

**RELATIONSHIP BETWEEN OUTREACH AND FINANCIAL
PERFORMANCE OF DEPOSIT TAKING MICRO FINANCE
INSTITUTIONS IN KENYA**

ANNE MAGIRI KARANJA

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENT FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION OF THE UNIVERSITY OF NAIROBI**

OCTOBER 2014

DECLARATION

I, the undersigned declare that this research study is my original work and has not been presented to any other examination body. No part of this research should be produced without my consent or that of the University of Nairobi.

ANNE MAGIRI KARANJA

D61/79078/2012

Sign..... Date

Declaration by Supervisor,

This research has been submitted with my approval as the university supervisor.

JAMES NG'ANG'A

Sign Date

ACKNOWLEDGEMENT

It has been an exciting and instructive study period in the University of Nairobi and I feel privileged to have had the opportunity to carry out this study as a demonstration of knowledge gained during the period studying for my master's degree. With these acknowledgments, it would be impossible not to remember those who in one way or another, directly or indirectly, have played a role in the realization of this research project. Let me, therefore, thank them all equally.

First, I am indebted to the Almighty God for all the blessings he showered on me and for being with me throughout the study. I am deeply obliged to my supervisor, Mr. James Ng'ang'a for his exemplary guidance and support without whose help; this project would not have been a success. Finally, yet importantly, I take this opportunity to express my deep gratitude to the lasting memory of my loving family, and friends who are a constant source of motivation and for their never ending support and encouragement during this project.

DEDICATION

This project is dedicated to the following: First, to my dear husband Dr. John Maina Kagira, son Kevin Kagira and daughter Tiffany Wanjiru.

Secondly, to my dad and mum. Last but not least, to my sisters, brothers, Faith the house manager and entire (Gitonga & Kagira) family for their love, support, patience, and encouragement they gave me to complete my studies.

ABSTRACT

The main purpose of the study was to establish the relationship between outreach and financial performance of deposit taking MFIs in Kenya. This study applied descriptive and correlation methods to study using secondary data, where it examined the relationship between outreach and financial performance of Deposit taking MFIs in Kenya whereby both qualitative and quantitative approaches to data analysis was employed. The target population was the nine deposit taking MFIs members in Kenya (the official association of Deposit taking MFIs institutions in Kenya, 2012) registered at end June 2013 at the Central Bank of Kenya (CBK) which supervise the activities of Microfinance sector in Kenya, moreover lending as the analysis on average loan sizes and share of borrowers is on the account. Secondary data was collected for this study. The dataset was drawn from the Financial Statements of each of the deposit taking MFI under study throughout the period of study 2009 to 2013 and sourced from the Management of the institutions. Quantitative data collected was analyzed by the use of descriptive statistics using SPSS and presented through percentages, means, standard deviations and frequencies. The study established the relationship between outreach and financial performance of microfinance sector in Kenya is determined by average loan size, net borrowers and hence yielded a positive significant relationship to outreach. A strong positive relationship was also established between outreach and financial performance of the DTMFIs as result of the effort put in place by the MFIs in extending loans and financial services to draw an even more wider audience. The study further broke down the MFIs sample into two segments based on their size to assess whether there were any differences in the response of outreach to the explanatory variables between the largest MFIs (Top-tier) and their relatively smaller counter parts (bottom-tier) in terms of customer lending base. In the case of the top-tier MFIs, relative performance to industry ROE and net number of new borrowers were found to be positively and significantly related to outreach. The study between outreach and financial performance of DTMIs established positive relationship thus more training should be offered to the clients who are being serviced with loans; use of outreach to draw a more wider audience and policies to be put in place to weed out fraudsters. The study recommended that more training should be offered to the clients who are been serviced with loans; use of outreach to draw a more wider audience and policies to be put in place to weed out fraudsters.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENT.....	iii
DEDICATION	Error! Bookmark not defined.
ABSTRACT.....	v
TABLE OF CONTENTS	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study	1
1.1.1 Outreach.....	3
1.1.2 Financial Performance	4
1.1.3 Relationship between Outreach and Financial Performance	5
1.1.4 Deposit Taking Microfinance Sector in Kenya	6
1.2 Research Problem	7
1.3 Research Objective	9
1.4 Value of the Study	9
CHAPTER TWO	10
LITERATURE REVIEW	10
2.1 Introduction.....	10
2.2 Review of Theories	10
2.2.1 Transaction Cost Theory.....	10
2.2.2 Passive Learning Model.....	11
2.2.3 Uniting Theory of Microfinance.....	12
2.3 Determinants of Financial Performance of Deposit Taking Micro Finance.....	12
2.3.1 Active Borrowers.....	12
2.3.2 Average Loan Size.....	14
2.3.3 Subsidy Dependence Index.....	15
2.4 Review of Empirical Studies	15

2.5 Summary of Literature Review.....	24
CHAPTER THREE.....	26
RESEARCH METHODOLOGY	26
3.1 Introduction.....	26
3.2 Research Design.....	26
3.3 Population	26
3.4 Data Collection	27
3.5 Data Analysis	27
3.5.1 Analytical Model	27
CHAPTER FOUR.....	29
DATA ANALYSIS AND FINDINGS.....	29
4.1 Introduction.....	29
4.2 Descriptive Statistics.....	29
4.2 Correlation Analysis	33
4.3 Regression Analyses	35
4.3.1 Average Regression Analysis	36
4.4 Chapter Summary	40
CHAPTER FIVE: SUMMARY OF FINDINGS, INTERPRETATION, CONCLUSION AND RECOMMENDATIONS	42
5.1 Introduction.....	42
5.2 Summary	42
5.3 Conclusions.....	43
5.4 Recommendations.....	43
5.5 Suggestions for Further Study	44
REFERENCES.....	44
APPENDICES	49
Appendix I: List of Deposit Taking Microfinance Institutions Licensed by Central Bank of Kenya.....	49

Appendix II: Data Collection Schedule.....	53
Appendix III: Descriptive Data	54

LIST OF TABLES

Table 4.1: Annual averages of key MFIs statistics	30
Table 4.2: Descriptive statistics of key variables for the entire sector	31
Table 4.3: Descriptive statistics of key variables for the top-tier MFIs.....	32
Table 4.4: Descriptive statistics of key variables for the bottom-tier MFIs	33
Table 4.5: Pearson Correlation Matrix.....	34
Table 4.6: Pearson Correlation Matrix.....	35
Table 4.7: Goodness of Fit Statistics	36
Table 4.8: Analysis of Variance (ANOVA)	36
Table 4.9: Regression Coefficients	37
Table 4.10: Goodness of fit statistics	38
Table 4.11: Analysis of Variance (ANOVA)	39
Table 4.12: Regression Model Coefficient	39

LIST OF FIGURES

Figure 4.1: Profitability/Standardized Residuals	38
Figure 4.2: Profitability/Standardized Residuals	40

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In the wake of the intense global concern to lift people out of exclusion, the need for recognition of the pivotal role that MFIs play in reaching out to low-income earners and the poor who make up the bulk of the world's population must be placed on national agenda if the goal of financially including people is to be achieved. According to Rangarajan (2008), access to finance by the poor and vulnerable groups is a prerequisite for poverty reduction and social cohesion. It is an essential part of efforts to promote inclusive growth as providing access to finance is a form of empowerment of vulnerable groups.

Locally, Fin Access (2009) claims that Kenya has made impressive strides over the past 5 years in financial inclusion indicating that while formal exclusion has yet to match levels in Southern Africa, the proportion of the population that is completely excluded in Kenya is lower than any other African country with South Africa being an exception naming MFIs as being among drivers of financial inclusion in Kenya. Finaccess further revealed that MFIs, even though still a small actor in the Kenyan financial sector, were able to double their outreach from 1.7% in 2006 to 3.4% in 2009.

Deposit Taking MFIs is therefore the solution that came up to offer the informal and formal arrangements offering financial services to the poor. It has been received with enthusiasm, as its innovative loan contracts have made them extension of small loans to the poor possible, and loan repayment rates have in general been very high, even close to

100 % . A number of authors have assessed the impact of Microfinance for the aspect of outreach which evaluates whether the MFI provides services to the poor in poor or excluded areas, women and persons often excluded from microfinance such as farmers or young people between 16-25 years of age (Mwangi, 2012). Matu (2008) in his research paper entitled “Attracting microfinance investment funds promoting microfinance Growth through increased investments in Kenya” has studied microfinance capital structure in order to find out best policy decisions to enhance efficiency in MFI in Kenya.

Niyongabo (2006), posts that Kenya still faces major challenges with efficiently and effectively delivering microfinance services in the country. He analyzed three policy alternatives i.e. maintaining status quo, the government regulation of all MFIs and voluntarily for closing the microfinance gap in the supply of microfinance services. All these three alternatives were evaluated against the following criteria: efficiency, financial and political feasibility, and accessibility to determine the best policy option. This had greatly helped boost the sector resulting in increase in microfinance loans volumes, especially the deposit-taking MFIs such as Faulu Kenya and Kenya Women Finance Trust .The ability of MFIS to collect deposits has some advantages, especially as the pool for alternative funding shrinks. A vast majority of MFIs in Kenya are informal and unregulated, which has limited their funding sources further weakening their institutional capacity to supply microfinance services and limits their ability to grow (Matu, 2008).

Gibbons and Meehan (2000) argued that prudential requirements enable Microfinance Deposit Taking Institutions to manage resources properly which ultimately improves the efficiency and loan costs. However, it is important to note that setting and implementing

the prudential regulations are different matters. This research project is aimed at determining whether outreach has had an impact on the financial performance Deposit Taking Microfinance Institutions in Kenya.

1.1.1 Outreach

Outreach is defined as the social value of the output of a microfinance organization and is commonly proxied by the gender or poverty of borrowers, the size or the terms of loan contracts, the price and transaction costs borne by users, the number of users, the financial and organizational strength of the lender, and the number of products offered, including deposits. The concept of Outreach is multidimensional and has six aspects (Meyer, 2002): depth, breadth, and worth to users, cost to users, length, and scope. Navajas, Schreiner, Meyer, & Gonzalez-Vega (2000) refer Depth of outreach to "the value the society attaches to the net gain from the use of the micro credit by a given borrower". This measure identifies the poor clients because the poor are the one who fail to get access to get credit from formal financial institutions since they fail to signal that they can repay their loan (Conning, 1997).

Breadth of Outreach refers to the effort by MFIs to extend loans and financial services to an ever-wider audience and the major problem for expanding. Outreach in most countries is the lack of efficient MFIs to deliver services. Worth of outreach to users is how much a borrower is willing to pay for a loan. Worth depends on the loan contract and on the tastes, constraints, and opportunities of the user. With the cost to the user constant, more worth means more net gain. Cost of outreach to users is the cost of a loan to a borrower.

Cost to users includes both price and transaction costs (Meyer 2002). Length of outreach is the time frame in which a microfinance organization produces loans. Length counts years of service and it matters because society cares about the welfare of the poor both now and in the future.

Without length of outreach, a microfinance organization may improve social welfare in the short term but may lack the ability to do so in the long term. Morduch, (1998) indicated that in theory, a perpetual source of support can allow a microfinance organization to achieve length of outreach without sustainability. Finally, Scope of outreach is the number of types of financial contracts offered by a microfinance organization. In conclusion, the aspects referred above are interlinked because depth is the social value of worth to users minus cost to users and the total Outreach is worth minus cost, weighted by depth, summed across breadth of users and scope of contracts, and discounted through length of time.

1.1.2 Financial Performance

MFIs earn financial revenue from loans and other financial services in the form of interest fees, penalties, and commissions. Financial revenue also includes income from other financial assets, such as investment income. An MFI's financial activities also generate various expenses, from general operating expenses and the cost of borrowing to provisioning for the potential loss from defaulted loans. Profitable institutions earn a positive net income i.e. operating income exceeds total expenses (Lafoucarde et al., 2005).

Profitability of MFIs did not receive much attention in the beginning of the movement. Policy makers and donors for Microfinance have started to call for profitability of MFIs from the 1980s and 1990s when the Microfinance sector began to grow (Cull et al. 2007). According to Christen (1997), even though the microfinance has been able to present a market-based solution to overcome the dearth of finance to the poor, and the poor proving themselves creditworthy as repayment rates climb over 95%, microfinance institutions (MFIs) are still typically unable to reap profits from their operations and therefore rely heavily on subsidies. An important factor for the concern about financial performance for MFIs has been the increasing criticism for failed subsidized credit programs. The Rural Finance Program at the Ohio State University showed that the building of lasting, permanent financial institutions requires that they become financially sustainable (Armendáriz de Aghion and Morduch, 2005).

1.1.3 Relationship Between Outreach and Financial Performance

Meyer (2002) described “the Critical Microfinance Triangle”. The triangle presents a conceptual framework for thinking about three overarching policy objectives: outreach to the poor, financial sustainability, and welfare impact. Performance criteria are required for each objective and all three must be measured to thoroughly evaluate microfinance performance.

The theoretical argument

Von Pischke (1996) recognised that the progression from microfinance with small operations to large providers of banking services to the poor involves many risks. Unless these risks are managed successfully, the conflict between the objectives of outreach and sustainability becomes destructive to both. For Schreiner (1996), the relationship is

encompassed in the term “sustainability of microfinance”. He defines sustainable microfinance to mean a system with the ability to adapt while respecting the subsidiary goal of providing in a viable way financial products and services to the poor; however it emphasizes on the capacity to expand outreach to the poor and ignores the role of financial sufficiency.

1.1.4 Deposit Taking Microfinance Sector in Kenya

The Microfinance Sector in Kenya has grown over the years and now consists of a large number of competing institutions. They vary in formality, commercial orientation, professionalism, visibility, size, geographical coverage as well as legal status. These institutions range from informal organizations such as the Rotating Savings and Credit Associations (ROSCAs), Financial Services Associations (FSAs), savings and Credit Cooperative (SACCOs), NGOs, to commercial banks that are down saving (Aleke, 2003).

The Association of Microfinance Institutions of Kenya (AMFI-K) has 53 member institutions comprising of NGOs, Companies, Trusts, Societies and Commercial Banks with 47 operating in Nairobi (AMFI, 2011). The AMFI is currently serving more than 6,500,000 poor and middle class families with financial services throughout Kenya. Twenty one of these are depositing taking microfinance institutions with 742 outlets, 2,494 staff and a loan portfolio of Ksh 29 Billion, 1.1 million institution savers and 250,000 borrowers. A wide range of financial services are provided by the microfinance institutions: ranging from savings and credit facilities, money transfer and micro insurance to the economically poor, low income households and owners of small micro

scale enterprises in both rural and urban areas, using innovative delivery methodologies and channels. They ultimately contribute to poverty eradication (Mwatela, 2008).

There are nine Deposit Taking Micro Finance Institutions in Kenya according to Central Bank of Kenya report of March 2014 (See Appendix 1). Deposit taking Microfinance institutions grew rapidly from 2009 in all Kenyan regions. Both assets and equity increased substantially. The 2009 study (Kurgat) identified a clear aggregate trend towards higher leverage, with total assets tripling while total equity only doubled. Currently, this trend seems to have abated with a nearly balanced 172 percent increase in assets and 162 percent increase in equity. With aggregated, weighted average information, however, the data are biased towards larger MFIs.

1.2 Research Problem

An effort to modernize and uplift operations of microfinance institutions gives rise to Microfinance Deposit Taking Institutions (MDIs) which are regulated by Central Bank of Kenya under Micro Finance Act 2006 and amended in 2013. Financial performance can be seen as a measure of a company's ability to generate income over a given period of time. A profitable institution earns a positive net income (Lafourcade et al, 2006).

Contextually, Micro finance institutions still face many challenges, operating and financial expenses are very high, and on average, revenues remain lower than in other global (Brown 2005). Efficiency in terms of cost per borrower is lowest for African MFIs, the MFIs for the study were grouped according to regions, Kenyan MFIs were categorized under East African which among other countries which included Ethiopia, Tanzania and Uganda. This formed 42% of the MFIs for the study. The main questions

were how performances of African MFIs sector compare with global peers and how performance varies among African MFIs. The African MFIs were examined through the lens of standard performance metrics over a series of variables: outreach (breadth and depth), financial structure, financial performance, efficiency and portfolio at risk

Locally, Kurgat (2009) studied the role of savings in microfinance institutions for the Kenya Women Finance Trust-Deposit taking in Kenya and analyzed if savings foster institution's financial performance and outreach. In the study, Kurgat (2009) found a strong relationship between savings balances and active savings clients. Moreover, Niyongabo (2006) studied three MFIs (FENACOBU, CECM and COSPEC) in terms of financial viability, institutional and social viability as well as efficiency. One of the key findings is that the three institutions are reaching the benchmarking achieved by African MFI'S.

The debate on mission drift still remains unsettled, and there is a clear need for more empirical studies that attempt to identify the patterns of profitability and outreach of Deposit Taking MFIs. The proposed study therefore aims to fill this knowledge gap by adding to the empirical evidence by establishing the relationship between outreach and financial performance of deposit taking MFIs in Kenya to attain profitability and the outreach to their clients. This study therefore seeks to provide answers to the question what is the relationship between outreach and financial performance of deposit taking MFIs in Kenya?

1.3 Research Objective

To establish the relationship between outreach and financial performance of deposit taking MFIs in Kenya.

1.4 Value of the Study

This study is for importance to the;

Microfinance Sector to gain understanding in the patterns of the financial performance and the objective of reaching the poor. It is also of benefit to the number of players in the Kenyan microfinance arena which will contribute to the knowledge of outreach to the poor.

Academicians the study will advance the literature on microfinance and is a basis for further research; few studies have been done assessing the outreach of MFIs in Kenya.

Government Findings for this study will also help the Government of Kenya in enacting policies that pertain to the running of Microfinance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The Chapter presents the relevant literature on the theories based on what have been brought forth by scholars explaining the relationship between Outreach and financial performance of Deposit taking MFIs in Kenya. It will bring a closer look on how these studies have identified the patterns of outreach and profitability of Deposit taking MFIs. Section five concludes the chapter.

2.2 Review of Theories

2.2.1 Transaction Cost Theory

Transaction cost approach to the theory of the firm was created by Ronald (1937) in his article "The Problem of Social Cost" "In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on". More succinctly transaction costs are: Search and information costs, bargaining and decision costs, and policing and enforcement costs. The transaction cost can be conceptualized as a nonfinancial cost incurred in credit delivery by the borrower and the lender before, during and after the disbursement of loan.

The cost incurred by the lender include; cost of searching for funds to loan, cost of designing credit contracts, cost of screening borrowers, assessing project feasibility, cost of scrutinizing loan application, cost of providing credit training to staff and borrowers,

and the cost of monitoring and putting into effect loan contracts. On the other hand, the borrowers that is SMEs for this case may incur cost ranging from cost associated in screening group member (group borrowing), cost of forming a group, cost of negotiating with the lender, cost of filling paper work, transportation to and from the financial institution, cost of time spent on project appraisal and cost of attending meetings, Bhatt and Shui-Yan (1998). The parties involved in a project will determine the transaction cost rate. They have the sole responsibility to reduce the risk they may come across, Stiglitz (1990).

2.2.2 Passive Learning Model

In the Passive Learning Model (PLM), Jovanic 1982 cited in Agaje (2004), a firm enters a market without knowing its own potential growth. Only after entry does the firm start to learn about the distribution of its own profitability based on information from realized profits. By continually updating such learning, the firm decides to expand, contract, or to exit. This learning model states that firms and managers of firms learn about their efficiency once they are established in the industry.

Firms expand their activities when managers observe that their estimation of managerial efficiency has understated actual levels of efficiency. As firm ages, the owner's estimation of efficiency becomes more accurate, decreasing the probability that the output will widely differ from one year to another. The implication of this theoretical model is that smaller and younger firms should have higher and more viable growth rates, Stranova (2001), Maloney (2001) and Goedhuys (2002).

2.2.3 Uniting Theory of Microfinance

The Uniting theory of microfinance emphasizes on joint liability. Ghatak and Guinnane (1999) reviewed the key mechanisms proposed by various theories through which joint liability could improve repayment rates and the welfare of credit-constrained borrowers. They established that all the theories have, in common, the idea that joint liability can help alleviate the major problems facing lenders i.e. screening, monitoring, auditing, and enforcement by utilizing the local information and social capital that exist among borrowers.

Under explicit joint liability, when one borrower cannot repay a loan, group members are contractually required to repay instead. Such repayments can be enforced through the threat of common punishment, typically the denial of future credit to all members of the defaulting group, or by drawing on a group savings fund that serves as collateral. Second, the perception of joint liability can be implicit. That is, borrowers believe that if a group member defaults, the whole group will become ineligible for future loans even if the lending contract does not specify this punishment.

2.3 Determinants of Financial Performance of Deposit Taking Micro Finance

2.3.1 Active Borrowers

Among the few studies that research the role of relationship lending in microfinance are Chakravarty & Shahriar (2010). In their study, the authors examine to what extent bank-borrower relationships impact the probability in the application and approval of microcredits. This study was conducted in Bangladesh and target 34 villages where borrowers of the Grameen Bank were interviewed on their relationship with the bank.

The results emanating from this enquiry indicate that borrowers with a longer membership with the Bank and those who have a track record of previous loans are more likely to apply for a microloan and to be approved.

Rosenberg (2009) stated that the number of active clients includes borrowers, depositors, and other clients who are currently accessing any financial services have to be considered as measure of breadth of outreach along with the share of women borrowers. The proxy for depth of outreach is the average loan size defined as the average gross loan portfolio divided by the number of active borrowers (Woller and Schreiner, 2000).

Lensink, Meesters and Hermes (2008) identified also Loan size as a proxy for the depth of outreach. Greater loan size usually means more profitability for the lender but less depth of outreach for the borrower. Of course, improvements in efficiency (or other innovations) can increase both depth of outreach and profitability. Because poorer borrowers cannot demonstrate and guarantee their creditworthiness as well as less-poor borrowers, however, efficient lenders must trade off depth of outreach against profitability.

The Financial Systems approach argues that microenterprise finance should be treated as part of financial system development to reach large numbers of people without continuing subsidies as it treats microenterprises as market-oriented endeavors offering a product with attributes clients want at a price that covers costs. The approach aims for financial viability of lending institution and stresses that savings are equal in importance to credit. Today, it is recognized that there has been a significant shift from the poverty

reduction to financial systems approach. Gonzalez Vega (2003) recognized that microfinance under poverty reduction approach which concentrates on reducing poverty reduction through subsidized credit programs cannot reach the poor households on a sustainable basis. The application of pure financial systems approach which emphasizes the financial sustainability may also result in the limited development of microfinance i.e. the exclusion of the very poor.

2.3.2 Average Loan Size

Defined as a self-sufficiency of an organization, financial performance is the key objectivity of every organisation. According to Morduch (1999) if the institution is not financially self-sufficient, it cannot survive without subsidies as it would not be able to cover its costs of capital at market rates. The Financial Self-Sufficiency ratio (FSS) = $\text{adjusted financial revenue} / (\text{adjusted financial expenses} + \text{adjusted loan loss provisions} + \text{adjusted operating expenses})$ measures the operating and financing costs of the Deposit Taking MFI against the income generated from its operations. When adjusted income is lower than adjusted costs, the FSS measure is below 100% and the DTMFI is defined as subsidy dependent. When adjusted income exceeds adjusted cost, the DTMFI is defined as self-sufficient (subsidy independent).

Repeated interactions with the same client creates an opportunity for the lender to benefit from inter-temporal information reusability (Greenbaum and Thakor, 1995) that may resolve Grossmann and Hart (1980)-type free-rider problems. Opposite to this, the “transaction-oriented banking” focuses on a single transaction with one or with various

clients rather than on information-intensive relationship with a particular customer (Boot and Thakor,2000).

2.3.3 Subsidy Dependence Index

Subsidy Dependence Index as an indicator of performance is also one of the major dimension for financial performance. Yaron and Manos (2007) defined the SDI as the measure of how much an MFI would have to increase its lending interest rate in order to cover all of its costs including adjustments. An SDI above zero means that the MFI still needs subsidy to operate i.e., it has not achieved financial sustainability. Credit is treated as the catalyst to the poor to organize to improve their socioeconomic welfare through very small, very short-term working capital loans that supply producers with cash flow to carry out subsistence-level economic activities.

According to Robinson, Marguerite (2001), the financial systems approach focuses on financial intermediation between the poor borrowers and savers on commercial basis. This approach lays its emphasis on the institutional self-sufficiency. Since the mid-1990s, the dominant paradigm within microfinance has been the “financial systems” or “institutionist” approach, which considers an industry dominated by large, profit-seeking microfinance institutions (Deposit taking MFIs) which meet their costs from interest and fee revenue, and obtain their capital from savings mobilization and commercial finance markets rather than subsidized donor funds.

2.4 Review of Empirical Studies

Various studies have been made in regards to the outreach and the financial performance of Deposit Taking MFIs.

Woller and Shreiner (2000) examine the 13 sample village banks and the direction of these relationships and found that financial self-sufficiency and depth of outreach are not inherently dichotomous. Rather, they have a complex, multidimensional relationship that depends on several factors, both direct and indirect. Moreover, financial self-sufficiency is itself driven by factors that may or may not facilitate deep outreach. Contrary to widespread beliefs, the empirical examination finds a robust positive relationship between financial self-sufficiency and depth of outreach (as proxied by the ratio of the average loan to per capita GNP).

ILO (2003) conducted a survey that included 128 women entrepreneurs in Tanzania on entrepreneurship and access to microcredit. The survey established that the women have made a significant contribution to employment. They created 983 jobs for themselves and others, of which 752 are fulltime, paid jobs (average of 5.9 per enterprise). The women have difficulties in accessing appropriate amounts of finance to enable them to establish and expand their enterprises, as 67 per cent depend on personal savings at start-up, and 79 per cent at the growth stage. They also see “financial ability” as an important and helpful contribution to the growth of their enterprises. Many women expand and grow by developing multiple enterprises: 30 per cent of the sample operates two enterprises, and 16 per cent have more than 2 enterprises. Out of the sample, 73 per cent had been in employment or in self-employment prior to starting their business, demonstrating that for many of the women enterprise development is a preferred career option, rather than a survival mechanism. Many women cite lack of awareness about associations as their reason for not being members, and only 25 per cent are in associations that mainly target women, while a further 7 per cent are in other business associations. The women

entrepreneurs seem to be aware of the importance of job quality in managing and maintaining their workforce. There have incremental improvements in some job quality issues between the time of start-up and the present. Furthermore, many more women entrepreneurs indicated their willingness to make additional improvements in job quality aspects.

Hartarska (2005) using average loan size as a proportion of GNP per capita concluded that institutions tend to achieve both financial self-sufficiency and better depth of outreach conditioned on the existence of an efficient board. Conning (1999) examines the contractual design issues faced by 72 microfinance organizations from the Microfinance bulletin an semi-annual bulletin published in 1998 by the Economics Institute and found that tradeoffs between outreach, sustainability and financial leverage are shaped by the endogenous monitoring and delegation costs that arise within a chain of agency relationships subject to moral hazard between borrowers, loan staff, MFO equity-owners, and outside investors. He argued that reaching the poorest of the poor is more costly than reaching other segments of the market even when there are no fixed lending costs, and that leverage may be much harder to achieve for MFOs that target the ‘low-end’ of the market.

Further, Cull et al. (2007) used the most extensive dataset in analyzing the financial performance and outreach in a large comparative study for 124 microfinance institutions in 49 countries. The authors explicitly explore whether there is empirical evidence for a trade-off between the depth of outreach and profitability by examining whether more

profitability is associated with a lower depth of outreach to the poor, and whether there is a deliberate move away from serving poor clients to wealthier clients in order to achieve higher financial sustainability (mission drift). Their findings are that some institutions in the sample have achieved both satisfactory outreach as well as profitability, and that simple correlations for the whole sample do not provide evidence of mission drift (correlation between average loan size and profitability measures is not statistically significant). Mersland and Strom (2009), use a self constructed global data set on Deposit taking MFIs spanning 57 countries collected from third-party rating agencies. The authors study the effect of board characteristics, ownership type, competition and regulation on the Deposit taking MFIs outreach to poor clients and its financial performance. They conclude that there is no difference between nonprofits organizations and shareholder firms in financial performance and outreach. Unlike Cull et al. (2007), Mersland and Strom do not disaggregate their analysis by lending methodology. They find that on an aggregate level, average loan sizes do not increase as the Deposit taking MFIs become older. They use average profits and average costs per credit client as regressors, and find that cost efficiency is important in determining outreach.

Lensik et al., (2008) focused on the relationship between outreach and efficiency of Deposit taking MFIs They used stochastic frontier analysis to examine whether there is a trade-off between outreach to the poor and efficiency of microfinance institutions. Using a sample of more than 1300 observations, the key finding is that outreach and efficiency of Deposit taking MFIs are negatively correlated and argued that efficiency of Deposit taking MFIs is higher if they focus less on the poor and/or reduce the percentage of female borrowers. At country level, Bereket and Rani (2009) analyzed the existence of a

tradeoff between outreach and financial sustainability for Deposit taking MFIs based on data on 85 Indian Deposit taking MFIs using correlation matrix. In this regard, the finding of this study did not support a tradeoff between outreach and financial sustainability more specifically the simple correlation between average loan size (proxy to depth of outreach) and operational sustainability was found to be weak.

In Africa, studies have also been done on matters related to performance of fund managers though not many . Adongo and Stork (2005) in a study of the factors influencing the financial sustainability of selected Microfinance Institutions in Namibia found that degree of financial unsustainability was lowest for term micro-lenders and was highest for multi-purpose co-operatives involved in the provision of microfinance. They did not find evidence that a lower per capita income in the microfinance target group will hinder the financial sustainability of the selected microfinance institutions. Annim (2009) studied the financial sustainability versus targeting the poor: evidence of microfinance institutions in Ghana using a total of 16 microfinance institution. The main finding of the study upheld skeptic's view of a trade-off and revealed the effect of source of funds and other institutional characteristics in targeting poor clients. The quantitative exposition clearly showed institutional inability to mutually operate competitively and reach poorer clients.

Olu (2009) also conducted a study to investigate the impact of microfinance on development of small scale enterprises that are craving for growth and development in a stiffened economy of Nigeria. The researcher used a questionnaire as an instrument of primary data collection. Tables and simple percentages were used in data presentation. The study revealed that microfinance institutions are evident tools for entrepreneurship

development due to the various services they offer and the role they perform towards the development of the economy. Not overlooking the various challenges that affect microfinance operations, the current banking reforms introduced by the Central Bank of Nigeria (C.B.N.) Governor is a welcome development as its employment is set to fortify the microfinance institutions meaningfully to entrepreneurship development in the country. Microfinance institutions world over and especially in Nigeria are identified to be one of the key players in the financial industry that have positively affected individuals, business organizations, other financial institutions, the government and the economy at large through the services they offer and the functions they perform in the economy. It is expected that with the current reforms put in place by the Federal Government through its regulatory authorities, microfinance institutions in Nigeria will be able to compete favorably in the global market and gainfully increase entrepreneurship development in Nigeria.

The study further established that microfinance institutions have positive relationship with the Nigerian economy represented by expanded GDP. Although, interest rate is not significantly influential, the results of findings of the study can still be summarized that the microfinance institutions and their activities go a long way in the determination of the pattern and level of economic activities and development in the Nigerian economy.

Amelie (2009) conducted an empirical study on the impact of microfinance institutions on development in African and Asian countries. The study used data of MFIs operating in selected countries and chose average savings and loan balances per client as proxies for development which indicated that there is empirical evidence for significant positive impact of microfinance institutions on development. The study further established that

microcredit is the most robust mechanism to enhance development in recent years. While an MFI's size is mostly irrelevant, its experience was found to be especially enhancing for the amount of credit granted to the poor. Savings was found to be the best estimator for development in recent years, yet a structural break between 2003 and 2006 is possible. While African development is generally in arrears compared to Asia, there is no statistical evidence for differences in the marginal impact of microfinance institutions subject to geographical positions, which allows for the conclusion of environment independent positive impact of microfinance institutions on development in low-income countries.

Stewart et al (2010) also conducted an empirical survey on the impact of microfinance on poor people. This survey used evidence from Sub-Saharan Africa by adopting user involvement methodology. The study involved four groups of users: those who make policy decisions related to microfinance services in Sub-Saharan Africa (SSA); those who provide microfinance services in SSA; those who research microfinance services in SSA and those who use microfinance services in SSA. The study established that there is some evidence that microfinance enables poor people to be better placed to deal with shocks, but this is not universal; the emphasis on reaching the 'poorest of the poor' may be flawed particularly if it just makes them poorer; there may be a need to focus more specifically on providing loans to entrepreneurs, rather than treating everyone as a potential entrepreneur; Micro-savings may be a better model than microcredit, both theoretically (because it does not require an increase in income to pay high interest rates and so implications of failure are not so high) and based on the currently available evidence. They concluded that the evidence on micro-savings is small and further

rigorous evaluation is needed. The rhetoric around microfinance is problematic and damaging.

Brau and Woller (2010) also carried out an empirical study to establish the effects of microfinance in India. The study concluded that microfinance has brought better psychological and social empowerment than economic empowerment. The study further recommended that the impact of microfinance is commendable in courage, self-confidence, self worthiness, skill development, awareness about environment, peace in the family, reduction of poverty improving rural savings, managerial ability decision making process and group management. In other variables the impact is moderate. As a result of participation in microfinance, there is observed a significant improvement of managerial skills, psychological well being and social empowerment. It is recommended that the SHGs may be granted legal status to enhance the performance.

Hospes et al., (2002) did an evaluation of Micro-Finance Programmes in Kenya as Supported through the Dutch Co-Financing Programme. The evaluation was a synthesis of several studies and working documents prepared by (order of) the general coordinator and two senior Kenyan consultants. Micro-finance was identified as one of the key areas for evaluation research on poverty alleviation. There were several reasons for this: first of all, in the international and changing world of development cooperation, micro-finance is increasingly seen as a highly potential and modern tool to address poverty. Second, new lessons and philosophies underlying micro-finance programmes have brought many to seriously question donor-driven and charity-based support modalities. Third, the

increased attention to micro-finance has led to a great variety of studies and methodologies on impact assessments.

Mokogi (2003) carried out a study in Kenya to establish whether credit schemes administered by MFIs have an impact on micro and small enterprises (MSEs) performance in terms of parameters such as sales, net income, fixed assets, number of employees, and space occupied by the business. The study also sought to establish whether MSEs which participate in the MFI credit schemes graduate to borrow from commercial banks upon attaining higher loan levels than those offered by MFIs and the rate of graduation. The study concluded that MFI credit schemes have an impact on the performance of MSEs as measured by parameters such as sales, net income, fixed assets, number of employees, and space occupied by the business. The research further concluded that the relationship of the loans and the period was direct to the performance of the MSEs. The research also discovered that the more the number of loans and the longer the period, the higher the impact. Moreover, the graduation rate was low.

Locally, a study made by Paul Kurgat (2009) on the Role of Savings in Microfinance Institutions for the Kenya Women Finance Trust-Deposit taking and analyzed if savings foster institution's financial performance and outreach. The results indicated strong relationship between savings balances and active savings clients at 1% level of significance ($p=99.2\%$). Variation of savings balances (SB) have no significant influence on financial performance (ROA). He concluded that the KWTF demonstrates good outreach with improved performance.

Nilsson (2010) conducted a study to investigate the Impact of Micro Finance Institutions (MFIs) in the Development of Small and Medium Size Businesses (SMEs) in Cameroon.

The study adopted a case study approach that involved CAMCCUL- (Cameroon Cooperative Credit Union League). The study concluded that microfinance is an important asset to developing countries since it is able to cater for the financing needs of the very poor in the society. Small Industries Development Bank of India (2008) completed a survey that adopted a census approach. The study critically examined the entire National microfinance sector in India on the impact of microfinance programmes. It established that microfinance has assisted many small enterprises to prosper.

Memba et al., (2012) conducted a study to establish the impact of Venture Capital on the growth of SMEs in Kenya. The study argued that lack of finance has been stated as one of the main reasons why SMEs do not perform well in most developing countries. The study collected data from SMEs before and use of Venture capital finance. The study established that SMEs made significant growth after accessing the financing and recommended that other SMEs should also follow suit.

2.5 Summary of Literature Review

The literature reviewed above noted that Deposit taking MFIs could be examined through two main polar: outreach to the poor and financial sustainability. The term financial performance is mostly used interchangeably with other concepts like profitability, financial self-sustainability, financial efficiency, self-sufficiency, financial viability; financial performance. This study uses the term financial performance to mean the ability of Deposit taking MFIs to exist indefinitely by generating returns (“*ceteris paribus*”) while providing financial services

The empirical studies identified that the shift in emphasis of Deposit taking MFIs into viable financial institutions while maintaining greater outreach to the poor is considered as the main challenge to Deposit taking MFIs. Studies have been done on the area of assessing financial performance of Deposit taking MFIs and the relationship between Outreach and Financial Performance for Asia Deposit taking MFIs, for Namibia, Ethiopia (Kereta 2007) and Ouganda and Kenya for KWTF institution (Kurgat 2009). Deposit taking MFIs giving varied results, some showing a strong relationship between the two objectives (Bereket and Rani, 2009) but disapproved by other scholars . The Poverty Reduction Mission of Microfinance or the ‘win-win’ proposal, where increased institutional sustainability leads to increased alleviation of poverty, has created significant debate within the sector (Morduch, 2000). Thus this study is justified by this lack of empirical study at the country level on the relationship between outreach and Financial Performance of Deposit taking MFIs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this section the researcher has discussed the research design that was used to conduct this study. The researcher has also made an elaborate discussion on the population that was targeted, the sample size that was involved in the study and the sampling design that was used to arrive at the required sample size. The study also looked at the type of instruments that was used to collect data and how the same was analyzed and presented.

3.2 Research Design

This study applied descriptive and correlation methods to study using secondary data ,where it examined the relationship between outreach and financial performance of Deposit taking MFIs in Kenya whereby both qualitative and quantitative approaches to data analysis was employed. Research Design is a logical and systematic plan for directing a research study, It specifies the objectives of the study, the methodology and techniques adopted for achieving the objective(s) (Mugenda and Mugenda, 2003).

3.3 Population

The target population was the nine deposit taking MFIs members in Kenya (the official association of Deposit taking MFIs institutions in Kenya, 2012) registered at end June 2013 at the Central Bank of Kenya (CBK) which supervise the activities of Microfinance sector in Kenya, moreover lending as the analysis on average loan sizes and share of borrowers is on the account.

3.4 Data Collection

Secondary data was collected for this study, for the purpose of analyzing the relationship between outreach and financial performance for the nine deposit taking Microfinance institutions. The patterns in the data were identified and useful inferences therefore studied with a regression approach. These dataset include: Return on Assets as a proxy for the profitability of the Deposit taking MFIs. The average loan size as proxy for the depth of outreach as smaller average loan size is taken as an indication of better outreach to the poor (Robert Cull et al., 2007): the number of active borrowers and the share of borrowers as a proxy for breadth of outreach.

The dataset was drawn from the Financial Statements of each of the deposit taking MFI under study throughout the period of study 2009 to 2013 and sourced from the Management of the institutions. The computer program aided analysis for this study which was done using the statistical package for the social sciences (SPSS) version 17.

3.5 Data Analysis

Quantitative data collected was analyzed by the use of descriptive statistics using SPSS and presented through percentages, means, standard deviations and frequencies. The information was displayed by use of bar charts, graphs and pie charts and in prose-form. This was done by tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives and assumptions through use of SPSS.

3.5.1 Analytical Model

The regression model is the following:

$$ROA_i = \beta_0 + \beta_1 NAB_i + \beta_2 ALS_i + \beta_3 NB_i + E_i$$

Where:

ROA is the measure of financial performance in period i

NAB is the number of active borrowers measured in the logarithm of the aggregate number of active borrowers for period i

ALS is the average loan size measured in the logarithm of the average loan size of active borrowers for period i

NB is the number of new borrowers measured in the logarithm of the number of new borrowers for period i

E is the error term of the test equation.

The USAID Microenterprise Development Office in its “Microfinance Financial Reporting Standards” recommends the use of ROA and ROE as measures of MFI profitability. Using SPSS, the regression model tested how well it fits the data. The significance of each independent variable was tested. Fischer distribution test called F-test was applied. It refers to the ratio between the model mean square divided by the error mean square. F-test was used to test the significance of the overall model at a 95 percent confidence level. The p-value for the F-statistic was applied in determining the robustness of the model. The conclusion was based on the basis of F calculated and F-critical where if the null hypothesis of the beta is rejected then the overall model was significant (if the p-value is less than 0.05) and if null hypothesis is accepted (If the p-value is greater than 0.05) the overall model was insignificant and cannot be used to explain the variations in the dependent variable.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presented the data findings on the relationship between outreach and financial performance of deposit taking micro finance institutions in Kenya. Secondary data collected from the DTMs offices in Kenya. The sample size consisted of the selected 9 MFIs for which outreach data was available for the five-year period but data for some DTMs covered period less than 5 years as they were registered within the period.

The dataset collected was on profitability ratios, outreach (both aggregate account holders and clients account owners) and loan portfolio/size. Multiple linear regression analysis was used in analysis which was combined with used of Pearson Correlation, coefficient of determination and analysis of variance (ANOVA).

4.2 Descriptive Statistics

The study sought to determine the distribution of the dataset used for the consequent, year-on-year averages are indicative of a positive relationship between outreach and performance, size and opportunity upon regression analysis.

Table 4.1: Annual averages of key MFIs statistics

Year	Profit Before Tax	Gross Assets	Return on Assets (%)	Average Loan size	New Borrowers
2009	1,179	46,026	2.27%	4,037	31,296
2010	1,455	58,087	2.30%	5,044	34,833
2011	1,970	66,585	2.82%	5,867	39,882
2012	2,623	69,064	3.64%	8,453	48,327
2013	3,372	87,624	3.86%	11,488	62,009

Source: Central Bank of Kenya

From the data sample of the 9 MFIs adopted in the study, the average outreach was generally on the rise for the five year period 2009 to 2013 accompanied by a similar rise in outreach volatility as reflected by the increasing standard deviation. The same can be said of the explanatory variables with the exception of number of new borrowers which witnessed a three year dip before leveling out at generally higher levels in 2013. From table 4.2 below it can generally be deduced that outreach rose in tandem with a rising lending base and increasing performance as measured by return on assets.

Table 4.2: Descriptive statistics of key variables for the entire sector

	Outreach		Size (Lending)		ROA		Number of Borrowers	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
2009	1,684,600	2,308,207	1,296	1,015	0.0227	0.0126	0.0572	0.0528
2010	3,435,800	6,100,607	4,833	2,925	0.0230	0.0114	0.0489	0.0273
2011	5,131,800	7,764,245	9,182	8,024	0.0282	0.0115	0.0488	0.0171
2012	5,305,900	9,984,492	9,327	9,157	0.0364	0.0082	0.0910	0.0949
2013	7,201,700	99,597,258	9,409	8,863	0.0386	0.0124	0.0791	0.0529
PERF*	14.54%		18.64%		14.16%		8.43%	

***PERF- Compounded annual**

Performance

The mean outreach for the top-tier MFIs with the largest lending base, witnessed a gradual incline over the five year period to 2013 along with the marked increase in Clients lending base, asset returns and lendings. Mean outreach only grew by 8.66% while mean lending base grew by 14.2% on a compounded annual growth basis as shown in table 4.3 below.

Table 4.3: Descriptive statistics of key variables for the top-tier MFIs

	Client Outreach		Size (Lending base)		ROA	Std	Number of new borrowers	
	Mean	Std Dev	Mean	Std Dev	Mean	Dev	Mean	Std Dev
2009	2,308,207	1,684,600	51,814	21,371	0.0233	0.0180	0.0242	0.0302
2010	6,100,607	3,435,800	55,303	21,313	0.0234	0.0137	0.0436	0.0317
2011	7,764,245	5,131,800	61,410	24,565	0.0264	0.0127	0.0394	0.0171
2012	9,984,492	5,305,900	71,615	28,510	0.0374	0.0100	0.0460	0.0183
2013	99,597,258	7,201,700	88,110	28,575	0.0352	0.0134	0.0630	0.0361
PERF*	8.66%		14.19%		10.91%		27.03%	

***PERF- Compounded annual**

Performance

The mean outreach for the bottom-tier MFIs rose considerably over the five year period to 2010 with an equally considerable increase in lending base and asset returns. The outreach grew at a much faster rate compared to top-tier MFIs of 23.37% while the growth in borrowers was also high at 35.1% as indicated in table 4.4.

Table 4.4: Descriptive statistics of key variables for the bottom-tier MFIs

	Client Outreach		Size (Lending base)		ROA		Number of new borrowers	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
2009	985,800	136,625	10,777	3,687	0.0222	0.0053	0.0902	0.0513
2010	1,613,400	1,288,128	14,364	3,233	0.0225	0.0103	0.0543	0.0246
2011	2,625,600	1,348,251	18,354	2,230	0.0300	0.0113	0.0583	0.0120
2012	5,984,400	4,127,819	25,039	3,952	0.0354	0.0071	0.1360	0.1218
2013	7,790,400	6,595,579	35,907	7,767	0.0420	0.0118	0.0952	0.0660
PERF*	23.37%		35.10%		17.28%		1.34%	

*PERF- Compounded annual

Performance

From the above descriptive statistics it can generally be deduced that the for the bigger MFIs outreach appears to have grown in tandem with returns and future opportunity, as measured by borrowers, whereas for the relatively smaller MFIs outreach growth outpaced growth in MFIs returns and future growth prospects.

4.2 Correlation Analysis

The Pearson's coefficient was used to verify the existence or non-existence of linear correlation between and among the quantitative variables as indicated above. Emolument and size do exhibit a somewhat strong link. However, there is little evidence of

multicollinearity among the explanatory variables since the correlations among them are not very strong hence all the variables can be incorporated into the subsequent regression analysis.

Table 4.5: Pearson Correlation Matrix

Variables	Outreach	Average loan size	New Borrowers	Profitability
Outreach	1.000			
Average loan size	0.117	1.000		
Number of new borrowers	0.265	0.214	1.000	
Profitability	0.537	0.406	-0.222	1.000

The study sought to establish the relationship between profitability, outreach as measured by the number of active borrowers, average loan size, number of new borrowers. The findings revealed that all the other independent variables were positively correlated with profitability. On average, a moderate relationship was established given a Pearson correlation coefficient of between -0.222 and 0.537. However, a stronger relationship was established between customer outreach and profitability given a coefficient of 0.537; this was followed by Average loan size at 0.406. This depicts that the more customers an MFI get the more profitable they become as they make much more profits per each shilling spent on assets.

Table 4.6: Pearson Correlation Matrix

Variables	Outreach	Average loan size	New Borrowers	Profitability
Outreach	1.000			
Average loan size	0.878	1.000		
Number of new borrowers	0.102	-0.178	1.000	
Profitability	0.424	0.345	0.389	1.000

Pearson correlation test was also run on the 2013 dataset so as to establish the relationship between independent and dependent variable. The results shows that outreach (0.424) and average loan size (0.345) had a positive relationship with profitability. New borrowers (0.389) were positively related with profitability. This further reinforce the fact that outreach and average loan size are positively associated with profitability meaning that through increasing an MFI's market share and giving out more loans do they get more profitable.

4.3 Regression Analyses

The study conducted regression analysis to determine the relationship between loan outreach and financial performance of MFIs in Kenya. While performance was indicated by the profitability, outreach was measured by number of active borrowers, average loan size and number of new borrowers. The regression analysis was of the form:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + \varepsilon$$

Where Y was the dependent variable profitability (ROA), X_1 was outreach, X_2 was average loan size and X_3 was number of new borrowers,. A was the model intercept while ϵ was the regression significance got from f-significance in the ANOVA.

4.3.1 Average Regression Analysis

Table 4.7: Goodness of Fit Statistics

Observations	42.000
DF	36.000
R ²	0.412
Adjusted R ²	0.330
DW	2.114

Determination coefficients (R^2) were also carried out to determine the strength of the relationship between independent and dependent variables. The study established an adjusted R^2 of 0.330. This illustrates a moderate relationship between the two. Durbin Watson test was also run to establish if the model would be affected by autocorrelation. Since the DW value of 2.114 was close to 2, then it can be concluded that there was no autocorrelation among the model residual.

Table 4.8: Analysis of Variance (ANOVA)

Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	5	17421.092	3484.218	5.043	0.001
Error	36	24873.945	690.943		
Corrected Total	41	42295.037			

The study used ANOVA statistics to establish the significance of the relationship between performance and MFI's outreach discussed above. The regression model is

significant given an f-significance of 0.001. This point to prediction made from the regression coefficient being liable to 0.1% error (99.9% confidence level).

Table 4.9: Regression Coefficients

Source	Value	Standard error	t	Pr > t
Intercept	1.484	48.553	4.067	0.000
Outreach	41.580	8.555	4.860	< 0.0001
Average loan size	19.010	7.459	2.549	0.015
Number of new borrowers	0.005	0.005	1.006	0.021

From the regression analysis, the following model was established:

$$\text{Profitability (ROA)} = 1.484 + 41.580 \cdot \text{Outreach} + 19.010 \cdot \text{Average Loan Size} + 0.005 \cdot \text{Number of New Borrowers}$$

The findings, thus, indicates that taking all the independent variables (Outreach, average loan size and number of new borrowers) at null value, the profitability would be 1.484. This means that the MFIs would incur perform poorly without outreach. The regression model further shows that, holding other factors constant, a unit increase in the logarithm of the average loan size would lead to a 19.010 increase in profitability, a unit increase in number of new borrowers would lead to a 0.070 increase in profitability and a unit increase in the logarithm of outreach would lead to a 41.580 increase in profitability. This depicts that of the three independent variables, outreach would have the highest positive impact of MFI's performance. Figure 4.1 below presents a diagrammatical presentation

of these coefficients. In the Figure, the study checked for any outlier that might have affected the regression model. Being that there were no divergent scatter points, then the data exhibited homoscedasticity depicting that the variables had constant variance.

Figure 4.1: Profitability/Standardized Residuals

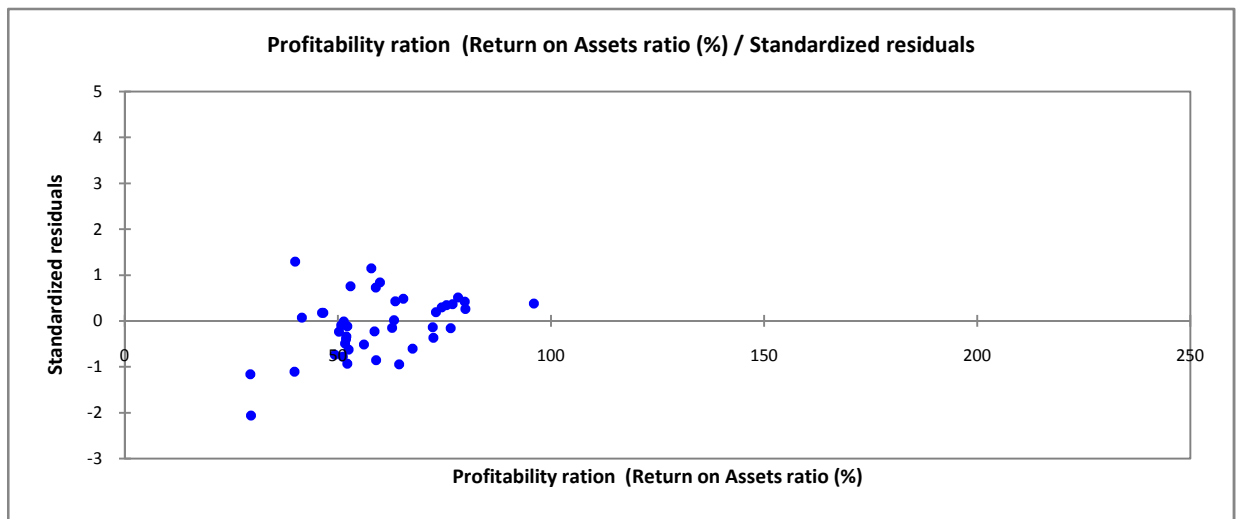


Table 4.10: Goodness of fit statistics

Observations	42
DF	36
R ²	0.318
Adjusted R ²	0.223
DW	2.114

Determination coefficient (R²) was also carried out to determine the strength of the relationship between independent and dependent variables. The study established an adjusted R² of 0.223. This illustrates a weak relationship between performance and outreach. The Durbin Watson value was 2.114 depicting that there was no autocorrelation among the model residual.

Table 4.11: Analysis of Variance (ANOVA)

Source	DF	Sum of squares	Mean Squares	F	Pr > F
Model	5	3383.298	676.660	3.358	0.014
Error	36	7253.843	201.496		
Corrected Total	41	10637.141			

From the ANOVA statistics used to established regression model significance, an f-significance value of 0.014 was established. This point to prediction made from the regression coefficient being liable to 1.4% error (95% confidence level).

Table 4.12: Regression Model Coefficient

Source	Value	Standard Error	t	Pr > t
Intercept	2.507	666.490	1.093	0.001
Outreach	53.764	154.032	0.349	0.029
Average loan size	15.506	149.752	0.104	0.018
Number of new borrowers	2.504	5.256	0.476	0.037

From the regression analysis, the following model was established:

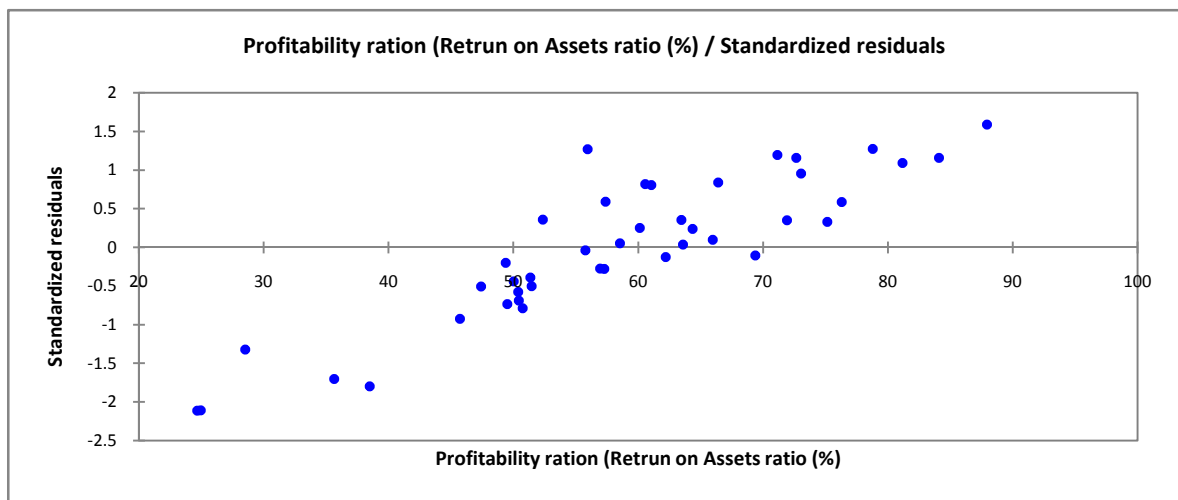
Profitability = 2.507 + 53.764*Outreach + 15.506*Average loan size + 2.504*Number of new borrowers

This illustrates that when all the independent variables values are null, then the profitability becomes 2.507. Holding other variables constant, a unit increase in the logarithm of outreach would lead to a 53.764 increase in profitability, a unit increase in the logarithm of average loan size would lead to a 15.506 increase in profitability, a unit increase in number of new borrowers would lead to a 2.504 increase in profitability. This

depicts that all these independent variables would lead to a higher performance given the increase in ROA.

The study checked for any outlier that might have affected the regression model in Figure 4.1. Being that there were no divergent scatter points, then the data exhibited homoscedasticity depicting that the variables had constant variance.

Figure 4.2: Profitability/Standardized Residuals



The study finding established that the regression results for all the 9 DTMs constituting the sample, i.e. total sector, reveal that outreach is positively and significantly related to the performance. Although the coefficients did not yield significant results they were found to be inversely related to outreach contrary to the expectations of a positive relationship. This was contrary to the findings of Main et al (1996) who found a strong positive relationship between increasing shareholder wealth and outreach.

4.4 Chapter Summary

From the study findings, the study summarizes that on measuring the relationship between outreach and financial performance of microfinance sector in Kenya, average

loan size, new borrowers, yielded a positive significant relationship to financial performance. Good linear relationship between performance and outreach generally points at the contribution of customer deposits to the financial performance of DTMS. The study also broke down the MFIs sample into two segments based on their size to assess whether there were any differences in the response of outreach to the explanatory variables between the largest MFIs (top-tier) and their relatively smaller counterparts (bottom-tier) in terms of customer lending base.

In the case of the top-tier MFIs, relative performance to industry ROA and number of new borrowers were found to be positively and significantly related to outreach. This implies that performance and opportunity are key variables in explaining outreach thus for very large MFIs outreach is positively linked to performance and opportunity though the exhibited trends similar to for the entire sector with performance being positively and significantly related to outreach. Given that there is a weak link, as indicated by higher p-values, between performance and outreach the results appear to suggest that for the totally poorly performing MFIs are susceptible to low borrowers. For the bigger MFIs, size has been growing much faster than outreach whereas for the smaller MFIs outreach is growing at a much faster pace, consequently the inverse relationship between size and outreach.

CHAPTER FIVE

SUMMARY OF FINDINGS, INTERPRETATION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents discussions of the key findings presented in chapter four, conclusions drawn based on such findings and recommendations there-to. This chapter is, thus, structured into discussions, conclusions, recommendations and areas for further research.

5.2 Summary

The study finds a positive significant relationship between outreach and MFIs performance and further recommends that there is need to reign in the outreach tendencies. Moreover, the study summarizes that without length of outreach, a microfinance organization may improve social welfare in the short term but may lack the ability to do so in the long term. The study contends that a perpetual source of support can allow a microfinance organization to achieve length of outreach without sustainability.

Finally, Scope of outreach is the number of types of financial contracts offered by a microfinance organization. In conclusion, the aspects referred above are interlinked because depth is the social value of worth to users minus cost to users and the total Outreach is worth minus cost, weighted by depth, summed across breadth of users and scope of contracts, and discounted through length of time. In the large MFIs, size is a key

criteria in determining outreach as it is significantly and positively related to outreach. The positive correlation appears to suggest the capping of outreach to ensure maximization of returns to performance.

5.3 Conclusions

This study investigated the relationship between outreach and financial performance of microfinance sector in Kenya as determined by average loan size, net borrowers and yielded a positive significant relationship to outreach. A strong positive relationship was established between outreach and financial performance of the DTMFIs as result of the effort put in place by the MFIs in extending loans and financial services to draw an even more wider audience.

The study also broke down the MFIs sample into two segments based on their size to assess whether there were any differences in the response of outreach to the explanatory variables between the largest MFIs (Top-tier) and their relatively smaller counter parts (bottom-tier) in terms of customer lending base. In the case of the top-tier MFIs, relative performance to industry ROE and net number of new borrowers were found to be positively and significantly related to outreach.

5.4 Recommendations

The study between outreach and financial performance of DTMIIs established positive relationship thus more training should be offered to the clients who are been serviced with loans; use of outreach to draw a more wider audience and policies to be put in place to weed out fraudsters.

5.5 Limitations of the study

The target population in this study consisted of deposit taking microfinance institutions in Kenya that were fully registered with Central Bank of Kenya, this left out the larger Population of non deposit taking microfinance institutions and other financial institutions such as SACCOs, Insurance companies who have also established outreach in their operations.

The study results are also limited since it did not address the role of human resource and motivation aspect on outreach and financial performance of DTMIs. Therefore, failure to use non financial measures of performance implies that the measurement of financial performance was narrow.

The study was also restricted to a short period of time i.e. 2009-2013. This is the period in which DTMs have been in operation after obtaining license from Central bank of Kenya. This period may therefore not give a true and fair picture of the effect of Outreach on financial performance of DTMs in Kenya.

5.6 Suggestions for Further Study

There is need for further studies to carry out similar tests for a longer time period. A similar study should also be carried out on MFIs with total income (interest and non-interest income) as the proxy for size to try and assess whether the relationship between outreach and financial performance is drastically altered by the change of variables. Given that a good chunk of the studies touch on outreach and financial performance, there is need to ascertain the relationship between the outreach and financial performance of all MFIs in Kenya.

REFERENCES

- Adongo,C., & Stork, A. (2005). *Factors influencing the financial sustainability of selected microfinance institutions in Namibia*. NEPRU Research Report No 38, ISSN 1026.
- Allen, D. (1999). Transaction cost, property rights and coase: One more time. *Research in Law and Economics*. Available at: www.mendeley.com
- Armendariz de Aghion, B., & Labie M (2010). *Handbook of Microfinance*. London. The International bank for reconstruction and development. The World Bank .
- Armendariz de Aghion, B. & Morduch, J. (2005). *The economics of microfinance*, Cambridge, MA: The MIT Press.
- Ashcroft, M., Djoji D., and Ndikumana, L. (2007). Microfinance au Burundi, Diagnostic et recommandations stratégiques. *Women's World Banking*, Working Paper.
- Beck, T.H.L., Demirgüç-Kunt, A. , Levine, R. (2007). Finance, inequality and the poor. Open Access publications from Tilburg University Published in *Journal of Economic Growth* (2007) v.12, p.27-49.
- Benston, G.J., & Smith, W. (1976). A transaction costs approach to the theory of financial intermediation. *Journal of Finance*. 31, No 2 ,215-231.
- Bereket, Z., & Rani, L (2009). Is there a tradeoff between outreach and sustainability of micro finance institutions? Evidence from Indian Microfinance Institutions. *Research Journal of Finance and Accounting*, 2, No 11, 2011.
- Central Bank of Kenya (2011). *Annual Report July 2012-June 2013*. Government Printers, Nairobi, Kenya.
- Coase, R.H. (1960). The problem of social cost, *Journal of Law and Economics*. University of Chicago Press , 3, 1-44.
- Conning, J. (1999). Outreach, sustainability and leverage in monitored and peer-monitored lending. *Journal of Development Economics*, 60, 51–77.
- Eisenhardt, K.M. (1989). Agency theory: an assessment and review. *Academy of Management Review*, 14, 57-74.
- Gonzalez-Vega, C., Schreiner, M., Meyer, R., & Navajas S., (1996) BANCOSOL The challenge of growth for microfinance organizations by May, *Economics and Sociology Occasional Paper* No. 2332. The Ohio State University.

- Hartarska, V. (2004). *Governance and performance of microfinance institutions in Central and Eastern Europe and the Newly Independent States*. William Davidson Institute Working Paper No 677.
- Hermes, N., Lensink, R. (2007). The empirics of microfinance: what do we know?. *The Economic Journal*, 117 (517), F1-F10.
- Hirschland, M., Jazayeri, A. & Lee, N., (2008). *Reaching the Hard to Reach : Comparative study of member-owned financial institutions in remote rural areas*. Coady International Institute, St Francis Xavier University, Antigonish, Canada.
- Hoff, K., Braverman, A., & Stiglitz J. (1993). *The economics of rural organization*. Theory, practice and policy. New York, Oxford University Press.
- International Monetary Fund. (2010). *Burundi poverty reduction strategy paper, implementation report* International Monetary Fund. Country Report No. 10/312
- Jensen, M. C. & Mecling, W. H. (1976). Theory of the Firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305-360.
- Kurgat, P.(2009). The role of savings in microfinance institutions : A case study of the KWFT. *6th University Meets the Markets Workshop*, Nairobi.
- Lafourcade, A.C., Isern, J., Mwangi, P. & Brown, M. (2005). *Overview of the outreach and financial performance of microfinance institutions in Africa*. Microfinance Information Exchange (MIX).
- Ledgerwood, J. (1999). *Microfinance handbook: An institutional and financial perspective*. World Bank: Washington, D.C.
- Lensink R., Meesters A, & Hermes, N (2008). “*Outreach and Efficiency of Microfinance Institutions: is there a trade-off?*”, *World Development* (2011), 39, Issue: 6, 938-948.
- Mersland, R., & Strom, A. (2007). Performance and corporate governance in microfinance institutions. *Journal of Banking and Finance*, 33,4, 662-669.
- Meyer, R.L. (2002). Track Record of financial institutions in assisting the poor in Asia. *ADB institute research paper* , 49.
- Morduch, J.(1999). The Microfinance Promise. *Journal of Economic literature* , 37, 1569- 1614.
- Mugenda, M O. & Mugenda, A.G. (2003) *Research Methods*. Qualitative and Quantitative Approach, Nairobi, ACTS Press.
- Murdoch, J (2000). The Microfinance schism. *World Development*, Vol. 28, 617-629.

- Nagarajan, G., Meyer, R. L., Dunn, E. (2000). Measuring Depth of Outreach: Tools for Microfinance. Bangladesh Development Studies, *Special Edition on Poverty*, Ed. Shahidur Khan.
- Mwangi Kiarie (2012). Microcredit and the Poorest of the Poor: Theory and Evidence from the NSE, *World Development*, Vol. 28.
- Niyongabo, E. (2006). La recherche de pérennité par les institutions de microfinance au Burundi. Trois études de cas : FENACOBUR, CECM et COSPEC à Cibitoke, DEA Thesis, Université Libre de Louvain.
- Portes, A. & Haller, W. (2005). The Informal Economy, in: N. Smelser and R. Swedberg (eds.), handbook of economic sociology, 2nd edition, Russell Sage Foundation.
- Rhyne, E., & Otero, M. (1991). A Financial Systems Approach to Microenterprises. USAID, Bureau for Asia and Private Enterprise, Office of Small, Micro, and Informal Enterprise, (GEMINI) Project.
- Rindfleisch, A., Heide, J.B. (1997). Transaction Costs Analysis, Past, Present and Future Applications. *Journal of Marketing*, 61,4.
- Robinson, M.S (2001). *The Microfinance Revolution, Sustainable Finance for the Poor, Lessons from Indonesia: The Emerging Industry*. The World Bank, Washington D.C.
- Rosenberg, R. (2009). *Measuring Results of Microfinance Institutions Minimum Indicators That Donor and Investors Should Track A Technical Guide Richard*". Consultative Group to Assist the Poor, The World Bank
- Schreiner, M. (1996). *Measuring the Sustainability of Microfinance Institutions with Application to Bolivia*, Intl. Rural Finance Seminar Series. The Ohio State.
- Stiglitz, J.E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *American Economic Review*, 71 (3), 393-410.
- United Nations Capital Development Funds "UNCDF" (2006). Core Performance Indicators for Microfinance.
- USAID. (2005). *Microfinance Financial Reporting Standards: Measuring Performance of Microfinance Institutions*.
- Williamson, O.E. (1996). *The Mechanisms of Governance*. Oxford University Press.
- Woller, G., & Schreiner, M. (2000). Poverty lending, financial self-sufficiency and the six aspects of outreach. SEEP Network.

Yaron, J. & Manos, R., (2007), 'Determining the Self Sufficiency of Microfinance Institutions, *Savings & Development*, No. 2, 131-160.

APPENDICES

Appendix I: List of Deposit Taking Microfinance Institutions Licensed by Central

Bank of Kenya

1.Faulu Kenya DTM Limited

Postal Address: P. O. Box 60240 – 00200, Nairobi

Telephone: +254-20- 3877290 -3/7, 38721883/4

Fax: +254-20-3867504, 3874875

Email: info@faulkenya.com , customercare@faulkenya.com

Website: www.faulkenya.com

Physical Address: Faulu Kenya House, Ngong Lane -Off Ngong Road

Date Licenced: 21st May 2009

Branches: 27

2.Kenya Women Finance Trust DTM Limited

Postal Address: P. O. Box 4179-00506, Nairobi

Telephone: +254-20- 2470272-5, 2715334/5, 2755340/42

Pilot Line: 070 - 3067000

Email: info@kwftdtm.com

Website: www.kwftdtm.com

Physical Address: Akira House, Kiambere Road, Upper Hill,

Date Licenced: 31st March 2010

Branches: 24

3.SMEP Deposit Taking Microfinance Limited

Postal Address: P. O. Box 64063-00620 Nairobi

Telephone: 020-3572799 / 26733127 / 3870162 / 3861972 / 2055761

Fax: +254-20-3870191

Email: info@smep.co.ke info@smep.co.ke info@smep.co.ke

Website: www.smep.co.ke

Physical Address: SMEP Building - Kirichwa Road, Off Argwings Kodhek Road

Date Licensed: 14th December 2010

Branches: 6

4. Remu DTM Limited

Postal Address: P. O. Box 20833-00100 Nairobi

Telephone: 2214483/2215384/ 2215387/8/9, 0733-554555

Email: info@remultd.co.ke info@remultd.co.ke info@remultd.co.ke

Physical Address: Finance House, 14th Floor, Loita Street

Date Licensed: 31st December 2010

Branches: 3

5. Rafiki Deposit Taking Microfinance

Postal Address: 12755-00400 Nairobi

Telephone: 020-216 6401

Cell - phone: : 0719 804 370/0734 000 323

Email: info@rafiki.co.ke

Website: www.rafiki.co.ke

Physical Address: : 2nd Floor, El-roi Plaza, Tom Mboya Street

Date Licensed: 14th June 2011

Branches: 3

6.UWEZO Deposit Taking Microfinance Limited

Postal Address: 1654-00100 Nairobi

Telephone: 2212917 / 9

Email: info@uwezodtm.com

Website: www.uwezodtm.com

Physical Address: Park Plaza Building, Ground Floor, Moktar Daddah Street

Date Licensed: 08 November 2010

Branches: 2

7.Century Deposit Taking Microfinance Limited

Postal Address: P. O. Box 38319 – 00623, Nairobi

Telephone: +254-20- 2664282, 20 6768326, 0722 168721, 0733 155652

Email: info@century.co.ke

Physical Address: KK Plaza 1st Floor, New Pumwani Road, Gikomba

Date Licensed: 17th September 2012

Branches: 1

8.SUMAC DTM Limited

Postal Address: P. O. Box 11687-00100, Nairobi

Telephone: (254) 20 2212587, 20 2210440

Fax: (254) 2210430

Email: info@sumacdtm.co.ke

Website: www.sumacdtm.co.ke

Physical Address: Consolidated Bank House 2nd Floor, Koinange Street

Date Licensed: 29th October 2012

Branches: 1

9.U&I Deposit Taking Microfinance Limited

Postal Address: P.O. Box 15825 – 00100, Nairobi

Telephone: (254) 020 2367288, Mobile: 0713 112 791

Fax: (254) 2210430

Email: info@uni-microfinance.co.ke

Website: <http://uni-microfinance.co.ke/uni-microfinance/>

Physical Address: Asili Complex Building 1st Floor, River Road

Date Licensed: 8th April 2013

Branches: 2

Appendix II: Data Collection Schedule

Name of DTMFI.....

Indicator/Year	2009	2010	2011	2012	2013
Return on Assets					
Number of Active Borrowers					
Average Loan Size					
Number of New Borrowers					

Appendix III: Descriptive Data

MFI	ROA	Number of Active Borrowers	Average Loan Size	Number of New Borrowers
Faulu Kenya Ltd	0.019061	7,198	120	1,580
KWFT Ltd	0.02625	5,456	146	6,032
SMEP Ltd	0.010843	1,253	464	349
REMU Ltd	-0.02374	174	158	482
Rafiki Ltd	0.004077	1,412	500	212
Uwezo Ltd	-0.02804	24	83	328
Century Ltd	-0.23171	55	165	92
Sumac Ltd	-0.05212	99	150	102
U & I Ltd	0.025	34	45	185