MICROCREDIT DETERMINANTS AND PORTFOLIO QUALITY OF MICROFINANCE INSTITUTIONS IN KENYA

BY

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DECLARATION

I declare that this proposal is my original work and has not been submitted in any other University for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

Signature……Date ……

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SUPERVISOR

I confirm that I have examined the supervised the proposal of Patrick M Mutiso and have certified that all revisions and comments have been adequately addressed.

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DEDICATION

I dedicate this research proposal to my lovely family: My wife, Eunice Mumbua for her support and encouragement during the time of my study.

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OPERATIONAL DEFINITION OF TERMS

Ability to pay: Possession of the means to something to repay borrowed funds and any interest due.

Collateral: Property or other assets that a borrower offers a lender to secure a loan.

Interest Rate: The amount charged by a lender to a borrower for money advanced. It is usually expressed as a percentage of the principal amount.

Loan portfolios: These are loans that have been made or bought and are being held for repayment. It comprises of the outstanding principal balance of all loans, including current, delinquent, and restructured loans, but not loans that have been written off.

Portfolio Quality: This is the status of a loan portfolio. The term is used interchangeably with loan at risk or non-performing loans.

Savings Level: This represents any income not spent or deferred consumption mainly for investment or precautional purposes.

ABBREVIATIONS AND ACRONYMS

AMFI: Association for Micro-finance Institutions

ANOVA Analysis of Variance

CBK: Central Bank of Kenya

CRBs: Credit Reference Bureaus

DTMs: Deposit-taking Microfinance Institutions

KREP: Kenya Rural Enterprise Programme

KWFT: Kenya Women's Finance Trust

MFIs: Microfinance Institutions

MPT: Modern Portfolio Theory

NCCK: National Council of Churches of Kenya

NGOs; Non-governmental Organizations

NPAs: Non-Performing Assets

NPLs: Non-performing Loans

SME's: Small and Medium Enterprises

SPSS: Statistical Package for Social Sciences

UNDP: United Nations Development Programme

ABSTRACT

Micro credit plays a major role in development strategies. This is in view of its direct relationship to both poverty alleviation and improvement of the living standards. At the same time, low access to credit and gender inequalities in developing societies inhibit economic growth and development. Further, societies that discriminate based on gender have lower credit accessibility, greater poverty, slower economic growth, weaker governance, and a lower standard of living. Micro credit gives access to services to average earners wishing to access money to improve income-generating activities. Financial services of this nature are offered to those that depend on their small-scale economic activities and businesses who are considered highly risky by the mainstream commercial banks. Literature shows that many small enterprises and low-income earners always find it difficult to access financing in the mainstream commercial banks partly because of the stringent measures taken by commercial banks to shield themselves from non-performing loans. This study therefore seeks to investigate the effect of microcredit determinants on portfolio quality of microfinance institutions in Kenya. The study is anchored on financial intermediation theory supported by information asymmetry theory and the modern portfolio theory. The study will adopt descriptive survey research design with the population comprising all the 57 microfinance institutions in Kenya. Primary data will be collected using semi structured questionnaire through drop and pick method. Face and content validity of the questionnaire will be ascertained by supervisor, lecturers and peers. Reliability of the questionnaire will be tested using Cronbach's alpha. Data analysis will be aided by SPSS Version 23.0. Quantitative data will be analysed using descriptive statistics as well as inferential analysis such as correlation and regression analysis. Qualitative data will be analysed using conceptual content analysis. Coefficient of determination (R2) will be used to test the significance of the model F-statistic Data will be presented in tables, charts and graphs.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Commercial banks have traditionally been the main lenders in all economies worldwide. This has made access to formal credit by small-scale businesses and particularly among the low-income earners quite difficult. Research show that micro credit plays a major role in development strategies. This is considering that the micro credits have an important relationship to alleviation of poverty and improvement of the living standards. Both World Bank (2014) and United Nations Development Programme (UNDP) (2011) confirm that access to credit and inequalities in terms of gender are major hindrances when it comes to development and economic growth. Further, places where gender discrimination is high there is low credit accessibility, decreased growth in the economy, low living standards, higher poverty levels and a weak government.

The emergence of micro credit sector has been mainly driven by Non-governmental organizations (NGOs) that are donor supported. However, initial attempts into micro lending were made by governments through creation of development banks that were meant to allocate credit to certain sectors at subsidised rates. Studies have shown that directed credit has undermined development of sound financial systems in many third world countries mainly because the loans are limited to budgetary allocation and are priced below market rates (Knaup & Wagner, 2012). The presence of moral hazard in many developing countries means that credit rarely reaches desired clients and, in many cases, there is no obligation to repay the loans.

To date commercial banks are still largely absent in the provision of micro credit. This phenomenon may be attributed to credit policies associated with loans provided by the formal sector. Since many businesses in small and micro enterprise sector are largely poor, lack of normal tangible assets that can be pledged as collateral in conventional lending, banks are unwilling to provide credit facilities to them (Love & Ariss, 2014). This is because they are perceived to be highly risky and un-deserving of any credit even though they bank with the banks. Moreover, the costs associated with administering and monitoring credit services are quite high. To bridge this gap, the micro finance institutions have developed specific policies that target and feed loans to the small-scale enterprises (Swamy, 2013). However, research show that the providers of micro credit who are mainly micro finance institutions, are faced with the challenge of high default rate

on loans advanced, sound credit management techniques are rarely in place, and even if they are, they are largely ignored (Berg, Puri & Rocholl, 2014) which adversely affect the quality of portfolio. This study will seek to establish the effect of microcredit determinants on portfolio quality of Kenyan microfinance institutions.

1.1.1 Micro credit Determinants

Micro credit is a financial undertaking, which focuses on improving the standards of living and access to loan facility among low-income earners and needy people in the society. It involves the provision of services and facilities targeting the poor and the low-income earners such as credit, saving, and insurance (Beyhaghi & Hawley, 2013). Micro credit gives access to services to average earners wishing to access money to improve income-generating activities. Financial services of this nature are offered to those that depend on their small-scale economic activities and businesses who are considered highly risky by the mainstream commercial banks (Love & Ariss, 2014).

Among microfinance institutions, credit facility is provided through a group or on individual basis to assist in start-up businesses or to grow an existing venture (Mwangi & Muturi, 2016). Loans that are given to groups are often given on the basis of conventional rotation credit management which has been on greatly considered by banks and other developments organizations in the past years. In case the loans are given to individuals, appraisal is done in regard to the business needs, assessment of the person's enterprise, collateral and the ability to repay the loan. Other factors considered include availability of money to loan out and the type of enterprise that needs the loan. In cases of groups the loans are given in regard to demand of the loans by groups, how old the group has been together, the repayment history of the group, project appraisal and if there is enough money to loan out. However, these factors have not been treated in totality.

Micro-credit takes care of the under privileged in the society who have no likelihood of accessing financial services from the commercial banking sector. The ultimate goal of micro-finances is to help low-income earners become self-reliant and sufficient through provision of micro-saving, borrowing and insurance cover (Milani, 2014). Lending regulations, saving patterns and mechanisms as well as interest rates regulations have been prominent as some of the factors considered in advancing micro credit. Véron and Wolff (2016) observed that ability to pay, savings level and character assessment are key factors in determining loan amount. Tausig and Fenwick

(2016) found that such factors as gender, nationality or factors of social disadvantage such as physical disability, location and objective of the micro credit institution and mandatory training are some of the factors considered in lending. In addition, Oketch, Namusonge and Sakwa (2015) pointed out that the loan size given to different clients depended on the technology used to lend the loan.

1.1.2 Portfolio Quality

Loans are given to borrower's considering the ability of a borrower to make future payments (Liu and Zhu, 2010) Basel Committee 2006 Chorafas (2009) note that, a default on the credit is said to occur for a given obligor in case one of the two events explained occur. In case the bank determines that, the obligator will not be able to meet their credit obligations to the financial organization in full or if the obligator is past the repayment date by more than 90 days on any obligation, he or she has with the financial institution. This means that a default happens when a borrower does not honour the repayment of the loans principle or interest, this is unless there are arrangements made that the payments can be made at an agreed date than the one that was previously agreed upon. The high default rates are not desired by any of the parties as it is costly to all the involved parties in the borrowing and lending process. Both the borrower and the lender are negatively affected when non-repayment of the credit offered occurs (Poghosyan, 2013). The lender of the credit does not recover the principle amount of the money lent and further does not get the interest payments. The borrower on the other hand, gets a poor credit rating and will be at a disadvantage if he or she ever wants to access credit in the future.

A credit risk management that can be termed as effective should be based upon quality portfolio of performing assets and the loan prices should be inclusive of this risk. For this reason, an effective selection method will seek to avoid at all costs a high loss credit rating (Beyhaghi & Hawley, 2013). Credit scoring is defined as the technique used in credit risk management that also analysers the risk of the borrower. Each customer has a credit score that shows their risk levels when it comes to credit repayment. A model that seeks to be regarded as a good credit-scoring technique should be highly discriminative and the high scores should show almost zero risk while low scorers should be determined as those borrowers whose risks are extremely high (Pykhtin, 2005). Buttell (2010) noted that the main source of risk for any financial organization is in its loan portfolio. MFIs consider their loan portfolios as their largest asset. Additionally, considering that

many of the MFIs financing is not backed by bankable collateral, the loan portfolio quality is very important.

The quality of the loan portfolio is often quantified using three accounting rations including portfolio risk that is used to quantify the part of the credit that has arrears as a percentage of the total amount of portfolio. The desired level of this measure is often less than 10%. Secondly, Repayment rate shows what proportion of the loan instalment is paid compared to the expected instalment amount in a given period. The desired repayment rate according to Essendi (2013) is more than 97%. Finally, Loans written off ratio is also used to measure portfolio quality. It shows the loans that have been removed from the books of accounts due to a substantial loss. In this measure the firms should aim to achieve a maximum of 4%. Most of the studies that look into problematic loans often to answer the query of the source of credit defaults in firms (Bonfim, 2009) or they try and analyse the source of loans that are regarded as non-performing (NPLs) which are considered as the aggregate measure of the banks problem loans (Louzis, Vouldis & Metaxas, 2012).

However, there is minimal attention given to the question of what could explain a loan that is said to be having a status that is between to two extreme cases of defaulted and safe loan. Looking at this question is paramount since the answer can be of great help to microfinance institutions and to supervisory and regulatory firms in allowing them to take up the needed policies and actions to prevent the quality loan portfolios from deteriorating. Beck, Jakubik and Piloiu (2013) showed that firms that are near collapse often have many non-performing loans before their failure and their quality of assets are a prediction of insolvency. Wan and Zhang (2015) observed that in group borrowing, if one group member defaults, the other group members make up for the re-payment amount. This delay may affect the portfolio qualify of MFIs.

1.1.3 Microfinance institutions in Kenya

Microfinance institutions are registered and regulated by the Association for Micro-finance Institutions (AMFI). AMFI was formed in 1999 and its registration is under the societies Act aimed at building capacity for the Kenyan micro finance industry (AMFI, 2018). AMFI-K does play a significant role as it aids in the provision of a conducive environment to allow for the growth of the MFIs and their operations. According to AMFI (2018), there are 48 MFIs classified under

banks, wholesale, development institutions, microfinance banks and credit only institutions. The MFIs are broadly classified into two the non-deposit and deposit MFIs. The latter referred to as the deposit taking microfinance institutions (DTMs) are regulated and licensed by the Kenyan Central Bank. They are allowed to mobilize deposits and lend to the public.

Nevertheless, DTMs are not like commercial banks as they are limited in the number of financial products the offer. They cannot invest ion enterprise capital, underwrite place of securities and purchase or perform retail or wholesale financial trade (Mureithi, 2016). The non-deposit taking microfinance institutions are regulated and licensed by the Finance ministry. However, they cannot mobilize funds from the public. Therefore, they are only allowed to give out loans from their own funds or from borrowed finances. MFIs have been widely recognised as a tool to eradicate poverty in Kenya and sub-Saharan Africa in general due to their contribution in economic empowerment and social protection via mobilization of savings, vocational skill training, consultancy, advisory and social services (Munene, Swartling & Thomalla, 2018).

In the past most of the organisations that gave loans to those in the informal sector were church organisations such as the National Council of Churches of Kenya (NCCK) among other NGOs that were church based. By 1980's other specialised organisations began operating including Kenya Rural Enterprise Programme (KREP), now (Sidian bank) and Kenya Women's Finance Trust (KWFT). By the 1990's, there was increased information and interest in MFIs and they were seen as a sustainable means of obtaining credit. Some of the pioneer institutions that came up at the time included KWFT, KREP, Pride Africa, NCCK among other notable organisations such as Faulu and Care Kenya. Most of institutions are involved in microfinance as a part of their general social welfare activities (Kithinji, 2016). These organisations focus has gradually shifted from serving the poor to serving the micro-entrepreneurs, as there has been a rise in the demand by donors that these organisations should try to be sustainable (Mureithi, 2016).

1.2 Problem Statement

Many small enterprises and low-income earners always find it difficult to access financing in the mainstream commercial banks. This is partially attributed to the stringent measures taken by commercial banks to shield themselves from non-performing loans. The sector has not received adequate credit and other financial services and this provision has been below expectation. This is

because only less than 10% of MSEs get the needed financial services and credit from the financial institutions in the formal sector implying that over 90% receive credit facilities from the informal sector (ROK, 2016). Some of the criteria used by commercial banks in assessing borrowers are savings level, steady cash flow, and availability of assets to use as collateral as well as economic factors such as interest rates and central bank base rate. In addition, commercial banks assess the risk profile of the borrower (Essendi, 2013). Due to the stringent measures, many borrowers find it difficult to borrow from commercial banks. For this reason, they turn to microfinance institutions for credit facilities.

Several studies have been carried out attempting to explain the determinants of portfolio quality. In the international scene, Knaup and Wagner (2012) developed a credit-portfolio measure that was market based that was introduced during the occurrence of the subprime crisis. Love and Ariss (2014) conducted a panel analysis of economic shocks and quality of loan portfolio in Egypt. Kar and Swain (2014) sought to determine if microfinance competition affect performance, portfolio quality, and its capitalization. Makri, Tsagkanos and Bellas (2014) established the determinants of non-performing loans in Eurozone while Bougatef and Bougatef (2016) evaluated how corruption affects loan portfolio quality in emerging markets.

Locally, Githinji (2010) conducted a survey on the operating efficiency and loan portfolio quality indicators usage by Kenyan microfinance institutions. Using a descriptive survey and descriptive statistics and correlation analysis to analyse data collected from the MFIs in Kenya, the study concluded that most of the MFIs used operating efficiency and loan portfolio quality measurers including risk of portfolio, rate of repayment, number of borrowers for each employee, number of active borrowers for each credit officer, gross portfolio outstanding per credit officer, number of active borrowers per branch, cost per loan made and cost per unit of currency lent to measure credit risk. However, this study only established the measures used to evaluate credit risk but did not show their effect on portfolio quality.

Ochola (2013) sought to establish determinants of business collaterals and loan portfolio quality of commercial banks' branches in Kenyan Kisumu Municipality. Data collected from 23 respondents using questionnaire was analysed using regression and correlation analysis and concluded that uncertainty in the economy, legal environment, and the loan attributes of a firm are

the major factors affecting enterprise collateral influencing the quality of the loan portfolio. This study concentrated on the determinants of collateral and how they affect their portfolio quality. However, the current study focusses on micro-credit determinants and how they affect portfolio quality of microfinance institutions.

Fially, Nyora (2015) studied the relationship between portfolio holding and financial performance of insurance companies in Nairobi County. The researcher used a descriptive research design and census of all insurance companies operating in Kenya. Secondary data from the Insurance Regulatory Authority, Association of Kenya Insurers, and insurance companies themselves was analysed using multiple regression analysis. The study found that there is a positive and strong relationship between portfolio and financial performance of the insurance companies. The study also found that investment in real estate and bank deposits had a positive relationship with the overall profitability while investment in stock had an inverse relationship with overall profitability in the insurance industry. In this study the focus was on how portfolio building affect firm performance among insurance companies. However, the current study seeks to determine the effect of the various factors considered in evaluating micro-credit on portfolio quality. Based on the reviewed literature, this study notes that, none of the studies reviewed has established the effect institutional micro-credit determinants have on portfolio quality. The current research will thus seek to fill the gap by answering the question; what is the effect institutional micro credit determinants on portfolio quality of microfinance institutions in Kenya?

1.3 Objectives of the Study

1.3.1 General Objective

To determine the effect of microcredit determinants on portfolio quality of Kenyan microfinance institutions

1.3.2 specific objectives

The current research will try to achieve the below objectives;

i. To investigate the effect of savings level on portfolio quality of microfinance institutions in Kenya

ii. To evaluate the effect of interest rate on portfolio quality of microfinance institutions in Kenya
iii. To evaluate the effect of collateral requirements on portfolio quality of microfinance institutions in Kenya
iv. To evaluate the effect of ability to pay on portfolio quality of microfinance institutions in Kenya

1.4 Research Questions

i. To what extent does savings level affect the portfolio quality of microfinance institutions in Kenya?
ii. Does interest rate affect the portfolio quality of microfinance institutions in Kenya?
iii. In what way does collateral requirements affect the portfolio quality of microfinance institutions in Kenya?
iv. What is the effect of ability to pay on portfolio quality of microfinance institutions in Kenya?

1.5 Significance of the Study

The results of this research will be of help to different stakeholders in the banking sector. The management of microfinance firms will find the findings of this research helpful.

The findings of this study will assist portfolio managers to come up with credit risk policies that are effective that can be used to develop efficient tools to measure, evaluate and control borrowers' loan applications in an attempt to improve the quality of their portfolio. The findings of the study will also help managers of other banking institutions to understand the various micro credit determinants and how they affect portfolio quality. The managers will use the findings of this study to evaluate their customers based on these variables to improve the quality of their portfolio.

In addition, the findings of this research will be of use to consultants and practitioners whose area of interest is portfolio and risk management. It is essential to point out that the study will look into the effect of savings level, interest rate, collateral requirements and ability to pay on portfolio quality. The practitioners will therefore use the findings of this study to advice their clients accordingly.

The research results can further be used by the Government of Kenya especially by the relevant ministries, organs and departments. The findings of this study will assist the executive and legislature in formulating policies that will aid the growth of the banking and microfinance industry. Last but not least, the findings of this research will be an important contribution to the available literature to do with micro credit and how it affects portfolio quality. Researchers and scholars will use the study findings as reference as they seek relevant literature when coming up with research that will be an advancement to the study as well as identifying existing gaps in literature.

1.6 Scope of the Study

The purpose of this research is to determine the effect micro credit determinants on portfolio quality of microfinance institutions in Kenya. This research will specifically determine the effect of savings level, interest rate, collateral requirements and ability to pay on portfolio quality of microfinance institutions in Kenya. The current study's target population will be made up of all the forty-eight (48) Kenyan microfinance institutions. The research will use both primary and secondary data that will be sought for the period between 2013 to 2017.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This current chapter gives a review of the existing literature that is aimed at achieving the study objectives. In particular, this chapter consists of the theoretical framework that is in support of the research variables, it gives a review of the empirical literature, summary of this literature and knowledge gap and then provides the conceptual framework.

2.2 Theoretical Literature

The section presents review of the relevant theories that attempt to explain the relationship that exist between microcredit determinants and portfolio quality of microfinance institutions in Kenya. Specifically, financial intermediation theory, information asymmetry theory and the modern portfolio theory are discussed in this section.

2.2.1 Financial Intermediation Theory

This model looks into the surplus units that deposit finances with financial firms that then use these funds to lend to the deficit units. Earlier studies of this theory that were supported by Gurley and Shaw's (1960), intermediaries' task was often to change the securities provided by organisations that were often in the form of bonds and sharers into the securities that were sought by investors. Intermediaries in the finance sector are essential since they give services that are related to risk transformation and divisibility, which the borrowers will find difficult to get from other institutions due to the high transactional costs

There is a difference between the financial intermediaries and banks. Financial intermediaries do accept deposits and give credit to individuals and intermediaries who lend via securities purchase (Iwedi & Igbanibo, 2015). The intermediaries in this case include pension funds, insurance firms and investment trusts that buy securities and give capital directly rather than use it to make credit. This study however is not based on these intermediaries as they do not meet the criteria given. However, these intermediaries are essential in the financial sector since they provide a steady flow of money from the surplus to the deficit units (Matthews and Thompson, 2008)

Banks and microfinance institutions have often been seen as the most important financial institutions in different economies. This is because they play an essential role in provision of liquidity, insurance; monitoring services and are also providers of essential financial information (Poghosyan, 2013). By provision of demand deposits, financial institutions such as banks can improve the existing economy since the deposits allow for the sharing of risk among individuals and households allowing them to effectively deal with economic shocks that affect their needs (Phelan, 2017). The need of banks in this background is due to information asymmetry as the shock that often affects the household's consumption needs is not easy to observe or clear to the public.

Financial intermediaries are also important since they provide monitoring services and often monitor the investors and ensure that there are no duplications of the monitoring expenses. As for liquidity insurance, the key to the existence of the financial institutions in this step is also an information problem (Ziegler, 2013). It is assumed that organizations will have more information in regard to their investments than the investors in these investment projects. Investors have the ability to access this information but they would have to incur monitoring costs. However, they can opt to ask the banks to monitor for them and providing finances to these firms. When banks act as monitoring agents for the investors, the investors can save on monitoring costs and the banks are able to lend to firms at a reduced cost than that of direct lending (Marcelin & Mathur, 2014). Provision of liquidity insurance highlights the banks liability side of their balance sheet while the provision of the monitoring services presents the assets side of the banks' balance sheet (Hermes & Lensink, 2013).

2.2.2 Information Asymmetry Theory

Information asymmetry according to Armstrong, Core, Taylor and Verrecchia (2011) is defined as a situation where a party has better and more information compared to the other party while entering not a contract. Asymmetric information (Suri and Adnan, 2016) is more prevalent in financial markets. For instance, in borrowing and lending situations, the borrower is much more informed about the state of his finances than the lender. This leads to an imbalance when transacting which in some cases leads to the transactions being unfair to one part and in the worst case scenario failing. Akerlof (1970) presentation of this model was in the easy 'The Market for Lemons'.

According to the finance theory, information asymmetry can negatively affect external financing since it can increase the costs of transactions or make the availability of the financing nonexistence. Thus, information asymmetry does affect the provision and use of microfinance bank loans as this credit is a key source of an organizations liquidity. However, Bhattacharya, Desai and Venkataraman (2013) concluded that it is hard to determine a bad or a good borrower which can lead to adverse selection creating further challenges. The information asymmetry model notes that the party that has more information during a transaction about the item to be transacted often is in a better position to negotiate the terms of the transactions than the other person (Dutta & Folta,2015). The other party that has minimal information about the item under transaction when making a decision can make either a wrong or a right choice. The use of adverse selection and moral hazards in a bid to select the best borrower has often resulted to more non-performing loans in microfinance institutions (Bhattacharya, Desai and Venkataraman, 2013).

Banks and other microfinance institutions normally use measures of operating cash flow to determine the capacity of the borrower to repay or the debt service of the borrower. More risks result to uncertainty in the performance of the organisation and increased variability in the opportunities available for investment. Information asymmetry thus influences a lender's willingness to lend. Existing empirical literature indicates that information asymmetry has an adverse effect on bank lending and portfolio quality (Hardin and Hill, 2010). Pagano and Jappelli (1993) in their earlier work showed that the sharing of information does reduce the need to use adverse selection by providing the financial institutions with the credit worthiness of the borrower. Other (Faulkender & Petersen, 2006) point out that micro credit loans provided to borrowers does reduce frictions in the capital market since they lead to a rise in monitoring and lowers information asymmetry.

Organisations that are characterised by a higher information asymmetry are often found in the public capital markets and will often be unable to lower their credit lines. Challenges that result due to information asymmetry increase the lending risks and monitoring costs of the borrower and the firms that are not very transparent are not likely to get credit from banks and other financial lending firms (Brennan, Kirwan& Redmond, 2016). In an attempt to reduce the effect of information asymmetry, firms charge higher interest rates to caution themselves against defaulting borrowers. In this case, most of the monitoring costs go to the borrowers in the form of increased

interest rates and costs of data collection which can see some of the borrowers decide that they do not need this credit. Additionally, in case of imperfect monitoring, and if the lenders are unable to do away with information asymmetry, bank credit might not be available to opaque organisations. Information asymmetry canals indirectly affect the availability and use of credit as there are repayment sources that are based on public capital markets access (Hill, Kelly & Hardin, 2010).

2.2.3 Modern Portfolio Theory

Modern Portfolio Theory (MPT) is attributed to Harry Markowitz, published in his paper 'Portfolio Selection' in the Journal of Finance, 1952. The model proposes a hypothesis based on the expected portfolio return for a portfolio amount whose risk is maximized or the risk is minimized on a provided level of expected return. According to Pfaff (2012), the theory shows how rational investors diversify in order to optimize their portfolios. Francis and Kim (2013) noted that this can be achieved by opting to use different quantities of investments which are picked in a cautious manner while considering how each investment piece is likely to be affected by the other pieces in the portfolio rather than picking individual securities. This theory makes use of mathematical models to come up with the ideal portfolio that is likely to give the investor maximum return depending on the investors ability to risk while considering the relationship between return and risk (Mangram, 2013). According to the theory as noted by Pfaff (2012), each security has its own risks, which is higher than that of a portfolio containing diverse securities. This theory in simple terms emphasis that there is need to diversify to reduce the risk of investment.

While the portfolio theory was formalized in the 50s there is evidence that the constructs of portfolio construction existed long before this period. For example, in developing his theories of the money, Keynes (1936) had come up with a portfolio selection model where he considered uncertainty in the theory an important factor (Cochrane, 2014). The Theory remains to be the most popular (Buttell, 2010) because it simplifies the often seen as complex investors objectives and goals into the expected risk and returns in quantitative and statistics terms. Resnik (2010) observed that Markowitz (1968) pointed out that variance was an important measure of risk and came up with a method that could be used to calculate the overall risk of the portfolio while considering the correlation that was not perfect of the movements in price between the given asserts. In case there are multiple assets that are not perfectly correlated, the variance of the portfolio will be lower. More so, he developed the model as a mathematical formulation that could be used in the

diversification concept aiming to select more than one asset that provided a reduced risk compared to one asset would have produced.

Additionally, the approach used by Markowitz was to come up with efficient portfolios based on the calculation of the mean-variance (Mangram, 2013). This approach by Markowitz is coined from the analyses of mean- variance. Where the rate of return variance is considered as the measure of risk while profitability is quantified by the expected value. The theory produces a portfolio with the minimum variance given an expected return. The return from portfolio investment is expressed as the mean of expected returns of component assets while risk is expressed as variance of the asset returns. The MPT assumes for investor rationality and markets efficiency as investors seek to minimize risk while maximizing on their returns (Francis & Kim, 2013).

In developing the Theory, Markowitz made the following assumptions: every asset is able to have probable results which are regarded as probability distribution, investors goal is to maximize their wealth and they are also known to be risk averse meaning that they show a reducing marginal utility of their wealth. Additionally, it is assumed that investors regard the risk based on the returns provided by the investment and their investment decisions are often based on the expected return and variance of asset or assets on consideration. For any investment that has an expected return the investor will go for lower to higher level of risk and similarly, for an investment that has a provided risk level, the investors would always prefer a higher to lower level of the expected return (Saunders & Cornet, 2014).

Financial portfolios often make use of Modern Portfolio Theory (MPT), which looks into the problems caused by risk and return, in making decisions that have to do with investment allocations. According to Swamy (2013), the bearing of MPT on business decision-making among microfinance institutions has been substantial such that the quality of portfolio is often regarded in terms of both returns and risk through the MPT for optimal decision-making. The Modern Portfolio Theory links the expected rate of return of portfolio to the expected risk showing the importance of diversification in the minimization of portfolio risk hence its importance for consideration as it provides a mathematical linkage between the concept of institutional microcredit determinants and portfolio quality (Chen, 2016).

2.3 Empirical Review

This section of the chapter reviews studies previously conducted by other scholars on the study variables in order to clearly bring out the gap that exist in literature. The section thus contains reviewed literature on savings level, interest rate, collateral requirements and ability to pay and the relationship that exist between them and portfolio quality.

2.3.1 Savings Level and Portfolio Quality

Savings according to Tareq (2015), are important vas they provide a cushion against challenges that are caused by income seasonal changes, they also can be used as collateral for credit, can also be used as insurance against disability, illnesses and loss of funds due to retirement. The owner of the savings will often seek for savings services based on the institutions ability to keep their funds safe and how easily accessible the funds will be to the owner. Further, Oswaldo (2011) in study covering 14 credit unions in Ecuador noted that members chose to save to increase the possibility that they will be able to access favourable credit in the future that they can use for emergencies and other needs. However, their choice of the savings facility was dependant on the costs of withdrawals and the savings, how divisible the savings were and if there were any returns offered on their savings.

On the other hand, Weber and Ahmad (2014) opined that the decision on to save depends on the use of the savings. In case the owner of the savings saves for insurance reasons, the saver will most likely choose investments that are in liquid form as these allow him or her to easily access the funds in case of need. For savers who save because they have future needs or retirement, they often regard immediate access to the funds, security and rate of return. Savers are likely to positively react to higher rates of return, reduced transaction costs and interest rates, research shows that the poor will still save when there are nil returns as their decision to save is influenced by safety or how accessible the funds are when they need them (Dupas, Green, Keats & Robinson, 2012).

When firms save, they are able to be self-sufficient and their efficiency improves. The reason behind this is savings often have lower financial costs and the firm is expected to be safe and efficient in taking care of the depositor’s savings (Wisniwski & Hanning, 2018). However, the financial organization ability to mobilize deposits from the public is dependent on the confidence the firm has built among its depositors (Muhammed, 2014). Therefore, high degrees of confidence

will lead to increased deposits while in instances where the confidence is low the firm will get minimal deposits.

Mutura (2006) sought to determine the factors that influence the effectiveness of guarantorship in loan recovery based on Mwalimu Sacco Society Ltd. An exploratory study approach was adopted. It involved focus group interviews, review of relevant literature and discussions with experts in the field of cooperative management. The study used both purposive and stratified random sampling methods to get a sample of 200 guarantors who were part of the defaulted loans at Mwalimu Sacco Society in 2005. The researcher used questionnaires as the study's research instrument in an attempt to collect the needed data from the guarantors. Secondary data helped in the identification of the loan defaulters and the guarantors. Data acquired was analysed through mean mode and standard deviation in addition to analysis of variance (ANOVA). A Pearsons correlation coefficient analysis was carried out. Findings from the study indicated that as member's income threshold increases, their monthly savings with the Sacco do not increase correspondingly. Loss of employment income was found to be the single most important reason for nonrepayment of Sacco loans.

Mburung'a (2014) analysed youth enterprise development fund repayment rates and disparities of repayment between Nyanza and Central provinces in Kenya. This research objective was to determine if there existed any relationship between repayment rates and number of groups, and the amount given. Quantitative data was analysed using correlation analysis. The research results indicated that no significant relationship existed between the amount of money lent to the youths per constituency and the loans repayment rates. According to the 0.350569 correlation coefficient value at 95% confidence level there was a positive but weak relationship between the two variables under study and the conclusion made was that this relationship was not significant. However, the researcher observed when money lent to the young people was increased there were higher repayment rates. Further, it was concluded that there existed no significant relationship between the number of youths accessing the loans in the constituencies and the repayment rates.

2.3.2 Interest Rate and Portfolio Quality

Amonoo, Acquah and Asmah, (2003) conducted an empirical survey on the impact of interest rates on demand for credit and loan repayment by the poor and SME's in Ghana. The research population

was made up of the SMEs in the districts selected. According to the research findings increased rates of interest, lack of monitoring and poor appraisal were the main factors affecting the performance on recovery of loans. Further the study found out that interest rates had a negative effect on repayments of credit. Similarly, Apunyo (2011) conducted a study to determine the effect of interest rates on loan repayment in Uganda's commercial banks focusing on Equity bank. The analysis was implemented based on data obtained from 10 bank officials and 50 customers. The result of the study revealed a strong negative relationship between interest rates and loan repayment in relation with the growth and performance of enterprises. Some of the factors that affected loan repayment among the customers of the bank included lack of skills in entrepreneurship and high rates of interests.

Shem (2013) studied the relationship between interest rate and loan default analysed the relationship between interest rates and non-performing loans for commercial banks in Kenya. Using cross sectional descriptive design for a period of five years from 2008 to 2012, the research noted that the interest rates in 2008 was 12.02% and the rate in 2012 was at 19.20%. The study further found out that the non-performing loans declined for all the commercial banks in the period under study implying that a positive relationship did exist between interest rates and non-performing loans. The results showed that the observed decline was higher in banks that were owned by private firms or individuals compared to those owned by the state.

Locally, Kilonzo (2003) studied the effect of changes in interest rates on credit granted by commercial banks in Kenya. This study utilized time series secondary data to establish the effect of interest rates charged by commercial banks on credit granted by the banks. Regression analysis results indicate an inverse relationship between the level of interest rates and the amount of credit granted by commercial banks. When interest rates increase, the amount of credit granted by commercial banks to their customers decreases while when interest rates decline, the amount of credit granted by commercial banks increases. However, a t-test of the regression parameters revealed that interest rates have no effect on the amount of credit granted by commercial banks in Kenya.

Ng’etich and Wanjui (2011) sought to establish the effects of interest rate spread on the level of Non-Performing Assets (NPAs). A descriptive research method was used in this study where all

the 43 commercial banks in Kenya were under study. Both primary and secondary data were considered in this study. The analysis of data for the quantitative and qualitative data was used to determine the relationship between the interest rate spread and loan non-performance. It was concluded that the banks perming assets were affected by the interest rate spread since this led to a rise in the cost of credit extended to the borrowers.

Odhiambo (2013) studied the effect of changes in interest rates on the demand for credit and loan repayments by small and medium enterprises in Kenya. The research investigated how the changes in interest rates affected the demand for loans and the repayments if these loans by SMEs in the Kenyan sectors including 43 banks and sectors including; Manufacturing, Tourism, Agriculture, Building & Construction, Energy & Water, Mining, Trade, Hotel & Restaurant, Real Estate Transport & Communication, and Financial Services. Secondary data was obtained from CBK supervisory reports. Descriptive approach and regression analysis were used to determine conclude that the demand for loans was not always determined by high interest rates. For the SMEs it was noted that the high interest rates were not very important when seeking credit.

Kiseu (2017) evaluated the effect of interest rate capping on the amount of credit issued by Kenyan commercial banks. The study period covered three quarters before and after the capping law came into effect. Descriptive and inferential statistics was employed in the study. The findings revealed that the interest rate control did not significantly affect how the commercial banks issued their loans. Although the study found that some banks contracted their loans books after the law came into effect, such were not enough to shift the ground for the whole industry.

2.3.3 Collateral Requirements and Portfolio Quality

Berger and Udell (1995) investigate the relationship between collateral and credit risk on a sample of 1 million loans from US banks. The study found that a positive relationship existed between risk premium and collateral. The explanation behind this might be the fact that banks need more collateral from borrowers who are regarded as high risk who are also often given loans at higher interest rates. The study however noted that there is a positive relationship between collateral and credit risk. This results in the financial institutions asking the risky borrowers to provide more collateral and even to give them loans at higher loan rates.

Ackah and Vuvor (2011) in a study aimed at establishing the challenges that SMEs encounter when seeking for financing, collected data on 80 SMEs through convenience sampling technique. The findings showed that commercial banks and other financing institutions were willing to avail credit to small and medium size enterprises. However, most SMEs were not in the position to meet the collateral requirements demanded by the financing institutions. However, this study focused on the challenges faced by SMEs seeking credit while the current study will focus on the effect of microcredit dominants on portfolio quality of microfinance institutions.

In a study by Kihimbo, Ayako and Omoka (2012) on collateral requirements for financing of small and medium enterprises (SMEs) In Kakamega Municipality showed that many SMEs fail to access credit due to lack of collateral demanded by financial institutions in the county. Similarly, Mituga (2012) in a study on credit reputation as collateral for improvement of the legal regime on credit referencing in Kenya established that banks and other lending institutions rate credit registry data as more important than collateral while evaluating credit extension. Therefore, the Credit Information shared through Credit Reference bureaus (BCRBs) becomes instrumental in client evaluation.

Ochola (2013) conducted a study on the determinants of business collaterals and loan portfolio quality of commercial banks' branches in Kisumu Municipality, Kenya. The study focused on how quality of loan portfolio of the studied commercial banks is affected by determinants of business collaterals. This study revealed a strong relationship between legal environment, microeconomic uncertainty and firm and loan characteristics as determinants of business collateral to loan portfolio quality predicting loan portfolio quality. The findings also showed that all commercial banks require collateral for any loan to be processed. Results of the study reveal.

Eger (2014) studied collateral financing agreements and financial performance of petroleum companies in Kenya. This research investigated the effect of Collateral Financing Agreements on the financial performance of firms in the Kenyan petroleum sector. This study used a quantitative descriptive design surveying all 35 petroleum companies in Kenya. The research sought the help of primary and secondary data. The research concluded that collateral financing created a higher financial performance of Kenyan petroleum companies.

Mwongera (2014) evaluated factors that influence access to micro-finance credit by young women entrepreneurs' projects in Athi-river, Machakos county, Kenya. The goal of the research was to determine the factors that affected access of credit from microfinance institutions by young women who are entrepreneurs. Descriptive research design was adopted with a population of 270 enterprises run by women. Quantitative primary data was collected via self-administered questionnaires. Data collected was analysed using descriptive statistics. The study concluded that the inability of young women entrepreneurs to have collateral was a key hindrance to these women obtaining credit as most of them did not have deeds or capital assets that they could give as security to the credit given.

Evaluating factors influencing uptake of banking services in rural centres for agricultural development in Imenti North Sub County in Meru County, Mbogo (2015) sought to determine the influence of availability of collateral, level of education, availability of agricultural investment opportunities and Government policy in the uptake of banking services for agricultural development in rural centres. The study adopted a descriptive survey research design and a stratified sampling method. Personal interviews were conducted to conclude that lack of collateral which is essential in accessing credit facilities negatively influences uptake of credit facilities in rural centres.

Waweru (2016) conducted a study on factors that affect access to credit finance by small scale women entrepreneurs in Gilgil sub county. The purpose of this study was to investigate factors that affect access to credit finance by small scale women entrepreneurs. Descriptive research design was used in this research which mainly relied on primary data. The target population for the study was small scale women entrepreneurs in Gilgil Sub County whose enterprises had been licensed by the County Government of Nakuru. A scientific sample of 49 small scale women entrepreneurs was utilized in the study. The quantitative data was analysed using descriptive statistics and the Pearson's Product Moment Correlation. The study established that demand for collateral negatively affects access to credit finance by small scale women entrepreneurs

Sakwa (2017) examined the relationship between access to credit and performance of small and medium enterprises in Turbo Sub County, Kenya. The purpose of this study was therefore to determine access to credit and performance of small and medium businesses. The study used a

sample of 340 from a population of 2,901 entrepreneurs using both descriptive and correlational research design. From the regression results, the study concluded that collateral security had a positive and significant influence on access to credit hence performance of SMEs. Firms with collateral accessed loans easily as opposed to those with none.

2.3.4 Ability to Pay and Portfolio Quality

Rose (2007) define successful repayment of credit as the borrower's ability to repay the credit in line with the signed agreement. Default is the inability to repay this credit characterised by either failure to pay the loan as per agreement or choosing to stop servicing the loan. She did a research on the causes of default in Kenyan micro credit programs from the government and established that there was a strong relationship that existed between key sources of income, domestic challenges, funds diversion and the default on loan repayments.

Campsey and Brigham (1995) noted that evaluation of a person's loan repayment ability should be characterised by seeking information on the borrower analysis of this information to make a decision if the borrower credit worthiness is adequate before making a decision on whether to provide the credit and how much to give out. The study advised the use of the 5Cs when lending. These Cs include character, capacity, condition, collateral and capital. Capacity is the ability of the borrower to meet his or her financial obligations. This is making a judgment if the customer will be able to repay the loan. This can be based on the person's ability to pay or the history of repayment supplement by physical; scrutiny of the borrower.

Abraham (2012) sought to determine factors behind loan defaulters. In a case study of private borrowers financed by Development Bank of Ethiopia Zway Branch, the study employed a logit model to find the factors behind loan defaulters. A sample of 102 borrowers, in which 34 are credit worthy borrowers and the rest 68 defaulters were interviewed. The study results revealed that having other source of income other than agricultural income improved borrowers' ability to repay their loans.

Sungwacha (2012) studied factors influencing repayment of loans among group borrowers: a case study of group businesses in Bungoma District. The objectives of the research were to investigate how market conditions influence repayment ability of groups in servicing their loans, to establish

the effect of client evaluation on repayment of loan credit, to determine the contribution of credit camps on servicing of business loans among businesses and to assess the impact of credit implementation procedures on loan repayment by small businesses accessing credit through groups. The study design adopted was descriptive and utilized the questionnaire in collecting data. Fifty respondents for the study were reached at using stratified random sampling. The study shows that poor loan repayment results from lack of clients to identify key market conditions prior to investing. Evaluating clients before giving out loans, increases the probability of repaying as it minimizes loaning potential defaulters.

Giné and Karlan (2014) evaluated the liability of both individuals and groups. The evidence was obtained from micro lending groups located in the Philippines. The researcher used two random trials to test specific mechanists and the overall effect. The first trial saw group liability being removed from the groups under study and the second trial provided villages to individual or group liability loans. Both groups did have weekly meetings. The study found out that there was no increase in the long-run and short-run default among the larger groups even after existing for three years and there existed no change even in the fewer groups that were formed after two years. Though this study was informative to this study, but it was carried out among Philippine microcredit lending groups.

2.4 Summary of Literature and Research Gap

This study has noted that there are various studies done on the current study variables. Considering the empirical literature review, it is obvious that many of the studies have concentrated on the broader aspects of factors influencing on-performing loans and the effect of non-performing loans on portfolio quality. Most studies conducted have been carried out in the banking sector and very limited in microfinance institutions. Other gaps identified in the empirical literature review include inadequate and limited research on microcredit determinants and portfolio quality in the African and Kenyan Context. Additionally, many studies have assumed that there is a direct relationship between the various determinants and nonperforming loans. Therefore, based on the reviewed literature, this study finds that no study according to the researcher determination has considered the collective effect of microcredit determinants on portfolio quality of microfinance institutions in Kenya. The study will thus seek to fill this Gap.

2.5 Conceptual Framework

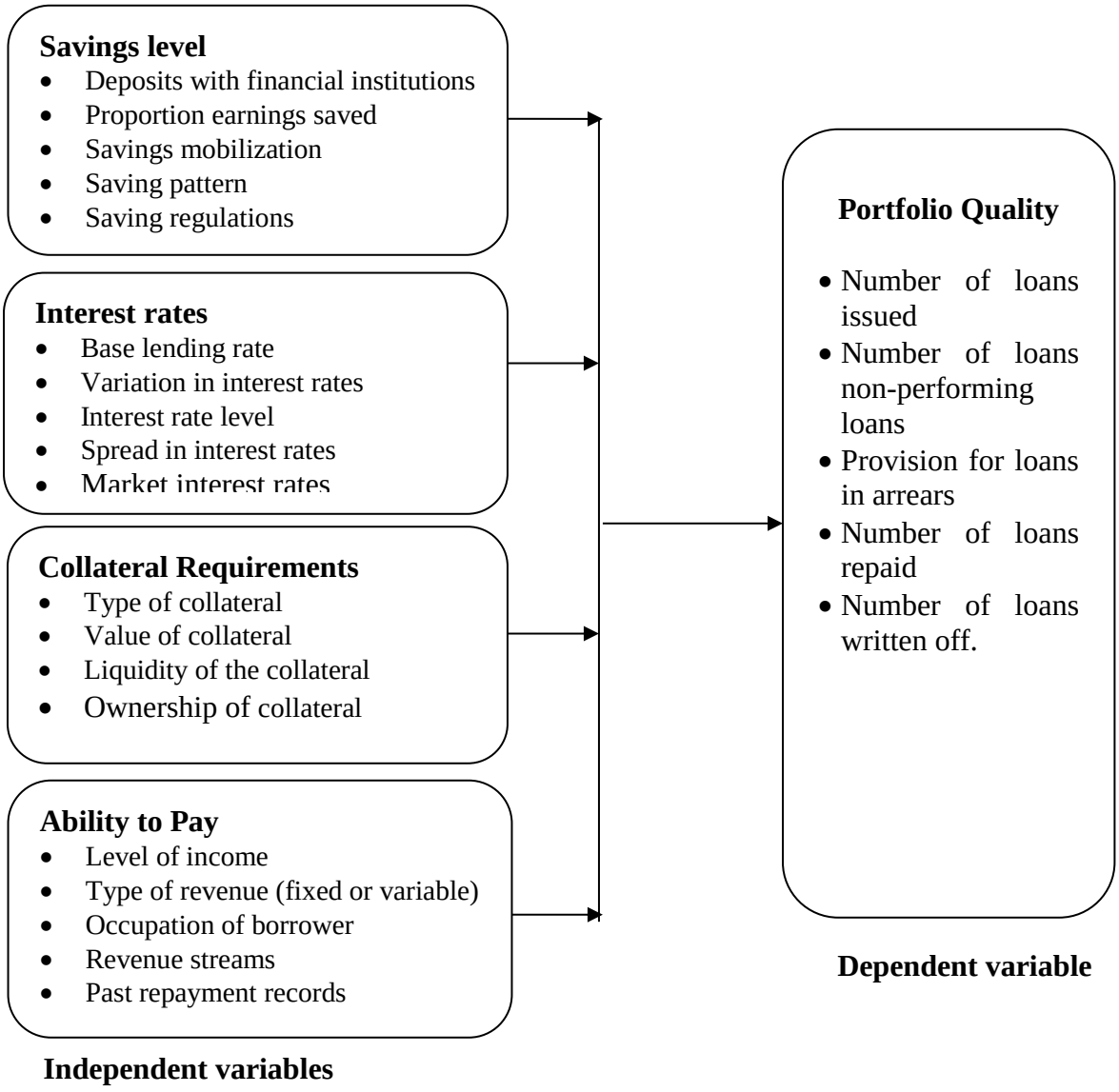

Figure 2.1: Conceptual Framework

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

The research methodology chapter will try to give the methodology that the researcher will use to answer the study's research queries. The order of this chapter is in terms of; the design of the research, the study's target population, and procedure used to get the sample of the study, methods used in the collection of data, data collection instrument and the pilot study. The chapter further gives an explanation on the analysis of data to help in the production of the study conclusions and findings.

3.2 Research Design

A descriptive survey research technique will be used for this research. The design was preferred since it presents the existing state of affairs in the current scenario (Taylor, Bogdan & DeVault, 2015). The researcher intends to apply this design to evaluate the relationship between microcredit determinants and portfolio quality of microfinance institutions in Kenya. The descriptive survey design will be of great help when the researcher tries to study the inter-relations between the research variables (Churchill & Iacobucci, 2010).

3.3 Population of the Study

Target population according to Lampard and Pole, (2015) is a well-defined and specified set of services, people, firms, households and group of things that are under study. This study will be based in Nairobi County and the target population will be all the microfinance institutions in Kenya. According to the association of microfinance institutions there were 57 registered microfinance institutions in Kenya as indicated in the below table 3.1.

Table 3. 1: Target Population

Scope	Frequency	PERCENTAGE
Banks	6	11%
Wholesale MFIs	3	5%
SACCOs	1	2%
Development Institutions	1	2%
Microfinance Banks	12	21%

Credit Only Institutions	34	60%
Total	**57**	**100%**

Source: AMFI (2018)

3.4 Sample size and Sampling Technique

Sampling refers to choosing a particular number of objects or people to assess the needed data that can be used to come up with the research conclusions about the total population that is represented by the study. The size of the sample is taken from the population and is regarded as a representation of the whole population (Pole & Lampard, 2010). Sampling plan is made up of the sampling frame, unit, size and procedures used in the research (Blumberg, Cooper & Schindler, 2014). According to Silverman (2016), sampling is the choosing of a few subjects from a given population so that these few subjects can represent the whole population. The statements made on the sample should be accurate and should truly represent the population under study. Owing to the few number of microfinance institutions, this study will carry out a survey of all the 57 microfinance institutions in Kenya. One respondent being the credit manager will be selected in each firm forming a sample size of 57 respondents.

3.5 Data and Data Collection Instrument

This study will use a semi-structured self-administered questionnaire the research instrument of the study. Pole and Lampard (2010) indicate that, a questionnaire that is self- administered is an eligible tool that can be used to deduce people's attitudes, values, beliefs and opinions. The study's questionnaire will be divided into two sections. The first section will have the demographic information and questions while the second part will have questions that relate to the different variables under study. Both closed and open-ended questions will be used in the two sections of the questionnaire.

The researcher will present an introduction letter top every firm under study seeking permission to conduct the study and get data from the firms' respondents. The researcher will administer the questionnaire using the drop and pick technique. This will allow the respondents to have ample time to respond to the questionnaires questions. The researcher will seek for an appointment with the participants forms two days prior to administrating of the questionnaires. The researcher will give the questionnaires to the respondents herself which will allow the establishment of a rapport

and also make it easier for the researcher to explain the study's purpose to the respondents and also make anything that might seem unclear to the respondents clear.

3.6 Validity and Reliability

Validity is how meaningful and accurate the conclusions of the research are which are based on the research findings (Golafshani, 2003). The researcher will do a pilot study to ensure the validity of the research instrument. Both face and content validity will be tested. Face validity testing involves measuring the representativeness of the questionnaire and determining if the instrument is good enough at face value. This validity determines if the instrument of research covers what it claims to cover (Resnick & Jenkins, 2000). Content validity makes conclusions from tests made on items similar to those under study. Gillham (2008) point out that the skills and knowledge that the test study covers should be similar to the ones under study. To test the instrument validity, the researcher will engage the supervisor, university lecturers, peers that are helping in the conducting of the study and experts in the field to give their opinion on the research instrument.

The reliability of the research instrument is said to be the ability of the instrument to give similar results in different occasions under the same conditions. It is how consistent it is in measuring what it purports to measure. The reliability of the research instrument seeks to determine if the results are repeatable. Cronbach's alpha (α) will help in the analysis of the research instrument reliability. The computation of Cronbach's alpha will be done with the help of the below equation:

$\alpha = k/k\text{-}1 \times [1 - \sum (S^2)/\sum S^2 sum]$
Where:
A = Cronbach's alpha
k = Number of responses
$\sum (S^2)$ = Variance of individual items summed up
$\sum S^2 sum$ = Variance of summed up scores

If the Cronbach's alpha (α)) value is at 0.6 or above this will be regarded as a reliable and acceptable value (Rousson, Gasser & Seifer, 2012). For the current research, a value of 0.7 or above will be regarded as adequate.

3.7 Operationalization of Variables

Operationalization refers to finding a measurable, quantifiable, and valid index for the independent and dependent variables (Trochim & Donnelly, 2008). Factors that are objective, independent and

concrete are more easily measured by use of appropriate equipment, while factors that are subjective, dependent or abstract are hard to measure. All the variables are operationalized as detailed in the table 3.4.

Table 3.2: Operationalization of Variables

Variable	Variable type	Operationalization of the variable	Indicators	Measurement in the questionnaire
Savings level	Independent	This represents any income not spent or deferred consumption mainly for investment or precautional purposes.	• Deposits with financial institutions • Proportion earnings saved • Savings mobilization • Saving pattern • Saving regulations	Appendix II Section B Question 4,5 & 6
Interest rates	Independent	The amount charged by a lender to a borrower for money advanced. It is usually expressed as a percentage of the principal amount.	• Base lending rate • Variation in interest rates • Interest rate level • Spread in interest rates • Market interest rates	Appendix II Section B Question 7,8 & 9
Collateral Requirements	Independent	Property or other assets that a borrower offers a lender to secure a loan.	• Type of collateral • Value of collateral • Liquidity of the collateral • Ownership of collateral	Appendix II Section B Question 10,11 & 12
Ability to Pay	Independent	Possession of the means to something to repay borrowed funds and any interest due.	• Level of income • Type of revenue (fixed or variable) • Occupation of borrower • Revenue streams • Past repayment records	Appendix II Section B Question 13,14 & 15
Portfolio Quality	Dependent	This is the status of a loan portfolio. The term is used interchangeably with loan at risk or non-performing loans.	• Number of loans issued • Number of loans non-performing loans • Provision for loans in arrears • Number of loans repaid • Number of loans written off.	Appendix II Section B Question 16

Source: Author (2018)

3.7 Data Analysis

Statistical Package for Social Sciences (SPSS Version 23.0) software will assist in the analyses of quantitative data. Conceptual content analysis will help in the analysis of qualitative data. To ease the work of data entry, the questionnaires returned will be referenced and coded. The data will further be cleaned and rid of any errors and later descriptive statistics that include frequencies, mean, percentages and standard deviations of the quantitative variables will be calculated. The results will be presented in terms of graphs and tables.

The researcher used descriptive statistics as they use few indices to describe the distribution of the measurements in a meaningful manner (Taylor, Bogdan & DeVault, 2015). Conceptual content analysis will be used to analyse the data obtained from the open-ended questions. As Glesne (2015) recommends the qualitative data collected will be organized, sorted, coded and analysed to look for meanings and interpretations and to come up with conclusions on the basis of the findings. Multiple regression analysis and Pearson correlation coefficient will be used for inferential data analysis.

Correlation analysis was conducted to establish the relationship and the strength of the relationship between the variables in the study. Multiple regression analysis will be used to establish the relationship between the independent variables and dependent variable (Tanton, 2011). The current study has four independent variables which makes our multiple regression model to be represented as below;

$Y= \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4+ €$

Where: -

Y= Portfolio Quality

$\beta 0, \beta 1, \beta 2$ = Constants

X1= Savings Level

X2= Interest Rate

X3= Collateral Requirements

X4= Ability to Pay

€=Error Term

The significance of this model will be determined by coefficient of determination (R^2) which will also measure the extent to which the change in the performance of the organisation is explained by the changes in the operations strategy. The significance of the study's model will further be determined by F-statistic, which will be quantified at 95% confidence level.

3.9 Diagnostics Tests

Diagnostic tests will be carried out on the collected data before actual analysis to test the assumptions of the multiple regression models (Mutandwa, Grala & Grebner, 2016). The relevant diagnostics tests for the study include multicollinearity, normality, Heteroscedasticity, adequate sample size, outliers and linearity. To eliminate Outliers in the data recommendations of Wu and Ye (2009) of using geometric mean of the individual observations to get a composite value for each of the study variable will be adopted. Linearity will be verified by observing the correlation between the independent and dependent study variables as recommended by Field (2009).

3.9.1 Multicollinearity Test

Multicollinearity tests according to Iacobucci, Schneider, Popovich & Bakamitsos (2017) seek to determine whether two or more explanatory variables in a multiple regression model are linearly related. If the correlation between two independent variables is equal to 1 or -1 then there exists a perfect multicollinearity. In practical situations, the correlation coefficient between any two explanatory variables normally lies between 1 and -1. Field (2009) recommends that much care has to be taken before including two variables exhibiting a correlation coefficient of more than 0.9. The study will adopt this recommendation in detecting multicollinearity by examination of the correlation coefficients between two explanatory variables and flag any correlation coefficient greater than 0.9 for exclusion of one of the variables.

3.9.2 Normality Test

Normality is the likelihood that the collected data relating to a certain phenomenon will be normally distributed over the population sample (Kothari, 2004). Gujarati and Porter (2009) recommend that before actual data analysis via regression analysis and correlation analysis, it is

important to ascertain that the normality condition is met. Normality in this study will be tested by plotting a histogram of the data sample. If the histogram for the collected data is bell-shaped then the distribution will be deemed normally distributed.

3.9.3 Test for Heteroskedasticity

Regression analysis assumes that the variance of the error term remains constant across observations, if not the random variables are said to be heteroscedastic. According to Williams (2016) regression analysis is not optimal when heteroskedasticity is present because it gives similar weight to all observations when, in fact, observations with larger disturbance variance contain less information than observations with smaller disturbance variance. Additionally, the standard errors are biased in the presence of heteroskedasticity and this may result to a biased inference being made (Machado & Silva, 2013). To test for heteroskedasticity in this study, Breush Pagan test as recommended by Warner (2008), will be used. The null hypothesis will be that there is error term is constant. If $P \leq 0.05$, reject the null hypotheses and conclude that there is presence of heteroskedasticity and if $P \geq 0.05$, accept null hypotheses meaning there is no heteroskedasticity.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATIONS

4.1 Introduction

This chapter discusses the findings of the study and the interpretation thereof and presents the findings. More precisely the chapter presents analysis of the effect of relationship marketing on customer satisfaction among day care centres in Nairobi County and the results of the study.

4.1.1 Response Rate

The study targeted a sample size of 57 respondents from which 52 respondents filled in and returned their questionnaires making a response rate of 91.23%. According to Mugenda and Mugenda (2003) a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. This response rate was therefore excellent and representative to permit data analysis to be carried out. The results are summarized in figure 2.

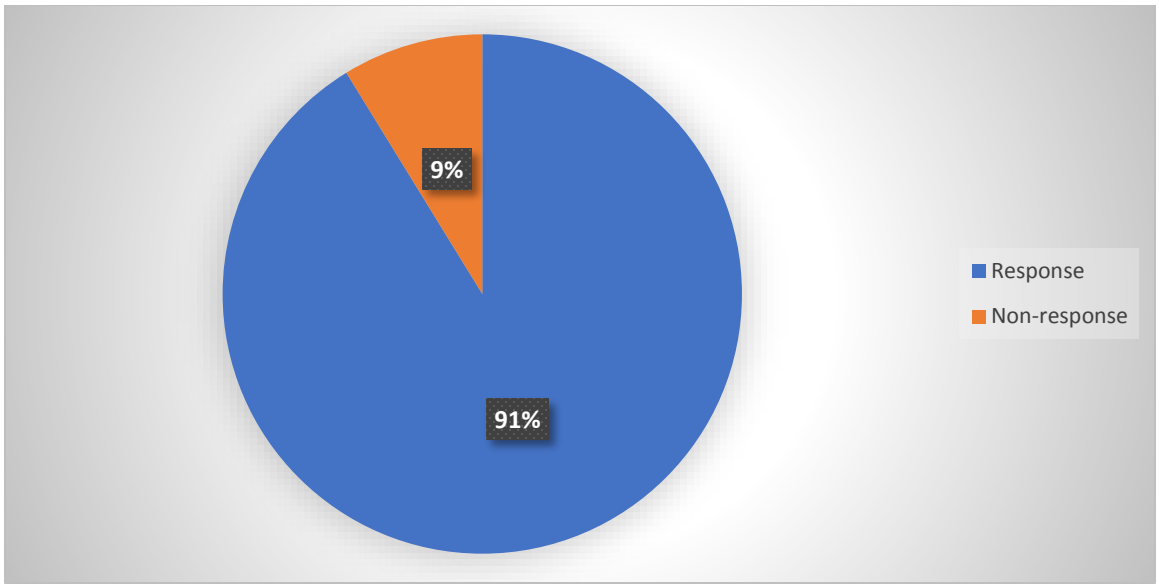

Figure 1: Response Rate

In regard to the response rate per the scope of operation, the results were as shown it Table 4.1.

Table 4.1: Response Rate

	Targeted Respondents	Actual Respondents	Respondents Rate
Banks	6	5	83.3%
Wholesale MFIs	3	2	66.7%
SACCOs	1	1	100.0%
Development Institutions	1	1	100.0%
Microfinance Banks	12	11	91.7%
Credit Only Institutions	34	32	94.1%
Total	**57**	**52**	**91.23%**

Source: Author (2018)

The results in Table 4.1 above show that there was an 83.3% response rate among banks, 66.7% among wholesale MFIs, 100.0% among SACCOs and development institutions 91.7% for microfinance banks and 94.1% for credit only institutions. On the basis of these results it was noted that SACCOs and development institutions had the highest response rate where only one firm was targeted and responses received from each, followed by credit only institutions, microfinance banks, banks while wholesale MFIs had the least response rate.

4.1.2 Reliability of the Instrument

A pilot study was carried out to determine reliability of the questionnaires. The pilot study involved 10 microfinance institution operating in Kiambu County. Reliability analysis was subsequently done using Cronbach's Alpha, which measures the internal consistency by establishing if certain item within a scale measures the same construct. Cronbach Alpha was established for every objective and the results shown in Table 4.2.

Table 4.2: Reliability Results

Variable	Cronbach's Alpha	Remark
Savings level	.906	Reliable
Interest rate	.886	Reliable
Collateral requirements	.890	Reliable
Ability to pay	.786	Reliable
Portfolio quality	.881	Reliable
Overall	.872	Reliable

Source: Author (2018)

From the result shown in Table 4.2, the study found that savings level had a Cronbach alpha coefficient of 0.906, interest rate had 0.886, collateral requirements had 0.890, Ability to pay had a coefficient of 0.786 while portfolio quality had a coefficient of 0.881. Based on these observations, the study noted that the coefficients for all the constructs were greater than 0.7 and concluded that they were questionnaire was reliable. In addition, the study found that the overall reliability coefficient was 0.872 which implied that in totality the questionnaire was reliable in measuring the study variables.

4.2 Demographic Information

The study sought to establish the background information of the respondents including respondents' gender, number of years the respondent had worked in the current institution and the scope of operation of the microfinance institution. The results were as follows.

4.2.1 Gender of the Respondent

The study sought to determine if the respondent was a male or female. The findings are as show in Table 4.3.

Table 4. 3: Gender of the Respondent

	Frequency	**Percent**
Male	30	57.7
Female	22	42.3
Total	**52**	**100.0**

Source: Author (2018)

The study results show that among the respondents 57.7% (30) were male while 42.3% (22) were female. The study thus concludes that majority of credit management staff in microfinance institutions in Kenya are male.

4.2.2 Duration Worked in the Microfinance Institution

In this section the study sought to establish the number of years the respondents had worked in the microfinance institution. This was aimed at determining the credibility of the information provided. The results are as shown in Table 4.4.

Table 4.4: Years Worked in the Microfinance Institution

	Frequency	Percent
Less than 1 year	6	11.5
1-5 years	16	30.8
6-10 years	22	42.3
Over 10 years	8	15.4
Total	**52**	**100.0**

Source: Author (2018)

The results in table 4.4 above show that most of the respondents as shown by 42.3% (22) had worked in the microfinance institution for between 6-10 years, 30.8% (16) had worked in the microfinance institution for 1-5 years, 15.4% (8) had worked in the microfinance institution for over 10 years while 11.5% (6) had worked in the microfinance institution for less than 1 year. It is therefore noted that 88.5% (46) of the respondents had worked in the microfinance institution for more than 1 year meaning that the researcher could rely on the information provided by the responded.

4.2.3 Scope of Operation for the Microfinance Institution

The study also sought to determine the scope of operation of the microfinance institution and the results summarized in Table 4.5.

Table 4.5: Scope of Operation

	Frequency	Percent
Banks	5	9.6
Wholesale MFIs	2	3.8
SACCOs	1	1.9
Development Institutions	1	1.9
Microfinance Banks	11	21.2
Credit Only Institutions	32	61.5
Total	**52**	**100.0**

Source: Author (2018)

The results in Table 4.5 show that most of the respondents 61.5% (32) were credit officers in credit only microfinance institutions, 21.2% (11) were from microfinance banks, 9.6% (5) were from

commercial banks, 3.8% (2) were from wholesale MFIs, while 1.9% (1) were from SACCOs and development institutions respectively. The study therefore concluded that most of microfinance institutions in Kenya are credit officers in credit only microfinance.

4.3 Descriptive Statistics

This section provides descriptive statistics on savings level, interest rate, collateral requirements and ability to pay on portfolio quality of microfinance institutions in Kenya. The descriptive statistics provide a summary of the characteristics of the study variables. The respondents were required to respond to statements on each of the variable on a scale of 1-5. Measures of central tendency specifically the mean and the standard deviation were used to summarize the characteristics of the variables under investigation based on the responses given by the respondents from the 5-point Likert scale questionnaire. Each variable is discussed separately and the responses are presented in separate tables followed by discussions.

4.3.1 Savings Level

Savings level was the first independent variable in the study operationalised using deposits with financial institutions, proportion earnings saved, savings mobilization, saving pattern and saving regulations. The study sought to measure the extent to which savings level affect portfolio quality among microfinance institutions. The results were as presented in Table 4.6.

Table 4.6: Extent to Which Savings Level Affect Portfolio Quality

	Frequency	**Percent**
Little extent	4	7.7
Moderate extent	7	13.5
Great extent	24	46.2
Very great extent	17	32.7
Total	**52**	**100.0**

Source: Author (2018)

The results in Table 4.6 show that most of the respondents as shown by 46.2% (24) believed that savings level affect portfolio quality to a great extent, 32.7% (17) indicated that savings level affect portfolio quality to a very great extent, 13.5% (7) indicated that savings level affect portfolio

quality to a moderate extent while 7.7% (4) showed that savings level affect portfolio quality to a little extent. From these results it is fund that savings level affect portfolio quality to a great extent.

The study also sought to measure the extent to which each attribute of savings level affected portfolio quality of microfinance institutions. Table 4.7 presents the mean score of the responses of each attribute of resource management strategy and their respective standard deviation.

Table 4.7: Descriptive Statistics for Savings Level

	Mean	**Std. Deviation**
Deposits with financial institutions	4.73	.689
Saving pattern	4.48	.828
Savings mobilization	3.15	.916
Proportion earnings saved	1.87	.768
Saving regulations	1.83	.834

Source: Author (2018)

The results in Table 4.7 above show that the most of the respondents felt that deposits with financial institutions affected portfolio quality among microfinance institutions in Kenya to a very great extent as shown by a mean score of 4.73 and a standard deviation of 0.689. the results also showed that saving pattern affected portfolio quality among microfinance institutions in Kenya to a great extent with a mean score of 4.48 and a standard deviation of 0.828. Savings mobilization affected portfolio quality among microfinance institutions in Kenya to a moderate extent with a mean score of 3.15 and a standard deviation of 0.916. in addition, it was established that proportion earnings saved and saving regulations affected portfolio quality among microfinance institutions in Kenya to a low extent as shown by a mean score of 1.87 and 1.83 and an associated standard deviation of 0.768 and 0.834 respectively. From these results it was concluded that deposits with financial institutions was the most important element of savings level followed by savings

mobilization, proportion earnings saved in determining portfolio quality while saving regulations was the least important element affecting portfolio quality among microfinance institutions in Kenya.

These results were consistent with the conclusions reached by Mutura (2006) who indicated that as member's income threshold increases, their monthly savings with the Sacco do not increase correspondingly and that loss of employment income was the most important reason for nonrepayment of Sacco loans. The results were also consistent with the conclusions reached by Dupas, Green, Keats and Robinson (2012) who concluded that decision to save is influenced by safety and accessibility of funds such as financing facilities when they are needed. Tareq (2015) also found that that saving is important in providing cushion against challenges that are caused by income seasonal changes, they also can be used as collateral for credit, can also be used as insurance against disability, illnesses and loss of funds due to retirement.

4.3.2 Interest Rate

The second independent variable in the study was interest rate and was operationalised through base lending rate, variation in interest rates, interest rate level, spread in interest rates and market interest rates. The study sought to measure the extent to which interest rate affect portfolio quality among microfinance institutions. The results were as presented in Table 4.8.

Table 4.8: Extent to Which Interest Rates Affect Portfolio Quality

	Frequency	**Percent**
No extent	2	3.8
Little extent	4	7.7
Moderate extent	12	23.1
Great extent	21	40.4
Very great extent	13	25.0
Total	**52**	**100.0**

Source: Author (2018)

The study results show that majority of the respondents as shown by 40.4% (21) stated that interest rate affect portfolio quality among microfinance institutions to a great extent, 25.0% (13) stated

that interest rate affect portfolio quality among microfinance institutions to a very great extent, 23.1% (12) stated that interest rate affect portfolio quality among microfinance institutions to a moderate extent, 7.7% (4) stated that interest rate affect portfolio quality among microfinance institutions to a little extent while 3.8% (2) stated that interest rate affect portfolio quality among microfinance institutions to no extent. On the basis of these results the study concluded that interest rate affect portfolio quality among microfinance institutions to a great extent.

The study further sought to establish the extent to which the various aspects of interest rate affect portfolio quality among microfinance institutions in Kenya. The results are as shown in Table 4.9.

Table 4.9: Descriptive Statistics for Interest Rate

	Mean	**Std. Deviation**
Variation in interest rates	4.06	.669
Interest rate level	3.67	.810
Market interest rates	3.29	.723
Base lending rate	2.21	.997
Spread in interest rates	1.69	.673

Source: Author (2018)

The results in Table 4.9 above show that majority of the respondents indicated that variation in interest rates affect portfolio quality among microfinance institutions in Kenya to a great extent with a mean score of 4.06 and a standard deviation of 0.669, interest rate level affect portfolio quality among microfinance institutions in Kenya to a great extent with a mean score of 3.67 and a standard deviation of 0.810. In addition, market interest rates affect portfolio quality among microfinance institutions in Kenya to a moderate extent as shown by a mean score of 3.29 and a standard deviation of 0.723. While base lending rate and spread in interest rates affect portfolio quality among microfinance institutions in Kenya to a low extent with a mean score of 2.21 and a standard deviation of 0.997 and a mean score of 1.69 and a standard deviation of 0.673 respectively. From these results the study concluded that variation in interest rates had the largest effect on portfolio quality followed by interest rate level, market interest rates and base lending rate while spread in interest rates had the least effect.

The results were in agreement with the results of Amonoo, Acquah and Asmah, (2003) who conducted an empirical survey on the impact of interest rates on demand for credit and loan repayment by the poor and SME's in Ghana to conclude that increased rates of interest affect the performance on recovery of loans. The results also resonated with the findings of Apunyo (2011) who revealed a strong negative relationship between interest rates and loan repayment in relation with the growth and performance of enterprises. Further, Shem (2013) found that a positive relationship exists between interest rates and non- performing loans. Finally, the results were in line with the findings of Ng'etich and Wanjui (2011) who concluded that the banks performing loans were affected by the interest rate spread since this led to a rise in the cost of credit extended to the borrowers.

4.3.3 Collateral Requirements

The third independent variable in the study was collateral requirements and was operationalised through type of collateral, value of collateral, liquidity of the collateral and ownership of collateral. The study sought to measure the extent to which collateral requirements affect portfolio quality among microfinance institutions. The results were as presented in Table 4.10.

Table 4.10: Extent to Which Collateral Requirements Affect Portfolio Quality

	Frequency	**Percent**
Little extent	3	5.8
Moderate extent	10	19.2
Great extent	22	42.3
Very great extent	17	32.7
Total	**52**	**100.0**

Source: Author (2018)

The results in Table 4.10 show that majority of the respondents 42.3% (22) believed that collateral requirements affect portfolio quality among microfinance institutions to a great extent, 32.7% (17) felt that collateral requirements affect portfolio quality among microfinance institutions to a very great extent, 19.2% (10) viewed that collateral requirements affect portfolio quality among microfinance institutions to a moderate extent while 5.8% (3) stated that collateral requirements affect portfolio quality among microfinance institutions to a little extent. Based on these results,

the study found that collateral requirements affect portfolio quality among microfinance institutions to a great extent.

Moreover, the study sought to evaluate the extent to which the various aspects of interest rate affect portfolio quality among microfinance institutions in Kenya. The results are as shown in Table 4.11.

Table 4.11: Descriptive Statistics Collateral Requirements

	Mean	**Std. Deviation**
Liquidity of the collateral	3.85	.958
Type of collateral	3.44	1.056
Value of collateral	3.37	1.010
Ownership of collateral	3.25	1.169

Source: Author (2018)

The results in table 4.11 show that most of the respondents agreed that liquidity of the collateral affect portfolio quality among microfinance institutions to a great extent as shown by a mean score of 3.85 and a standard deviation of 0.958, the type of collateral affect portfolio quality among microfinance institutions to a moderate extent as shown by a mean score of 3.44 and a standard deviation of 1.056, value of collateral affect portfolio quality among microfinance institutions to a moderate extent as shown by a mean score of 3.37 and a standard deviation of 1.010 and ownership of collateral affect portfolio quality among microfinance institutions to a moderate extent as shown by a mean score of 3.25 and a standard deviation of 1.169. Based on these results, the study established that liquidity of the collateral had the highest effect on portfolio quality followed by type of collateral, value of collateral, and ownership of collateral.

The results were in line with the findings of Ackah and Vuvor (2011) who showed that commercial banks and other financing institutions were willing to avail credit to small and medium size enterprises. However, most SMEs were not in the position to meet the collateral requirements demanded by the financing institutions. Kihimbo, Ayako and Omoka (2012) on collateral requirements showed that many SMEs fail to access credit due to lack of collateral demanded by financial institutions. In addition, Mituga (2012) in a study on credit reputation as collateral for improvement of the legal regime on credit referencing in Kenya established that banks and other

lending institutions rate credit registry data as more important than collateral while evaluating credit extension. Further, Eger (2014) concluded that collateral financing created a higher financial performance of Kenyan petroleum companies. Mbogo (2015) conclude that lack of collateral which is essential in accessing credit facilities negatively influences uptake of credit facilities in rural centres while Sakwa (2017) concluded that collateral security had a positive and significant influence on access to credit hence performance of SMEs.

4.3.4 Ability to Pay

The fourth independent variable in the study was ability to pay and was operationalised through level of income, type of revenue (fixed or variable), occupation of borrower, revenue streams and past repayment records. The study sought to measure the extent to which ability to pay affect portfolio quality among microfinance institutions. The results were as presented in Table 4.12.

Table 4.12: Extent to Which Ability to Pay Affect Portfolio Quality

	Frequency	**Percent**
No extent	2	3.8
Little extent	11	21.2
Moderate extent	9	17.3
Great extent	14	26.9
Very great extent	16	30.8
Total	**52**	**100.0**

Source: Author (2018)

The results in table 4.12 show that most of the respondents 30.8% (16) were of the view that ability to pay affect portfolio quality among microfinance institutions to a very great extent, 26.9% (14) stated that ability to pay affect portfolio quality among microfinance institutions to a very great extent to a great extent, 21.2% (11) stated that ability to pay affect portfolio quality among microfinance institutions to a very great extent to a little extent, 17.3% (9) stated that ability to pay affect portfolio quality among microfinance institutions to a very great extent to a moderate extent while 3.8% (2) stated that ability to pay affect portfolio quality among microfinance institutions to a very great extent to no extent. It is therefore concluded that ability to pay affect portfolio quality among microfinance institutions to a very great extent.

The study also sought to evaluate the extent to which the various aspects of ability to pay affect portfolio quality among microfinance institutions in Kenya. The results are as shown in Table 4.13.

Table 4.13: Descriptive Statistics for Ability to Pay

	Mean	Std. Deviation
Type of revenue (fixed or variable)	4.50	.804
Past repayment records	4.46	1.056
Level of income	3.90	1.192
Occupation of borrower	2.06	.978
Revenue streams	1.83	.834

Source: Author (2018)

The results in Table 4.13show that most of the respondents indicated that the type of revenue (fixed or variable) affect portfolio quality among microfinance institutions in Kenya to a very great extent as shown by a mean score of 4.50 and a standard deviation of 0.804, past repayment records affect portfolio quality among microfinance institutions in Kenya to a great extent as shown by a mean score of 4.46 and a standard deviation of 1.056 and level of income affects portfolio quality among microfinance institutions in Kenya to a great extent as shown by a mean score of 3.90 and a standard deviation of 1.192. Occupation of borrower affects portfolio quality among microfinance institutions in Kenya to a low extent as shown by a mean score of 2.06 and a standard deviation of 0.978 while revenue streams affect portfolio quality among microfinance institutions in Kenya to a low extent as shown by a mean score of 1.83 and a standard deviation of 0.834. The results show that the type of revenue had the highest effect on portfolio quality followed by past repayment records, level of income and occupation of borrower while revenue streams had the least effect on portfolio quality.

The results were consistent with the findings of Campsey and Brigham (1995) who noted that evaluation of a person's loan repayment ability should be characterised by seeking information on the borrower credit worthiness. The results also agreed with the findings of Abraham (2012) who revealed that having other source of income other than agricultural income improved borrowers' ability to repay their loans. Further, Sungwacha (2012) concluded that evaluating client's ability to pay before giving out loans, increases the probability of repaying.

4.4 Portfolio Quality of Microfinance Institutions in Kenya

Portfolio quality was adopted as the dependent variable in the study. The respondents were required to indicate the average trend for five years of the number of loans issued, number of non-performing loans, provision for loans in arrears, number of loans repaid and number of loans written off. The results were as shown in Table 4.14

Table 4.14: Descriptive Statistics for Portfolio Quality

	Mean	Std. Deviation
Number of non-performing loans	4.02	.874
Number of loans repaid	3.85	.958
Number of loans issued	3.44	1.056
Provision for loans in arrears	3.37	1.010
Number of loans written off	3.25	1.169

Source: Author (2018)

The results in Table 4.14 above show that number of loans non-performing loans increased as shown by a mean score of 4.02 and a standard deviation of 0.874. The number of loans repaid also increased as shown by a mean score of 3.85 and a standard deviation of 0.958. At the same time, the number of loans issued, provision for loans in arrears and the number of loans written off remained constant as shown by a mean score of 3.44, 3.37 and 3.25 and a standard deviation of 1.056, 1.010 and 1.169 respectively. On the basis of these results the study found that the portfolio quality of microfinance institutions in Kenya was mainly attributed to number of non-performing loans followed by number of loans repaid, number of loans issued, provision for loans in arrears and number of loans written off.

4.4 Diagnostic Tests

Diagnostic tests were carried out on the collected data before the actual analysis was conducted to test the assumptions of the multiple regression models. The relevant diagnostics tests for the study included test for normality, multicollinearity and Heteroscedasticity.

4.4.1 Test for Normality

The study sought to establish if the data collected was normally distributed over the population sample. This test was conducted through Shapiro-Wilk and Kolmogorov-Smirnov tests for the dependent and independent variables. According to Field (2013), the Shapiro-Wilk test is used when the number of observations is less than 2000 while the Kolmogorov-Smirnov tests is appropriate where the number of observations are more than 2000. Since the responses were 52 and less than 2000, the Shapiro-Wilk test was used. The obtained results from Shapiro-Wilk and Kolmogorov-Smirnov tests were as shown in Table 4.15.

Table 4.15: Tests of Normality

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**			
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**	Conclusion
Collateral requirement	.143	52	.010	.963	52	.102	Normally distributed
Interest rates	.134	52	.020	.961	52	.082	Normally distributed
Savings level	.129	52	.032	.969	52	.200	Normally distributed
Ability to pay	.148	52	.006	.964	52	.114	Normally distributed
Portfolio Quality	.120	52	.058	.961	52	.087	Normally distributed

a. Lilliefors Significance Correction

Source: Author (2018)

The results in Table 4.15 above show that the significance level (P-value) of the Shapiro-Wilk test for collateral requirement was 0.102, 0.082 for interest rates, 0.200 for savings level, 0.114 for ability to pay and 0.087 for portfolio quality. For normally distributed data, Gujarati and Porter (2009) recommend that the P-value should be greater than 0.05 at 95% confidence level. Since all the variables had a significance level of greater than 0.05 at 95% confidence level, the study concludes that all the variables data was normally distributed.

4.4.2 Test for Multicollinearity

The study sought to determine whether two or more explanatory variables in the regression model were linearly related. Iacobucci, Schneider, Popovich and Bakamitsos (2017) recommendation for detecting multicollinearity was adopted by examining the Tolerance and Variance Inflation factors (VIF). The results were as shown in Table 4.16.

Table 4.16: Table of Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.147	.780		.188	.852		
Savings level	.238	.154	.115	1.545	.012	.971	1.030
Interest rates	.181	.142	.095	1.278	.028	.980	1.020
Collateral requirement	.852	.073	.866	11.665	.000	.982	1.019
Ability to pay	.280	.135	.154	2.068	.004	.974	1.026

a. Dependent Variable: Portfolio Quality

Source: Author (2018)

From the results in table 4.16 above savings level had a VIF of 1.030 with a tolerance level of 0.971, interest rates had a VIF of 1.020 and a tolerance level of 0.980, Collateral requirement had a VIF of 1.019 and a tolerance level of 0.982, while ability to pay had a VIF of 1.026 and a tolerance level of 0.974. Since all the independent variables had VIF of less than 2, the study concluded that there was no presence of multicollinearity.

4.4.3 Test for Heteroskedasticity

In this study the Breush-Pagan test as recommended by Warner (2008) was used to test for heteroskedasticity. The null hypothesis was that there is no heteroskedasticity and that the error term is constant. The decision on heteroskedasticity was based on the P-value. That is If $P \leq 0.05$, the null hypotheses would be rejected and conclude that there is presence of heteroskedasticity and

if P≥0.05, accept null hypotheses meaning there is no heteroskedasticity. The results were as shown in Table 4.17.

Table 4.17: Breusch-Pagan and Koenker test

------- Breusch-Pagan and Koenker test statistics and sig-values --------		
	LM	Sig
BP	3.626	.459
Koenker	2.593	.628

Null hypothesis: heteroskedasticity not present (homoskedasticity)
if sig-value less than 0.05, reject the null hypothesis

Source: Author (2018)

From the results in table 4.17 above, it is noted that the significance level for Breusch-Pagan (BP) test was 0.459 while that of Koenker test was 0.628. In both cases the significance level was greater than 0.05. The null hypothesis was accepted and the study concluded that heteroskedasticity was not present.

4.5 Inferential Analysis

The study sought to establish the effect of microcredit determinants on portfolio quality of microfinance institutions in Kenya. To achieve this goal, inferential analysis was conducted through correlation and regression analysis

4.5.1 Correlation Analysis

In this section the study sought to determine the type and strength of the relationship between the study variables. Pearson correlation analysis was conducted. The decision on the significance of the correlation analysis was based on P-value at 0.05 significance level. The results were as shown in Table 4.18.

Table 4.18: Correlation Coefficients

		Portfolio Quality	Savings level	Interest rates	Collateral requirement	Ability to pay
Portfolio Quality	Pearson Correlation	1	.491	.642	.840**	.451
	Sig. (2-tailed)		.008	.002	.000	.003
	N	52	52	52	52	52

Savings level	Pearson Correlation	.491	1	.133	.045	.095
	Sig. (2-tailed)	.008		.349	.754	.002
N	52	52	52	52	52	
Interest rates	Pearson Correlation	.642	.133	1	.027	.052
	Sig. (2-tailed)	.002	.349		.847	.712
N	52	52	52	52	52	
Collateral requirement	Pearson Correlation	.840**	.045	.027	1	.119
	Sig. (2-tailed)	.000	.754	.847		.399
	N	52	52	52	52	52
Ability to pay	Pearson Correlation	.451	.095	.052	.119	1
	Sig. (2-tailed)	.003	.002	.712	.399	
	N	52	52	52	52	52

**. Correlation is significant at the 0.01 level (2-tailed).
Source: Author (2018)

The results in Table 4.18 show that the Pearson correlation coefficient between portfolio quality, savings level, interest rates, collateral requirement and ability to pay was 0.491, 0.642, 0.840 and 0.451 respectively. The significance of the correlation coefficients was 0.008, 0.002, 0.000 and 0.003. The results therefore show that there exists a strong positive correlation between portfolio quality, savings level, interest rates, collateral requirement and ability to pay. The relationship was also found to be is significant since the significance level of all the correlation coefficients is less than 0.05.

The correlation coefficient between savings level, interest rates, collateral requirement and ability to pay was noted to be 0.133, 0.045 and 0.095 with a significance level of 0.349, 0.754 and 0.002 respectively. It is therefore noted that there was a weak positive correlation between the variables. Further, the correlation between interest rates, collateral requirement and ability to pay was found to be 0.027, and 0.052 with a significance level of 0.847 and 0.712 respectively. The study thus concluded that there was a weak positive correlation between the variables. Finally, the study established that the correlation coefficient between collateral requirement and ability to pay was 0.119 with a significance level of 0.399 which was found to be a weak positive correlation. It was thus concluded that that there is a strong positive correlation between the dependent variable and the independent variables and a weak positive correlation between the independent variables.

4.5.2 Regression Analysis

The study conducted multiple regression model at 95 percent confidence level (α =0.05) with portfolio quality as the dependent variable and microcredit determinants as independent variable to determine the nature of the relationship that exist between the study variables. The empirical model was of the form;

$Y= \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + €$

Where: -

Y= Portfolio Quality

$\beta 0, \beta 1, \beta 2$ = Constants

X1= Savings Level

X2= Interest Rate

X3= Collateral Requirements

X4= Ability to Pay

€=Error Term

The results of the regression are as shown in Table 4.19, 4.20, and 4.21.

Table 4.19: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.864[a]	.746	.724	.37777

a. Predictors: (Constant), Ability to pay, Interest rates, Collateral requirement, Savings level
Source: Author (2018)

The results in Table 4.19 show the model summary. From the table it is observed that the correlation coefficient (R) between portfolio quality and microcredit determinants was 0.864 meaning that there was a strong positive correlation between the predicted and predictor variable. The table further shows the value of R Square (R2) was 0.746 meaning that the model was able to predict 74.6% of the changes in portfolio quality. It also means that 25.4% of the changes in portfolio quality of microfinance institutions in Kenya are explained by other variables other than savings level, interest rates, collateral requirement and ability to pay.

The study also conducted Analysis of Variance (ANOVA) and the results are as shown in Table 4.20.

Table 4. 20: ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	19.675	4	4.919	34.468	.000[b]
Residual	6.707	47	.143		
Total	26.382	51			

a. Dependent Variable: Portfolio Quality

b. Predictors: (Constant), Ability to pay, Interest rates, Collateral requirement, Savings level

Source: Author (2018)

The results in Table 4.20 show that the F statistic was 34.468. The F-statistic was found to be greater than F-critical of 2.5695 and based on the F value the study concluded that the model was fit in predicting portfolio quality. The table also shows a significance level of 0.00 which is less than the 0.05 significance level. Therefore, based on the P-value the study concluded that the model was fit.

The study further sought to determine the nature of the relationship that exist between portfolio quality, savings level, interest rates, collateral requirement and ability to pay. The coefficients of the regression model were as shown in Table 4.21.

Table 4.21: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.147	.780		.188	.852
Savings level	.238	.437	.115	5.545	.012
Interest rates	.181	.025	.095	7.275	.028
Collateral requirement	.852	.073	.836	11.671	.000

Ability to pay	.280	.097	.124	2.874	.004

a. Dependent Variable: Portfolio Quality

Source: Author (2018)

The results in Table 4.21 show that the constant had a coefficient of 0.147, savings level had a coefficient of 0.238, interest rates had a coefficient of 0.181, collateral requirement had a coefficient of 0.852 while ability to pay had a coefficient of 0.280. These results show that if all the independent variables were absent, portfolio quality of microfinance institutions in Kenya would be 0.147. The results also imply that if all other factors were held constant, increasing savings level by one unit would result in 0.238 increase in portfolio quality. At the same time, holding all other factors constant, a unit increase in interest rates would result to an increase in portfolio quality by 0.181. Further, holding all other factors constant, increasing collateral requirement by one unit would result in 0.852 increase in portfolio quality. Finally, the result show that a unit increase in ability to pay would lead to an increase in portfolio quality of microfinance institutions in Kenya by 0.280.

The results further show that the t-statistics for savings level, interest rates, collateral requirement and ability to pay coefficients were 5.545, 7.275, 11.671 and 2.874 respectively. These values were found to be greater than the t-critical of 2.1318. Thus, based on t-values, the study concluded that savings level, interest rates, collateral requirement and ability to pay were significant in predicting portfolio quality of microfinance institutions in Kenya. At the same time, the P-values for savings level, interest rates, collateral requirement and ability to pay coefficients were 0.012, 0.028, 0.000 and 0.004 respectively. These values were observed to be less than the significance level of 0.05. It was therefore concluded that all the three independent variables were significant in predicting portfolio quality.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of key findings, conclusions drawn from the findings highlighted, recommendations made thereof and suggestions for further research. The conclusions and recommendations drawn were based on the objectives of the study.

5.2 Summary of Findings

This section provides a summary of the findings on the effect of microcredit determinants on portfolio quality of microfinance institutions in Kenya. The summary is presented per each variable starting with savings level, interest rates, collateral requirement and finally ability to pay.

5.2.1 Savings Level and Portfolio Quality

The first objective of the study was to investigate the effect of savings level on portfolio quality of microfinance institutions in Kenya. The results of the study showed that savings level affect portfolio quality to a great extent. In particular, the study found that deposits with financial institutions affected portfolio quality among microfinance institutions in Kenya to a very great extent, saving pattern affected portfolio quality among microfinance institutions in Kenya to a great extent, savings mobilization affected portfolio quality among microfinance institutions in Kenya to a moderate extent while proportion earnings saved and saving regulations affected portfolio quality among microfinance institutions in Kenya to a low extent. In addition, it was established that savings level was positively correlated with portfolio quality. Moreover, the study established that savings level was significant in predicting portfolio quality among microfinance institutions in Kenya.

5.2.2 Interest Rate and Portfolio Quality

The second objective of the study was to evaluate the effect of interest rate on portfolio quality of microfinance institutions in Kenya. The results of the study showed that interest rate affect portfolio quality among microfinance institutions to a great extent. Particularly, the study found that variation in interest rates and interest rate level affect portfolio quality among microfinance institutions in Kenya to a great extent, market interest rates affect portfolio quality among

microfinance institutions in Kenya to a moderate extent. On the other hand, base lending rate and spread in interest rates affect portfolio quality among microfinance institutions in Kenya to a low extent. The study also established that interest rate was positively correlated with portfolio quality. Moreover, the study established that interest rate was significant in predicting portfolio quality among microfinance institutions in Kenya.

5.2.3 Collateral Requirements and Portfolio Quality

The third objective of the study was to evaluate the effect of collateral requirements on portfolio quality of microfinance institutions in Kenya. The study found that collateral requirements affect portfolio quality among microfinance institutions to a great extent. In addition, the study found that liquidity of the collateral affect portfolio quality among microfinance institutions to a great extent while the type of collateral, value of collateral and ownership of collateral affect portfolio quality among microfinance institutions to a moderate extent. The study also found that collateral requirements was positively correlated with portfolio quality. Further, the study established that collateral requirements was significant in predicting portfolio quality among microfinance institutions in Kenya.

5.2.4 Ability to Pay and Portfolio Quality

The fourth objective of the study was to evaluate the effect of ability to pay on portfolio quality of microfinance institutions in Kenya. The results revealed that ability to pay affect portfolio quality among microfinance institutions to a very great extent. Further, the study revealed that type of revenue (fixed or variable) affect portfolio quality among microfinance institutions in Kenya to a very great extent, past repayment records and level of income affect portfolio quality among microfinance institutions in Kenya to a great extent while occupation of borrower and revenue streams affects portfolio quality among microfinance institutions in Kenya to a low extent. It was also found that ability to pay is positively correlated with portfolio quality and was significant in predicting portfolio quality among microfinance institutions in Kenya.

5.3 Conclusion

The study concluded that savings level affect portfolio quality to a great extent. The study also concluded that deposits with financial institutions affect portfolio quality to a very great extent,

saving pattern affect portfolio quality to a great extent, savings mobilization affect portfolio quality to a moderate extent while proportion earnings saved and saving regulations affect portfolio quality to a low extent. It was also concluded that savings level is positively correlated with portfolio quality and was significant in predicting portfolio quality.

Regarding the effect of interest rate on portfolio quality, the study concluded that interest rate affect portfolio quality to a great extent, variation in interest rates and interest rate level affect portfolio quality to a great extent, market interest rates affect portfolio quality to a moderate extent while base lending rate and spread in interest rates affect portfolio quality to a low extent. The study also established that interest rate was positively correlated with portfolio quality and was significant in predicting portfolio quality.

In relation to the effect of collateral requirements on portfolio quality the study concluded that collateral requirements affect portfolio quality to a great extent liquidity of the collateral affect portfolio quality to a great extent while the type of collateral, value of collateral and ownership of collateral affect portfolio quality to a moderate extent. In addition, collateral requirements were positively correlated with portfolio quality and was significant in predicting portfolio quality.

Regarding the effect of ability to pay on portfolio quality, the study concluded that ability to pay affect portfolio quality among microfinance institutions to a very great extent, type of revenue affect portfolio quality to a very great extent, past repayment records and level of income affect portfolio quality to a great extent while occupation of borrower and revenue streams affects portfolio quality to a low extent. The study further concluded that ability to pay is positively correlated with portfolio quality and significantly affect portfolio quality.

5.4 Recommendations

The study concluded that savings level affect portfolio quality to a great extent, savings level is positively correlated with portfolio quality and is significant in predicting portfolio quality. The study therefore recommends that the management of microfinance institutions should carefully evaluate their customers on the basis of their saving ability. In particular, they should establish that

their level of deposits with financial institutions, their saving pattern, their ability to mobilize savings, the proportion of earnings saved and focus keenly on the saving regulations.

The study also concluded that interest rate affect portfolio quality to a great extent, interest rate was positively correlated with portfolio quality and was significant in predicting portfolio quality. In this regard, the study recommends that the management of management of microfinance institutions should carefully consider the effect of interest rates while extending credit to their clients. In particular, the management should focus on interest rates and variation in interest rate level, market interest rates, base lending rate and spread in interest rates since they significantly affect their portfolio quality.

The study also concluded that collateral requirements affect portfolio quality to a great extent, collateral requirement is positively correlated with portfolio quality and is significant in predicting portfolio quality. The study therefore recommends that the management of microfinance institutions should evaluate the assets pledged as collateral carefully in terms of liquidity of the collateral, type of collateral, value of collateral and ownership of collateral.

Finally, the study concluded that ability to pay affect portfolio quality among microfinance institutions to a very great extent. Ability to pay is positively correlated with portfolio quality and significantly affect portfolio quality. The study thus recommends that the management of microfinance institutions should always seek to establish the type of revenue, whether fixed or variable for the borrowers, past repayment records of the borrowers, borrowers' level of income, occupation of borrower and revenue streams so as to ascertain the ability of the borrower to repay their loans so as to increase the quality of their loan portfolio.

5.5 Limitations of the Study

There researcher experienced a number of limitations. One of the limitations of this study is study was that the study was based on microfinance institutions in Kenya. This meant data was collected from microfinance institutions only and does not refer to other financial institutions. Therefore, the conclusions reached in this study only relate to microfinance institutions operating in Kenya and thus suffer from generalisation since they may not be implied on other financial institutions

such a s commercial banks SACCOs, pension funds and mortgage companies since they have a significantly operating scope and environment as well as access to resources from the microfinance institutions.

Secondly, the study collected data only for a period of five years from 2013 to 2017. The findings of this study were therefore limited to this period only and may not be implied for longitudinal studies. The researcher also acknowledged that the data sought by the study was sensitive relating to the performance of microfinance institutions in relation to their portfolio quality. The researcher felt that the respondents may shy away from providing accurate information not to paint the image of their firm in bad light. The findings of this study were therefore based on accuracy of the information provided by the respondents on the questionnaire.

5.6 Suggestion for Further Studies

The study made the following suggestions for further research based on the limitations of the study. First, the study was limited to microfinance institutions operating in Kenya. The findings thus may suffer from generalisation to other financial institutions such as commercial banks. The study thus suggests other studies should be conducted on other financial institutions such as commercial banks with different scope to establish if similar results would be obtained.

Secondly, the study was based on data collected for a period of five years only. The findings of this study were therefore limited to this period only and may not be implied for longitudinal studies. The study therefore recommends that other studies should be conducted covering linger periods to establish if similar findings would be obtained.

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APPENDICES

Appendix I: Letter of Introduction

Department of Business Administration
School of Business
KCA University
P. O. Box 56808 00200
Nairobi, Kenya.

Dear Sir/Madam,

REF: INVITATION TO PARTICIPATE IN A RESEARCH

I am a student at KCA University conducting a research on **MICROCREDIT DETERMINANTS AND PORTFOLIO QUALITY OF MICROFINANCE INSTITUTIONS IN KENYA.** I humbly request that you spare a few minutes off your schedule to complete the attached questionnaire. The questions seek your opinions regarding your organization microcredit determinants and portfolio quality. Your anonymity is assured and the information you provide will remain confidential.

Thank you for participating in this study. Your cooperation and contribution in this research is appreciated.

Yours faithfully,

PATRICK M MUTISO

Appendix II: Research Questionnaire

This questionnaire is designed to collect data for purely academic purposes. The study seeks to investigate the **MICROCREDIT DETERMINANTS AND PORTFOLIO QUALITY OF MICROFINANCE INSTITUTIONS IN KENYA.** All information will be treated with strict confidence. Do not put any name or identification on this questionnaire.

Answer all questions as indicated by either filling in the blank or ticking the option that applies.

SECTION A: DEMOGRAPHIC INFORMATION

1) Gender Male [ ] Female [ ]
2) What is your position in the organization?.....
3) How many years have you worked in the microfinance institution?

Less than 1 year [ ] 1-5 years [ ]

6-10 years [ ] over 10 years [ ]

SECTION B: Microcredit Determinants

Savings level

4) To what extent does savings level affect portfolio quality among microfinance institutions?

Very great extent [ ]

Great extent [ ]

Moderate extent [ ]

Little extent [ ]

No extent [ ]

5) Please indicate the extent to which the following aspects of savings level affect portfolio quality among microfinance institutions.

Where: 5- Very Great Extent 4-Great Extent 3-Moderate Extent 2-Low Extent 1- No Extent

Aspects of Savings Level	**1**	**2**	**3**	**4**	**5**
Reliability					

Assurance					
Competence					
Courtesy					
Security					

6) How do the above aspects of savings level affect portfolio quality among microfinance institutions?

.....

.....

.....

Interest rates

7) To what extent does interest rates affect portfolio quality among microfinance institutions?

Very great extent [ ]

Great extent [ ]

Moderate extent [ ]

Little extent [ ]

No extent [ ]

8) Please indicate the extent that the following aspects of interest rates affect portfolio quality among microfinance institutions.

Where: 5- Very Great Extent 4-Great Extent 3-Moderate Extent

2-Low Extent 1- No Extent

Aspects of Interest Rates	**1**	**2**	**3**	**4**	**5**
Base lending rate					
Variation in interest rates					
Interest rate level					
Spread in interest rates					
Market interest rates					

9) In what ways has interest rates affected portfolio quality among microfinance institutions?

……

……

...

Collateral Requirements

10) To what extent does perceived value affect portfolio quality among microfinance institutions?

Very great extent [ ]

Great extent [ ]

Moderate extent [ ]

Little extent [ ]

No extent [ ]

11) Please indicate the extent that the following aspects of collateral requirements affect portfolio quality among microfinance institutions.

Where: 5- Very Great Extent 4-Great Extent 3-Moderate Extent

2-Low Extent 1- No Extent

Aspects of Collateral Requirements	1	2	3	4	5
Type of collateral					
Value of collateral					
Liquidity of the collateral					
Ownership of collateral					

12) In what ways has collateral requirements improved portfolio quality among microfinance institutions?

……

……

……

Ability to Pay

13) To what extent do ability to pay affect portfolio quality among microfinance institutions?

Very great extent [ ]

Great extent [ ]

Moderate extent [ ]

Little extent [ ]

No extent [ ]

14) Please indicate the extent that the following aspects of ability to pay affect portfolio quality among microfinance institutions.

Where: 5- Very Great Extent 4-Great Extent 3-Moderate Extent

2-Low Extent 1- No Extent

Aspects of Ability to Pay	1	2	3	4	5
Level of income					
Type of revenue (fixed or variable)					
Occupation of borrower					
Revenue streams					
Past repayment records					

15) In your opinion, how has ability to pay improved portfolio quality among microfinance institutions?

.....

.....

Portfolio quality among microfinance institutions

16) What has been the trend of the following aspects of portfolio quality in your organization for the last five years?

Aspects of portfolio quality	Greatly Improved	Improved	Constant	Decreasing	Greatly decreased
Number of loans issued					
Number of loans non-performing loans					
Provision for loans in arrears					
Number of loans repaid					
Number of loans written off.					

Thank you for your participation

Appendix III: Work Plan

Activity	**June 2018**	**July 2018**	**August 2018**	**September 2018**	**October 2018**	**November 2018**	**December 2018**
Proposal writing							
Proposal Presentation							
Corrections and recommendations							
Data collection and Data Analysis							
Report writing							
Oral examination of thesis and Thesis Submission to the university							
Graduation							

Appendix IV: Research Budget

NO	ITEM	DESCRIPTION	QNTY	RATE	TOTAL
A) TOOLS AND MATERIALS					
1	Biro Pens		15	20.00	300.00
2	Pencils	Steindler Pencil	15	30.00	450.00
3	Foolscaps	Ream	3	500.00	1,500.00
4	Photocopiers	Ream	6	500.00	3,000.00
5	Box File		3	500.00	1,500.00
6	Clip board		2	200.00	400.00
7	Paper Punch		1	300.00	300.00
8	Stapler		1	400.00	400.00
B) RESEARCH SERVICES					
10	Internet Services	Monthly	3	3,000.00	9,000.00
11	Telephone airtime	Monthly	3	3,000.00	9,000.00
12	Photocopying cost	Monthly	3	2,500.00	7,500.00
13	Printing cost	Monthly	3	3,000.00	9,000.00
D) COPY OF FINAL RESEARCH					
16	Printing	Copy	3	2,000.00	6,000.00
17	Binding	Copy	3	500.00	1,500.00
	GRAND TOTAL COST				**49,850.00**

APPENDIX V: List of Microfinance institutions in Kenya

BANKS

1. Co-operative Bank
2. Kenya Post Office Savings Bank
3. Eclof Kenya

WHOLESALE MFIs

4. MESPT
5. Stromme Microfinance East Africa
6. Oikocredit

DEVELOPMENT INSTITUTIONS

7. Swisscontact - Swiss Foundation for Technical Cooperation

MICROFINANCE BANKS

8. Kenya Women Microfinance Bank
9. Rafiki Microfinance Bank Ltd
10. Faulu Kenya Microfinance Bank
11. SMEP Microfinance Bank Ltd
12. Remu Microfinance Bank Ltd
13. Century Microfinance Bank Ltd
14. Sumac Microfinance Bank Ltd
15. U&'I Microfinance Bank Ltd
16. Caritas Microfinance Bank Ltd
17. Daraja Microfinance Bank
18. Maisha Microfinance Bank

CREDIT ONLY INSTITUTIONS

19. Vision Fund Kenya Limited
20. BIMAS
21. SISDO
22. Letshego Kenya Ltd
23. PAWDEP
24. YEHU Microfinance Trust
25. Jitegemea Credit Scheme
26. AAR Credit Services
27. Juhudi Kilimo Co.Ltd
28. Musoni Kenya Ltd
29. Select Management Services Ltd
30. Greenland Fedha Ltd
31. Platinum Credit Limited
32. Jubilant Kenya Ltd
33. Habitat for Humanity Kenya
34. Real People Ltd
35. Neema Health Educational & Empowerment Programme (NEEMA – HEEP Ltd)
36. Micro Mobile Ltd
37. Ushindi Bora Ltd
38. Hand in Hand Eastern Africa
39. Getbucks Ltd
40. Private Equity Ltd
41. Jumo Kenya Ltd
42. Nyali Capital Limited
43. Premier Credit Limited
44. Moneyworth Investment Limited
45. Hazina Development Trust Limited
46. Spring Board Capital
47. Fountain Credit
48. Longitude Finance