

**THE EFFECT OF FINANCIAL INNOVATIONS ON FINANCIAL
PERFORMANCE OF MICRO FINANCE INSTITUTIONS IN KENYA**

BY

MWANGI DAVID NJOROGI

D61/60206/2013

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS,
UNIVERSITY OF NAIROBI**

NOVEMBER 2014

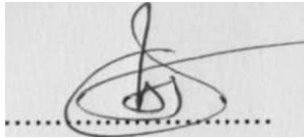
DECLARATION

This research project is my original work and has not been submitted for examination in any other University.

David Njoroge Mwangi

Administration Number: 1)61/60206/2013

Signature:

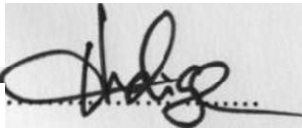


Date: ^ h . ' . ^ H f :

This project has been submitted for examination with my approval as the university Supervisor:

Mr. Herick Ondigo

Signature:



Date:

DEDICATION

This project is dedicated to the following: First, to my loving wife Lilian and daughter Cynthia. Secondly to my friends Reuben, Peter, Dickson and Julius for their love, support, patience, guidance and encouragement they gave me to complete my postgraduate studies.

ACKNOWLEDGMENTS

I would like to acknowledge 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. Ilerick Ondigo for his exemplary support, constructive criticism and skillful guidance. Finally, yet importantly, I take this opportunity to express my deep gratitude to my loving family, and friends who have been a constant source of motivation and for their never ending support and encouragement during this project.

TABLE OF CONTENT

DECLARATION	"
DEDICATION	!>
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study.....	1
1.1.1 Financial Innovation.....	3
1.1.2 Financial Performance.....	6
1.1.3 Effect of Financial Innovation on Financial Performance.....	6
1.1.4 Micro Finance Institutions in Kenya.....	7
1.2. Research Problem.....	8
1.3 Objectives of the Study.....	9
1.3.1 Specific Objectives.....	10
1.4 Value of Study.....	10
CHAPTER TWO: LITERATURE REVIEW	11
2.1 Introduction.....	11
2.2. Theoretical Review.....	11
2.2.1 Constraint Induced Financial Innovation Theory.....	11
2.2.2 Circumvention Innovation Theory.....	12

2.2.3 Regulation Innovation Theory.....	13
2.2.4 Transaction Cost Innovation Theory.....	14
2.3 Determinants of Financial Performance.....	14
2.3.1 Financial Innovation.....	15
2.3.2 Capital Adequacy.....	15
2.3.3 Interest Rates.....	16
2.3.4 Operational Efficiency.....	16
2.3.5 Loan Size.....	16
2.4 Empirical Review.....	17
2.5 Summary of Literature Review.....	20
CHAPTER THREE: RESEARCH METHODOLOGY.....	22
3.1 Introduction.....	22
3.2 Research Design.....	22
3.3 Population.....	22
3.4 Data Collection.....	22
3.4.1 Data Validity and Reliability.....	23
3.5 Data Analysis.....	23
3.5.1 Analytical Model.....	23
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION.....	25
4.1 Introduction.....	25
4.2 Findings.....	25
4.2.1 Product Innovation.....	26
4.4.2 Process Innovation.....	28
4.2.3 Institution Innovation.....	29

4.3 Regression Model.....	32
4.4 Interpretation of the Findings.....	35
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	37
5.1 Introduction.....	37
5.2 Summary.....	37
5.3 Conclusion.....	38
5.4 Recommendation for Policy.....	38
5.5 Limitation of the Study.....	39
5.6 Suggestions for Further Research.....	39
REFERENCES.....	40
APPENDIX I.....	45
APPENDIX II.....	47

LIST OF TABLES

Table 1: Response Rate.....	25
Table 2: Model Summary.....	32
Table 3: Anova Table.....	33
Table 4: Regression Analysis.....	34

LIST OF FIGURES

Figure 4.1 Increase of New Deposit Accounts	26
Figure 4.2 Increase in Loan Products	27
Figure 4.3 Increments of Micro Insurance Products	28
Figure 4.4 Effects of Process Innovation	29
Figure 4.5 Effects of Increased Agency Service	30
Figure 4.6 Effects of Increased Outlets	31
Figure 4.7 Effect of Credit Reference Bureaus	32

LIST OF ABBREVIATIONS

AMFI- Association of Microfinance Institutions

ATM-Automated Teller Machine

CEO-Chief Executive Officer

CTS-Cheque Truncation System

IT- Information Tecchnology

MFI-Micro Financial Institutions

PAWDEP- Poverty reduction and Pamoja Women development Programme

ROA-Return On Assets

RTGS-Real Time Gross Settlement

SMEs- Small and Medium Enterprises

SPSS-Statistical Package for Social Sciences

ABSTRACT

Financial innovation is considered to be a critical requirement for the growth and profitability of organizations. One of the ways to achieving growth and sustaining performance is to encourage and foster financial innovative practices and creativity internally within the institution. Microfinance institutions (MFIs) play a vital role in the economic development of many developing countries like Kenya. Most of the previous studies done by various authors have shown that microfinance institutions play a vital role in the economic development of many developing countries through the provision of a wide range of financial products and services to the poor, low-income households and micro and small enterprises. Unfortunately, most of these studies have concentrated on the growth of the MFI institutions and specific financial innovations. This study investigated the effects of financial innovations on the financial performance of MFIs in Kenya and so as to fill-up the academic gap on financial innovation left by previous researchers. The study targeted all the 47 microfinance institutions regulated by the Microfinance Act of 2006 and operating in Kenya and covered the period 2011 to 2013. Data was collected by using questionnaires administered to the respondents and analyzed by applying both descriptive and inferential statistics. Descriptive statistics was used to summarize qualitative data and the results presented in tables. The SPSS Version 17 was used to analyze primary data. Through regression analysis, the researcher was able to formulate an analytical model that shows the effect of financial innovations on financial performance of MFIs in Kenya. The research findings indicated that the level of financial innovations adopted by Micro Finance Institutions in Kenya is a key determinant of financial performance though there are few challenges in their implementation. Therefore the researcher recommends exploration of the challenges that MFIs face on implementation of innovative products and services and ways of addressing such challenges.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Microfinance institutions (MFIs) play a vital role in the economic development of many developing countries. They offer loans and technical assistance in business development to low-income community in developing countries Hartungi (2007). They have a variety of products including micro loans, savings and other deposit products, remittances and transfers, payment services, insurance, and any other financial product or service that a commercial bank does not offer to low-income clients in the banking system (Hoque and Chisty. 2011).

The contribution that microfinance institutions make towards the economy of any country emphasizes the importance of their existence. Governments around the world have realized just how important this sector of the economy is for the future growth of their respective countries. Entrepreneurship therefore has a critical role to play in the economic development of especially poorer nations of the world.

Globally financial innovation has been a key to economic growth whether in any developed or developing country. For instant there have been a number of periods of accelerated innovation in U.S. financial history, frequently during or following periods of great social and political upheaval such as the Civil War and the Great Depression. It seems clear in retrospect that the 1970s and early 1980s have been years of relatively rapid innovation due largely to higher inflation and its impact on interest rates and rapid technological progress that has significantly reduced the real costs of carrying out financial transactions.

Lafourcade et al (2005) argues that in Sub-Saharan Africa microfinance institutions include a broad range of diverse and geographically dispersed institutions that offer financial services to low-income clients, non-governmental organizations (NGOs), non-bank financial institutions, cooperatives, rural banks, savings and postal financial institutions, and an increasing number of commercial banks. Most MFIs in Africa report low profits compared with other global regions

due to weak infrastructure (communications and road), low average population density combined with predominantly rural markets, and high labor cost all contribute to operating expenses.

Since its birth in the 1970s, microfinance has endeavored to develop sustainable enterprises and its innovations have been replicated from country to country, each time with renewed enthusiasm and innovation leading to international best practices that have benefited and guided the practice of microfinance-credit (Kiweu, 2009). Given the ongoing developments in microfinance. there is considerable interest for many MFIs in Africa to keep pace with the changing landscape in the industry. However, the microfinance industry in most African countries remains largely underdeveloped (Gupta, 2008).

African MFIs have continuously faced many challenges including lack of proper regulatory environment and lack of funds. Despite the series of financial sector reforms that the African countries have undertaken since the 1980s, financial systems still exhibit substantial degrees of inefficiencies in their savings mobilization and allocation of resources into productive activities (Senbet and Otchere, 2006). Operating and financial costs are high, and on average, revenues remain lower than in other global regions.

Efficiency in terms of cost per borrower is lowest for African MFIs. It is therefore important to find cost-effective ways of improving standards while at the same time minimizing restrictions and encouraging innovation. Technological innovations, product refinements, and ongoing efforts to strengthen the capacity of African MFIs are needed to reduce costs, increase outreach, and boost overall profitability (Lafourcade, et al. 2005). Consequently, the MFIs should develop viable financial products relevant to the target markets.

The significance of having an evidently defined financial innovation strategy directing the innovation process was recognized by (Cooper and Emory, 2003). According to Davila et al (2006) innovation is a necessary ingredient for sustained success and is an integral part of the business enterprises.

According to Lafourcade et al (2005) Kenyan financial sector has undergone tremendous changes in the last two decades especially the micro finance institutions. A lot of reforms have

been undertaken in the sector that have led to proliferation of financial products, activities and organizational forms that have improved and increased the efficiency of the financial system. Advances in technology and changing economic conditions have created impetus for this change. All these developments coupled with changes in the international financial environment and the increasing integration of domestic and international financial markets have led to rapid financial innovation. The study focused on 47 MFIs which are regulated by the microfinance act of 2006 and operating in Kenya.

1.1.1 Financial Innovation

Financial innovation is the unanticipated improvement in the array of financial products and instruments that are stimulated by unexpected change in customer needs and preferences, tax policy, technology and regulatory' impulses Davila et al, (2006). Financial innovation has not only opened up new opportunities for the sector participants, but also increased new market players arising from new products in the financial market. These developments have increased the range of financing and investment opportunities available to economic agents besides changing the role of financial institutions with expanded diversification choices in terms of portfolio size and sources of financing.

According to Merton (1986) financial innovation refers both to technological advances which facilitate access to information, trading and means of payment, and to the emergence of new financial instruments and services, new forms of organization and more developed and complete financial markets. To be successful financial innovation must either reduce costs and risks or provide an improved service that meets the particular needs of financial system. Financial innovation can be looked at in three dimension namely product, process and institutional innovation.

Product innovation includes the introduction of new deposit accounts, new credit arrangement, credit cards, debit cards, insurance and other financial products. Product innovations are introduced to respond better to changes in market demand or to improve efficiency. According to Gitonga (2003) the main product innovations include; Micro insurance services. Deposits,

Business Club concept. Personal unsecured loans. Money transfer services and Products tailored to favour certain groups. Quality improvement, product innovation and market expansion can lead to improvement in the performance of the MFI enterprises.

On the other hand process innovations include the introduction of new business processes leading to increased efficiency and market expansion. Among the main process innovations include; office automation, use of computers in accounting systems and client data management software, M-pesa, Electronic banking (taking the form of ATMs. Internet Banking and telephone transaction) , Real Time Gross Settlement (RTGS), and (CTS) Cheque Truncation System (Gupta. 2008).

Institutional innovations include making use of community structures through village bank-type models. This also refers to changes in business structure, establishment of new types of financial intermediaries, or changes in the legal and supervisory framework. Examples of institutional innovations in Kenya include; introduction of Credit referencing Bureaus, Agency banking, Retail financial services, commercial banks getting into investment banking services, banks offering insurance services on behalf of insurance companies. Islamic banking and agency banking (Lafourcade et al., 2005)

In the broadest sense, financial innovation is something that takes place on a continuing basis. According to Merton (1986), a number of innovative financial strategies and instruments have come into being since the decade of the 1980s. One example is the creation of interest rate swaps in the early years of that decade, an innovation that allowed many companies and investors to take advantage of the dramatic increase in interest rate that was taking place. In recent years, the development of the credit default swap also allowed businesses to more effectively manage the increasing number of defaults on loans, mortgages, and other forms of credit that took place as the world economy entered into a period of recession.

For many microfinance institutions in Kenya, information and communication technology is viewed as potentially capable of helping achieve innovative strategy. The high rate at which organizations are buying mobile phones, computer hardware and software as well as using the

Internet for information and communication is evidence of the increasing awareness of information and communication technology in the Kenyan market. The business benefits of using information and communication technology include efficiency and attainment of increased returns. The vast opportunities brought by the Internet to the banking industry have therefore attracted much attention from researchers whose efforts apparently group on certain areas of interest (Mbogo & Asika. 2005)

According to White (2001) the use of text messages services banking both from clients will, if effectively implemented, lead to substantial cost savings by investors in the areas of telephone calls and personnel time. Product innovation provides the most obvious means for generating revenues. Process innovation, on the other hand, provides the means for safeguarding and improving quality and also for saving costs. Improved and radically changed products are regarded as particularly important for long-term business growth. Desai and Low (1987) thought that financial innovation is the method which can make the integrity of financial market come true. According to the Location Theory, they advanced the financial innovation microscopic economic model.

With the use of information technology (IT), the micro financial institutions can use the cross-selling strategies to sell new banking innovations to their existing customer base. It can be seen that financial institutions' adoption of technology changes from improving efficiency of back office banking functions towards improving the service quality in servicing the customers. Such changing strategy demonstrates the situation where institutions compete to own the potential customers. Examples of new innovations in the Kenyan financial institutions include adoption of ATMs, smart cards, internet and mobile banking (Mbogo & Asika, 2005)

According to Okiri and Ndungu (2005), financial institutions have been in the process of significant transformation. The force behind the transformation of these institutions is innovation in information technology. Information and communication technology is at the Centre of this global change curve of mobile and internet banking in Kenya. Rapid development of information technology has made banking tasks more efficient and cheaper.

Technological progress in the computer and communications fields in recent years has led to a truly phenomenal reduction in the real cost of processing and transmitting data. It has been estimated that between the mid-1960s and 1980 computer processing costs declined at an average annual rate of 25 per cent, and communications costs fell at a rate of 11 per cent. The impact of these developments has been especially great in banking and financial markets (Gupta, 2008).

According to Gitonga (2003) internet banking presents the possibility that an entire alternative payment system not under the control of the Central Bank may arise. Today computers make it at least possible to bypass the payment system altogether, instead using direct bilateral clearing and settlement. For any microfinances to remain competitive in Kenya, appropriate changes in the respective organization have to be adapted especially in the area of institutional innovation.

1.1.2 Financial Performance

Micro finance institutions earn financial revenues 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. All 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 MFIs usually earn positive net income (I. fourcade et al., 2005). Financial performance is measured by liquidity ratios mainly by return on total assets, return on equity, asset turnover and profit margin of any firm.

1.1.3 Effect of Financial Innovations on Financial Performance

Financial Innovation is considered to be a key critical requirement for the successful performance of any organization hence growth and profitability. In today's dynamic and global competitive environment, financial innovation strategies are becoming more pertinent, mainly due to three major trends: concentrated international competition, disjointed and challenging markets, and assorted and swiftly changing technologies according to Wheelwright and Clark (1992). Merton (1986) argues that, financial innovation is viewed as the "engine" driving the

financial system towards its goal of improving the performance of what economists call the "real economy."

In many countries, the pace of change in financial institution is dramatic. The financial institution providers worldwide are becoming increasingly interrelated. New types of business and corporate strategies are being explored: better market segmentation, industry consolidation, changed delivery channels and expanded product offerings. Information technology (IT) has been established as a key enabler of change. It is also resulting into a driver of change with new-products such as telephone banking, mobile banking, electronic banking and ATM banking (Okiri and Ndungu, 2005).

For private sector organizations operating in increasingly competitive market, innovation is often a condition for simple survival. The capability to innovate is ever more viewed as the single most vital factor in developing and supporting competitive advantage. According to Davila et al (2006) innovation is a necessary ingredient for sustained success and is an integral part of the business. Much weight has been accorded on building innovative institutions and the management of the innovation progression as necessary elements of institutional survival.

1.1.4 Micro Finance Institutions in Kenya

The origins of formal subsidized microfinance institutions in Kenya can be traced to the mid-1950s with the establishment of the Joint Loan Board Scheme by the then colonial government but in 1980s that is when the current model of MFIs in Kenya started to grow. According to Ngugi et al (2010) there are 47 MFIs operating in Kenya. For efficient operation, microfinance activities have been regulated in Kenya since 2006, when Kenya's Microfinance Act, (2006) was signed to bring the MFIs that are determined to take deposits from the public under CBK supervision and regulation.

According to Okiri and Ndungu (2005) micro finance institutions sector in Kenyan has undergone tremendous changes in the last two decades. A lot of reforms have been undertaken in the sector that have led to proliferation of financial products, activities and organizational forms that have improved and increased the efficiency of the financial system. Advances in technology and

changing economic conditions have created impetus for this change. All these developments coupled with changes in the international financial environment and the increasing integration of domestic and international financial markets have led to rapid financial innovation in this sector.

1.2 Research Problem

There are various reasons that have been advanced as to the triggers of innovations, but broadly, they have been described by many as being optimal responses to various basic problems or opportunities, occasioned by imperfect markets that prevent risk shifting or asymmetric information. According to DeGennaro (2005) market imperfection is anything that interferes with trade like transaction costs, taxes, information asymmetry, and asset indivisibilities. According to this author, imperfections cause a rational market participant to deviate from preferred risk level and refrain from holding the market portfolio.

Microfinance is a capital-intensive activity, and MFIs require sustained injections of capital for on-lending. Most MFIs need to make intensive investments in promoting new and poor clients. Brugger (2004) notes that MFIs, like any other financial institution, must have a minimum amount of its own capital for reducing the risks of its lenders and depositors and that the costs of doing business are high relative to the value of loans and deposits involved. Smaller MFIs struggle to cover the high operational costs and diversify their product offerings in order to compete with larger microfinance providers (Gupta. 2008).

Rycroft and Kash (1999) claim that innovation requires a process of co-evolution between technology and cultural perspectives where radical innovations are new technologies or new products that fill needs perhaps yet unrecognized; and incremental innovations improve what already exists. Kim and Mauborgne (1999) argue that innovation is concerned with improving the mix of target markets and how chosen markets are best served. A fundamental assumption of most recent research in operations improvement and operations learning has been that technological innovation has a direct bearing on performance improvement.

Levich (1988) argued that a major cause of financial innovations is transaction costs. Trading requires time, which includes both search costs, or the time to gather information. Minimizing

these costs represents a profit opportunity. One partial solution is to automate the process by means such as automatic electronic payments. Other reductions in the time required to trade are sure to follow, both because technology continues to advance and because the opportunity cost of time tends to rise over time. Advances in communications and data-handling technology have reduced not only the costs of trade to a fraction of what they were just a few years ago but also the time needed to make trades.

The fact that the microfinance institutions environment has been affected adversely by the changing operating environment calling for adoption of innovation strategies to enhance a competitive edge in the markets, Locally, Gitonga (2003) did a study on innovation processes and the perceived role of the CEO in the banking industry. Mwangi (2007) did a study on the effect of innovation in Kenya financial institutions. Nyaga (2008) carried a research on the nature of competition within micro finance industry in Kenya. Mwangi (2013) did a study on the effect of financial innovation on the financial performance of deposit taking microfinance institutions in Kenya. Okibo and Makanga (2014) did a study on the effect of micro finance institutions on poverty reduction in Kenya. Few studies have ever focused on the effects of financial innovation on financial performance of microfinance institutions in Kenya.

Inefficiency has always been established as the key driver to poor financial performance of MFIs in Kenya. This study is therefore expected contribute to this important sector by informing the MFI professionals on critical aspects of financial innovations to enable them ensure that the MFIs become and remain sustainable. It is expected that findings of the study will help MFIs to grow in scale as well as work toward financial sustainability. The study therefore sought to answer the question: - What is the effect of financial innovations on financial performance of MFIs in Kenya?

1.3 Objectives of the study

The main objective of the study is to determine the effect of financial innovations on financial performance of microfinance institutions in Kenya

1.3.1 Specific objectives

- I. To assess the effect of product innovation on the financial performance of micro finance institutions in Kenya.
- II. To establish the effect of process innovation on financial performance of micro finance institutions in Kenya.
- III. To assess the effect of institutional innovation on the financial performance of micro finance institutions in Kenya.

1.4 Value of the Study

This study is important to players in the financial institutions especially microfinance institutions as it brings out the role of financial innovations in the financial performance of any firm. From this study investors are expected to be made more aware of the recent trends in the micro finance institutions sector, as far as new financial innovations are concerned in Kenya.

The results of this study is valuable to researchers and scholars, as it form a basis for further research as well as building on the existing body of knowledge and points out area for further research work. Researchers who wish to study the area of financial innovations in any sector are made aware of the key determinants by this study.

The findings of this study is of critical value to the government as it is expected to facilitate understanding the reason behind the slow rate of financial innovations in the micro finance institutions sector and how to foster the same.

Members of the general public may wish to read the study to further their knowledge in the area of financial innovation. This can prompt them in conducting further studies on financial innovation in future, and thereby adding to their existing knowledge on financial innovations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter seeks to review literature and theories relevant to the study in order to acquaint it with problems, conclusions, and findings arrived at by other researchers. It emphasises the effect of financial innovations on performance of microfinance institutions in Kenya.

2.2 Theoretical Review

This part seeks to review the various theories in the area of financial innovations that include constraint-induced financial innovation theory, circumvention innovation theory, regulation innovation theory and finally transaction cost innovation theory.

2.2.1 Constraint-Induced Financial Innovation Theory

American economist Silber (1975) advanced constraint-induced financial innovation theory. This theory pointed out that the purpose of profit maximization of financial institution is the key reason of financial innovation. There are some restrictions (including external handicaps such as policy and internal handicaps such as organizational management) in the process of pursuing profit maximization. Though these restrictions not only guarantee the stability of management, they reduce the efficiency of financial institution, so financial institutions strive toward casting them off. Constraint-induced innovation theory discussed the financial innovation from microeconomics, so it is originated and representative. But it emphasized "innovation in adversity" excessively. So it can't express the phenomenon of financial innovation increasing in the trend of liberal finance commendably (Silber, 1975).

According to Cull et al. (2009) analysis of the data confirmed that legal environment, competitive Pressure and liquidity and risk management challenges had the greatest importance

in influencing MM financial innovation. Microfinance institutions that take savings need greater regulation than institutions that only make loans. If the institution collapses, customers with outstanding loans do not suffer (they gain by not having to repay their loans), but a collapsing MFI can take customers' lifetime savings and, if unregulated, offer no recourse to the victims. Therefore regulation innovation has direct influence on the financial performance of MFIs in Kenya.

2.2.2 Circumvention Innovation Theory

American economist Kane (1983) is the pioneer of circumvention innovation theory. Kane suggested that many forms of government regulations and controls, which have the same property of implicit taxation, embarrass the profitable activity engaged by the company and the opportunity of earning profit, so the market innovation and regulation innovation should be regarded as the continuous fighting process between independent economic force and political force. Because financial industry is special, it has the stricter regulations. Financial institutions deal with the status such as the reduction of profit and the failure of management induced by government regulations in order to reduce the potential loss to the minimum.

Financial innovation is mostly induced by the purpose of earning profit and circumventing government regulations. It comes true through the game between government and microcosmic economic unity. Kane's theory is different from the reality. The regulation innovation he assumed is always towards the direction of reinforcing regulation, however, the regulation innovation in reality is always towards the direction of liberal markets innovation, the result of the game is release of financial regulation and market become more liberal. But his theory is better than constraint-induced financial innovation theory. It not only considered the origin of innovation in the market but also researched the process of regulation innovation and their dynamic relation (Kane, 1983).

Circumvention innovation theory like many forms of government regulations and controls has the same property of implicit taxation and embarrass the profitable activity engaged by any firm and the opportunity of earning profit. Market innovation and regulation innovation should

therefore be regarded as the continuous fighting process through product and process innovations by any MFI that need to maximize financial performance.

2.2.3 Regulation Innovation Theory

According to this theory Scylla (1982) discussed financial innovation from the perspective of economy development history. The theory also suggest that financial innovation connects with social regulation closely, and it is a regulation transformation which has mutual influence and is mutual causality with economic regulation. The theory also suggest that it is very difficult to have space of financial innovation in the planned economy with strict control and in the pure free-market economy, so any change leaded by regulation reform in financial system can be regarded as financial innovation. The Omni-directional finance innovative activities can only appear in the market economy controlled by government.

When government's intervention and the management have hindered the finance activities, there will be many kinds of financial innovation which intend to circumvent or get rid of government controls. The game between the market and government finally form the spiral development process, namely, "control-innovate-controls again-innovates again". In this theory which expanded the scope of financial innovation, government activity is also regards as the origin of financial innovation. But it regards regulation innovation as one part of financial innovation. Especially, it regards rules and regulations which are used to control as financial innovation. Therefore, it is difficult for financial institutions to accept this theory. The financial control is the obstructive force of financial innovation, so rules and regulations which are regarded as the symbol of financial control should be the direction of financial reform and innovation (Scylla, 1982).

Regulation creates pressure that motivates product and process innovation as well as progress of any MI I. Based on this constraint induced theory provides theoretically grounded and empirically-rich findings indicating that governance and regulation affect financial innovation directly and indirectly. Appropriate interaction with other drivers of innovation namely product, process and institutions are used by MFIs to mitigate negative effects of regulations.

2.2.4 Transaction Cost Innovation Theory

Hicks and Niehans (1935) thought that the dominant factor of financial innovation is the reduction of transaction cost, and in fact, financial innovation is the response of the advance in technology which caused the transaction cost to reduce. The reduction of transaction cost can stimulate financial innovation and improvement financial service. This theory studied the financial innovation from the perspective of microscopic economic structure change. The theory explained from another perspective that the radical motive of financial innovation is the financial institutes' purpose of earning benefits. One of the major causes of financial innovations is to control transaction costs in any MFI. Trading requires time, which includes both search costs, or the time to gather information which can only be controlled by employing appropriate process and products innovation. Minimizing these costs represents a profit opportunity hence positive financial performance (Levich, 1988).

One of the major causes of financial innovations is to control transaction costs in any MFI. Trading requires time, which includes both search costs, or the time to gather information. Minimizing these costs represents a profit opportunity hence positive financial performance (Levich, 1988).

2.3 Determinants of Financial Performance

The key determinants of financial performance of MFIs include the following. Product innovation, process innovation as well as institutional innovations. Others may include operation efficiency, capital adequacy, loan size growth, interest rates, macro-economic condition, institutional factors such as corruption control, rule of law and accountability. The four perspective of assessing financial performance of MFIs are profitability, asset management, loan portfolio quality and efficiency leverage. Return on assets (ROA) fall within the domain of profitability measures and tracks MFIs' ability to generate income based on its assets. Efficiency of MFIs on the other hand is measured by the share of operating expenses to gross loan portfolio in most cases. The debt to equity ratio is a member of the asset management ratio and specifically attempts to track MFIs' leverage (Gupta. 2008).

2.3.1 Financial Innovation

Financial innovation is an ongoing process where new financial products, services and procedures are created or and standardized products are differentiated in order for the MFIs to respond at the continuously changing economic environment. Financial innovation by firms is a key determinant of financial performance and Growth of any MFI. Like any other economic behaviors, it generally arises in anticipation of material gains following a cost-benefit analysis. The innovation makes possible to either reduce costs or an increase revenues, or both. On the cost-reducing side, in particular, exogenous technological change provides room for cost reduction.

2.3.2 Capital Adequacy

Capital refers to the amount of owners' funds available to support any business and. therefore, MFIs' capital acts as a safety net in the case of adverse development. Capital is calculated as the ratio of equity to total assets. The ratio measures how much of the MFIs' assets are funded with owners' fund and is a proxy for capital adequacy of any MFI by estimating the ability to absorb losses. Based on past literature, the relationship between capital and profitability is said to be unpredictable (Gupta. 2008). This is because while positive relationship had been found by some studies, other studies found a negative relationship between capital and profitability.

For capital adequacy to be achieved by any financial institution, it requires a number of challenges to be addressed such as creating a conducive climate to commercialization, attracting private sector investment, and putting microfinance institutions on a more sustainable footing. Ways of addressing these challenges include encouraging established private financial institutions to enter the market by making financial systems more competitive; having governments play critical and constructive roles, to ensure sound policies and legal frameworks (including macroeconomic stability); encouraging donors to contribute by reducing inappropriate government interventions and by helping countries strengthen their legal frameworks, regulatory systems, and supervisory ability.

2.3.3 Interest Rates

MIFs' lending rate is always expected to have an impact on financial performance of MFIs in an\ country. This is because interest rate directly impacts MFIs' interest income and expenses, and the net result that further affect profitability. In line with the researcher's expectation, the variable of interest rate has positive and statistically significant effect and this implies that the financial performance of MFIs in Kenya tend to increase with increasing rate of interest. Since the borrowers have no readily available alternative sources of borrowing to enhance their investments, the availability doctrine, rather than the cost doctrine, has been the only option. This means that they are ready at whatever cost to obtain loans from the MFIs as far as the loans are available. The higher interest rates benefit the MFIs in terms of higher profit, but at the expense of the overall economic development of the country.

2.3.4 Operational Efficiency

The operational efficiency refers to the ability to produce maximum output at a given level of input, and it is the most effective way of delivering small loans to the very poor in microfinance context. This involves cost minimization and income maximization at a given level of operation, and it has an enduring impact on financial performance of microfinance institutions. Thus, efficiency can be measured by its productivity (for instance, number of borrowers per staff) and cost management (for instance, cost per borrower) dimensions.

2.3.5 Loan Size

The average loan size measures the depth of outreach and directly affects financial performance of MFIs. Microfinance profitability is associated with higher loan sizes since larger loans are associated with higher cost efficiency and, therefore, profitability. This argument substantiates the mission drift where MFIs serves relatively non poor clients. According to Mugo (2012) MFIs financial performance directly relates to selling of bigger loans. However, Cull *et al.*, (2007) argue that institutions that make smaller loans are not less profitable on average compared to those making bigger loans, and they incline to a conclusion that profitability and depth of outreach cannot be attained simultaneously.

2.4 Empirical Review

Lafourcade et al (2005) carried out a study on an overview of the outreach and financial performance of microfinance institutions in Africa and concluded that there is a strong relationship between the two variables. The authors collected information about MFIs primarily through country-level networks and contracted consultants. All the data were self-reported from MFIs and then reclassified according to international accounting standards and cross-referenced if audited financial statements were available. Of the 161 MFIs analyzed, 77 earned positive returns in 2003. According to their findings, MFIs in Africa tend to report lower levels of profitability, as measured by return on assets, than MFIs in other global regions. Among the African MFIs that provided information for this study, 47 percent post positive unadjusted returns attributed by high operating cost and lack of enough financial innovation to counter it. This drives Institutions to continue seeking ways to increase efficiency through better communication, improved lending products, new technology, or some combination of these improvements.

Mbogo & Asika (2005) did a study focusing on the micro finances registered with the Association of Micro Finance Institutions (AMFI) in Kenya to find out the factors that influence product innovation in the microfinance institutions. Data was collected from the microfinance institutions registered with the Association and operating in Nairobi. A census research design was used, with a self-administered questionnaire given to all 38 participants. Information about the MFIs was sought from the AMFI office to enable the researchers visit the microfinance institutions. The questionnaire included the construct items adapted from previous studies and some questions on demographics. The data gathered was analyzed and processed using Statistical Package for Social Sciences (SPSS) version 15.0 and presented using descriptive statistics. Results from findings of this paper established that there is a positive correlation between legal environment, liquidity management and human resources for MFIs and product innovation.

Mwangi (2007) did a study to establish factors influencing financial innovation in Kenyan's Securities market. Data was collected from all the 48 listed companies in Kenya to establish

which factors influence financial innovation and to what extent do they impact on financial innovation. Primary data was collected and placed on a six Likert scale and then analyzed using statistical techniques. The major findings were that under regulatory factors, Kenyan laws protecting investors was the major factor influencing financial innovation. Unstable foreign exchange rates factor influencing financial innovation among market volatility factors. The absence of automated trading systems as a technological factor was found to influence financial innovation negatively. Global financial competition and integration had an influence on financial innovation with increased financial competition amongst financial institutions.

According to Ignazio (2007), financial innovation has not only opened up new opportunities for the sector participants, but also increased new market players arising from new products in the financial market. These developments have increased the range of financing and investment opportunities available to economic agents besides changing the role of banks with expanded diversification choices in terms of portfolio size and sources of financing. Such developments affect the speed and strength of the channels of monetary policy transmission mechanism in the economy. In this case, as financial markets become more liquid and complete, changes in official interest rates are more readily transmitted to the whole term structure and more generally to financial asset prices. This in turn affects the whole economy through the cost of investment financing and return on saving.

In the study of Wu et al. (2008), they attempted to explore the mediating effect of innovation on SMEs growth and financial performance of firms. The research was made in Taiwanese manufacture and non-manufacture industries. Seven hundred survey questionnaires were mailed to firms. The response rate of the study was 22.71%. Descriptive statistics and inferential data analysis method was used to analyze the gathered data. They found that effects of innovation exist at significant levels, suggesting a perfect mediating effect of innovation on growth and financial performance of firms.

Cull et al. (2009) did a study on the effect of regulatory supervision on profitability of Micro finance institution. The authors examined the implications for the institutions' profitability and their outreach to smallscale borrowers and women. The test was drawn on a new database that

combines high- quality financial data on 245 of the world's largest microfinance institutions with newly-constructed data on the prudential supervision. Linear regression model was used to analyze the results of the finding of the study. Their results show that MFIs faced with high competition tend to reduce the breadth of outreach but will focus more on the depth of outreach, i.e., more loans to women borrowers and smaller loans. According to the study there is a negative relationship between financial self-sufficiency (FSS) and supervision variables.

Ngugi et al (2010) did a study on the influence of innovativeness on the growth of SMEs in Kenya. The study targeted 4560 SMEs in Nairobi County who are registered by Ministry of Industrialization and Ministry of Trade. Regression models were used to examine the influence of innovativeness skills on growth of SMEs in Kenya. Questionnaires were used as the main data collection. Descriptive statistics and inferential data analysis method was used to analyze the gathered data. Data analysis was done with the help of software programme SPSS version 21 which is the most current version in the market and Microsoft Excel to generate quantitative reports. The findings indicated that innovativeness influences the growth of SMEs in Kenya. The tendency of owner/manager to engage in and support new ideas, novelty, experimentation and creative processes results in new products, services or technological processes which has a great influence on the performance of SMEs.

Mugo (2012) sought to investigate the effects of financial innovation on the growth of Micro Finance Institutions (MFIs) in Kenya. A survey was conducted targeting all the thirty four registered MFIs in Kenya. After data collection, the research data was analyzed in a correlation design using SPSS program. The research concluded that financial innovation by MFIs lead to an aggregate growth of firm in various dimensions like number of products, market share, loan sales and the overall profitability.

Mwangi (2013) did a study on the effect of financial innovation on the financial performance of deposit taking microfinance institutions. The study targeted all DTMs (9) in Kenya. Data was analyzed by applying both descriptive and inferential statistics. Descriptive statistics was used to summarize qualitative data and the results presented in tables. The SPSS Version 17 was used to analyze primary data collected by using questionnaire administered to the respondents. Through

regression analysis, the researcher was able to formulate an analytical model that shows the effect of financial innovation on financial performance of DTMs. The study concludes that financial innovations have positive effect of financial performance of DTMs in Kenya.

Okibo and Makanga (2014) did a study on the effect of Microfinance institutions on poverty reduction in Kenya. The study focused on PAWDHP located in Kiambu District as a case study. The study used descriptive survey design. The target population was 9 staff/administrators and 46 clients or recipients of PAWDEP. The study employed stratified sampling technique to select staff of the selected MFIs and clients. Both qualitative and quantitative data analysis methods were used. The study revealed that PAWDEP as a microfinance institution has been providing microfinance services to different groups of women - productive or active poor and that the institution uses various strategies to deliver its services such as granting small loans to women to help them start businesses, grow their businesses and educate their children. The study concluded that microfinance institutions positively impact on poverty reduction in Kenya.

2.5 Summary of Literature Review

In the study of Lafourcade et al (2005) on an overview of the outreach and financial performance of micro finance institutions in Africa, the results indicate that there is strong relationship between the two variables. According to Mbogo & Ashika (2005) on their study on factors influencing product innovation in micro finance institutions in Kenya, results from this finding indicates that there is a positive correlation between legal environment, liquidity management and human resources for MFIs and product innovation hence performance of micro finance institution. A study done by Mwangi (2007) on factors influencing financial innovation in Kenya's securities market the findings indicates that the technology directly affects financial institution performance.

Cull et al. (2009) investigate the performance of MFIs under the pressure of competition from formal banks, measuring competitive pressure by using bank penetration variables such as the number of bank branches per capita and per square kilometer. Their results show that MFIs faced with high competition tend to reduce the breadth of outreach but will focus more on the depth of

outreach, i.e., more loans to women borrowers and smaller loans. However, the effect on other performance indicators, such as profitability, appears to be weak.

Ngugi et al (2010) in their study on the influence of innovativeness on the growth of SMEs in Kenya concluded that the tendency of Manager to engage in and support new ideas, novelty, experimentation and creative processes results in new products and services which has great influence on the performance of SMEs. Therefore innovativeness directly influences the growth of SMEs in Kenya.

None of these studies covered the three types of financial innovations conclusively; the study therefore intended to fill these pertinent gaps in literature by studying the selected independent variables on the influence of innovation on the performance of microfinance institutions in Kenya. This study will add value to existing literature by providing empirical evidence on the influence of innovativeness on the financial performance of microfinance institutions in Kenya and fill the existing contextual and conceptual gaps.

CHAPTER THREE

RESEARCH DESIGN & METHODOLOGY

3.1 Introduction

This chapter focused on the research methodology to be employed in the study. The researcher addressed the research design, study population, as well as the sample design. Research instruments and the approach to data collection was well described, as were the methods of data analysis utilised in the study.

3.2 Research Design

According to Mcmillan and Schumaker (2001) a research design is a plan for selecting subjects, research sites and data collection procedures to answer the research questions. The study adopted a descriptive research design. According to Mugenda and Mugenda (2003), in a research study, the reliability coefficient can be computed to indicate how reliable data are. Descriptive design was used since it gives the description of the phenomenon. In descriptive statistics, the researcher has no control on the variables, but can only report what happened or is happening and seeks to measure items such as frequency, people's preferences or similar data.

3.3 Population

The target population was the 47 Microfinance institutions regulated by microfinance act of 2006 and currently operating in Kenya. Cooper and Emory (2003) defined population as the total collection of elements about which the researcher wishes to make some inferences.

3.4 Data Collection

Census sampling was used to select respondents from the study population. The sample in this study therefore comprised of 47 staff working in the headquarters of the 47 microfinance institutions regulated by microfinance act of 2006 and operating in Kenya. Primary data was collected using semi-structured questionnaire based on a five point likertscale. A five-point scale

eliminates the clustering which is common for an odd numbered likertscale (Strauss 1990). The period of the study was 2011 to 2013. Data collection instrument was questionnaires which were used to gather responses quantitatively. The questionnaires were structured to contain questions that addressed the three variables; Product innovation. Process innovation and Institution innovation. Drop and Pick later method was used.

3.4.1 Data Validity and Reliability

A pilot study was conducted aimed at determining the validity and reliability of the questionnaires. A guide to support document review was developed to provide a tentative scheme for classifying factors and barriers. Initial categories of factors and barriers were included on these instrument based on a review of the literature and from the researchers' experience and knowledge about conditions in Kenya. The scheme was expanded in the field to accommodate factors and barriers that fell outside the original framework. The instrument was pre-piloted, and subsequent adjustments made to improve its clarity and completeness.

3.5 Data Analysis

According to Bryman and Bell (2003) data analysis refers to a technique used to make inferences from data collected by means of a systematic and objective identification of specific characteristics. Data analysis can take the form of simple descriptive statistics or more sophisticated statistical inference. For this study once data was collected through the use of questionnaires the researcher coded the data before analyzing using SPSS. Quantitative data was analyzed by use of inferential statistics specifically multivariate regression analysis and descriptive statistics that include mean, standard deviation, percentages and frequency then presented in form of table and figures.

3.5.1 Analytical Model

Linear regression analysis was used to estimate the coefficients of a linear equation and the Independent variables that best predict the value of the dependent variable. The independent variables included Product innovation. Process innovation, and Institution innovation while dependent variable was Financial Performance of MFIs in Kenya. The regression analysis was

performed on the dependent variable of MFIs to test its relationship with the independent variables. The regression model was utilized to test the relationship as follows:-

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$$

Y is Financial Performance of MFI's as measured by return on total assets for the period under review.

β_0 is the intercept coefficients.

$\beta_1, \beta_2, \beta_3$ are the coefficients of each of the independent variables.

X_1 is the level of product innovation as measured by the extent new loan products, micro insurance services and new deposit accounts have contributed to the increase in revenue of MFIs for a period of three years.

X_2 is the level of process innovation as measured by the extent adoption of office automation, electronic banking services and electronic money transfer has contributed to cost reduction of MFIs for a period of three years.

X_3 is the level of institutional innovation as measured by the extent the use of more agents, credit referencing bureau services and more number of retail outlets has contributed to increase in customer number hence revenue of MFIs within a period of three years.

e Error term

From this model, test of significance at 5% significant level was conducted on the various variables of this study using coefficient of determination (R^2), correlation coefficient (R), F-test and ANOVA table in order to check the significant of the data analyzed.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter discusses the interpretation and presentation of the study findings. The purpose of the study was to investigate the effect of financial innovations on financial performance of microfinance institutions in Kenya.

4.2 Findings

This author distributed 47 questionnaires to the target respondents out of which 33 questionnaires were filled and returned representing a 70% response rate. According to Mugenda and Mugenda (2003) this response rate was fair and representative since it surpasses the 50% threshold for analysis and reporting, a response rate of 70% is good while 77% and over is very good. The good turn up can be attributed to the data collection procedures, where the researcher notified potential participants in advance and utilized self-administered questionnaires in which respondents completed and the same was picked shortly. In addition follow up was made when some respondents delayed in handing over the questionnaires.

Table 4.1 Response Rate

<u>Category</u>	<u>No of Questionnaires</u>	<u>Percentage</u>
Questionnaires Returned	33	70
Questionnaires not returned	14	30
Total	47	100

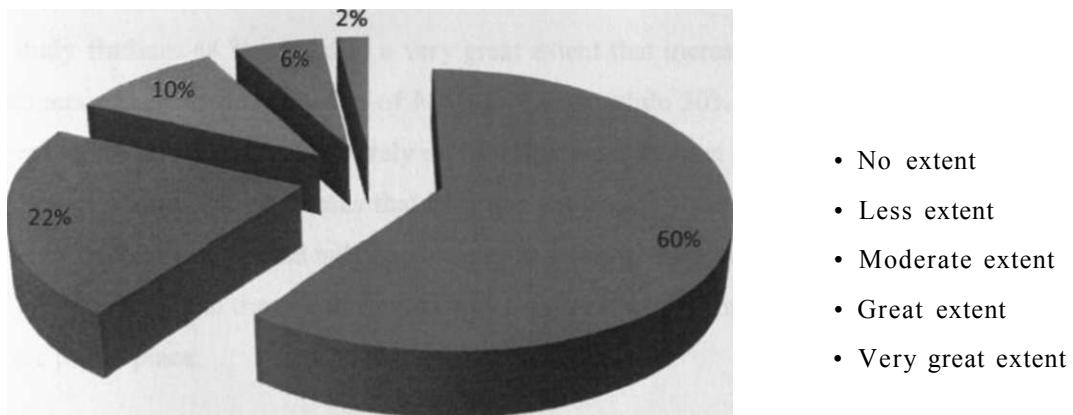
Source: Research Findings

4.2.1 Product Innovation

The study sought to find out the influence of adoption of new deposit accounts, number of loan products as well as micro insurance products on revenue and number of customers of MFIs in Kenya. The study used a scale of 1-5. Where 1= No extent; 2=Less extent; 3= Moderate extent; 4= Great extent; 5= Very great extent.

On whether increased deposit accounts as an innovation strategy have contributed to increase in revenue for MFIs in Kenya. From the study findings 60 % agreed to a Very Great extent product innovation directly affects deposits of MFIs in Kenya while 22% agreed to a Great extent with the statement while 10% agreed to a Moderate extent. Lastly 6% and 2% of respondents agreed to a less extent and to no extent respectively.

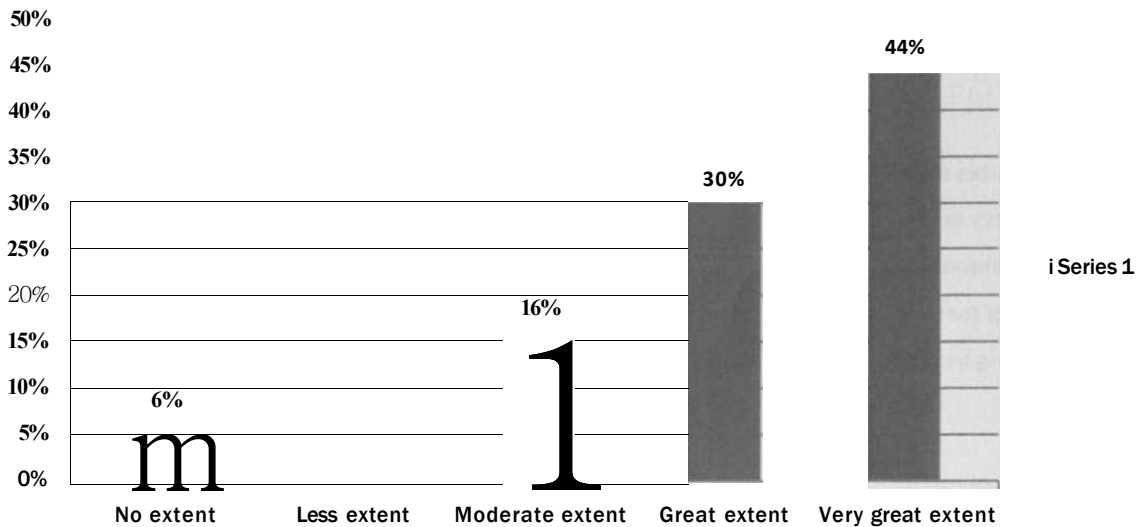
Figure 4.1 Increases of New Deposits Accounts



Source: Research Findings

On whether increasing the number of loan products increase the number of customers which in turn leads to increased revenue the results were as follows;

Figure 4.2 Increases in Loan Products

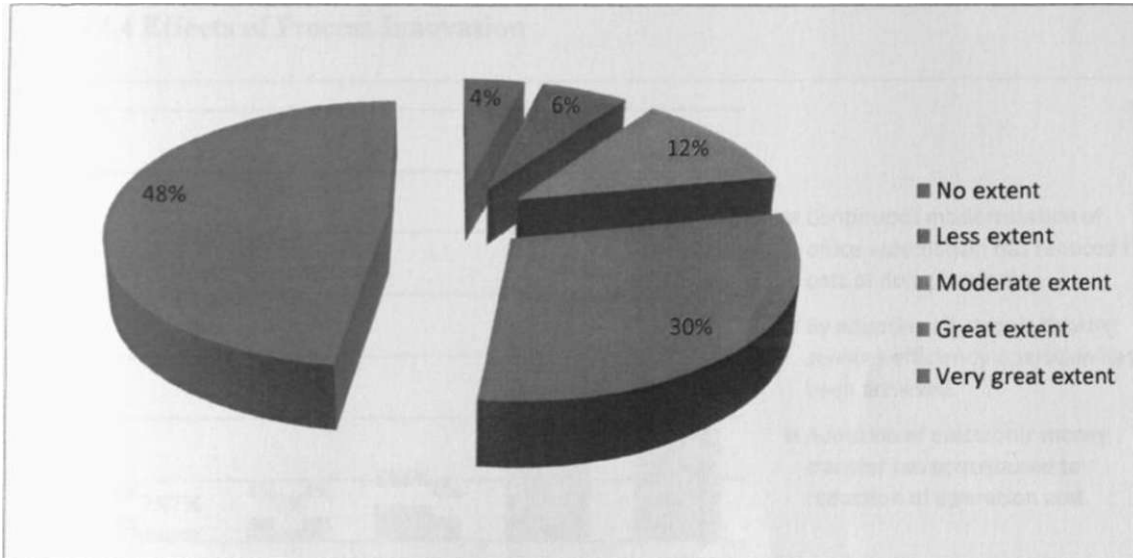


Source: Research Findings

From the study findings 44 % agreed to a very great extent that increase of number of loan products directly influence revenue performance of MFIs in Kenya while 30% agreed to a great extent with the statement while 16% agreed moderately on the other hand 4% and 6% agreed to a less extent and to no extent respectively. This indicates that MFs in Kenya perform well if there are a variety of loan products as interest income earned will boost the profits of the institutions. Nevertheless a huge loan book may be risky owing to the rate of default which may eat up the institutions profits if no stop gap measures are put in place.

The study also sought to find out the respondents level of agreement with statements relating to the effect of increment of micro insurance services effect on the number of customers of MFIs in Kenya where majority (48%) agreed to every great extent with the statement, 30% agreed to a great extent while 12% moderately agreed with the rest 6% and 4% agreed to a low extent and to no extent as indicated in the figure below.

Figure 4.3 Increments of Micro Insurance Products

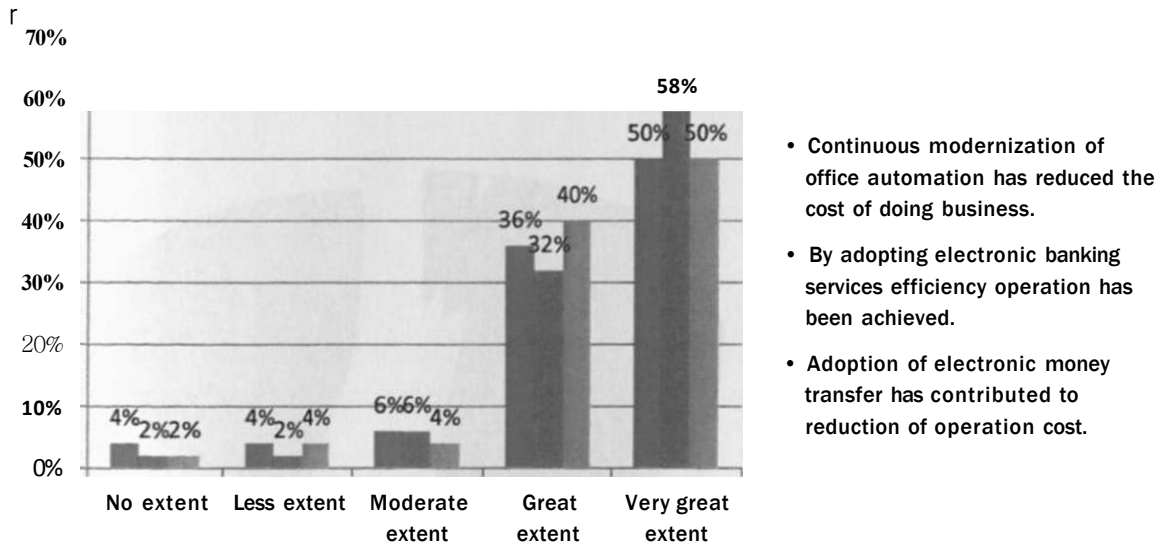


Source: Research Findings

4.2.2 Process Innovation

The study sought to determine whether process innovation through continuous modernization of office automation, adoption of electronic banking services efficiency operation and adoption of electronic money transfer has contributed to reduction of operation cost as well resulting to increased efficiency amongst MFIs in Kenya and the following results were obtained. The study used a scale of 1-5. Where 1= No extent; 2=Less extent; 3= Moderate extent; 4= Great extent; 5= Very great extent.

Figure 4.4 Effects of Process Innovation



- Continuous modernization of office automation has reduced the cost of doing business.
- By adopting electronic banking services efficiency operation has been achieved.
- Adoption of electronic money transfer has contributed to reduction of operation cost.

Source: Research Findings

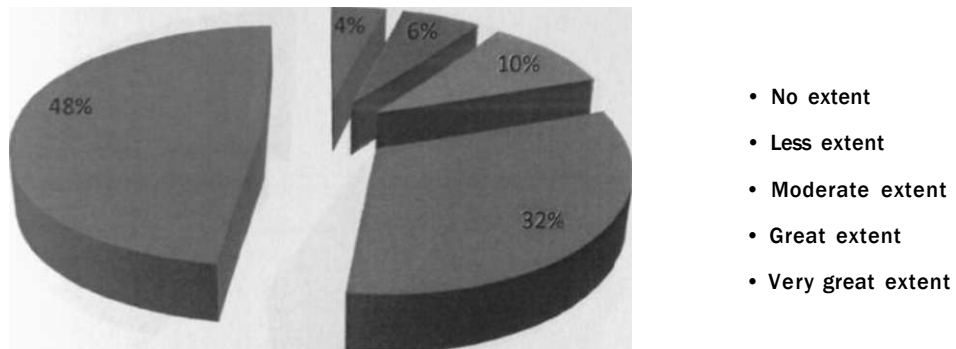
Table 4.4 shows the results on process innovations, for instant on whether modernization of office automation contribute to cost reduction of doing business amongst MFIs in Kenya, majority (50%) agreed to a very great extent, 36% agreed to a great extent, 6% on a moderate extent and 4% to less. Likewise adoption of electronic banking services has increased efficiency with majority (58%) of respondents affirming to the statement to a very great extent while 32% agreed to a great extent. On the other hand majority (50%) of respondents agreed to a very great extent and 40% agreed to a great extent that adoption of electronic money transfer has contributed to cost reductions.

4.2.3 Institutional Innovation

The author sought to find out the effect of increasing number of agencies offering services, number of retail outlets and adoption of credit referencing bureaus services on customers' number of MFIs in Kenya. The study used a scale of 1-5. Where 1= No extent; 2=Less extent; 3= Moderate extent; 4= Great extent; 5= Very great extent.

On whether customer number has increased owing to measures pertaining to institutional innovation such as increased number of agency services the following results were obtained.

Figure 4.5 Effects of Increased Agency Services

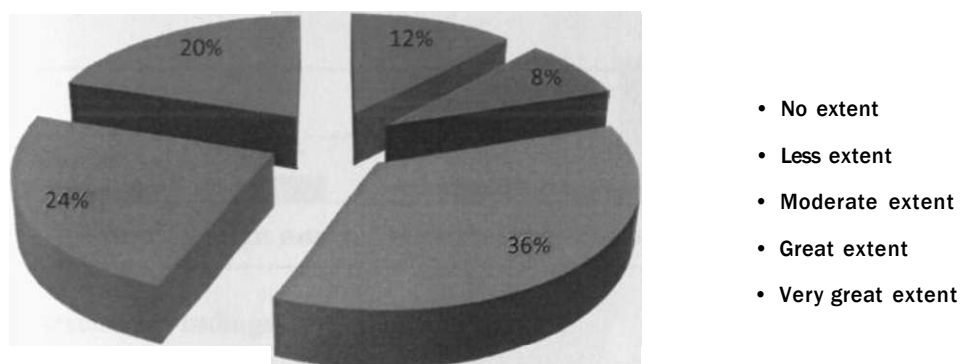


Source: Research Findings

Figure 4.5 indicates that 48% of respondents agreed to a very great extent that customer numbers have risen owing to increased number of agency services in the MFIs sector. Likewise 32% also attributed the surge in the number of customers to introduction of agency services.

On whether increasing the number of retail outlets, the number of customers has increased the following results were obtained;

Figure 4.6 Effects of Increased Outlets (Service Points)

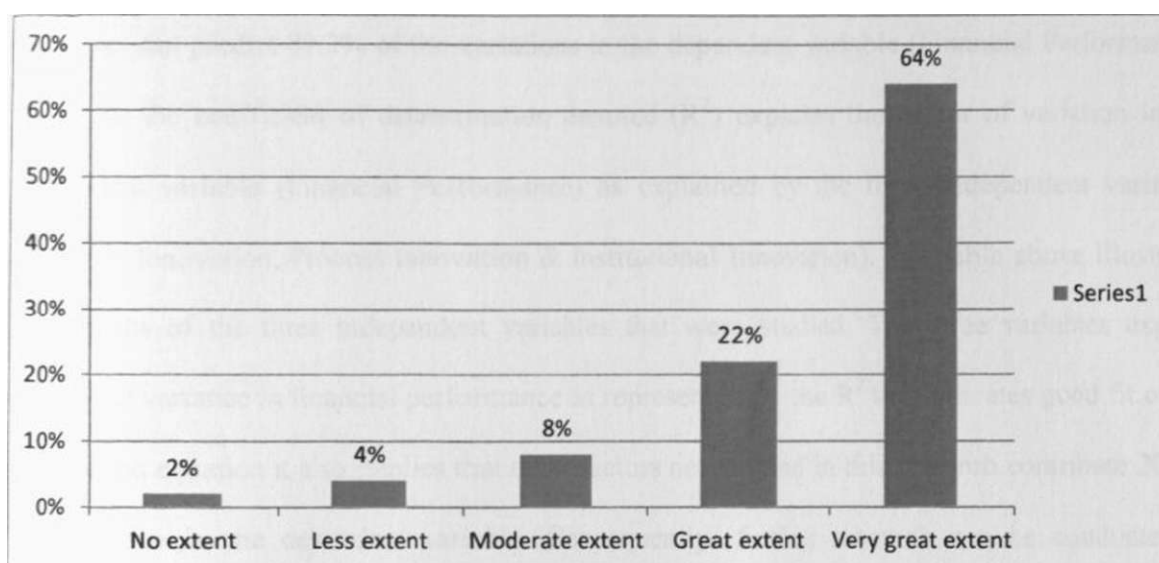


Source: Research Findings

Figure 4.6 indicates that 36% of respondents moderately agreed increasing the number of retail outlets, increased the number of customers likewise 24% of respondents agreed to a great extent while 20% agreed to a very great extent. On the other hand on aggregate 22% of respondents agreed to a less and to no extent.

Finally the study sought to find out the respondents level of agreement with regard to the effect of the use of credit referencing bureau services on the increase of the number of customers of MFIs in Kenya where 64% agreed to a very great extent with the statement, 22% agreed to a great extent 8% where indifferent while 4% agreed to a less extent and 2% disagreed as indicated in the figure below.

Figure 4.7 Effects of Credit Reference Bureaus



Source: Research Findings

4.3 Regression Model

This section presents discussion of the results of inferential statistics. Regression analysis was undertaken in order to investigate the effect of financial innovations on the financial performance of microfinance institutions in Kenya. In order to ascertain the associations and effects of Product Innovation, Process Innovation & institutional Innovation on Financial performance among MFIs regression analysis was carried out and results summarized in Table 4.2 below;

Table 4.1 Model Summary

Model	R	R-Square	Std. Error
1	.892 ^a	0.796	0.494

Source: Research Findings

a. Predictors: (Constant), Product Innovation, Process Innovation & Institutional Innovation

b. Dependent Variable: Financial Performance

Table 4.2 above illustrates the model summary results. It's evident that the three independent variables can predict 89.2% of the variations in the dependent variable (Financial Performance). Likewise the coefficient of determination denoted (R^2) explains the extent of variation in the dependent variable (Financial Performance) as explained by the three independent variables (Product Innovation. Process Innovation & institutional Innovation). The table above illustrates the results of the three independent variables that were studied. The three variables explain 79.6% of variance in financial performance as represented by the R^2 this indicates good fit of the regression equation it also implies that other factors not studied in this research contribute 20.4% of variance in the dependent variable. Consequently, further research can be conducted to investigate into the other factors that influence Financial Performance of MFIs in Kenya.

Table 4.3 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	4.294	4	1.246	9	0.001
Residual	1.493	8	0.486		
Total	5.787	12			

Source: Research Findings

- a. Predictors: (Constant). Product Innovation. Process Innovation & institutional Innovation.
- b. Dependent Variable: Financial Performance

Table 4.3 above illustrates the ANOVA results regressing the independent variables against the dependent variable (financial performance) gives a significant model in prediction given an F-significance value of 0.001. The F critical at 5% significance level was 3.54. Since F calculated is greater than the F-critical (value=9.0), this shows that the overall model was significant. The significance was less than 5%, demonstrating that the predictor variables, (Product Innovation, Process Innovation & Institutional Innovation) are significant.

Table 4.4 Regression Analysis

Predictor-Independent Variable	Unstandardized Coefficients		Sig.
	Coefficients	Std. Error	
(Constant)	3.564	0.521	0.000
Product Innovation	0.865	0.687	0.001
Process Innovation	0.668	0.502	0.003
Institutional Innovation	0.798	0.544	0.002

Source: **Research Findings**

a. Dependent Variable: Financial Performance

b. Product Innovation. Process Innovation & institutional Innovation.

The study applied regression analysis to determine the correlation between the independent variables and the dependent variable. The regression model below was used to establish the association between the independent variables and the dependent variable. From table 4.4 the variables are statistically significant implying that the independent variables have an impact on financial performance of MFIs. From the regression results, the equation is presented as follows;

$$\mathbf{Financial\ Performance = 3.564 + 0.865\ Product\ Innovation + 0.668\ Process\ Innovation + 0.798\ Institutional\ Innovation}$$

The regression results show that, when the product innovation, process innovation and institutional innovation have zero values, financial performance would be 3.564. The results also show that Product Innovation was significant at $p=0.01$ with a unit increase in the dependent variable resulting to a 0.865 increase in Financial Performance; a unit increase in Institutional innovation will lead to a 0.798 increase in Financial Performance; a unit increase in process innovation will lead to a 0.668 in Financial Performance. This means that the most significant factor was product innovation followed by institutional innovation while process innovation had the least impact on the dependent variable.

4.4 Interpretation of the Findings

From the study results three variables were investigated and found to be key determinants in the financial performance of Micro finance institutions. The findings concur with those of Mwangi (2013) who found that there is a direct relationship between financial innovation and financial performance of MFIs at significant levels. More important Product Innovation emerged the most significant variable followed by process innovation and finally Institutional Innovation. While other factors not investigated in this study influence Micro finance institutions the three variables plays a pivotal role in determining the financial performance of Micro finance institutions.

from the regression results it's evident that product innovation was significant at $p=0.01$ with a unit increase in the dependent variable resulting to a 0.865 increase in Financial Performance. This indicates that product innovation plays a pivotal role in enhancing micro finance sector performance. From these findings inferences can be drawn to indicate that continued product innovation would offer clients a wide range of products and this would in the long run result to increased market share hence improved financial performance of any MFI.

The findings of this study further revealed that process innovation significantly impacts on performance of Micro finance institutions with regression results showing that a unit increase in process Innovation will lead to a 0.668 in Financial Performance. The findings coincide with those of Wu, Chang and Chen (2008) who found that mediating effects of product innovation on financial performance of MFIs in Kenya exist at significant levels. Inferences can therefore be drawn to imply that tendency of a firm to engage in and support new ideas, uniqueness, experimentation and creative processes results in new products, processes and institutions of MFIs. Any innovation requires the firm to have competences relating to technology and relating to customers.

On whether Institutional Innovation impacts on performance of micro finance institutions the study revealed that a unit change in Institutional Innovation will lead to a 0.798 change (increase) in performance of micro finance institutions. This is an indication that advancements in operational processes play a significant role in enhancing performance of micro finance

institutions. Institutional Innovations in the micro finance sector would greatly improve the operating framework for such institutions thereby enhance customer confidence owing to improved performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter depicts the summary of the data findings on the effect of financial innovations on financial performance of microfinance institutions in Kenya. This section presents the conclusions, recommendations as well as suggestions for future research.

5.2 Summary

The study targeted 47 respondents in collecting data with regard to the financial innovations as a determinant of financial performance of microfinance institutions in Kenya. The response rate was 70% hence adequate data for analysis was obtained. Quantitative data was analyzed using the Statistical Packages for Social Scientists (SPSS) version 21 which is all-inclusive and offers wide-range data handling capability. The study also used Likert scale which enables easier analysis as it removes doubt on the type of response given. A simple regression model was used to assess the combined effect of the three Independent variables namely Product innovation, Process innovation and Institution innovation on the dependent variable which is financial performance of MFIs in Kenya. The study was guided by the following regression model:

$$Y = P_0 + P_1X_1 + P_2X_2 + P_3X_3 + e$$

Where: Y = Financial performance of MFIs in Kenya, P_0 = intercept coefficients, X_1 = Product innovation, X_2 = Process innovation, X_3 = Institutional innovation and e = Error term

This study found that products innovation plays a vital role in enhancing financial performance of micro finance institutions. Regression results shows that product innovation is significant at $p=0.01$ with a unit increase in the dependent variable resulting to a 0.865 increase in Financial Performance.

On whether process innovation influences financial performance of MFIs this study established that continuous modernization of office automation, adoption of electronic banking services and adoption of electronic funds transfer has impacts greatly in enhancing financial performance of MFIS in Kenya. From the regression results revealed that unit rise in process Innovation will lead to a 0.668 in Financial Performance.

From the results obtained institutional innovation such as increasing number of agencies services, increasing number of retail outlets as well as establishment of credit referencing bureau services have revolutionalised financial performance of MFIs in Kenya. From the regression results it's evident that a unit increase in institutional innovation will lead to a 0.798 increase in financial performance.

5.3 Conclusion

This study investigated the effect of financial innovations on financial performance of microfinance institutions in Kenya. Results reveal that there have been a number of innovations in this sector which has impacted positively in the performance of microfinance institutions in Kenya. From inferential statistics, there exists a positive relationship between financial performance and the Predictor variables (Product Innovation, Process Innovation and Institutional innovation).

5.4 Recommendation for Policy

Products innovation in the financial sector is absolutely inevitable if any microfinance institution intent to stay in the marketplace owing to the rapid changes in the sector. It is important for micro finance institutions to be involved in continuous research and development not only to offer new products but also products that satisfy the consumer. Continuous innovation will provide MFIs an ideal platform upon which they can grow their revenues and hence growth from being micro enterprises to fully pledged financial institutions.

Process innovation is vital to microfinance institutions as this provides a good policy towards efficiency in service delivery since this sector is service oriented. Process innovations entail the

entire operations of such institutions and can be enhanced through best practices in line with industry standards. This study recommends that measures be put in place in order for Micro finance institutions to improve efficiency through process innovations.

Mostly institutional innovation should also be part and parcel of microfinance institutions as this will go a long way in improving their performance. Institutional innovation in form of regulatory framework aiming at streamlining operations of MFIs are welcomed as they present new opportunities rather than threats hence improving performance of MFIs.

5.5 Limitations of the Study

The study only focused on the concept of financial innovations as a key contributor to financial performance of MFIs regulated by microfinance institution act of 2006 and operating in Kenya. This is despite the fact that there are other factors that contribute to financial performance of MFIs whose effect cannot be disaggregated from that of financial innovations. They include capital adequacy, interest rates. Operational efficiency and loan size among others.

The target population in this study consisted of MFIs regulated by microfinance act of 2006 and operating in Kenya, this left out the larger population of other financial institutions such as banks, SACCOs and Insurance companies which have also established financial innovations in their operations. Some respondents also refused to participate in the study since they considered filling the questionnaires as a waste of their valuable time. However there is no reason to believe that they could have responded differently.

5.6 Suggestions for Further Research

This study only focused on Microfinance institutions and left out other financial institutions such as banks. SACCOs and other financial institutions. In order to obtain a conclusive decision, future studies should concentrate on other financial institutions to investigate the effect of financial innovations on performance of such institutions. Future studies could also focus on other variables such as market innovation to determine their influence on financial performance of microfinance institutions in Kenya.

REFERENCES

- Anderloni, L. Llewellyn. D.T. & Schmidt. R. (2006, 2009). *Financial Innovation in Retail and Corporate bankings* Edward Elgar. UK 21(1), 47-48.
- Brugger, D. A. (2004). Microfinance Investment Funds: Looking Ahead. *A Paper for the KJWF financial Sector Development Symposium*, 34(6). 388-401.
- Bryman, A. & Bell, E. (2003), is the Resource-based 'view' a Useful Perspective for Strategic Management Research?, *The Academy of Management Review*, 26(1), 22-40.
- Chen, Z. (1995). Financial Innovation and Arbitrage Pricing in Frictional Economies. *Journal of Economic Theory*, March, 32(2), 35-36.
- Cooper, D. & Emory, C. (2003). *Business Research Methods*. Chicago. Irwin
- Cravens. D.W. (1991). *Strategic Marketing*. 1rd Edition.
- Cull. R., Kunt, A. D. & Morduch, J. (2009). Does Regulatory Supervision Curtail Microfinance Profitability and Outreach? *Access Finance*. 28(2),28-29..
- Davila, A. & Shelton, R. (2006). *Making Innovation Work*. 9(2), 23-26.
- DeGennaro. R. P. (2005). Market Imperfections. Working Paper 2005-12. Reserve Bank of Atlanta, USA.
- Desai. M. & Low, M. (1987). Measuring the Opportunity for Product Innovation, in M.de Cecco(de.), *Changing Money: Financial Innovation in Developed Countries*[M]. Basil Blackwell, Oxford. 13(1), 229-230.
- Drucker. F.P. (1974). 'Management:Tasks. Responsibilities. Practices' Publisher Harper & Row.

- Gitonga. T. (2003). *Innovation Processes & The Perceived Role of The CEO In The Banking Industry*, Unpublished MBA Project, University of Nairobi.
- Gupta. S. (2008). Microfinance in Africa: Harnessing the Potential of a Continent. *Microfinance Insight*. An Intellect Publication. 2(2), 1-3.
- Hardy, D. C., Holden, P. & Prokopenko, V. (2003). *Microfinance Institutions and Public Policy*. Policy Reform, 6(3), 147-158.
- Hartungi, R. (2007). 'Understanding the Success Factors of Microfinance Institution in a Developing Country.' *International Journal of Social Economics*, 34(6), 21 -22.
- Hicks. J. & Niehans J. (1935). The History of the Concept of Transaction Costs.
- Hoque, M. & Chisty, M. (2011), 'Commercialization and Changes in Capital Structure in Microfinance Institutions. *An innovation or wrong turn? Journal of Managerial Finance*. 37(5), 45-46.
- Ignazio. V. (2007). Financial Deepening and Monetary Policy Transmission Mechanism. *BIS Review* 124.28-29.
- Kane. E. J. (1983). Accelerating Inflation, Technology Innovation and the Decreasing Effectiveness of Banking Regulation. *Journal of Finance*, 36(2), 355-367.
- Kim. W. C. & Mauborgne, R. (1999). Strategy, Value Innovation and Knowledge Economy, *Sloan Management Review*, Spring. 40 (3), 41-54.
- Kiweu, J. M. (2009). The Critical Success Factors for Commercializing Microfinance institutions In Africa. Unpublished PHD Dissertation Stellenbosch University.
- Kotler. P. (1994). *Marketing Management*. Analysis, Planning, Implementation and Control 8th Ed. Prentice-Hall, New Jersey. 36(3). 27-29.

- Lafourcade, L. (2005). *Overview of the Outreach and Financial Performance of Microfinance Institutions in Africa*. ISBN 0-13-149786-3.
- Leelar, D.T. (2006). *Financial innovation-. A Basic Analysis in Financial Innovation*. Routledge,, Routledge,UK. 3(1), 48-53.
- Levich, R. M. (1988). *Financial Innovations in International Financial Markets: The Changing Role of the United States and the World Economy*. UCP. Chicago.
- Mbogo. M. & Ashika. A. (2005). Factors Influencing Product Innovation in Micro Finance Institutions in Kenya: A case Study of MFIs Registered With the Association of Microfinance Institutions. 3 (1), 45-46.
- Mcmillan A. & Schumaker T. (2001). Non-enforceable Implementation of Enterprise Mobilization: and Exploratory Study of the Critical Success Factors, *Industrial Management & Data Systems*, 105 (6), 786-814.
- Merton. R.C. (1986). Financial Innovation and Economic Performance, *Journal of Applied Corporate Finance*, 4(4), 23-24.
- Mote, R. (1983). *Financial Intermediation Through Institutions or Markets? BIS Review*,72/2007
- Mugenda, O. M. & Mugenda, A. G. (2003). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi, Acts Press.
- Mugo, J. G. (2012). The Effect of Financial Innovation on The growth of Microfinance Institutions in Kenya. Unpublished MBA Project, University of Nairobi.
- Mwangi, A. K. (2013). Effect of Financial Innovation on the Financial Performance of Deposit Taking Microfinance Institutions in Kenya. Unpublished MBA Project. University of Nairobi.

- Vlwangi, M. K. (2007). Factors Influencing Financial Innovation in Kenya's Securities Market: A Case Study of Firms Listed at The Nairobi Securities Exchange. Unpublished MBA Project. University of Nairobi.
- Ngugi J. K., Mcorege M. O. & Muiru J. M. (2010). *The Influence of Innovativeness on the Growth SMEs in Kenya. International Journal of Business and Social Research.* 3(1), 26-29.
- \>aga. T. (2008). The Nature of Competition Within Micro Finance Industry in Kenya. Unpublished MBA Project. University of Nairobi.
- Odhiambo, G. O. (2008). *Innovation Strategies at the Standard Chartered Bank; An Unpublished MBA Project.* University of Nairobi.
- Oke. A. & Goffin, K. (2001). Innovation Management in the Service Sector Management 2(1), 23-26.
- Okibo B. W. & Makanga N. (2014). Effect of Micro finance Institutions on Povervity Reduction in Kenya. *International Journal of Current Research and Academic Review,* 2(2), 76-95.
- Okiri. K. & Ndungu. J. (2005). The Impact of Mobile and Internet Banking on Performance of Financial Institutions in Kenya. An Unpublished MBA Project. University of Nairobi.
- Rahi, R. (1985) Optimal Incomplete Markets with Asymmetric Informat ion[^]*Journal of Economic Theory,*
- R\croft. R.W. & Kash. D.E. (1999). "Managing Complex Networks: keys to 21st Century Innovation Success". *Research and Technology Management,* 42 (3). 13-18.
- Scy 11a, R. (1982). Monetary Innovation in America. *Journal of Economic History.* 22 (I), 30-31.
- Senbet, L.W. & Otchere, I. (2006). Financial Sector Reforms in Africa. Perspectives on Issue and Policies. 3(6), 46-49.
- Silber. W. L. (1975). *The Process of Financial Innovation.* American Economic Review. 3(1), 45-46.

- Silla, M. & Davies, J. (2003). Regulation Innovation Theory.
- Tidd, J., Bessant, J. & Pavitt, K. (2001). Managing Innovation: Integrating Technology, Market and Organization Change.
- Wheelwright, S.C. & Clark, K.B. (1992). Revolutionizing Product Development Quantum Leaps in Speed, Efficiency, and Quality. *The Free Press, New York*, 3 (2) 37-39.
- White, L. J. (2000, 2001) "Technological Change, Financial Innovation, and Financial Regulation in the U.S.: The Challenge for Public Policy" in Performance of Financial Institutions, (Cambridge University Press, Cambridge, UK). 388-415.
- Wu, W. C. & Chen, K. (2008). Dimensions of Social Capital and Firm Competitiveness: The Mediating Role of Information Sharing. *Journal of Management Studies*, 45(1): 122-146.
- Zeller, M., G. Schrieder, J., Von B. & Heidhues, F. (1997). Rural Finance for Food Security for the Poor: Implications for Research and Policy. Washington DC, USA. Vol. 3.

APPENDIX I
QUESTIONNAIRE

SECTION (1)

Listed below are questions dealing with effect of financial innovations on financial performance of micro finance institutions in Kenya. Please rate the factors by ticking appropriately in the provided table. Don't leave your contact or write your name in the questionnaire. Your privacy and confidentiality is assured.

Estimate to what extent the following statements relate to various kinds of financial innovations applied to your Institution in the period 2011-2013. Please tick one choice for each of the following statements. (1= No extent; 2=Less extent; 3= Moderate extent; 4= Great extent; 5= Very great extent.

Part A: Product Innovation

Factors	1	2	3	4	5
(a) Increased numbers of new deposit accounts have contributed to increase in revenue.					
(b) By increasing number of loan products customer number has increased hence revenue.					
(c) Introduction of new micro insurance products has increased number of customers.					

Part B: Process Innovation

Factors	1	2	3	4	5
(d) Continuous modernization of office automation has reduced the cost of doing business.					
(e) By adopting electronic banking services efficiency operation has been achieved.					
(f) Adoption of electronic money transfer has contributed to reduction of operation cost.					

PartC: Institution Innovation

Factors	1	2	3	4	5
(a) Customer number has increased by increasing number of agencies offering our services.					
(b) By increasing number of retail outlets, number of customers has increased.					
(c) Adoption of credit referencing bureaus services has increased the number of credible customers.					

Your Organization

Thank You for Participating in This Survey!

appendix 11

LIST OF MFI MKMBKRS REGISTERED BY MICROFINANCE ACT OF 2006 BY 31st DECEMBER 2013

1	Jitegemee Trust	25	One Africa Capital Ltd
2	Oikocredit	26	Jitegemea Credit Scheme
i	MESPT	27	AAR Credit services
4	Women Enterprise Fund	28	ADOK TIMO
5	Kenya Women Finance Trust Fund	29	Juhudi Kilimo Co. Ltd
6	Rafiki Deposit Making Microfinance Ltd	30	Musoni Kenya Ltd
7	Faulu Kenya Ltd	31	Molyn credit Ltd
tl	S.M.P. DIM	32	RETAP
r	Remu DTM Ltd	33	Rupia Ltd
10	Uwczu TDM Ltd	34	Taifa Options Microfinance
hi	Century DTM Ltd	35	Select Management Services Ltd
12	Sumac Credit DTM Ltd	36	Greenland Fedha Ltd
13	I & I Deposit Making Microfinance Ltd	37	Youth Initiatives Kenya
14	Blue Ltd	38	Platinum Credit Ltd
15	Ecluf Kenya	39	Ngao Credit Ltd
16	KADUT	40	Indo Africa Finance
17	SISIX)	41	Springboard Capital
18	Micro Africa Ltd	42	Women Enterprise solution
19	Opportunity Kenya	43	Focus capital Ltd
20	Ychu Microfinance trust	44	Samchi Credit Ltd
21	Fusion Capital Ltd	45	Fountain Credit Services Ltd
22	Microcensure Advisory Services	46	Milango Financial Services
23	Fort Credit Ltd	47	Nationwide Credit Kenya Ltd
24	Canyon Rural Credit Ltd		

Source: Central bank of Kenya