INFLUENCE OF CREDIT RATIONING ON FINANCIAL PERFORMANCE OF
DEPOSIT TAKING MICROFINANCE INSTITUTIONS IN UASIN GISHU
COUNTY, KENYA.

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DEDICATION

This work is dedicated to my immediate family who gave me humble time to prepare and work on this project. This would not have been possible were not for their understanding and patients on the many times I had to be away from them just to concentrate and carry out this research.
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ABSTRACT

Credit rationing equilibrium occurs at the interest rate at which the bank maximizes the expected profit hence determining financial performance. Credit promotes the growth of small businesses by enabling them to make strategic investments as well as adopting the latest technology that increase efficiency. Globally credit usually represents the bulk of the microfinance institution’s assets, while interest on the credit represents the major source of income. In this regard the current study had been designed to investigate the influence of credit rationing on financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. The study sought to; establish the influence of interest rate on financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya, determine the influence of repayment period on financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya and assess the influence of collateral securities on financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. In a bid to effectively achieve these objectives, the study adopted a survey design based on samples drawn from across the deposit taking microfinance institutions in Uasin Gishu County, Kenya. The target population was 68 credit officers from 13 registered deposit taking microfinance institutions sampled by census. The study relied on secondary data for the financial performance and interest rate and primary data on loan repayment period and collateral security. Primary data was collected by use of questionnaires. The instruments was tested for reliability and validity to enhance credibility of data. Collected data was analyzed by use of both inferential and descriptive statistics using SPSS version 20. The study established a significant association between interest rate (P=.010), loan repayment period (p=.036) and collateral securities (p=.002) and financial performances of deposit taking microfinance institutions. It is concluded that interest rate, loan repayment period and collateral securities has a significant association with the financial performances of deposit taking microfinance institutions. The study, hence, recommends a further study to be done on the influence of each variable (interest rate, loan repayment period and collateral securities) on financial performance of deposit taking microfinance institutions. The study findings will be utilized by policy makers at national and county government levels and other agencies in formulating relevant policies for future sustainability of the sector.
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ACRONYMS AND ABREVIATIONS

CAMEL : Capital adequacy, Asset quality, Management quality, Earnings and Liquidity.

CBK : Central Bank Kenya

DTMs : Deposit Taking Microfinance Institution

GHAMP : Ghana Microfinance Policy

MFIs : Microfinance Institutions

SACCOs : Savings and Credit Cooperative Societies

SMEs : Small and Medium Enterprises
CHAPTER ONE

INTRODUCTION

1.1 Background of study

Globally credit usually represents the bulk of the microfinance institution's assets, while interest on the credit represents the major source of income. Loans involve a high degree of risk and have profound impact on the financial institutions' profitability, liquidity and solvency (Neelam, 2017). The smooth functioning of the financial institution can be greatly jeopardized by a failure of the trading partner to fulfill their contractual obligation in due date (Isanzu, 2017). Therefore to secure maximum performance of deposit taking microfinance institutions, revitalizing securitization is among the most important elements in the effort to strengthen non-bank finance, and it can be tailored to fit the needs of SME finance in particular (Wehinger, 2014).

Deposit taking microfinance institutions are institutions which receive money by way of deposits and interests earned on deposit and lend the money to members for use to Finance the business in small and medium enterprises of low income households (Microfinance Act., 2006). Deposit taking micro financial institutions play a crucial role in facilitating growth and helping reduce vulnerability and poverty (Imam & Kolerus, 2013). The obstacles of financial performance of deposit taking microfinance institutions include Informational asymmetries, Business and judicial environment, Tax regime, Regulatory and supervision issues, Skills all of which precipitates credit rationing (Imam & Kolerus, 2013). The positive impacts of microfinance institutions on the socio-economic welfare of the poor can only be sustained if the institutions can achieve a good financial performance (Haile, 2016).
Financial performance involves measuring the results of a firm’s policies and operations in monetary terms which are reflected in the firm’s return on investment, return on assets and value added (Kagoyire & Shukla, 2016). According to Horne and Wachowicz, (1998), firms can only benefit from credit if the profitability generated from increased sales exceeds the added costs of receivables. This calls for credit management through credit rationing whose objectives can be stated as safeguarding the companies’ investments in debtors and optimizing operational cash flows hence increased financial performance.

Credit rationing is predicated upon the theories of credit rationing and loanable funds theories among others. Credit rationing theory by Stiglitz and Weis (1981) argues that demand for credit from finance institutions exceed supply at the prevailing rate and borrowers need to provide equal amount of collateral. According to pecking order theory by Meyers 1984 in case a firm requires funding they would prefer debt over equity and equity is generated as a last resort. All these theories then suggest that firms will require external sources of funding and as such remain victims of credit rationing.

Credit rationing is a situation in which the demand for credit exceeds the supply of credit at the prevailing interest rate (Okoh and Ping 2000, Foltz, 2004, Petrick 2005). Credit rationing is also defined according to the willingness of borrowers to pay an interest rate much higher than the prevailing market rate, yet they are turned down (Abor and Biekpe 2006, Piga and Atzeni 2007, Freel, 2007). Credit rationing negatively and positively affects the loan repayment performance and financial performance (Haile, 2016). When credit rationing is done effectively, borrowers will receive adequate loan amount as per their credit needs and ability to utilize credit and therefore they are
expected to have high repayment performance which translates to high financial performance.

According to Haile (2016), when credit rationing system is weak, borrowers may receive loan amounts that are contrary to their credit needs which would adversely affect their loan repayment. For instance SACCOS’s credit rationing process was weak since it failed to discriminate between credit worthy and non-credit worthy borrowers and thus resulting into poor loan repayment performance which persists for long, then the firm eventually have huge bad debts; a situation that is likely to result in downsizing its workforce, stall its market expansion, and ultimately collapse (Absanto & Aikaruwa, 2013; Kariuki & Ngahu, 2016). It can therefore be argued that credit rationing system needs to take into consideration factors that contribute to loan repayment performance when rationing loan applicants in order to engender maximal financial performance.

Argentina, lending institutions consider profitability, liquidity, debt ratio, use of overdraft credit and higher investment in exports increased the probability of getting loans (Bebczuk, 2004). In South Africa it is apparent that credit rationing is determined by such factors as lack of collateral security, refusal to use own collateral, failure to make a remarkable own contribution, blacklisting, and failure to review attractive financial records and/or Business plans (Angela and Motsa 2004). In Kenya, the Central Bank also applies the CAMEL rating system to assess the soundness of financial institutions which is an acronym for Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity (CBK, 2010). According to Kenya Annual Supervision Report (2008) the financial institutions in Kenya experience cases of default which are attributed to reckless
lending and poor policies of credit control which have invariably caused many financial institutions in Kenya to carry out credit rationing.

However MFIs in Kenya have over time been witnessing high levels of non-performing loans which are, needless to say, occasioned by high default rates which poses a threat to their financial performance and their very existence (Moti, Masinde, Mugenda, & Sindani, 2012). Besides a vast majority of MFIs in Kenya are informal and unregulated, which has limited their funding sources further weakening their institutional capacity to supply microfinance services and limit their ability to grow (Matu, 2008). According to Haile (2016) Credit rationing negatively and positively affects the loan repayment performance which eventually affects financial performance. This argument connoted a mixed result which called for the study on influence of credit rationing on the financial performance of deposit taking microfinance institutions in order to fill in the existing gap in literature.

1.1.1 Deposit Taking Microfinance

Deposit Taking Microfinance Institutions in Kenya espoused from the ratification of the microfinance Act on 2nd May 2008, prompting them to apply for licenses to permit them take deposits from members and the general public. The Microfinance Act regulates the establishment and functioning of microfinance institutions in Kenya by giving licenses and regulation. In a report by CBK (2013) there are 13 DTMs in Kenya which include Faulu Microfinance Bank Limited, Kenya Women Microfinance Bank Limited, UWEZO Microfinance Bank Limited, SMEP Microfinance Bank Limited, Remu Microfinance Bank Limited, Rafiki Microfinance Bank Limited, Century Microfinance

Central Bank of Kenya licenses microfinance institutions with the purpose of mobilizing savings from the public in general, hence enhancing competition, efficiency and access. It is, therefore, expected that the microfinance industry play a pivotal role in deepening financial markets and enhancing access to financial services and products by majority of the Kenyans (Chepkorom, 2013). The microfinance institutions have developed new financial products that are demand driven and that are appropriate to the needs of the clients. However, unlike commercial banks, DTMs are engaged specifically in a partial range of products. They are not permitted to spend in enterprise capital; assume wholesale or retail trade; underwrite or placement of securities; and purchase (Elrahman & Elzahi, 2015).

1.1.2 Credit rationing

Credit rationing is broadly defined as a situation where the demands for loans exceed the supply of loans at the going interest rate (Absanto & Aikaruwa, 2013). Padmanabhan, (1981) saw it from the angle of loan size where borrowers receive a lesser amount of loan than they requested at a given loan rate. Credit rationing is defined by Jaffee (1971) as the difference between the quantity of loans demanded and loans supplied at the ruling interest rate. Equilibrium with credit rationing therefore occurs at the interest rate at which the bank maximizes the expected profit (Banerjee, 2008). Under imperfect credit markets conditions where information asymmetry is prevalent, interest rates are unable to
play the market clearing role of equating demand and supply. Conversely banks adopt the strategy of credit rationing using the non-price mechanisms so as to maximize their expected profits.

According to Lapar & Graham (1988) credit rationing behavior against the firm’s loan demand can be categorized into three stages: the screening stage, the evaluation stage, and the quantity rationing stage. Credit rationing may differ according to the MFI type since the MFIs may be differentiated by their lending policies, mission drift, organizational form and institutional transformation as well as by their disclosure and transparency (Akoten, Sawada, & Otsuka, 2006; Von Pischke, 2008). Firms for which the repayment of the loan is more uncertain are more risky for the bank, and hence are more likely to be credit rationed (Kimutai & Jagongo, 2013). Risk implies the default risk that the firm can't fulfill its obligations to the bank.

According to Ghosh & Ghosh (1999) the value of the collateral offered by a firm also influences the credit rationing behavior of the bank. Collateral serves as the last resort for recovery of the loan in case of default, where the bank can sell the collateral obtained to recover the balance (or part) of the loan. Ana & Roberto (2011) observed that in Croatia, enterprise size was significant in determining credit rationing and that having a relatively larger enterprise size reduced the likelihood of being rationed. Firm characteristics, such as firm size, return on assets and profitability, are vital and important in determining credit rationing, whilst borrower characteristics, such as the borrower–lender relationship and past record, also play significant roles in determining credit rationing (Luis & Sackey, 2015). With regard to loan characteristics, the duration of the loan repayment
period is an important determinant with a preference for short-term loans determining a lower likelihood of being rationed (Luis & Sackey, 2015).

Various researchers have reached the conclusion that credit rationing exists in most developing countries even in the face of interest rate liberalization (Okerenta & Orebiyi, 2005; Rahji & Fakayode, 2009; Zeller & Meyer, 2002). However how credit rationing affects financial performance has not been empirically studied to a large extent and warrant further investigation. It calls for an empirical estimation to determine the extent to which determinants of credit rationing affects financial performance of the deposit taking Micro Finance institutions.

1.1.3 Financial performance

Financial performance refers to the degree to which financial objectives being or has been accomplished (Verma, 2017). It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial status over a period of time and can also be employed in comparison of similar firms within similar industries or to compare industries or sectors in aggregation. The financial performance of a firm is of significance to trade creditors, bond holders, investors and management.

Financial measures of performance can be referred to as the results of firms operations in monetary terms (Slaper & Hall, 2011). Financial measures of performance are derived from the accounts of a firm or can be found in the firm’s profit and loss statement or the balance sheet. Financial measures are also referred to as objective measures because they can be individually measured and verified (Kellen, 2003). Financial statements which show a position of a period of time as in the case of a Balance Sheet, or may reveal a
series of activities over a given period of time, as in the case of an Income Statement (Verma, 2017). Various financial ratios analysis used in the measurement of financial performance includes Working capital Analysis, Financial structure Analysis, Activity Analysis, Profitability Analysis.

In profitability analysis ROA provides information about how much profits are generated, on average, by each unit of the assets of the firm (Petersen & Schoeman, 2008). In addition, Petersen & Schoeman, (2008) note that ROA can be measured suing the equation, \( \text{ROA} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}} \). This suggests that ROA is an indicator of how efficiently a firm is being operated with the assets available to the firm. Return on equity (ROE) is a ratio that provides investors with insight into how efficiently a company (or more specifically, its management team) is managing the equity that shareholders have contributed to the company (Ryan, 2017). ROE relates the earnings left over for equity investors after debt service costs have been factored into the equity invested in the firm (Damoradan, 2007). The equation used to measure ROE can be represented as:

\[ \text{ROE} = \frac{\text{Net Profit after Interest before Tax}}{\text{Total Equity}} \]

Profitability Growth: This is the growth in the profits of a firm. Profitability growth can also refer to the continuous increase in the financial profit after all expenses have been paid over a given period of time (Hickey et al, 2017). An increase in the profitability of a firm is an objective measure of performance as it is an index of continuous improvement. It is crucial for any business to grow as well as be profitable in order to sustain and stay relevant in the market place (Chowdhry, 2016). Sales growth refers to an increase in sales over a specific period of time, usually but not always annually.
Most research studies such as Lechner, Dowling, & Welpe (2006) developed a five point Likert scale for measuring sales growth and profitability growth as financial performance measures. This approach is effective as it avoids inquiries about exact figures for sales or profitability but infers the performance of sales and profitability growth of the firm. However, it is important to note that sales and profitability growth should not be viewed in isolation as other parameters such as price increases or sales promotions, respectively, can engender financial performance.

Efficiency of MFIs is measured by the share of operating expense to gross loan portfolio in most cases. The ratio provides a broad measure of efficiency as it assesses both administrative and personnel expense with lower values indicating more efficient operations. The debt equity ratio is a member of the asset/liability management ratios and specifically attempt to track MFIs leverage. This measure provides information on the capital adequacy of MFIs and assesses the susceptibility to crisis. Microfinance investors mainly rely on this ratio as it helps to predict probability of an MFI honouring its debt obligations. However its use should always be contextualized as high values could lead to growth of MFIs. The Operating Expense Ratio is the most widely used indicator of efficiency, but its substantial drawback is that it will make an MFI making small loans look worse than an MFI making large loans, even if both are efficiently managed. Thus, a preferable alternative is a ratio that is based on clients served, not amounts loaned.

On the other hand, Solvency and profitability are two distinct yet interdependent aspects of a company’s financial health. While solvency involves assets and liabilities, profitability involves income and expenses. A solvent company has assets that exceed its liabilities sufficiently to provide for reinvestment in the company’s growth. A company
might improve solvency by selling some assets to pay down debt, increasing the owner’s equity, reinvestment of assets and capital in the business, avoidance of new debt and proper care of existing assets. The standard for profitability requires that income derived from the company’s business activities exceeds the company’s expenses. While a company can be solvent and not profitable, it cannot be profitable without solvency. This means that, although solvency is a prerequisite for profitability, increased profitability improves solvency and eventually financial performance. Findings by Khidmat & Rehman (2014), showed that the solvency ratio has negative and highly significant impact on the financial performance of firms.

1.2 Statement of the problem
Deposit taking MFIs in Kenya have over time been witnessing high levels of non-performing loans which are, needless to say, occasioned by high default rates which threatens their financial performance and very existence (Moti, Masinde, Mugenda & Sindani, 2012). It has been established that, the major challenges facing the MFIs in Kenya include funding, default in loan repayment, and government regulations (Githinji, 2008). The CBK sector report for 2013 indicated that bank loans amounting to Kshs 80.6 billion had gone for more than three months without being serviced as at December 2013, which was an increase from Kshs 61.6 billion the previous year (CBK, 2014). This loan defaults negates the profitability of financial institutions including microfinance banks besides denying potential borrowers opportunity to access credit facilities. This called for credit management through credit rationing whose objectives could be stated as safe
guarding the companies’ investments in debtors and optimizing operational cash flows hence increased financial performance.

However of late, there have been complains by the microfinance institutions regarding credit rationing mechanism and high rate of default/delinquency by their clients which occasions poor financial performance of this microfinance institutions (Haile, 2016).This is of grave concern because of its consequences in the economy. In spite of this much recognition has been given to micro financing as a means of bridging the credit gap created by commercial bank (Diaz-Serrano & Sackey, 2015).

Studies have been done on the determinants of credit rationing (Freel, 2007; Diaz-Serrano & Sackey, 2015; Kimaiyo, 2016; Njenga, 2014; Kimutai & Jagongo, 2013). Most of the studies have been done in other countries focusing on commercial banks without regard to the DTMs and how the determinants of credit rationing affect financial performance of DTMs. Besides factors influencing credit rationing are not only likely to differ by programs but also differ from country to country depending on the domestic business and economic environment (Ferrando, Popov, & Udel, 2015). This has prompted the need for the design of the current study which aims at filling the gap that exist in literature. The study assessed whether the determinants of credit rationing such as interest rate, repayment period and collateral affected financial performance in Deposit Taking Microfinance Institutions in Uasin Gishu County, Kenya.
1.3 Objectives

1.3.1 General Objectives

The main objective of the proposed study was to investigate the influence of credit rationing on financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya.

1.3.2 Specific objectives

The study was guided by the following specific objectives;

i. To establish the influence of interest rate on financial performance of deposit taking microfinance institutions in Uasin Gishu county, Kenya.

ii. To determine the influence of collateral securities on financial performance of deposit taking microfinance institutions in Uasin Gishu county, Kenya.

iii. To assess the influence of repayment period on financial performance of deposit taking microfinance institutions in Uasin Gishu county, Kenya.

1.3.3 Hypothesis

The study was guided by the following Hypothesis;

\( \text{Ho}_1 \): There is no significant association between interest rate and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya.

\( \text{Ho}_2 \): There is no significant association between collateral securities and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya.
Ho3: There is no significant association between loan repayment period and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya.

1.4 Significance of the study

The current research will benefit all the microfinance institutions’ stakeholders especially on issues that pertain credit rationing. It shall give an insight to managers of Deposit taking microfinance Institutions on how best to determine credit rationing criteria. By understanding perspectives on the determinants of credit rationing, the DTM institutions will discover the more opportunities to exploit. The government shall benefit from the study through stability in financial sector of Microfinance Institutions as part of the drivers of achievement of vision 2030. The loan customers will be able to understand the whole issue of credit rationing and hence plan their finances to adapt to situations when they are rationed. To the Microfinance institutions, this shall highlight areas of success, existing gaps and needs that can be addressed by reengineering their approach including product mix should they continue to be relied upon as vehicles of growth of small enterprises into the future as the alleviate issues of their financial performance.

1.5 Scope of the Study

This study was concerned with the influence of credit rationing on financial performance of Deposit Taking Microfinance Institutions in UasinGishu County, Kenya. The three towns under focus were; Eldoret, Turbo and Moi’s Bridge. The deposit taking microfinance institutions such as Women Finance Trust, Faulu DTM Kenya, Rafiki DTM and SMEP DTM will be studied. The main aspects that were studied included; interest rate, repayment period, Collateral security and how they influence financial performance.
of DTM.s. It was conducted between September 2017 and October 2017 using exploratory survey research design. A sample of 68 respondents was targeted which included the credit managers and credit officers. Data was collected by use of questionnaires.

1.6 Limitations of the study

Some respondents did not answer the questions, the researcher made a follow up through research assistants that helped to interpret unclear questions to ensure maximal response rate. Some respondents were unable to provide genuine responses. The researcher appealed to the respondents individually by explaining to them the purpose of the research so as to attain utmost cooperation.
1.7 Operational definition of terms

**Credit rationing:** is a situation in which the demand for credit exceeds the supply of credit at the prevailing interest rate (Okoh and Ping 2000, Foltz, 2004, Petrick 2005).

**Microfinance institutions:** These are institutions which provide financial intermediation services; savings, credit funds transfer, insurance, pension remittances, provided to low-income households and enterprises in both urban and rural areas (Diaz-Serrano & Sackey, 2015).

**Loan repayment period:** a set period of time for regular payments of a loan.

**Collateral:** Collateral security is what customers offer as saving so that failure to honor his obligation the creditor can sell it to recover the loan. (Njenga, 2014)

**Financial performance:** Results of a firm’s policies and operations in monetary terms which are reflected in the firms return on investment, return on assets and value added (Kagoyire & Shukla, 2016)
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the previous studies on the related field acknowledging the contributions made by the scholars’ seminar papers, conference proceedings and business journals, text books and periodicals. It identifies the gap and provides the way forward. A critical review is done to identify gaps. The literature review has been categorized into theoretical review, empirical review, conceptual framework, critique of existing literature and the research gap for easy reading.

2.2 Review of theories

The study adopted theories such as Credit Rationing Theory, Loanable Funds Theory and Stakeholders theory. The main theory adopted by the study is Credit Rationing Theory.

2.2.1 Credit Rationing Theory

Credit rationing theory was advanced by Stiglitz and Weiss in 1981. This theory is grounded on credit markets which are imperfect characterized by information unevenness, which makes it too costly for banks to obtain accurate information on the borrowers and to monitor the actions of the borrowers. The credit rationing theory assumes that there are many banks that seek to capitalize on their profits through interests that they fix and collateral that they demand. This reduces the possibility of defaulting on their loans and majority of possible borrowers who try to maximize their profits through the projects they choose. The possibility that the project will succeed is not known to the
bank but well-known to the firms because of information asymmetry. In some cases, borrowers choose to shift from safe projects, on which loans were given, to high-risk projects that promise high returns but with a low probability of success. In such cases, the banks usually have no control over such actions of the borrowers. In the event of failure, all projects yield same value (Banerjee, 2008).

According to Banerjee, (2008) banks compete by choosing interest rate and use interest rates as a screening device for distinguishing bad risks from good risks. The borrowers are understood to demand loans that have been fixed so as to finance projects that they think have the same foreseen outcome. In a scenario like this, borrowers that are high risk are willing to pay an interest rate that is high. However, swollen interests may pilot a reduction in the predictable profit of the bank because of disagreeable selection influence (which is as a result of weakening of quality of the collection of loan applicants) and the influence of incentive (which comes from a variation in the patterns of borrowers shifting from safe to high risk projects). Equilibrium with credit rationing therefore occurs at the interest rate at which the bank maximizes the expected profit (Banerjee, 2008). Under situations of imperfect credit markets characterized by information asymmetry, there is failure of interest rates playing the market-clearing role of equating demand and supply. Rather the banks adopt the strategy of credit rationing using the non-price mechanisms to maximize their expected profits.

Stiglitz and Weiss (1981) and Jaffe and Stiglitz (1990) define two types of credit rationing. The first one is the pure credit rationing which occurs when some individuals obtain loans, while apparently identical individuals, who are willing to borrow on precisely the same price and non-price terms, do not. The second typology of credit
rationing is redlining which occurs when there are identifiable groups of individuals in the population who, with a given supply of credit, are unable to obtain loans at any interest rate, whereas with a larger supply of credit they would.

There are two assumptions by credit rationing theory as postulated by Stiglitz and Weiss (1981); that lenders cannot distinguish between borrowers of different degrees of risk, and that loan contracts are subject to limited liability i.e., if project returns are less than debt obligations, the borrower bears no responsibility to pay out of pocket. The analysis is restricted to involuntary default, i.e., it assumes that borrowers repay loans when they have the means to do so.

This theory is relevant to the current study as it reveals the factors that lead to both pure credit rationing and redlining. Okurut et al (2006) notes a number of factors, which include the borrower’s observable characteristics (age, gender, wealth, experience, credit history), firm characteristics (business experience, risk profile, earnings), and loan characteristics (amount demanded, loan maturity, collateral offered, interest rate). Lapar and Graham (1988) categorizes bank’s credit rationing behaviour into three stages: the screening stage, the evaluation stage, and the quantity rationing stage. At the screening stage, the bank manager interviews the potential borrower to determine their eligibility for credit (in terms of their creditworthiness, loan requirements and the terms desired).

Hoff and Stiglitz (1990) notes that degree of risk of a firm also influences bank’s credit rationing. Firms for which the repayment of the loan is more uncertain are more risky for the bank, and hence are more likely to be credit rationed. The risk for the bank implies the default risk, being the risk that the firm cannot fulfill its obligations to the bank.
Guido (2008) also argued that credit rationing may also originate from a lender’s inability to classify loan applicants in proper risk categories, which influence is particularly strong when novel technologies are involved. The value of the collateral offered by a firm also influences the credit rationing behaviour of the bank (Ghosh et al, 1999). Collateral serves as the last resort for recovery of the loan in case of default, the bank will auction the collateral obtained to get the balance (or part) of the loan. Collateral helps to reduce information unevenness between the firm and the financial institution. When a person to borrow has a project with a higher possibility of a return, the collateral to be offered signals the actual value of a project.

Credit rationing theory has been criticized for concentrating mainly on how banks allocate existing resources and disregarding the endogenous creation of money (Piegay, 1999). Wolfson (1996) has been one of the first to bring these two concepts together. Wolfson argues that banks will try to accommodate any demand for credit by adjusting their reserves accordingly. Banks will try to serve only the demand of those borrowers who are perceived to be creditworthy. The difference between this demand, which Wolfson calls ‘effective’ demand, and the original demand is interpreted as credit rationing. Any factor that affects the perception of banks about the future creditworthiness of borrowers could lead to a change in the effective demand curve and therefore to a change in credit rationing.

### 2.2.2 Stakeholder’s theory

Stakeholder theory was developed by Freeman in 1984 (Frooman, 1999; Barnett, 2007). According to Coombs & Gilley (2005), a stakeholder is any individual or group that may affect the achievement of the organization goals or that is affected by the
process of searching for these objectives. The theory postulates that the firm will have superior performance if the normative precepts are employed (Berman et al., 1999). Stakeholder theory indicates that the objective of the company is to coordinate the interests of the stakeholders which contravenes theory of the firm which proposes that the objective of the company is the maximization of shareholder wealth. The stakeholders theory holds supreme owing to the fact that it is not possible for companies to survive without delivering value to important stakeholders, and in this regard, although the shareholders have some different rights from the other stakeholders, this does not provide them with an imbalanced right to receive company benefits.

Based on this theory the deposit taking microfinance institutions should ensure that customers are protected and benefit from contracts and legislation, without having the imbalanced right to receive company’s benefits. However there remains need for internal efficiency of the deposit taking microfinance institutions through appropriate credit rationing approaches in order to secure optimal financial performance. This is in line with the argument of Boaventura, daSilva, & Rodrigo (2012) that there is a relationship between stakeholder theory and the theory of the firm, given that seeking to maximize financial performance is linked to the objective of the firm. Anderson and Mansi (2009) opines that customer satisfaction is also related to higher credit ratings and a lower cost of debt. A growing number of empirical studies support the idea that stakeholders other than shareholders and bondholders influence the financial position and decisions of firms (Chen, Kacperczyk, & Ortiz-Molina, 2010; Faley, Mehrotra, & Morck, 2006). Firms that are committed to honoring customer claims because they expect to optimize returns or to mitigate associated downside risks, thus have an incentive to pursue a conservative
capital structure so as to certify their ability and willingness to service these claims engendering financial performance (Hann, 2011).

However stake holders theory sees the enterprise as a nexus of interests, failed to note that the owner or corporation and not the enterprise is always one of the parties to the contract, that the interests of the owners are always one side of the contract, and that an enterprise as a stream of activities or the corporation as a fictitious legal person cannot be a moral agent, it is the owners who are the moral agents. Besides its focus is on the distribution of the outcomes, the harms and benefits, and not on who produced the harms and benefits.

2.2.3 Loanable funds theory

The loanable funds doctrine is a theory of the market interest rate. The loanable fund theory was proposed by Dennis Holme Robertson (1963), Bertil Gotthard Ohlin (1979) (Priyadarshini, 2012). According to the loanable-funds theory, the rate of interest is determined by the demand for and the supply of funds in the economy at that level at which the two (demand and supply) are equated (Meghana, 2017). Thus, it is a standard demand-supply theory as applied to the market for loanable funds (credit), treating the rate of interest as the price (per unit time) of such funds. The theory assumes that there is perfect competition in the market, so that each borrower and lender is a ‘price-taker’ and one and only one pure rate of interest prevails in the market at any time. The forces of competition are also supposed to clear the market pretty fast, so that the single rate of interest is the market-clearing (or the equilibrium) rate of interest.
According to the loanable funds theory, the rate of interest is the price that equates the demand for and supply of loanable funds. Thus, fluctuations in the rate of interest arise from variations either in the demand for loans or in the supply of loans or credit funds available for lending (Priyadarshini, 2012). This implies that interest is the price that equates the demand for loanable funds with the supply of loanable funds. Loanable funds are "the sums of money supplied and demanded at any time in the money market (Randall, 2014).

The presence of bank money alters the characteristics of the functions of money supply and demand. In a world in which money is either metallic money or banknotes issued by the central bank, every individual must acquire a stock of money to finance transactions; therefore, to demand money means to accumulate a store of cash (Bertocco, 2013). In this case, the functions of money demand and supply are independent: the quantity of money in circulation maybe different from the quantity of money demanded, and the difference between these quantities will cause a variation in the price level, according to the Quantity Theory of Money (Randall, 2014). The relevance of this theory to credit rationing is that money is indispensable for any business thus whoever desires money to purchase goods will be able to obtain it by getting into debt with the banks at a given interest rate.

2.3 Empirical review

2.3.1 Interest rates

According to (Lloyd and Money, 2006; McConnel, 2009) interest rates are a price paid for borrowing funds expressed as a percentage per year. It can also be defined as the price a borrower needs to pay to the lender for transferring purchasing power to the future. In
other words interest rates represent the cost of borrowing capital for a given period of
time (Drake., 2002). Interest rates can be good in the sense that interest rate repayments
enhance and increases microfinance profitability. However, it can be bad if the borrowers
cannot make interest repayments as well as the principal amount which eventually results
in defaulting or non-performing assets. “Non-performing loans (NPLs) are those loans
which are ninety days or more past due or no longer accruing interest” (Joseph, 2012).

According to a study carried out by Amarasekara (2005) found critical importance of
interest rates spread on economic growth and financial performance. Quaden (2004), for
instance, argues that a more efficient banking system benefits the real economy by
allowing ‘higher expected returns for savers with a financial surplus, and lower
borrowing costs for investing in new projects that need external finance’. Therefore, if
the banking sector’s interest rate spread is large it discourages potential savers due to low
returns on deposits and thus limits financing for potential borrowers (Ndung’u, Njuguna,
intermediation between savers and borrowers, only a fraction of the savings mobilized by
banks can be finally channeled into investments. An increase in the inefficiency of banks,
increases these intermediation costs, and thereby increases the fraction of savings that is
‘lost’ in the process of intermediation.

Individual financial institutions are at liberty to set their distinctive interest rate spread.
However, it should also be understood that the function of setting deposit and lending
rate is critical for monetary policy transmission mechanism. The terms and conditions
attached to these rates differ by country, however, limiting their comparability.

According to Amarasekara (2005) some empirical studies found that in certain countries
when policy interest rates are rising, retail lending rates respond quickly but deposit rates remain sluggish, while the opposite holds when policy interest rates are declining. The amount by which the interest earned by an investment exceeds or fails to exceed its own interest liability, if a bank pays depositor’s one interest rate, and lends the deposited money out at higher interest rate, the difference between those two interest rates is the interest rate spread. Interest rate spread is similar to net interest margin, but is difference in that net interest rate spread is hypothetical number that institution could earn if all assets were borrowed and invested (Drake, Deborah and Elisabeth, 2002).

Thus, there is a positive correlation between loan prizing by microfinance banks and the amount of deposit received from the customer’s. If firms have sufficient amount of deposit, they will be in a position to loan the clients at a lower interest rate, meaning the number of borrowers will increase resulting to growth in profitability (McDonald and Robert, 2010). It is important to remember that interest rates are not the only factors affecting a firm’s financial performance rather measuring a group performance is more important than focusing on only one or two measures at the exclusion of others (Bernanke and Ben, 2008).

These findings are related to those of Wensheng, Kitty , Leung, & Chang (2003) who instituted that a rise in the Hong Kong dollar risk premium, signified by a widening of the spread between Hong Kong dollar and US dollar interest rates, would influence banks profitability. The empirical estimates showed the net interest margin declined in response to increases in the risk premium, because deposit interest rates were more sensitive to changes in the risk premium than the lending rate.
According to Mwindi (2012), higher amounts of credit granted to SMEs are charged higher levels of interest rates but enable them to meet more of their planned operations. This result in higher profitability to the SMEs hence a positive relationship exists between the interest rates charged by MFIs and the profits of the SMEs mainly because of the amount of credit associated with these high interest rates. Ingram (2011) states that interest rates are important because they control the flow of money in the economy. High interest rates curb inflation but also slow down the economy. Low interest rates stimulate the economy, but could lead to inflation (Mnang’at, Namusonge, & Oteki, 2016). When interest rates are high, people do not want to take loans out from the bank because it is more difficult to pay the loans back, and the number of purchase of real assets goes down. The opposite is also true. The influences of a lower interest rate on the economy are very beneficial for the consumer. However real yield on loan portfolio a frequently used proxy for interest rates has a positive and highly significant impact on MFIs’ financial performance and loan repayment rates (Ashim & Ranjula, 2014). The institutionists argue that generating profits by charging high interest rates is vital for the commercialization and sustainable expansion of the microfinance industry (Robinson, 2001; Drake & Rhyne, 2002).

In Kenya, lower rates can make borrowers to be more dependent on lender’s money while high rates can lead to higher regulatory scrutiny and attract the worst borrowers (adverse selection)(Mnang’at, Namusonge, & Oteki, 2016). The question of fair interest rates remains key to policymakers and MFIs. In Kenya Most micro-finance institutions charge interest rates that range from between 1.8 per cent to 2.5 per cent per month.
Others, on the other hand, charge at least 0.5 percent per week (Atieno, 2011). This translates to between 21.6 per cent and 30 per cent per year. The institutions have repayment periods of weekly and monthly depending on the size of the loan, lending rules and how one agrees with other members of the group ran by the micro-finance institution, who jointly acts as guarantors of the loan. Loans offered by such institutions do not have grace period, borrowers start servicing the loans as soon as they receive them (Mnang’at, Namusonge, & Oteki, 2016).

The pioneering work of Stiglitz and Weiss 1981 cited by Godquin (2004) marked the beginning of attempts at explanations of credit rationing in credit markets. They asserted that “... interest rates charged by a credit institution are seen as having a dual role of sorting potential borrowers (leading to adverse selection), and affecting the actions of borrowers (leading to the incentive effect)” Weinberg (2006) advocated that interest charged and the amount of debt are the two main factors affecting repayment obligations. Some banks use the interest rates that an individual is willing to pay as a screening device to identify borrowers with a high probability of repayment. This may be dangerous since high risk-takers are the worst rate payers, in the process precipitating default by borrowers on loans.

2.3.2 Collateral

Collateral according to Wiiliam (2012) is any asset of value that can be pledged by the borrower(s) as security that the loan will be re-paid in full and with interest. Collateral requirements in the process of borrowing for a business can range up to and above 100 percent of the loan principal. This percentage depends again on the amount of risk that
the lender calculates that his institution is exposed from this particular loan and the accumulation of all loans currently in process. Collateral assets can be in the form of real property owned, inventory of the business, cash savings or deposits, stocks /bonds equity in home equipment and like assets both tangible and non-tangible. According to Davis and Zhu (2014) the value of collateral determines the loan size a borrower can access, however there are other indicators that determines how much one can borrow such as credit history of the borrower, type of client such as high net worth customers and the relationship with the commercial banks.

Relationship lending relies on soft or private information about borrower risk obtained through a close bank-borrower relationship and involves the use of outside collateral. In contrast, asset-based lending, being more transactions oriented relies on hard or public information and uses the assets inside the firm as collateral (Brick and Palia, 2007). The role of relationship strength in reducing problems of asymmetric information has been extensively discussed in the literature (Boot, 2000). The more recent discussion focuses on differences between relationship lending and asset-based lending as two alternative lending technologies (Berger & Udell, 1995). Relationship lending dominates in economies where the likelihood of strategic default is high because of an underdeveloped financial system with low transparency and weak legal enforcement (Egli, Ongena, & Smith, 2006) the study also established that the ex-post performance of collateralized borrowers, such as the probability of default, is worse than that of uncollateralized borrowers, and they attribute this finding to the higher ex-ante riskiness of collateralized borrower (Egli, Ongena, & Smith, 2006).
Generally, in spite of the importance of loan in agricultural production, its acquisition and repayment are fraught with a number of problems especially in the small holder farming. This study assessed the factors influencing repayment behavior of farmers that received loans from agricultural bank by using a logit model and a cross sectional data of 175 farmers. Results showed that loan interest rate is the most important factor affecting on repayment of agricultural loans. Farming experience and total application costs are the next factors, respectively (Awoke, 2004). Most of the defaults arose from poor management procedures, loan diversion and unwillingness to repay loans. For this reason, lenders devise various institutional mechanisms aimed at reducing the risk of loan default pledging of collateral, third-party credit guarantee, use of credit rating and collection agencies, etc.

Collateral is considered as a substitute for the evaluation of borrowers’ riskiness. Thus, banks that are highly protected by collateral may become “lazy” in the sense that they perform less screening than what is socially optimal for the projects they finance. Longhofer, Stanley, Joao, & Santos, (2000) on the other hand, show theoretically that collateral may serve as a contractual device to increase the lender’s screening and monitoring incentive. Longhofer and Santos, for example, argue that collateral is effective in raising the bank’s seniority in the presence of several creditors and enhances its screening and monitoring.

However, the empirical evidence on the relationship between collateral and lenders’ screening and monitoring was mixed. Jiménez, Salas-Fumás, and Saurina, (2006) for example, find that banks with a low level of expertise in small business lending use collateral as a substitute for poor evaluation capabilities, while (Voordeckers and
Steijvers (2006) suggest that the intensity of credit evaluation does not have a significant effect on whether loans are collateralized. On the other hand, Ono and Uesugi (2009) find evidence that monitoring intensity by the main bank, as measured by the frequency of document submission, is positively associated with collateral being pledged.

One of the earliest and longest serving micro credit organization providing small loans to rural poor dwellers with no collateral is the Irish loan Fund system initiated in the early 1700’s by Jonathan swift (Gatuhu, 2013). Currently credit risk is a particular concern for MFIs because most micro lending is unsecured i.e., traditional collateral is not often used to secure microloans. Loan product features include the loan size, interest rate and fees, repayment schedule, collateral requirements and any other special terms. These loan product features are akin to credit risk management strategies. The efficient management of credit risk is a vital part of the overall risk management system and is crucial to every FI’s profitability and eventually their survival in the market (Swarens, 1990). A number of factors such as quality of assets, financial market condition, foreign exchange market, composition of assets, and financial health of its clients, profitability and capital adequacy affect the degree of these risks (Moronya, Arvinlucy, & Nyagol, 2016). Collateral substitutes and credit monitoring helps to predict the financial performance (Moronya, Arvinlucy, & Nyagol, 2016).

Customer of low income commonly known as poor people normally are willing to pay because of the advantage they have for not requiring collateral (Gaurav, 2011). Collateral substitutes, another mechanism used by lender to reduce the high risk of the loan using a kind of guarantee. The lender retains 5% for every unit borrowed as the emergency fund, which serves as guarantee in the case the borrower fails to repay (Morduch, 1999).
mechanism also considers other official documents the driver’s license, marriage certificate other important document for the borrower as collateral substitutes (Babu & Singh, 2007). Giving a lender collateral means that you pledge the asset you own, such as you home, to the lender with the agreement that it will be the repayment source in case you cannot repay the loan. A guarantee, on the other hand is just that someone else sign a guarantee document promising to repay the loan if you cannot (Sangwayire, 2016). Some lenders may require such a guarantee in addition to collateral as security for a loan. The collateral is the asset given to the lender as an insurance that it can sold and pay loan in case the borrower fails. It has to be analyzed with its real liquidation value (Sangwayire, 2016).

In developing countries, where the collateral most often deemed acceptable in formal markets is land (Beck & Demirgüc-Kunt, 2008). The difficulty of acquiring a valid title and transferring it encourages borrowers to turn to the informal credit market, where lenders are willing to accept a broader range of collateral. However, one interesting issue is how informal lenders mitigate the risk of information asymmetry and inadequate collateral, and sustain their existence. However, in a few cases, previous research has compared the use of collateral in formal and informal lending, examined the group lending models, with joint liability as a substitute for collateral (Umoh, 2006; Postelnicu, Hermes, & Szafarz, 2013), and assessed social sanctions as a substitute for collateral in microfinance (Bond & Ashok, 2002). Other studies have attempted to link the presence or lack of collateral with relationship banking and lenders ‘characteristics (Chakraborty
&Hu, 2006). However, the results on the use of collateral to reduce information asymmetry and its effect on financial performance are still mixed and inconsistent.

Brick and Darius, (2007), Jiménez, Vincente, and Jesús, (2006) empirical studies that have investigated the ex-post performance of collateralized borrowers, exceptions being Berger and Gregory, (1990) and Jiménez and Jesús, (2004). Both of these studies find that the ex-post performance of collateralized borrowers, such as the probability of default, is worse than that of uncollateralized borrowers, and they attribute this finding to the higher ex-ante riskiness of collateralized borrowers. In other words, there are no empirical studies which find ex-post improvements of collateralized borrowers’ performance, presumably because it is difficult to control for the possible selection bias of collateral provision. Manove, Padilla, & Marco, (2001) investigate the relationship between the use of collateral and screening by the lender. They argue that collateral is considered as a substitute for the evaluation of borrowers’ riskiness. Thus, banks that are highly protected by collateral may become “lazy” in the sense that they perform less screening than what is socially optimal for the projects they finance. (Longhofer, 2000)and(Ryan, 2017), on the other hand, show theoretically that collateral may serve as a contractual device to increase the lender’s screening and monitoring incentive. Longhofer, for example, argue that collateral is effective in raising the bank’s seniority in the presence of several creditors and enhances its screening and monitoring. However, the empirical evidence on the relationship between collateral and lenders’ screening and monitoring is mixed. (Jiménez, 2006) for example, find that banks with a low level of expertise in small business lending use collateral as a substitute for poor evaluation capabilities, while Voordeickers and Steijvers (2006) suggest that the intensity of credit
evaluation does not have a significant effect on whether loans are collateralized. Meanwhile, Ono and Uesugi (2008) find evidence that monitoring intensity by the main bank, as measured by the frequency of document submission, is positively associated with collateral being pledged.

2.3.3 Loan repayment period

Loan is paid within periods which are as short term or long term. Godquin, (2004) In his study on loan reimbursement performance of MFI borrowers within Bangladesh banks found that mortgage with repayment periods have considerably lower rate on loan criminal behavior than usual loans. Many financial institutions besides using other models of evaluating borrowers do make use of the 3 C”s model. The Character of a customer is important to analyzing his willingness to pay. The financial or credit manager should judge whether the customers will make lowest effort to honor their credit obligations. The moral factor is of considerable importance in credit evaluation in practice (Pandey, 2004).

Failure to control these risks, especially credit risk, could lead to insolvency as cited in Wenner, Navajas, Trivelli and Tarazona(2007). As Alfred, (2011) asserts, about 2 out of 3 SACCOs initially formed were not operational (either dormant or collapsed) or for some reasons ceased operations (AMFIU report, 2007). Alfred, (2011) asserts that there have been challenges of managing liquidity. Mwaura (2005) insists that lack of credit follow up, credit analysis, and hostile lending of money are some of the factors that have contributed to financial gap and poor performance that is why some of the micro-finance
institutions have decided to impose collateral as a security so that their financial performance can be maintained.

Santiago (2008) studied the effects of bank lending and financing constraints in SME Investment in the Federal Reserve Bank of Chicago. The study shows that investment is sensitive to bank loans for unconstrained firms but not for constrained firms. He also found out that unconstrained firms use bank loans to finance trade credit provided to other firms and predicts investment. Bhatt and Tang (2002) Studied the determinants of loan repayment in microcredit evidence from programs in the United States. These determinants of loan repayment in microcredit are still debatable among different researchers that might be due to situational factors like country level factors, bank level factors and the condition of legal and regulatory framework of the country.

Godquin (2004) did a study on loan reimbursement performance of MFI borrowers within Bangladesh banks. Then his findings from the study disclose that mortgage with refinement periods have considerably lower rate on loan criminal behavior than usual loans. His conclusion also hold up the argument that declining in the number of loan repayment customers stand to the possible to raise the competence in MFIs, as agreement loans are not related with high lend defaults. Tundui and Tundui (2013) in a study on microcredit, micro enterprising and repayment myth in Tanzania examined determinants of loan repayment among women microcredit clients. The findings of the study identified business skills and business management as key factors in influencing loan default. Bragg (2010) asserted that “the short time frame reduces the risk of non-repayment to the bank, which can be reasonably certain that the business’s fortunes will not decline so far within
such a short time period that it cannot repay the loan, while the bank will also be protected from long-term variations in the interest rate”.

2.4 Conceptual framework

According to Locke, Spirduso, and Silverman (2007) a conceptual framework is a visual or written product that explains, either graphically or in narrative form, the main concepts, or variables to be studied and their presumed relationships. This study conceptualized the relationship between credit rationing and financial performance. Okurut and Botlhole (2006) avers that a number of factors which determines credit rationing include borrowers observable characteristics, firm characteristics and loan characteristics. The study focused on determinants as the independent variables such as Interest rates, repayment period and collateral security which is an aspect of loan characteristic. The dependent variable was financial performance.

Interest rates represent the cost of borrowing capital for a given period of time (Gardner, Mills, & Cooperman, 2005). According to Cargill (1991), interest rates for lending and other financial intermediaries represent both a composition for the loss in value of the loaned capital arising mainly from inflation as well as profit margin to compensate the lender for the default risk he exposes himself to during the loan period. This was measured by interest rate spread, Yield to maturity and present value (Mang’eli, 2012).

Loan repayment period is a set period of time for regular payments of a loan. Arene (1992) outlined the main factors that determine loan repayment performance as loan size, enterprise size, income, age, number of years of business experience, distance between
home and source of loan, education, household size, adoption of innovations, and credit needs. Loan repayment period was measured by loan size, loan supervision and suitability of repayment period (Tenishu, 2014). Collateral is a widespread feature of credit contracts between firms and financial institutions (Tensie & Wim, 2009). Lenders frequently demand collateral in order to assess the borrower's creditworthiness and to increase the risk-adjusted return on the loan. This construct was measured in terms of borrower quality and bank borrower relationship (Jiménez & Saurina, 2004). The dependent variable was financial performance. This construct was measured in terms of sales growth and profitability growth (Lechner, Dowling, & Welpe, 2006). Profitability growth also refer to the continuous increase in the financial profit after all expenses have been paid over a given period of time (Hickey et al, 2017). Sales growth refers to an increase in sales over a specific period of time, usually but not always annually. Return on assets was used as a measure of profitability (Moss, 2016).
2.5 Critique of the existing Literature

According to a study done by Atieno (2001), Commercial banks and other formal institutions fail to cater for the credit needs of smallholders, however, mainly due to their lending terms and conditions. It is generally the rules and regulations of the formal financial institutions that have created the myth that the poor are not bankable, and since they can’t afford the required collateral, they are considered uncredit worthy. Absanto & Aikaruwa (2013) conducted a study on Credit rationing and loan repayment performance:

Figure 2.1: Conceptual Framework
the case study of Victoria savings and credit cooperative society. The study also found out that among the factors that were used for credit rationing in SACCOS age influenced loan repayment performance. From the findings, it was concluded that SACCOS’s credit rationing process was weak since it failed to discriminate between credit worthy and non-credit worthy borrowers and thus resulting into poor loan repayment performance which eventually translates to poor financial performance of SACCOS’s. The study findings by Absanto & Aikaruwa (2013) can be utilized by policy makers in formulating relevant policies for future sustainability of the microfinance sector. The study recommended a need for an empirical investigation so that the findings can be used by micro financing institutions to manipulate their credit programs for better financial performance. This study was limited to SACCOS’s credit rationing and loan repayment as an outcome as such findings couldn’t be generalized to deposit taking microfinance institutions and other outcomes of credit rationing.

Diaz-Serrano & Sackey (2015) in their study, is Rationing in the Microfinance Sector Determined by the Microfinance Type? Evidence from Ghana. The data for the study were gleaned from fourteen microfinance institutions’ credit and loan records consisting of borrowers and credit characteristics. Their findings showed that credit rationing is not influenced by the microfinance types but by the individual microfinance institutions. The study tested for the significance of the firm, loan and borrower characteristics in determining credit rationing. These determinants were looked into without taking cognizance of their influence on financial performance. Besides, it must be emphasized that though these microfinance institutions’ operations are guided by the Ghana
Microfinance Policy (GHAMP), their individual policies and modes of operation often deviate from each other hence findings cannot be generalized to Kenyan setting.

According to Kimutai and Jagongo (2013) in their study looked at how firm characteristics, loan characteristics, observable characteristic influences credit rationing and established in their findings that these are the key characteristics that influence credit rationing. However this study did not capture aspects considered in the current study like interest rate, loan repayment, collateral security. This study did not look at how these characteristics affect financial performance. Ahiawodozi and Sackey (2013) studied on Determinants of credit rationing to the private sector in Ghana with a main focus on interest rates, value of assets, the value of collateral security, net profit, experience in business, sex and age. However the two studies bares semblance with the current study in terms of collateral security whose results in other studies with regard to credit rationing have been contradictory. Besides the monetary policy in Ghana other countries like Canada, Japan, Argentina Uganda as mentioned in the background may not be similar with the Kenyan monetary policy.

According to Kimutai and Jagongo (2013) theoretically, there is no consensus on the influence of collateral on credit rationing. While Mayadetetal (1994) there is a positive correlation between collateral security and loan realized. Stilgitz (1981) concludes that increasing the demand for collateral will decrease the expected return for the bank so that offering more collateral security will not increase supply of debt to firms. These studies capture on profitability but obscured under the banner of financial management practices and not as a stand-alone construct hence conclusions remain overshadowed with regards to credit rationing. The lack of study on how the credit rationing factors affect financial
performance provides an avenue for the current study. These altogether casts aspersions on the context of the aforementioned studies which are commercial banks and limitations in terms of outcome of credit rationing therefore calling for a need in assessing the determinants of credit rationing by deposit taking microfinance institutions from which a majority of SMEs rely on for credit.

2.6 Research Gap

A survey of the literature dealing with credit rationing in Deposit taking microfinance indicated that there was a significant gap in the knowledge of the determinants of access to finance among businesses particularly in the perspectives of the lenders (Sarapaivanich, 2006; Pandula, 2011). There were a limited number of studies undertaken which investigated on how credit rationing affects financial performance of deposit taking microfinance institutions. However, these studies were limited to one category of determinants and do not give an overall picture of determinants of access to finance Pandula(2011) and how these determinants affect financial performance. For example, some studies built upon human capital theory looked at the characteristics of the entrepreneurs such as education, age, work experience and social background of the owner when accessing credit from financial institutions.

Others have looked at commercial banks perspective. One motivation for undertaking this study was to fill the knowledge gap in the area of credit rationing and financial performance of Deposit taking microfinance institutions in Uasin Gishu County. The study aimed to establish whether the supply side of credit factors such as interest rate, loan repayment period and collateral as determinants of credit rationing affect financial
performance of deposit taking MFIs. The findings of the study would therefore throw a new light on how these determinants of credit rationing affect financial performance in deposit taking microfinance institutions in Uasin Gishu County, Kenya.
CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

Burns and Grove (2003) term a research design as an outline for conducting a study with utmost control of factors that may get in the way with the validity of the findings”. The current study adopted descriptive survey design. The center is on getting insights and knowledge for future investigation or undertaken when problems are in a preliminary stage of investigation. This was used to obtain information on a current phenomenon that exists in respect to the variables under investigation; the conditions in a certain situation and their correlation (Sekaran and Bougie, 2010, Kothari 2004, Nachmias and Nachmias, 2008).

3.2 Target Population

Target population is said to be the whole group of individuals, objects, item, cases, articles or things with common attributes or characteristics from which samples are taken for measurements (Mugenda and Mugenda 2003). The target population was 68 credit officers from 13 Deposit Taking Microfinance Institutions licensed to carry out banking business under the Microfinance Act (2016) in Uasin Gishu County.

3.3 Sample and Sampling Procedure

Sample is the segment of the population that is selected for investigation (Bryman and Bell, 2003). In this research, the researcher made use of census survey method which was a complete enumeration of the universe (target population). Census survey method is used when the whole target population is taken into account and the units having
heterogeneity (Cohen, 2007). This method was appropriate because it collected complete information from all participants in the population and gave opportunity to have an intensive study about the influence of credit rationing on financial performance of deposit taking micro finance institutions in Uasin Gishu County, Kenya. The study used all the 68 credit officers of all the 13 deposit taking microfinance institutions in Uasin Gishu County.

3.4 Data collection Instruments
An instrument is the means through which the researcher collects data from the sample population and as is stated by Mugenda and Mugenda (2003), in social science research, the most commonly used instruments are questionnaires. The purpose of the instruments in research is to measure the variables of the study and help in yielding accurate and meaningful data for decision-making. For this study, data collection was done through use of a closed ended questionnaire prepared by the researcher. This was presented to respondents in order to collect the required information. The researcher used drop and pick method to collect data from the respondents. The study also used secondary data obtained from the following sources; Data on borrowing interest rates trends and Annual financial statements were obtained from the central banks’ Annual supervision reports and from the banks own Financial statements.

3.4.1 Questionnaires
A structured and pre-tested questionnaire based on the specific objectives was used to gather primary data both quantitatively and qualitatively. A pre-test of the questionnaire was conducted after which corrections were made on wording, layout, sequencing and validity of the questions, the final draft of the questionnaire was finalized and
disseminated (Frazer & Lawley, 2000). A five point attitudinal scaling was used to measure levels of attitude towards questions. The items adopted a 5 point Likert Scale (1-Strongly disagree, 2-Disagree, 3-Undecided, 4-Agree and 5-Strongly agree).

3.5 Data collection procedure

The study used both primary and secondary data. Primary data refers to the information the researcher obtains from the field (Mugenda and Mugenda, 2003). These are data collected a fresh and for the first time meaning that they are original in character (Kothari, 2004). The researcher first obtained a research permit from the National Council for Science and Technology (NACOSTI). Thereafter, the researcher sought clearance from the Rafiki, Faulu, KWFT and SMEP Deposit Taking Microfinance institutions. For easing introduction to the intended study participants, the researcher presented an introductory letter to each and every one of them prior the official visit. Research assistants did the administration of the questionnaires. A cover letter explaining the purpose of the research was attached to the study instruments. In addition to serving as an introduction of the study to the respondents, the cover letter was intended to assure them that the information they were treated with uttermost confidentiality and not used for commercial purpose.

3.5.1 Pilot Testing

In order to ascertain validity of the research instruments, the researcher did a pilot study of the instruments by distributing seven (7) questionnaires to respondents in Rafiki, Faulu, KWFT and SMEP Deposit Taking Microfinance institutions. Thus the researcher used the credit officers from the four DTMs for the pilot study. This represented more
10% of the target population which is consistent with Mugenda and Mugenda, (2012) who recommend a sample size of over 10% as being good. DuPlooy, (2002) describes pilot test as a procedure that is administered by a researcher with an aim to test the efficacy of a research instrument just prior to the actual research study. In this context therefore, tests of sound measurement were performed on the research tools. These tests of sound measurement comprised of validity, reliability as explained in detail as follows:

3.5.2 Validity of Instruments

Validity is described as the extent to which the research findings accurately reflect the phenomena under study (Collis & Hussey, 2009). The internal validity was used to show to what extent the collection and analysis and interpretation of data relates with the research variables. The content validity was achieved by ensuring relevance of the research results with theoretical approaches and literature reviews (DuPlooy, 2002). To ensure content validity, the researcher reviewed the literature in order to identify the items required to measure the concepts, for example, determinants of credit rationing and financial performance. Validity was also achieved through adoption of pretested constructs in the questionnaires and Training of the research assistance on administration of questionnaires used in data collection. Careful sampling of items also be ensured for their representativeness.

3.5.3 Reliability of Instruments

Reliability is the absence of differences in the results if the research is repeated (Collis & Hussey, 2009). The researcher operationalized reliability as credibility, accuracy, and consistency of the data collected and the results presented. In this study, reliability was
determined by use of internal consistency technique. The rationale for internal consistency is that the individual items should all be measuring the same constructs and thus correlates positively to one another. Internal consistency was measured through Cronbach’s alpha coefficient. The test of reliability was calculated using the SPSS (Statistical Package for Social Science) and found to be 0.76. As a rule of thumb, acceptable alpha should be at least 0.70 or above (Hair, Money, Samouel, & Page, 2007; De Vaus, 2002; Husna & Retneswari, 2009). Therefore, the reliability was achieved.

3.6 Data Analysis procedure

The study adopted the quantitative analysis for analysis of the objective of the study. The researcher used Statistical Package for the Social Science (SPSS) Version 23.0 as the appropriate statistical tool. For the primary data, the questionnaires were edited and coded to improve the quality of data. The process of editing involved going through the questionnaires to find out if the respondents answered the questions and whether there was a blank response. Thereafter, secondary data on interest rates and financial performance for the microfinance institutions were merged with the primary data on loan repayment period and collaterals. In this case, the secondary data were assigned to the respondents from the respective microfinance institutions. To ensure uniformity of the data, using visual binning, data obtained from the secondary sources (interest rates and financial performance of microfinance institutions) was transformed from an interval scale to ordinal scale. Therefore, descriptive statistics and inferential statistics was used for the quantitative data analysis. For descriptive statistics, frequency, percentages and means were used while for inferential statistics, Chi-Square was adopted. The data was presented using tables. Chi-Square was calculated as follows:
\[ X^2 = \sum \frac{(O_i - E_i)^2}{E_i} \]

Where;  
\( X^2 \) = Financial performance  
\( O_i \) = Observed frequencies  
\( E_i \) = Expected frequencies  
\( 0_i \) = Interest rate  
\( 0_2 \) = Loan repayment period  
\( 0_3 \) = Collateral securities  

3.7 Ethical Considerations

The researcher sought informed consent from respondents by making them aware that the information sought is meant for an academic purpose. In addition, anonymity and confidentiality was maintained in all respects. As an ethical measure, the researcher also treated the respondents with respect and courtesy. This ensured that the respondents gave candid responses to the questions. Respecting the participant’s rights to refusal to take part in the research and maintenance of objectivity during data collection, analysis and report stages was adhered to.
CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Response rate

Out of 68 questionnaires distributed, a total of 64 were returned. The returned 64 questionnaires were completely filled, which represented a response rate of 94.1%. According to Babbie (2002), a response rate of 70% and above is adequate, therefore, a response rate of 94.1% was suitable for data analysis. This was shown on Table 4.1.

Table 4.1: Response rate

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered</td>
<td>68</td>
<td>100.0</td>
</tr>
<tr>
<td>Returned</td>
<td>64</td>
<td>94.1</td>
</tr>
</tbody>
</table>

4.2 Demographic Characteristics of the respondents

Among the demographic information sought were; age, existence of micro finance in town and number of clients. Demographic factors could have a confounding effect on the relationship between credit rationing and financial performance of the microfinance institutions (Okurut et al, 2006 and Diaz-Serrano & Sackey, 2015). The respondents were first asked to indicate their age. This is shown in Table 4.2.
Table 4.2: Age of the respondents

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25 years</td>
<td>3</td>
<td>4.7</td>
</tr>
<tr>
<td>26-30 years</td>
<td>19</td>
<td>29.7</td>
</tr>
<tr>
<td>31-40 years</td>
<td>27</td>
<td>42.2</td>
</tr>
<tr>
<td>Above 40 years</td>
<td>15</td>
<td>23.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>64</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.3 above shows that majority 27(42.2%) of the respondents were 31-40 years old, 19(29.7%) 26-30 years old, 15(23.4%) above 40 years old and 3(4.7%) 18-25 years old. This implies that majority of the employees were youthful, thus, can easily work for long hours to ensure enhanced financial performance of the micro finance institutions.

Table 4.3: Existence of the microfinance in the town

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td>7</td>
<td>10.9</td>
</tr>
<tr>
<td>1-5 years</td>
<td>23</td>
<td>35.9</td>
</tr>
<tr>
<td>6-10 years</td>
<td>22</td>
<td>34.4</td>
</tr>
<tr>
<td>Above</td>
<td>12</td>
<td>18.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>64</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.3 above shows that majority 23(35.9%) of the respondents indicated that the micro finance institutions had been in existence in the county for 1-5 years, 22(34.4%) 6-10 years, 12(18.8%) above 10 years and 7(10.9%) for a period of less than one year. This implies that most of the micro finance institutions have been in existence in the county
for more than one year, thus, can be presumed to have a good number of clients and knowledge of customer satisfaction with their products which would translate to financial performance. Additionally, the respondents were asked to indicate the number of clients in the micro finance institutions. This is presented in Table 4.4.

Table 4.4: Number of clients in the bank

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100</td>
<td>6</td>
<td>9.4</td>
</tr>
<tr>
<td>100-250</td>
<td>21</td>
<td>32.8</td>
</tr>
<tr>
<td>251-500</td>
<td>26</td>
<td>40.6</td>
</tr>
<tr>
<td>Above 500</td>
<td>11</td>
<td>17.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>64</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.4 above shows that majority 26(40.6%) of the respondents indicated that the micro finance institutions had 251-500 clients, 21(32.8%) 100-250, 11(17.2%) above 500 and 6(9.4%) less than 100. This implies that the majority of micro finance institutions had more than 250 clients which were adequate enough to affect their financial performance positively.

4.3 Influence of interest rate on financial performance of deposit taking micro-financial institutions.

The study employed frequency and percentages as the descriptive statistical techniques and Chi-square test as the appropriate inferential statistics. This helped to establish the influence of interest rate on financial performance of deposit taking microfinance
institutions in Uasin Gishu County, Kenya. The analysis for this objective, thus, starts with the descriptive statistics for the variable interest rate (Table 4.5).

4.3.1. Descriptive statistics for interest rate

For analysis, frequency, percentages and mean ratings of response for each item were determined and summarized in Table 4.5.

Table 4.5: Descriptive statistics for interest rate

<table>
<thead>
<tr>
<th>Statements</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=22.00</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>22.01-23.81</td>
<td>26</td>
<td>40.6</td>
</tr>
<tr>
<td>23.82-25.62</td>
<td>12</td>
<td>18.8</td>
</tr>
<tr>
<td>25.63-27.44</td>
<td>9</td>
<td>14.1</td>
</tr>
<tr>
<td>27.45+</td>
<td>17</td>
<td>26.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>64</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.5 shows that 26(40.6%) of the microfinance institutions charge an interest rate of 22.01-23.81, 17(26.6%) 27.45+, 12(18.8%) 23.82-25.62, 9(14.1%) 25.63-27.44 and none 0(0.0%) charged below 22. This implies that most of the microfinance institutions charge an interest rate of 22.01-23.81 which is higher than the average for the commercial banks. According to Banerjee (2008) banks compete by choosing interest rate and use interest rates as screening device for distinguishing bad risks from good risks. The borrowers are understood to demand loans that have been fixed so as to finance projects that they think have the same foreseen outcome. These descriptive statistics of objective one was followed by a Chi-square test to establish the association between
interest rate and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. This was analyzed under the following sub-section.

4.3.2. Chi-square test for the association between interest rate and financial performance of deposit taking micro-finance institutions

The Chi-square test at $p \leq 0.05$ significance level illustrating association between interest rate and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya, are as summarized in Table 4.6. To achieve this, the hypothesis was tested;

**H0:** There is no association between interest rate and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya

**Table 4.6: Chi-square test for association between interest rate and financial performance of deposit taking micro-finance institutions**

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>71.484a</td>
<td>9</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>58.706</td>
<td>9</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>6.567</td>
<td>1</td>
<td>.010</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a. 12 cells (75.0%) have expected count less than 5. The minimum expected count is 1.27.*
From the results in Table 4.6, the P-value for the Linear-by-Linear Association between interest rate and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya is 0.010. Therefore the null hypothesis that, “there is no association between interest rate and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya”, was rejected (p<0.05). This implies that there is a significant association between interest rate and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. This concurs with the findings of McDonald and Robert (2010) that interest rate significantly affects financial performance of deposit taking microfinance institutions. Lloyd and Money (2006) and McConnel (2009) adds that interest rates can be good in the sense that interest rate repayments enhance and increases microfinance profitability.


The study employed frequency and percentages and mean as the descriptive statistical techniques and Chi-square test as the appropriate inferential statistics. This helped to determine the influence of repayment period on financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. The analysis for this objective, thus, starts with the descriptive statistics for the level of agreement on a five point Likert scale of the variable loan repayment period (Table 4.7).
4.4.1. Descriptive statistics for influence of loan repayment period on the financial performance of micro-finance institutions

For analysis, frequency, percentages and mean ratings of response for each item were determined and summarized in Table 4.7.

Table 4.7: Descriptive statistics for the loan repayment period

<table>
<thead>
<tr>
<th>Statements</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan repayment periods are suitable</td>
<td>F</td>
<td>24</td>
<td>0</td>
<td>1</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>%</td>
<td>37.5</td>
<td>0.0</td>
<td>1.6</td>
<td>23.4</td>
<td>37.5</td>
<td></td>
</tr>
<tr>
<td>Loan diversion affects repayment period</td>
<td>F</td>
<td>3</td>
<td>22</td>
<td>12</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>%</td>
<td>4.7</td>
<td>34.4</td>
<td>18.8</td>
<td>17.2</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td>There is continuous supervision of loans utilization to reduce the problem of prolonged repayment</td>
<td>F</td>
<td>19</td>
<td>5</td>
<td>3</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>%</td>
<td>29.7</td>
<td>7.8</td>
<td>4.7</td>
<td>15.6</td>
<td>42.2</td>
<td></td>
</tr>
<tr>
<td>Loan size does not influence repayment period</td>
<td>F</td>
<td>23</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>%</td>
<td>35.9</td>
<td>14.1</td>
<td>9.4</td>
<td>7.8</td>
<td>32.8</td>
<td></td>
</tr>
<tr>
<td>Stringent policies are more effective in debt recovery period</td>
<td>F</td>
<td>21</td>
<td>4</td>
<td>2</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>%</td>
<td>32.8</td>
<td>6.3</td>
<td>3.1</td>
<td>21.9</td>
<td>35.9</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.6 shows that 24(37.5%) of the respondents strongly disagreed with the statement that loan repayment periods were suitable, a similar 24(7.5%) strongly agreed, 15(23.3%)
agreed and 1(1.6%) of the respondents were undecided on the statement. The study findings suggested that the respondents were undecided (Mean=3.23) on whether loan repayment periods were suitable. This implies that for enhanced financial performance, the loan repayment period should be suitable. This supports Bhatt and Tang, (2002) that suitable loan repayment period leads to improved financial performance of firms.

Similarly, 22(34.4%) of the respondents disagreed with the statement that loan diversion affected repayment period, 16(25.0%) strongly agreed, 12(18.8%) of the respondents were undecided, 11(17.2%) disagreed and 3(4.7%) of the respondents strongly disagreed with the statement. It emerged from the study that the respondents were undecided (Mean=3.23) on whether loan diversion affected repayment period. This implies that loan diversion sometimes have effect on repayment period, thus, determines micro finance financial performance. This supports the findings of Alfred, (2011) who asserts that there have been challenges of loan repayment such as loan diversion.

Additionally, 27(42.2%) of the respondents strongly agreed with the statement that there were continuous supervision of loans utilization to reduce the problem of prolonged repayment, 19(29.7%) strongly disagreed, 10(15.6%) agreed, 5(7.8%) disagreed and 3(4.7%) of the respondents were undecided on the statement. The study findings suggested that the respondents were undecided (Mean=3.33) on whether there were continuous supervision of loans utilization to reduce the problem of prolonged repayment. This implies that sometimes continuous supervision of loans utilization reduce the problem of prolonged repayment, thus, can improve the financial performance of the micro-finance institutions.
This is in line with the findings of Mwaura (2005) that there should be continuous supervision of loans utilization for enhanced financial performance.

On whether loan size never influenced repayment period, 23(35.9%) of the respondents strongly disagreed with the statement, 21(32.8%) strongly agreed, 9(14.1%) disagreed, 6(9.4%) of the respondents were undecided and 5(7.8%) of the respondents agreed with the statement. It emerged from the study that the respondents were almost undecided (Mean=2.88) on whether loan size never influenced repayment period. This implies that sometimes loan sizes influence repayment period, thus, determines the financial performance of the micro-finance institutions.

Lastly, 23(35.9%) of the respondents strongly agreed with the statement that stringent policies were more effective in debt recovery period, 21(32.8%) strongly disagreed, 14(21.9%) agreed, 4(6.3%) disagreed and 2(3.1%) of the respondents were undecided on the statement. The study findings suggested that the respondents were undecided (Mean=3.22) on whether stringent policies were more effective in debt recovery period. This implies that sometimes stringent policies are more effective in debt recovery period, thus, can improve the financial performance of the micro-finance institutions. This supports the findings of Tenishu (2014) that loan repayment period measured by loan size, loan supervision and suitability of repayment period has an effect on the financial performance.

These descriptive statistics of objective one was followed by a Chi-square test to determine the association between loan repayment period and financial performance of
deposit taking microfinance institutions in Uasin Gishu County, Kenya. This was analyzed under the following sub-section.

4.4.2. Chi-square test for the association between loan repayment period and financial performance of deposit taking micro-finance institutions

The Chi-square test at $p \leq 0.05$ significance level illustrating association between loan repayment period and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya, are as summarized in Table 4.8. To achieve this, the hypothesis was tested;

\[ H_0: \text{There is no association between loan repayment period and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya} \]

Table 4. 8: Chi-square test for association between loan repayment period and financial performance of deposit taking micro-finance institutions

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>109.013(^a)</td>
<td>60</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>101.366</td>
<td>60</td>
<td>.001</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.389</td>
<td>1</td>
<td>.036</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) 84 cells (100.0%) have expected count less than 5. The minimum expected count is .14.
As shown in Table 4.8, the P-value for the Linear-by-Linear Association between loan repayment period and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya is 0.036. Therefore the null hypothesis that, “there is no association between loan repayment period and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya”, was rejected (p<0.05). This implies that there is a significant association between loan repayment period and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. This is in line with the findings of Absanto and Aikaruwa, (2013) that that there is a significant effect of loan repayment period on financial performance. However, contradicts the findings of Godquin, (2004) held up the argument that declining in the number of loan repayment customers stand to the possible to raise the competence in MFIs, as agreement loans are not related with high lend defaults.

4.5 Influence of collateral securities on financial performance of deposit taking micro-financial institutions

The study employed frequency and percentages and mean as the descriptive statistical techniques and Chi-square test as the appropriate inferential statistics. This helped to assess the influence of repayment period on financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. The analysis for this objective, hence, starts with the descriptive statistics for the level of agreement on a five point Likert scale of the variable collateral securities (Table 4.9).
4.5.1. Descriptive statistics for influence of collateral securities on the financial performance of micro-finance institutions

For analysis, frequency, percentages and mean ratings of response for each item were determined and summarized in Table 4.9.

Table 4.9: Descriptive statistics collateral securities variable

<table>
<thead>
<tr>
<th>Statements</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collateral information can easily be quantified</td>
<td>F</td>
<td>7</td>
<td>5</td>
<td>10</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaterals required as security are sometimes unachievable</td>
<td>F</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>14</td>
<td>3</td>
<td>4</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Increasing demand for collaterals increases the financial performance</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>1</td>
<td>25</td>
<td>11</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>Collaterals denote credit worthiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>2</td>
<td>13</td>
<td>4</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Most of credit applicants lose their collaterals</td>
<td>F</td>
<td>2</td>
<td>13</td>
<td>4</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9 shows that 21(32.8%) of the respondents strongly agreed with the statement that collateral information could easily be quantified, a similar 21(32.8%) agreed,
10(15.6%) of the respondents were undecided, 7(10.9%) strongly disagreed and 5(7.8%) of the respondents disagreed with the statement. The study findings suggested that the respondents tended to agree (Mean=3.69) that collateral information could easily be quantified. This implies that collateral information can be quantified and this is likely to enhance the micro-finance institution performance. However, this contradicts the findings of Wiiliam (2012) that however much collaterals are good for financial performance, some collateral information was difficult to quantify.

Similarly, 26(40.6%) of the respondents strongly agreed with the statement that collaterals required as security were achievable, 20(31.3%) agreed, 7(10.9%) of the respondents were undecided, 6(9.5%) disagreed and 5(7.8%) of the respondents strongly disagreed with the statement. It emerged from the study that the respondents almost agreed (Mean=3.88) that collaterals required as security were achievable. This implies that collaterals required as security are almost achievable and this leads to improved micro-finance institution performance. This is in tandem with the findings of Davis and Zhu, (2014) the value of collateral determines the loan size a borrower can access, however there are other indicators that determines how much one can borrow such as credit history of the borrower, type of client such as high net worth customers.

Additionally, 22(34.4%) of the respondents agreed with the statement that increasing demand for collaterals enhanced the financial performance, 21(32.8%) strongly agreed, 14(21.9%) strongly disagreed, 4(6.3%) of the respondents were undecided and 3(4.7%) of the respondents disagreed with the statement. The study findings suggested that the respondents tended to agree (Mean=3.52) that increasing demand for collaterals enhanced the financial performance. This implies that when demand for collaterals is increased, the
micro-finance institutions is likely to become secure, thus, improvement in their financial performance.

On whether collaterals denoted credit worthiness, 25(39.1%) of the respondents strongly disagreed with the statement, 18(28.1%) agreed, 11(17.2%) of the respondents were undecided, 9(14.1%) strongly agreed and 1(1.6%) of the respondents strongly disagreed with the statement. It emerged from the study that the respondents were undecided (Mean=3.14) on whether collaterals denoted credit worthiness of a SME. This supports the finding of Longhofer, Stanley, Joao, & Santos (2000) on the other hand, show theoretically that collateral may serve as a contractual device to increase the lender’s screening and monitoring incentive.

Lastly, 30(46.9%) of the respondents strongly agreed with the statement that most of credit applicants lost their collaterals, 15(23.4%) agreed, 13(20.3%) disagreed, 4(6.3%) of the respondents were undecided and 2(3.1%) of the respondents strongly disagreed with the statement. The study findings suggested that the respondents almost agreed (Mean=3.91) that most of credit applicants lost their collaterals. This implies that credit applicants sometimes lose their collaterals, thus, the micro-financial institutions exert high managerial effort in order to reduce the default for improved financial performance. This supports the findings of Ono, Sakai and Uesugi (2008) that collateral pledged by risky borrowers induces them to exert high managerial effort in order to reduce the default probability and thus, attenuates the problem of moral hazard.

These descriptive statistics of objective one was followed by a Chi-square test to determine the association between loan repayment period and financial performance of
deposit taking microfinance institutions in Uasin Gishu County, Kenya. This was analyzed under the following sub-section.

### 4.5.2. Chi-square test for the association between collateral securities and financial performance of deposit taking microfinance institutions

The Chi-square test at $p \leq 0.05$ significance level illustrating association between collateral securities and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya, are as summarized in Table 4.10. To achieve this, the hypothesis was tested;

**H0**: There is no association between collateral securities and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya

**Table 4. 10: Chi-square test for association between collateral securities and financial performance of deposit taking microfinance institutions**

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>63.599a</td>
<td>45</td>
<td>.035</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>62.263</td>
<td>45</td>
<td>.045</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>9.618</td>
<td>1</td>
<td>.002</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 64 cells (100.0%) have expected count less than 5. The minimum expected count is .14.
Table 4.10, shows that the P-value for the Linear-by-Linear Association between collateral securities and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya is 0.002. Therefore the null hypothesis that, “there is no association between collateral securities and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya”, was rejected (p<0.05). This implies that there is a significant association between collateral securities and financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. This is in line with the findings of Mayadet et al (1994) that there is a positive correlation between collateral security and loan realized. Kao and Chen (2010) add that the risk (value) attributes of collateralized stocks reduce bank efficiency yet reduce (increase) bank profits. However, according to Kimutai and Jagongo (2013) theoretically, there is no consensus on the influence of collateral on credit rationing.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the findings

The summary of the findings were presented as per the specific study objectives.

5.1.1 Influence of interest rate on financial performance of deposit taking micro-financial institutions.

On the influence of interest rate on financial performance of deposit taking microfinance institutions, the findings suggested that the microfinance institutions charge an interest rate of 22.01-23.81, 27.45+,- 23.82-25.62, 25.63-27.44 and none charged below 22. For Chi-square test, there was an association between interest rate and financial performance of deposit taking micro-financial institutions.

5.1.2 Influence of loan repayment period on financial performance of deposit taking micro-financial institutions.

On the influence of repayment period on financial performance of deposit taking microfinance institutions, the study findings suggested that the respondents were undecided on whether loan repayment periods were suitable. Similarly, it emerged from the study that the respondents were undecided on whether loan diversion affected repayment period. Additionally, the study findings suggested that the respondents were undecided on whether there was continuous supervision of loans utilization to reduce the problem of prolonged repayment. On whether loan size never influenced repayment period, it emerged from the study that the respondents were almost undecided. Lastly, the study findings suggested that the respondents were undecided on whether stringent
policies were more effective in debt recovery period. For Chi-square test, there was an association between loan repayment period and financial performance of deposit taking micro-financial institutions.

5.1.3 Influence of collateral securities on financial performance of deposit taking micro-financial institutions.

On the influence of repayment period on financial performance of deposit taking microfinance institutions, the study findings suggested that the respondents tended to agree that collateral information could easily be quantified. Additionally, it emerged from the study that the respondents almost agreed that collaterals required as security were achievable. Similarly, the study findings suggested that the respondents tended to agree that increasing demand for collaterals enhanced the financial performance. On whether collaterals denoted credit worthiness, it emerged from the study that the respondents were undecided. Lastly, the study findings suggested that the respondents almost agreed that most of credit applicants lost their collaterals. For Chi-square test, there was an association between collateral securities and financial performance of deposit taking micro-financial institutions.

5.2 Conclusion

Based on the literature review, findings and discussions, the study concluded that credit rationing has a significant association with financial performance of deposit taking microfinance institutions in Uasin Gishu County, Kenya. Therefore, the determinants of the credit rationing such as interest rate, loan repayment period and collateral securities are likely to improve the financial performance of the micro-finance institutions.
On the influence of interest rates on financial performance of deposit taking microfinance institutions, the study concluded that, interest rate has a significant influence financial performance of deposit taking microfinance institutions. That is, interest rates can be good in the sense that interest rate repayments enhance microfinance profitability. Microfinance institutions compete by choosing interest rate and use interest rates as screening device for distinguishing bad risks from good risks. The borrowers are understood to demand loans that have been fixed so as to finance projects that they think have the same foreseen outcome. This is underpinned by Credit Rationing Theory which avows that interest rate cannot be used to clear excess demand for loans in the market. Credit rationing treats the supply-side phenomenon, with the lender’s supply function becoming perfectly price inelastic at some point. Thus the higher the interest rate borrowers would be willing to come for the loan as long as the supply is high hence high performance of the microfinance institutions. Besides high-quality borrowers prefer a contract that entails a slightly lower interest rate with a reduced loan amount which also translates to high profitability. At equilibrium credit rationing occurs at the interest rate at which the microfinance institution maximizes the expected profits.

Moreover, on the influence of loan repayment period on financial performance of deposit taking microfinance institutions, the study concluded that, loan repayment period has a significant association with the financial performance of deposit taking microfinance institutions. That is suitable loans, loan diversion, and loan size, continuous supervision of loans utilization and stringent policies that are more effective in debt recovery period leads to enhanced financial performance. The repayment period influence the cash flow in microfinance institutions which in turn affects performance. Shorter term credits
normally prevail in microfinance institutions due to their impact on SMEs is noted when attracting new funding; loan period will possibly be shorter as the MFIs might be afraid that they are not able to pay their own loan because they are less sure that they will get their outstanding credits back. This argument is hinged on the stakeholder’s theory.

Lastly, on the influence of collateral securities on financial performance of deposit taking microfinance institutions, the study concluded that, collateral securities has a significant association with the financial performance of deposit taking microfinance institutions. Collateral is considered as a substitute for the evaluation of borrowers’ riskiness. Therefore, an existence of collateral security such as ability to quantify collateral information, increasing demand for collaterals, loss of collaterals and ability to achieve collaterals required as security leads to improved financial performance of deposit taking microfinance institutions. This is in line with the credit rationing theory which explains that a collateral offered by the firm influences the credit rationing behavior since incase of a default the bank can sell the collateral to recover the balance.

5.3 Policy Recommendations

The findings of the study suggested that interest rate, loan repayment period and collateral securities affect the financial performance of micro finance institutions, therefore;

The study recommends that the government policy makers should reform Kenya’s financial sector through ensuring low interest rates and eliminating the collateral security risks to make it easy to access financial institutions more easily to spur their financial performance.
There is therefore a need for the deposit taking micro finance organization to impose a proper policy guideline that will help increase financial performance. Moreover, from the findings, the study recommends that in order for the deposit taking micro finance to have a high financial performance the organization will have to also concentrate on other factors affecting its operations.

5.4 Recommendation for further studies

Further study should be narrowed down to the influence of each (interest rate, loan repayment period and collateral securities) on financial performance of microfinance institutions.

Besides, further study should be done on the moderating effects of the micro finance institutions characteristics on the relationship between credits rationing and financial performance of deposit taking microfinance institutions.

The study was conducted in microfinance institution which probably limited the generalization in to banks and other counties hence the researcher recommend that similar study conducted in other counties and banks.
REFERENCES


74


Dear Respondent

I am Jackson KimutaiKosgei a student at Kisii University undertaking a master’s degree in Business Administration (Finance Option). I am undertaking a research on Influence of credit rationing on financial performance of deposit taking micro finance institutions in Uasin Gishu County, Kenya. Any information you give will be handled with total confidence and at no time will you be required to identify yourself by name. I guarantee that this research will be used for purely academic purpose. Kindly spare me some time to complete the questionnaire to the best of your knowledge. In case of any enquiries please contact 0722321434

Thank you
APPENDIX II: QUESTIONNAIRE

INFLUENCE OF CREDIT RATIONING ON FINANCIAL PERFORMANCE OF DEPOSIT TAKING MICRO FINANCE INSTITUTIONS IN UASIN GISHU COUNTY, KENYA

This study focuses on the influence of credit rationing on financial performance of deposit taking micro finance institutions in Uasin Gishu County, Kenya. Please note that your responses are anonymous and confidential and will be used by the researcher only for purposes of academics. Please answer all questions to the best of your knowledge.

PART A: BACKGROUND INFORMATION
1. Indicate the name of your micro finance institution ………………..

2. What is your age bracket?
   - 18-25 years
   - 26-30 years
   - 31-40 years
   - Above 40 years

3. How long has your Microfinance Bank Branch existed in the current town?
   - Under 1 year
   - 1-5 years
   - 6-10 years
   - Above 10 years

4. What is the number of client that the organization has
   - Less than 100
   - 100-250
   - 251-500
   - Above 500
SECTION B:

Instructions


PART I: Loan repayment period

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan repayment periods are suitable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan diversion affects repayment period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is continuous supervision of loans utilization to reduce the problem of prolonged repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan size influences repayment period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stringent policies are more effective in debt recovery period</td>
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</tr>
</tbody>
</table>

PART III: COLATERAL SECURITY

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<th>Statements</th>
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<th>2</th>
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<th>4</th>
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<tbody>
<tr>
<td>Collateral information can be quantified</td>
<td></td>
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<td></td>
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<td>Collaterals required as security are achievable</td>
<td></td>
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</tr>
<tr>
<td>Increasing demand for collaterals increases the financial performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaterals denote credit worthiness of a SME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of credit applicants lose their collaterals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# APPENDIX II TARGET POPULATION

<table>
<thead>
<tr>
<th>Micro finance</th>
<th>Target population (Credit officers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faulu Microfinance Bank Limited</td>
<td>4</td>
</tr>
<tr>
<td>SMEP Microfinance Bank Limited</td>
<td>6</td>
</tr>
<tr>
<td>Century Microfinance Bank Limited</td>
<td>5</td>
</tr>
<tr>
<td>Daraja Microfinance Bank Limited</td>
<td>7</td>
</tr>
<tr>
<td>Kenya Women Microfinance Bank Limited</td>
<td>6</td>
</tr>
<tr>
<td>Remu Microfinance Bank Limited</td>
<td>4</td>
</tr>
<tr>
<td>SUMAC Microfinance Bank Limited</td>
<td>7</td>
</tr>
<tr>
<td>Choice Microfinance Bank Limited</td>
<td>3</td>
</tr>
<tr>
<td>UWEZO Microfinance Bank Limited</td>
<td>5</td>
</tr>
<tr>
<td>Rafiki Microfinance Bank Limited</td>
<td>9</td>
</tr>
<tr>
<td>U &amp; I Microfinance Bank Limited</td>
<td>4</td>
</tr>
<tr>
<td>Caritas Microfinance Bank Limited</td>
<td>3</td>
</tr>
<tr>
<td>Maisha Microfinance Bank Limited</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>68</strong></td>
</tr>
</tbody>
</table>

*Source: CBK (2017)*
APPENDIX III. Secondary data for the 2016/2017 financial year

<table>
<thead>
<tr>
<th>Number</th>
<th>Microfinance institution</th>
<th>Interest rate</th>
<th>Solvency</th>
<th>Profitability</th>
<th>Liquidity</th>
<th>Market value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kenya Women Microfinance Bank Limited</td>
<td>27.12</td>
<td>26.18</td>
<td>1.25</td>
<td>29.4</td>
<td>50.42</td>
</tr>
<tr>
<td>2</td>
<td>Faulu Microfinance Bank Limited</td>
<td>24.86</td>
<td>15.64</td>
<td>0.82</td>
<td>26.4</td>
<td>33.94</td>
</tr>
<tr>
<td>3</td>
<td>Rafiki Microfinance Bank Limited</td>
<td>28.76</td>
<td>21.42</td>
<td>-0.58</td>
<td>51.8</td>
<td>9.2</td>
</tr>
<tr>
<td>4</td>
<td>SMEP Microfinance Bank Limited</td>
<td>23.9</td>
<td>21.82</td>
<td>-1.3</td>
<td>27.4</td>
<td>5.72</td>
</tr>
<tr>
<td>5</td>
<td>Caritas Microfinance Bank Limited</td>
<td>24.7</td>
<td>24</td>
<td>-22.6</td>
<td>57</td>
<td>0.45</td>
</tr>
<tr>
<td>6</td>
<td>SUMAC Microfinance Bank Limited</td>
<td>29.25</td>
<td>14.82</td>
<td>-0.61</td>
<td>27.4</td>
<td>1.16</td>
</tr>
<tr>
<td>7</td>
<td>Remu Microfinance Bank Limited</td>
<td>27.7</td>
<td>7.74</td>
<td>-2.4</td>
<td>59.4</td>
<td>1.09</td>
</tr>
<tr>
<td>8</td>
<td>U &amp; I Microfinance Bank Limited</td>
<td>23.32</td>
<td>5.87</td>
<td>2.12</td>
<td>43.85</td>
<td>2.96</td>
</tr>
<tr>
<td>9</td>
<td>UWEZO Microfinance Bank Limited</td>
<td>23.07</td>
<td>5.42</td>
<td>-0.37</td>
<td>71.6</td>
<td>0.51</td>
</tr>
<tr>
<td>10</td>
<td>Daraja Microfinance Bank Limited</td>
<td>23.7</td>
<td>8.8</td>
<td>-19.3</td>
<td>57</td>
<td>0.25</td>
</tr>
<tr>
<td>11</td>
<td>Maisha Microfinance Bank Limited</td>
<td>23</td>
<td>5.8</td>
<td>-18.1</td>
<td>53</td>
<td>0.5</td>
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<tr>
<td>12</td>
<td>Century Microfinance Bank Limited</td>
<td>22.74</td>
<td>22.74</td>
<td>5.92</td>
<td>18.12</td>
<td>23.18</td>
</tr>
<tr>
<td>13</td>
<td>Choice Microfinance Bank Limited</td>
<td>26.6</td>
<td>7.5</td>
<td>33.2</td>
<td>51</td>
<td>0.24</td>
</tr>
</tbody>
</table>
3rd October, 2017

TO WHOM IT MAY CONCERN

Dear Sir /Madam,

RE: RESEARCH DATA COLLECTION

JACKSON KOSGEI REG. NO: CEM12A/0075/15

The above named is a bonafide student of Kisii University- Eldoret Campus pursuing a Masters Degree Course in Business Administration (Finance Option) in the School of Business & Economics.

He is working on his research entitled “Effects of Credit Rationing on Financial Performance of Deposit Taking Microfinance Institutions in Uasin Gishu County” in partial fulfilment for the requirement of the Award of Masters in Business Administration (Finance Option).

We are kindly requesting your office to provide him with the necessary assistance in data collection and completion of his research.

Please do not hesitate to call the undersigned for any verification.

Any assistance extended to him will be highly appreciated.

Yours faithfully,

[Signature]

Dr. Charles O. Ony gio (0720982051)
DEPUTY DIRECTOR – ACADEMIC AFFAIRS
Jackson Kimutai Kosgei  
Kisii University  
P.O. Box 402-40800  
KISII.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Effect of credit rationing on financial performance of deposit taking microfinance institutions in Uasin Gishu County” I am pleased to inform you that you have been authorized to undertake research in Uasin Gishu County for the period ending 12th October, 2018.

You are advised to report to the County Commissioner and the County Director of Education, Uasin Gishu County before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.


GODFREY P. KALERWA  
MSc., MBA, MKIM  
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner  
Uasin Gishu County.

The County Director of Education  
Uasin Gishu County.
THIS IS TO CERTIFY THAT:  
MR. JACKSON KIMUTAI KOSGEI  
of KISII UNIVERSITY, 3-30100  
ELDORSET, has been permitted to conduct  
research in Uasin-Gishu County  
on the topic: EFFECT OF CREDIT  
RATIONING ON FINANCIAL  
PERFORMANCE OF DEPOSIT TAKING  
MICROFINANCE INSTITUTIONS IN UASIN  
GISHU COUNTY.  

for the period ending:  
12th October, 2018  

[Signature]  
Applicant's Signature  

[Signature]  
Director General  
National Commission for Science, Technology & Innovation  

Permit No: NACOST/TP/17/23227/19560  
Date of Issue: 13th October, 2017  
Fee Received: Ksh 1000
MINISTRY OF EDUCATION
(State Department for Basic Education)

Office of the County Director of Education,
Uasin Gishu County,
P.O. Box 9844-30100,
ELDORET.

Ref: Na. MOE/UGC/TRN/9/VOL.3/56

JACKSON KIMUTAI KOSGEI
KISII UNIVERSITY
PO BOX 462-40800
KISII.

Date: 24TH October, 2017

RE: RESEARCH AUTHORIZATION

This office has received your letter requesting for an authority to allow you carry out a research on "Effect of credit rationing on financial performance of deposit taking microfinance institutions," within Uasin Gishu County.

We wish to inform you that the request has been granted for a period ending 12th October, 2018. The authorities concerned are therefore requested to give you maximum support.

We take this opportunity to wish you well during this research.

SIMEON KEMEI
DEPUTY COUNTY DIRECTOR OF EDUCATION
UASIN GISU