poor business plans and forecasting which resulted in collapse of the enterprises. Lyles et al (2004) found that managerial competencies as measured by the education of the entrepreneur, managerial experience and entrepreneurial experience all positively impacted on venture's performance. Other empirical studies such as Smallbone and Welter (2001) and Hisrich and Drnovsek (2002) identified managerial competencies as measured by education, managerial experience, start-up experience and knowledge of the industry positively impacted on the performance of new SMEs.

Pretorius and Shaw (2004) point out that financial information is one of the primary measures of the capacity of a business to effect repayment of credit. Financial information and business information were usually contained in the business plan of the SME that was presented to financial institutions. This information was used in determining present performance and predicting future performance.

According to Fatoki and Odeyemi (2010), networking between entrepreneurs and financial institutions reduced information asymmetry. This tended to influence venture finance decisions. Owualah (2002) established that long-standing relationship between a trade creditor and an SME owner conveyed an advantage in the case inter-firm trade. In addition, networks and relationships increased the firm's legitimacy, which in turn positively influenced the firm's access to external financing. In large part, networking substituted the lack of effective market institutions, and tended to be an effective way for SMEs to access external financing, including bank loans in emerging economies.

Dahl and Sorenson (2007) noted that location also impacted on the market potential and growth opportunities of SMEs. Geographical proximity to either critical buyers or suppliers produced a form of enhanced environmental scanning that enabled firms to more easily identify and exploit growth opportunities in the market. Gilbert (2008) points out that the geographical area where the firm was launched had implications for its access to markets and resources. Firms located in metropolitan areas may therefore had higher chance of success than those located in rural areas. For Zimbabwean firms, Fafchamps et al. (1997) found that larger firms were more likely to obtain trade credit. Biggs et al (1994) study trade credit as a source of enterprise finance in Kenya and noted that the use of trade credit increased with firm size.

The constrained access to bank credit has the negative implication of stifling growth in SME sector, with serious implications for poverty and unemployment (Morewagae et al, 1995). Informal sector credit is generally characterized by small loan amounts, short maturity periods and high interest rates which is not conducive for long-term enterprise development (Okurut et al, 2006). Most of the studies in this area have used descriptive statistics and the major contribution of this proposed study will be the econometric estimations of the determinants of access to credit by SMEs in the informal sector.

While investigating empirically the constraints to credit access by new SMEs from commercial banks and trade creditors, Fatoki and Smit (2011), identified factors in business environment that were classified as internal and external factors. The internal factors were labeled as managerial competencies, collateral, networking and business information while the external factors were labeled as the macro-economy and crime.

The results of the Fatoki and Smit study indicated that the lack of tangible collateral often led to the decline of loan applications from financial institutions. The results of the study indicated that there was a significant positive relationship between lack of collateral and non-availability of debt from the banks. These findings confirmed earlier studies by Barbosa and Moraes (2004), Blumberg and Letterie (2008). In addition to this, the study also highlighted that the lack of business information was an important constraint to credit access. The results also suggested that managerial competency of the entrepreneurs had a positive impact on the access to credit. These results were consistent with the findings of Lefebvre (2002) and Storey (2004). Concluding on the internal environment, the lack of networking and relationship was also cited as important internal constraint to credit access. This was especially observed in firms that sought trade credit from suppliers.

On the external environment, Fatoki and Smit (2011) observed that the availability of credit in a bad macroeconomic environment such as recession period deteriorated. The main reason was that during such periods, the ability of firms to repay debt was also constrained and hence financial institutions rarely took the risk to lend. Coupled with this, the location of an SME had a significant effect also as the environment also dictated the kind of collateral available to the lender SMEs located within high crime areas had difficulty in providing collateral and hence could not access the required credit.

Mwobobia's (2012) identification of challenges facing small scale women entrepreneurs in Kenya noted that at least 47% of the entrepreneurs were managed by women. These entrepreneurs faced challenges that included lack of finance, discrimination, problems with the councils, multiple duties, and lack of education, among others. The study established that the greatest barrier facing the entrepreneurs was access to finance as a result of the requirements of collateral of which a small proportion could secure to provide to the lending institutions. In addition to this, majority of the women entrepreneurs lacked information on how to access the financial products. This lack of information plus no business history information made it difficult for the lenders to make informed decisions of the business potential.

Messah and Wangai's (2011) investigation of factors that influenced demand for credit among small-scale investors in Meru Central District yielded results that showed that the entrepreneur's education level, number of dependents and household income were significant factors that influenced their ability to borrow credit from formal credit institutions.

2.3 Literature Overview.

From the literature examined above, it is worth noting that the factors that affect access to credit by SMEs can be categorized into two, which is, internal factors and external factors. The internal factors refer to factors that are within the business while the external are those that are outside the business.

The SME sector plays an important role in developing economies in the fight against poverty and unemployment thus addressing the credit constraints of SMEs will go a long way in promoting gender empowerment, creation of employment opportunities, improvement of household incomes and poverty alleviation. The findings from this study will feed into the policy arena in terms improving access to formal credit markets with an aim of alleviating poverty in Rongai Township and its environs.

CHAPTER THREE

METHODOLOGY

3.1.1 Theoretical model

The study adopted the Heckman Probit model with sample selection for empirical analysis (Heckman, 1976).

Heckman (1979) developed a simple two stages estimator to correct the bias that results from using non-randomly selected samples to estimate behavioral relationships. This approach proposes the estimation of expected value of error and its inclusion as an extra explanatory variable in the regression (Wooldridge, 2002; Green, 2000; Kennedy, 1998; Madalla, 1992; Berndt, 1991). In other words, using a probit model coefficients are first estimated by maximum likelihood and having the estimates obtained for each observation, they are passed to the second equation to be used as an exogenous variable. This allows the parameters in the second equation to be estimated consistently by least square regression (Hoffmann and Kassouf, 2006).

3.1.2 Model Specification

The theoretical exposition of the Heckman procedure is as follows:

Consider the following equation, which causes sample selection.

$$C_i^* = \gamma z_i + u_i \quad (1)$$

Where C_i^* is latent variable indicating whether there is access to credit or Not * and z_i is a vector of variables that determine C_i^* .

The variable C_i^* is not observed, but we observe if the individual has access to credit or not in that way that:

$$C_i = 1 \text{ if } C_i^* > 0 \text{ and}$$

$$C_i = 0 \text{ if } C_i^* \leq 0$$

Let the Y_i represent the natural logarithm of the access to Credit by each enterprise in the

informal market, assuming that:

$$Y_i = \beta'x_i + \varepsilon_i \quad (2)$$

Where x_i is the vector of variables determining access to credit in the informal sector.

Assuming that u_i and ε_i have a bivariate normal distribution with zero means, standard deviation σ_u and σ_ε and correlation ρ , and that C_i and z_i are observed for a random sample of enterprises, but Y_i is observed only when $C_i = 1$, i.e, when the individual can access credit, then

$$\begin{aligned} E(Y_i \setminus C_i = 1) &= E(Y_i \setminus C_i^* > 0) = E(Y_i \setminus u_i > -\gamma'z_i) \\ &= \beta'x_i + E(\varepsilon_i \setminus u_i > -\gamma'z_i) = \beta'x_i + \rho \sigma_\varepsilon \lambda_i(\alpha_u) \end{aligned} \quad (3)$$

Where

$$\lambda_i(\alpha_u) = \frac{\phi(\alpha_u)}{1 - \Phi(\alpha_u)} = \frac{\phi(-\alpha_u)}{\Phi(-\alpha_u)} = \frac{\phi(\gamma'z_i/\sigma_u)}{\Phi(\gamma'z_i/\sigma_u)} \quad (4)$$

and ϕ and Φ are respectively, the normal density function and the normal distribution function. The function $\lambda_i(\alpha_u)$ is called the inverse of Mill's ratio.

Due to the correlation between x_i and $\lambda_i(\alpha_u)$, a least squares regression of Y_i on x_i , omitting the term in $\lambda_i(\alpha_u)$, would produce an inconsistent estimator of β . If the expected value of the error was known, it could be included in the regression as an extra explanatory variable, removing that part of the error correlated with the explanatory variables and avoiding inconsistency. The Heckman's procedure, in its first stage, consists of estimating the expected value of the error and, in its second stage, of using it as an extra variable in the regression equation. In other words, using a probit model, parameters γ of the C_i equation are estimated by maximum likelihood. Having the estimates of γ , λ is obtained for each observation and used as an exogenous variable in the Y equation, allowing parameters β to be consistently estimated by least squares in the regression of Y_i on x and λ .

In this study it is hypothesized that there exists a relationship between credit access and various determinants. The determinants are grouped into internal and external factors. A total of 10 independent variables have been identified as indicated in the operational framework in Figure 2.2 in the previous chapter, the enterprise's model can be specified as follows:

$$Ca = f(\text{SIZE, AGE, TN, ED, EX, NT, CT, TM, RQ, GE})$$

where Ca is amount of credit accessed, SIZE is the size of the firm, AGE is the age of the firm, TN is the firm's turnover, ED is the entrepreneur's education level, EX is the entrepreneur's business experience, NT is the entrepreneur's networks, CT is cost of credit, TM is processing time for credit, RQ are the requirements for credit and GE gender of the entrepreneur. Thus the variables that are specified in the models are presented in equation 5 and in Table 1.

$$C_a = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{AGE} + \beta_3 \text{TN} + \beta_4 \text{ED} + \beta_5 \text{EX} + \beta_6 \text{NT} + \beta_7 \text{CT} + \beta_8 \text{TM} + \beta_9 \text{RQ} + \beta_{10} \text{GE} + \epsilon_a \quad (5)$$

Table 3.1 : Specification of variables included in probit model for access to credit by SMEs in the informal sector

Variables	Explanation
Ca	Binary dependent variable that stands for “1” Access to credit and “0” No access to Credit
SIZE	size of the firm (No of employees)
AGE	Age of the firm(No of months in operation)
TN	firm’s turnover (Amount in Ksh)
ED	entrepreneur’s education level (Years of formal education of the entrepreneur)
EX	entrepreneur’s business experience (No of years of business experience)
NT	entrepreneur’s networks specified as “1” if a financial record is kept and “0” if not
CT	cost of credit(Amount in Ksh)
TM	processing time for credit (No of weeks)
RQ	requirements for credit (Collateral or none)
GE	Gender of the entrepreneur, specified as “1” if its a woman and “0” if its a man.
β_i	Vector of parameters to be estimated
ϵ_{ij}	Random error terms or disturbance terms

3.1.3 Sampling Design and Procedure

The researcher collected data from a sample of SMEs located in the central business of Ongata Rongai town. The choice of this study area was motivated by two factors. First, Ongata Rongai area is among the fastest developing areas in Kenya. Secondly, the proximity of this location with the interviewer ensured that as much was collected for the study. The study adopted a two – stage cluster sampling procedure, simple random sample of clusters were then used to obtain samples from each cluster. The respondents comprised mainly of the owners, managers, or supervisors of the enterprises with access and no access to credit.

CHAPTER FOUR

EMPIRICAL RESULTS

4.1 Introduction

In this chapter findings of the study are presented. Firstly, descriptive statistics on the determinants of access to credit by small and medium scale enterprises are discussed. The Heckman Probit estimation results are discussed in the last part of this chapter.

4.2 Descriptive Statistics

To achieve the stated objectives, the study used both descriptive like frequencies, means and percentages and analytical analysis including cross-tabulations, tests of differences between the means, and analyses of variance (ANOVAs). Table 4.1 presents the percentage distribution of the SMEs based on their sectors of operation.

Table 4.1: Distribution of main of the main SMEs sectors

<i>Main sector</i>	<i>No. of SMEs engaged in activity</i>	<i>Percentage</i>
Service	65	41.94
Construction & transport	26	16.77
Health	7	4.52
Trade	29	18.71
Others (agriculture; crop & livestock, fabricators)	28	18.06
Total	155	

A total of 155 SMEs operating within Ongata Rongai town and its environs, 42% of the sampled SMEs were engaged in the service sector followed by the trade sector 19%, while only 5% were operating in the health sector.

4.2.1 Demand for Credit

In order to capture this status, the study limited itself to SMEs demand for credit from commercial banks, micro finance institutions and informal institutions such as family, friends and relatives. Out of 155 SMEs, study statistics show that only 48.37% had applied for credit

at one time or another. With regard to the sources of credit, 33.67% of the SMEs applied for credit from banks, 38.78% from MFIs and 27.55% from informal institutions. This may signify a relatively low demand for credit which could be attributed to lack of access to lenders.

A one-way analysis of variance (ANOVA) for independence of means was used to compare two categories of credit demand i.e. ever applied for credit and non-borrowers members against the three sources of credit. The mean of the dependent variable (ever borrowed) differs significantly among the three sources of credit. The ANOVA results are presented in table 4.2.

Table 4.2: Analysis of variance SMEs credit sources

	Partial SS	df	F	Prob > F
Between groups	11.565	2	90.86	0.0000
Between groups	5.9822	94	0.064	
Total	17.546	96	0.1828	

A comparison based on the SME characteristics was made of the different credit categories (Table 4.3). The results show statistically significant difference in the characteristics of SMEs based on their sources of credit. It's therefore adequate to conclude that these factors are essential in determining access to credit. In terms of access to micro finance credit markets, female owned SMEs had a higher likelihood of access (48.57%) while male owned SMEs had higher (38.10%) access to commercial banks. Overall gender decomposition suggests that access to bank credit was higher among male SME owner (63.9%) as compared to female owner-managers' (36.1%). Although there is no statistically significant relationship between the variables (chi-square with two degrees of freedom = 2.4383, p = 0.295). There is significant difference in receipt of loan in various sectors (p = 0.001). SMEs operating in the agricultural sector (crop and livestock) and fabricators of various products had higher (47%)

access to credit from informal institutions (such as family, friends and relatives) while SMEs in the health sector had higher access (75%) to credit from banks.

Table 4.3: Selected mean characteristics of SMEs, by category of credit sources

		Banks	Micro finance Institutions	Informal institutions	Pearson chi2(2)	Pr
Gender	Female	25.71	48.71	25.71	2.4383	0.295
	Male	38.10	33.33	28.57		
<i>Sectors</i>						
Service		27.27	27.27	45.45	25.3023	0.001
Construction & transport		30.00	60.00	10.00		
Health		75.00	25.00	0.00		
Trade		36.36	59.09	4.55		
Others		36.84	15.79	47.37		
<i>Firm size/No. employees</i>						
Less than five		27.85	39.24	32.91	8.5424	0.074
Six to ten		58.82	35.29	5.88		
Eleven to twenty		50.00	50.00	0.00		

Some of the factors that influence SME operators' decision to apply for credit are interest rates and collaterals demanded by formal financial lending institutions. This study established that commercial banks and microfinance institutions charged interest rates ranging from 7 to 25% with a mean of 16.08% with a mean credit processing duration of 11 days.

The study findings show that out of the SMEs who applied for credit from formal lending institution, 97.42% of the loans issued was pegged on collaterals. Some of the securities provided by the owner-managers were financial statements and registered membership (40.00%) and physical assets such as vehicle logbook (21.29%) and land titles (14.19%).

As can be seen from the table, the larger SMEs (eleven to twenty employees) have received financing from banks and micro-financial institutions while as the (32.91%) small firms

received financing from informal institutions. There is significant difference ($p = 0.074$) in receipt of loan based on the firm sizes.

4.3 Estimation Results

Before proceeding with the analysis, multicollinearity was checked using Variance Inflation Factor (VIF) and condition index (CI) to exclude highly correlated explanatory variables. The mean VIF was 1.28 indicating there is no serious multicollinearity problem (Gujarati, 2003). The appropriateness of the Heckman probit model was tested over other regression models. The results indicate strong presence of sample selection bias with rho and the likelihood function significantly showing strong explanatory power of the model.

Table 4.4 presents the results from the Probit model with sample selection. The first subdivision refers to the ‘main equation’ where the dependent variable is dichotomous equal 1 if SME received a loan from banks and 0 otherwise. While as, for the selection equation the dependent variable is equal to 1 for SMEs that had applied for loan and 0 otherwise. Among all the exogenous variables considered, gender of SME owner, firm’s turnover, and entrepreneur’s financial training significantly influenced the probability of receiving loan from banks.

Table 4.4: Probit model with sample selection for SMEs access to bank loans

Explanatory Variable	Coefficient	Std Error	Z	P> z
Model of Interest: Dependent Variable (=1 if received bank loan, otherwise zero)				
Firm’s turnover (Log Kshs)	1.165	0.5273	2.21	0.027
Gender (1 male , 0 female)	-1.877	1.0275	-1.83	0.068
Years spent in school by SME owner	-.2666	0.2145	-1.24	0.214
Financial training (dummy:1” if a financial record is kept and “0” if not)	1.1040	0.4041	2.73	0.006
Health sector	-0.9401	0.8398	1.12	0.263
Service sector	-0.5250	0.5559	-0.94	0.345
Length of operation (dummy:1more than 10 years, 0=otherwise)	-0.2594	0.9678	-0.27	0.789
Requirements for credit	0.7364	0.8951	0.82	0.411
Business Experience (dummy:1more	-0.5920	0.3755	-1.58	0.115

than 2-4 years, 0=otherwise)				
Constant	-6.5989	3.3463	-1.97	0.049

Selection Model: Dependent Variable (=1 if ever applied for a loan, otherwise zero)				

Firm's turnover	0.8712	0.0257	33.91	0.000
Gender	-0.1594	0.2104	-0.76	0.449
Years spent in school by SME owner	-0.0885	0.0674	-1.31	0.189
Financial training (dummy:1" if a financial record is kept and "0" if not)	0.6483	0.2551	2.54	0.011
Length of operation (dummy:1more than 10 years, 0=otherwise)	0.9484	0.2289	4.14	0.000
Business Experience (dummy:1more than 2-4 years, 0=otherwise)	-0.4417	0.2194	-2.01	0.044
Constant	-7.5454	0.8300	-9.09	0.000
Summary statistics	athrho 13.12	539.6	0.02	
	Log likelihood = -74.41175		Prob > chi2	= 0.0019

4.3.1 Gender

The gender coefficient was negative, indicating that female owners-managers were less likely (to have received bank loan with a p value of $p=0.068$ (10 percent significance level). The results imply that women SME owners are less likely to apply and receive credit. The results imply that women had low access to credit from the banks, this in turn negatively affects the performance of women owned SMEs.

The findings are in line with results of other studies (Wube 2010; ILO 2008; OECD 2002;) Women face a number of constrains in accessing credit such as poor resource mobilization, lack of information to exploit opportunities to the disproportional ownership of assets, conflicting gender roles; gender inequality and cultural constrains in the society. These results differ with those Pearson and Greeff (2006) who concluded that women's ability to manage tighter resources and lower default rates improves their chances of receiving from banks.

4.3.2 Financial training

SME's ability to provide informative accounts such as financial records and statements enables lenders to evaluate their creditworthiness. Therefore entrepreneur with training on accounting and book keeping increases the likelihood to receive a loan from banks. This finding suggests that more educated owner-managers can draft good business plans and provide the relevant financial information, increasing their chances of receiving loans. This implies that personal characteristics influence both the decision to borrow and receive credit from banks. These findings are in line with results of other studies (Nkuah *et. al.*,2012) who find that lack of reliable information results in high interest rates even if a long term relationship between borrower and bank exists.

4.3.3 Firm's turnover

The coefficient of the firm's earnings was positive and significant (at the 5 percent significance level) in determining probability application and receipt of credit. The results show that higher earnings had a positive and significant ($p=0.000$) effect on loan application decision. The findings suggest that SMEs that perform well with regard to their profitability have a higher probability of applying for a loan suggesting the need of external funds for financing investment for growth-oriented entrepreneurs and their ability to generate higher incomes, leads to accumulation of collaterals to secure loans. In addition, the more profitable the SME the more able to provide capital/collateral which serves as a signal for qualifying for bank loans ($p=0.027$). The study findings also support the view that bank's lending decision is based on profitability of the SMEs indicating that banks mitigate the borrower's opportunistic behavior and information asymmetry by using collateral.

4.3.4 Length of operation

The years of operation had a positive association with the probability of having applied for a loan. The findings of the study reveal that being in the business for at least ten years enhanced SMEs competitiveness. Length of operation increased the likelihood in favor of applying for a loan. This can be attributed to the fact that the owner can provide the information required by the lenders to evaluate and process a loan application and the business has an established reputation and financial records.

4.3.5 Business Experience

The coefficient of business experience of was not statistically significant in determining receipt of bank loan however was significant in explain probability of having applied for loan. Firms with only 2-4 years of experience were less likely to have applied for a loan. The estimates of the coefficient for age (-0.442, $p = 0.044$) were statistically significant at 5% level of significance. The new SMEs are not likely to meet the collateral requirements of the banks since they have not accumulated sufficient assets. These findings are consistent with the findings of other studies; financing constraints are particularly severe in start-up enterprises and relatively young firms three years old or less (Pandula 2011).

CHAPTER FIVE

CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusion

In this paper, we analyzed the determinants of access to credit by SMEs in the informal sector in Ongata Rongai Township. A Heckman selection model (two-step estimates) was used for data analysis. In the first step, a Probit model was applied to determine the relationship between a SME's credit condition and a number of socio-economic and credit variables. In the second step, a Heckman selection model was applied to investigate the determinants of access to credit to SMEs in the informal sector. The results of the Heckman model revealed that the variables which influence access to credit were; the firm profits (proxied by gross margin) are statistically significant with coefficient signs consistent with expectations. However, the factors that are statistically significant are not the same as those in the first stage suggesting that there are differences in the determinants of being credit constrained and amount of the firm profits obtained. Training in record keeping and financial management significantly influenced both the probability of application and receipt of credit. This could be attributed to the fact such skills have a positive effect on both the desirability of the SME to the lender and profitability of the firm.

In addition, gender of the SME owner influenced credit access, with women SME owners being less likely to apply and receive credit. The results also indicate that there are significant gender differences in access to credit, with women less likely receive credit yet women play a strategic role in growth of the informal sector.

As expected, years of operation and experience had a positive association with having applied for loan. This positive relationship could be attributed to the owners' skills to provide the requisite information required by the lenders to evaluate their credit worthiness.

5.2 Policy Recommendations

From the study findings the following policies on enhancing access to credit to SMEs in the informal sector are implied.

The results of the study provide empirically sound support for targeted interventions in favour of women. The findings also suggest the need to initiate a comprehensive women empowerment programme to create more awareness on the availability of credit facilities, their conditions and application procedures. It is also important to create knowledge on the economic use of credit for the reduction of poverty. Capacity building for women is also crucial as this will help women take on the leadership role in their societies and hence keep them in a better position to get credit information, which is a prerequisite to access and use formal credit.

The results of the study also indicate that an entrepreneur with training on accounting and book keeping increases the likelihood to access credit from a financial institution. This suggests the need for policy aimed at providing various “credit plus” services that include skill training, marketing facilities and business development services by financial institutions. The county governments also need to create programmes aimed at providing vocational training on how to run SMEs.

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APPENDIX

Q No	Monthly turnover	lg_Monthly_turnover	Gender	Main sector	Educ_Level	Numeduc_yrs	Vocational_training	Servdummy	Health dummy	Operation_exact10_dummy	Reqtscredit_dummy	Two_four_yrs_experience_dummy
1	40000	10.597	male	1	Tertiary college	14	no	1	0	0	0	0
2	50000	10.820	male	1	Tertiary college	14	no	1	0	0	0	0
3	35000	10.463	male	1	Tertiary college	14	no	1	0	0	0	0
4	25000	10.127	female	1	Tertiary college	14	yes	1	0	0	0	0
5	10000	9.210	female	2	High school	12	no	0	0	0	1	1
6	20000	9.903	female	2	Tertiary college	14	yes	0	0	0	1	0
7			male	2	High school	12	no	0	0	1	0	0
8	40000	10.597	male	2	Tertiary college	14	no	0	0	0	0	0
9	5000	8.517	male	4	High school	12	no	0	0	0	1	0
10	20000	9.903	male	4	Tertiary college	14	yes	0	0	0	1	1
11			female	1	University/professional	16	yes	1	0	0	0	0
12	15000	9.616	female	4	High school	12	no	0	0	0	0	1
13	40000	10.597	male	1	Tertiary college	14	no	1	0	0	0	0
14			male	1	University/professional	16	yes	1	0	0	1	0
15			male	2	High school	12	no	0	0	0	1	1
16	65000	11.082	male	1	University/professional	16	yes	1	0	0	1	0
17	17500	9.770	male	5	Tertiary college	14	yes	0	0	0	1	1
18			female	4	University/professional	16	yes	0	0	0	0	0
19			male	5	High school	12	no	0	0	0	0	0
20			male	1	Tertiary college	14	no	1	0	0	0	0
21	15000	9.616	male	1	Primary	8	no	1	0	0	0	0
22	50000	10.820	female	1	High school	12	yes	1	0	0	1	0
23	20000	9.903	male	1	High school	12	yes	1	0	0	1	0
24	15000	9.616	male	1	High school	12	no	1	0	0	1	1
25	30000	10.309	male	3	University/professional	16	yes	0	1	0	1	0
26	6000	8.700	male	1	High school	12	no	1	0	0	0	0
27	20000	9.903	female	1	High school	12	no	1	0	0	0	0
28	10000	9.210	male	2	High school	12	no	0	0	0	1	0
29	30000	10.309	male	3	Tertiary college	14	no	0	1	0	1	1
30	3000	8.006	female	1	Tertiary college	14	yes	1	0	0	1	0
31	4000	8.294	male	1	Primary	8	no	1	0	0	1	0
32	50000	10.820	male	5	University/professional	16	yes	0	0	0	1	0

33			male	5	University/professional	16	yes	0	0	0	1	0
34			male	5	Tertiary college	14	yes	0	0	0	0	0
35			male	4	Tertiary college	14	yes	0	0	0	1	1
36	20000	9.903	female	5	Tertiary college	14	yes	0	0	1	1	0
37	15000	9.616	female	1	Tertiary college	14	no	1	0	1	0	0
38	20000	9.903	female	4	Tertiary college	14	yes	0	0	0	1	0
39	15000	9.616	female	1	High school	12	no	1	0	0	0	0
40	20000	9.903	male	2	Tertiary college	14	yes	0	0	0	1	0
41	15000	9.616	female	1	Tertiary college	14	yes	1	0	1	0	0
43	8000	8.987	male	1	High school	12	no	1	0	0	0	0
44	8000	8.987	female	5	High school	12	no	0	0	1	0	0
45			male	1	High school	12	yes	1	0	0	1	1
46	15000	9.616	male	2	High school	12	no	0	0	0	1	0
47	15000	9.616	male	1	Tertiary college	14	yes	1	0	0	1	1
48	10000	9.210	male	5	High school	12	no	0	0	0	0	0
49	25000	10.127	female	1	Tertiary college	14	no	1	0	0	1	0
50	20000	9.903	female	1	Tertiary college	14	yes	1	0	0	1	0
51	8000	8.987	male	1	High school	12	no	1	0	0	1	0
52	6500	8.780	male	1	Primary	8	no	1	0	0	0	0
53	25000	10.127	male	1	Tertiary college	14	yes	1	0	0	1	0
54	7000	8.854	male	5	Primary	8	no	0	0	0	1	0
55	10000	9.210	male	4	High school	12	no	0	0	0	1	0
56	6000	8.700	male	5	Primary	8	no	0	0	0	0	0
57	10000	9.210	male	5	High school	12	no	0	0	0	0	0
58	9000	9.105	female	5	High school	12	no	0	0	0	0	0
59	20000	9.903	male	2	High school	12	no	0	0	0	1	0
60	8000	8.987	male	4	High school	12	no	0	0	0	1	0
61			female	1	Tertiary college	14	yes	1	0	0	1	0
62	10000	9.210	male	5	High school	12	no	0	0	0	1	1
63			male	1	High school	12	no	1	0	0	1	1
64	7000	8.854	male	1	High school	12	no	1	0	0	1	0
65	25000	10.127	male	2	High school	12	no	0	0	0	1	0
66	10000	9.210	female	1	High school	12	no	1	0	0	1	1
67	70000	11.156	male	1	Tertiary college	14	yes	1	0	1	1	0
68	15000	9.616	female	1	High school	12	no	1	0	0	1	0
69	40000	10.597	female	2	Tertiary college	14	yes	0	0	1	1	0
70	40000	10.597	female	5	Tertiary college	14	yes	0	0	0	1	0

71	5000	8.517	male	5	Primary	8	no	0	0	1	1	0
72	40000	10.597	female	4	Tertiary college	14	yes	0	0	0	1	0
73			female	1	Primary	8	yes	1	0	0	1	1
74	45000	10.714	female	3	University/professional	16	yes	0	1	0	1	0
75	12500	9.433	male	2	Primary	8	no	0	0	0	0	0
76	5000	8.517	male	1	High school	12	no	1	0	0	1	0
77	60000	11.002	male	2	Tertiary college	14	yes	0	0	0	0	0
78	8600	9.060	male	1	Primary	8	no	1	0	0	1	0
79	22500	10.021	female	5	Tertiary college	14	no	0	0	0	1	0
80	10000	9.210	female	5	High school	12	no	0	0	0	1	0
81			male	4	University/professional	16	no	0	0	1	0	0
82	15000	9.616	female	1	Tertiary college	14	no	1	0	0	0	0
83			male	2	Tertiary college	14	no	0	0	1	0	0
84	30000	10.309	male	3	Tertiary college	14	yes	0	1	0	1	0
85	20000	9.903	female	5	Tertiary college	14	no	0	0	0	1	0
86	15000	9.616	female	5	High school	12	no	0	0	0	1	0
87	60000	11.002	male	2	Tertiary college	14	no	0	0	0	0	0
88	60000	11.002	male	2	Tertiary college	14	no	0	0	1	1	0
89	50000	10.820	male	2	High school	12	no	0	0	0	0	0
90	50000	10.820	male	1	High school	12	yes	1	0	0	1	1
91	8000	8.987	female	1	High school	12	no	1	0	0	1	1
92	8000	8.987	female	5	Tertiary college	14	yes	0	0	0	1	0
93	8000	8.987	male	1	High school	12	no	1	0	0	1	1
94	13000	9.473	male	2	Tertiary college	14	yes	0	0	0	1	0
95	10000	9.210	male	1	Primary	8	no	1	0	0	1	1
96	8000	8.987	male	1	High school	12	no	1	0	0	1	0
97	8000	8.987	female	2	High school	12	yes	0	0	0	1	0
98	7000	8.854	male	1	High school	12	no	1	0	0	1	1
99	12000	9.393	male	1	Tertiary college	14	no	1	0	0	1	0
100	18000	9.798	female	4	Tertiary college	14	yes	0	0	0	1	0
101	40000	10.597	male	1	University/professional	16	yes	1	0	0	0	0
102	15000	9.616	male	4	High school	12	no	0	0	1	1	0
103	40000	10.597	male	4	University/professional	16	no	0	0	0	1	1
104	80000	11.290	male	4	University/professional	16	yes	0	0	0	0	1
105	25000	10.127	male	2	Tertiary college	14	no	0	0	0	1	0
106	120000	11.695	male	4	Tertiary college	14	yes	0	0	1	1	0

107	15000	9.616	male	1	Primary	8	no	1	0	0	1	1
108	5000	8.517	male	1	High school	12	yes	1	0	0	1	0
109	10000	9.210	female	1	Tertiary college	14	no	1	0	0	0	1
110	40000	10.597	female	5	High school	12	yes	0	0	0	1	0
111	15000	9.616	female	4	High school	12	yes	0	0	0	1	0
112	12000	9.393	female	4	Tertiary college	14	yes	0	0	0	1	1
113	20000	9.903	male	1	Tertiary college	14	yes	1	0	0	1	1
114			male	1	High school	12	no	1	0	0	1	1
115	12000	9.393	female	5	Tertiary college	14	yes	0	0	0	1	0
116	60000	11.002	male	1	Tertiary college	14	yes	1	0	1	1	0
117	20000	9.903	male	4	Tertiary college	14	no	0	0	0	1	1
118	30000	10.309	female	1	High school	12	no	1	0	0	1	0
119			male	5	High school	12	yes	0	0	0	1	1
120	25000	10.127	female	5	High school	12	no	0	0	0	1	0
121	30000	10.309	male	2	Tertiary college	14	yes	0	0	1	1	0
122	100000	11.513	male	4	Tertiary college	14	yes	0	0	0	1	1
123	40000	10.597	male	3	High school	12	no	0	1	0	1	0
124			male	1	High school	12	yes	1	0	0	1	0
125	26000	10.166	male	4	High school	12	no	0	0	0	1	1
126	35000	10.463	male	2	High school	12	yes	0	0	0		1
127	25000	10.127	male	5	High school	12	yes	0	0	0	1	0
128	18000	9.798	male	4	High school	12	yes	0	0	0	1	1
129	28000	10.240	male	4	High school	12	yes	0	0	0	1	0
130	50000	10.820	male	2	High school	12	yes	0	0	0	1	0
131	30000	10.309	male	4	Tertiary college	14	yes	0	0	0	1	1
132	20000	9.903	male	4	High school	12	no	0	0	0	1	1
133			female	1	High school	12	no	1	0	0	1	1
134	45000	10.714	female	2	Tertiary college	14	yes	0	0	0	1	0
135	20000	9.903	male	1	High school	12	no	1	0	0	1	0
136	40000	10.597	female	1	Tertiary college	14	yes	1	0	0	1	0
137	20000	9.903	male	2	High school	12	no	0	0	0	0	0
138	10000	9.210	male	5	High school	12	no	0	0	0	1	1
139	10000	9.210	female	5	Tertiary college	14	no	0	0	0	1	0
140	32000	10.373	female	4	Tertiary college	14	yes	0	0	0	1	0
141	10000	9.210	male	2	Tertiary college	14	yes	0	0	0	1	0
142			male	3	University/professional	16	yes	0	1	0	1	1
143			female	1	High school	12	yes	1	0	0	1	1

144	7000	8.854	female	4	High school	12	no	0	0	0	1	0
145	3000	8.006	female	1	Tertiary college	14	no	1	0	0	1	0
146	8000	8.987	male	1	High school	12	no	1	0	0	1	0
147			female	4	High school	12	no	0	0	0	1	0
148	5000	8.517	female	1	Tertiary college	14	yes	1	0	0	1	1
149	15000	9.616	female	4	Tertiary college	14	yes	0	0	0	1	0
150	25000	10.127	female	1	Tertiary college	14	yes	1	0	0	1	0
151	20000	9.903	female	5	Tertiary college	14	yes	0	0	0	1	1
152			male	4	High school	12	no	0	0	0	1	0
153	21000	9.952	male	1	Tertiary college	14	yes	1	0	0		0
154	15000	9.616	male	1	High school	12	no	1	0	0	1	1
155	40000	10.597	female	3	University/professional	16	yes	0	1	0		0
156	17000	9.741	male	1	Tertiary college	14	no	1	0	0	1	0

Questionnaire

The main objective of this questionnaire is to collect data on the factors that determine access to credit by small and medium enterprises in Rongai area and its environs .This research is performed independently and the gathered data will be treated confidentially and used to draw broad conclusions only. Your support by filing in this questionnaire objectively will be highly appreciated. *Please state or tick where applicable.*

Date:

Part A: Entrepreneur Characteristics

(This section requires you to give general information. Please tick (√) or fill in where appropriate).

1. Enterprise/Business name:

2. Location:

3. Main sector in which the business operates:

Trade	[]	Food industry	[]
Textile	[]	Woodwork	[]
Chemical	[]	Fabrication	[]
Service	[]	Brick making	[]

Others (Specify)

4. Gender of the entrepreneur: Male [] Female []

5. Level of education (no of years)

1. Primary (8 years)	<input type="checkbox"/>
3. High School/Secondary School(12 years)	<input type="checkbox"/>
4. Tertiary College (14 years)	<input type="checkbox"/>
5. University/Professional (16 years)	<input type="checkbox"/>
	<input type="checkbox"/>

6. Vocational training in entrepreneurship such as book keeping, cash flow management e.t.c

Yes [] No []

Part B: Business Characteristics

7. What is the current number of employees in the business?

- 1) Less than 5
- 2) 6 to 10
- 3) 11 to 20
- 4) 21 to 30
- 5) 31 to 40
- 6) 41 to 50

8. How long has the business been in operation?

- 1) Less than one year
- 2) 1 to 2 years
- 3) 3 to 5 years
- 4) 6 to 10 years
- 5) 11 to 15 years
- 6) Over 15 years

9. The number of years of experience of the entrepreneur in business

- | | | | |
|----------------------|-----|-------------------|-----|
| 1) Less than 2 years | [] | 2) 2 – 4 years | [] |
| 2) 4 – 6 years | [] | 4) 6 – 8 years | [] |
| 5) 8 – 10 years | [] | 6) Above 10 years | [] |

9. On average, what is the monthly turnover or profits made by the business?

10. As the business proprietor, are you a member of any business association, social network such as Merry Go Rounds?

- Yes [] No []

...If yes how do you access credit as a group?

.....
.....

Part C: Credit related Characteristics

11. Have you ever borrowed a loan to boost your business?

- Yes [] No []

12. Where do you access credit from? *(please tick appropriate category)*

- 1) Banks []
- 2) Micro finance Institutions []
- 3) Informal institutions such as family , friends e. t.c []

13. What is the rate of interest charged?

14. How long did it take to receive the loans (in days)?

15. List the requirements for accessing credit e.g. collateral, legal fees, processing fees e.t.c

i.

ii.

iii.