RELATIONSHIP BETWEEN FINANCIAL INNOVATION AND
FINANCIAL PERFORMANCE OF MICROFINANCE INSTITUTION
IN KENYA

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DECLARATION

This research project is my original work and has not been submitted to any other college, institution or university for academic credit.

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This research project report has been submitted for presentation with my approval as the university supervisors.

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DEDICATION

I would like to dedicate this research to my loving brothers, sisters and the entire family members for the financial, moral support, prayers and encouragement during this study.
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ABSTRACT

The study sought to determine the relationship between financial innovations and financial performance of MFIs in Kenya. Despite the increasing number of financial innovations, the impact of innovation on financial performance is still a hard to and misunderstood. The research used a descriptive research design of the licensed and regulated microfinance institutions in Kenya by CBK. The population of this study comprised 9 licensed out of 13 the regulated and licensed by Central bank of Kenya as at 2017. The sample of study conducted on 9 MFIs. The study used secondary data which was obtained from audited financial statement of CBK 2017 report. The regressions were conducted using SPSS version 24. The study established that there is a weak positive and significant relationship between financial innovation and financial performance (ROA). The relationship between financial innovation capital adequacy financial performance was found to be positively weak and significant. Interest on loans was found to have a very strong positive relationship with financial performance since it’s the main source of revenue. Firm size had a very weak adverse association with financial performance. Based on the study findings, the study also concluded that the relationship between financial innovation, capital adequacy interest on loan and financial performance is positive and significant. But a negative effect on firm size and financial performance. The study concludes that the adoption of financial innovations by MFIs in Kenya has resulted in improved performance over the years.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Financial Innovation in the financial sector is essential component in the growth and sustainability of the economy. Due to globalization and stiff competition being experienced in the financial sector, innovation has been observed as the only way out to remain competitive and being sustainable in the financial sector. Financial firms have put a lot of emphasize on the financial innovation in order to achieve high customer satisfaction, increase their market share and enhance the profitability of the firm (Tidd and Pavitt, 2011). Financial innovation is a new paradigm in the financial sector to improve the operational efficiency and enhance the profitability of the firms (Lawrence and Scott, 2001).

Several theories provide insights into the rationale of the financial innovation. The research is anchored towards the Schumpeterian theory of innovation that was developed by Schumpeter (1982) which emphasizes on the need of the innovation in order to enhance the firms’ operations and improve the profitability of the organization, the theory elaborated the firms can develop opportunities and enhance their efficiency and effectiveness by being innovate, which will ultimately improve their profitability. The constraint-induced innovation theory which was developed by Silber (1983) which emphasized on the firms usually responds to constraints presented to them by environment through innovation. The theory of regulation innovation which was advanced by Scylla et al (1982) recognizes financial innovations as omni-directional
especially when there is government interventions and regulations that hinders its activities. Financial innovation in the planned economy is very difficult because of the strict controls (Scylla et al, 1982). Transaction cost theory which was developed by Hicks & Niehans (1935) emphasized on the financial innovation as the way out to reduce the transaction cost which can stimulate growth in the profitability of the firm.

Microfinance institutions (MFIs) perform an essential function in the economic growth and development through facilitation of a wide range of products and services to the customers. Microfinance institution’s main customers are the micro and small entrepreneurs and low-income household customers. The microfinance institution offers financial services in terms of deposits, loans, savings, money transfer, payment services, remittances and technical and financial assistance (Hartungi, 2007). However, the microfinance institutions are facing immense competition from more developed financial institutions such as commercial banks, thus there is need for the institutions to implement innovative ways in the financial services operations so as to remain competitive in the financial market and also to enhance their profitability (Lafourcade, 2005).

1.1.1 Financial Innovation

Financial innovation entails the creation of the new processes, financial systems and products. There are three types of the financial innovation in the financial institutions and these are the institutional innovation which entails the establishment of new ways in the financial institution that involves the establishment of the financial intermediaries, changes the framework of the supervision and legal policies regarding the financial such
as formalizing informal finance system, setting up new financial service line and reducing the barrier for the low-income earners to access the financial services. The process innovations involve creating new business processes leading to increased efficiency and effectiveness of the financial operations which will enhance market expansion for the financial institutions. Product innovation which involves the implementation of the new credit accessibility line, deposit business line and other financial products which usually responds to variations in the financial market demands (Lawrence & Scott 2001).

Financial innovation is considered to be a crucial requirement for the profitability and growth of organizations and other companies. One way of achieving, sustaining and growth performance is to encourage and promote creativity internally and financial innovative practices within the financial institution which provides financial products and payment services that enable financial firms to participate in the wider economy of any country. They offer credit/loan, risk management and savings products (Tidd & Pavitt 2011).

1.1.2 Financial Performance

Financial performance is a subjective measure of the extent to which an enterprise can use assets from its principal mode of business to generate revenue, thus enabling achievement of its objectives. As per Heremans (2007) study, indicators of financial performance that were employed measured the degree of objective achievement, contribution in creating available financial resources, improvement in profitability and
assistance of the microfinance institutions with investment chances. Alam, Raza & Akram (2011) stated that the performance of a firm was a multi-dimensional concept that comprises four fundamentals namely customer driven performance (customer satisfaction and product/service performance), market and financial performance (revenues, profit margins, market share standing, cash to cash rotation time, and share earnings), human resources performance (employee satisfaction index) and effectiveness of the organization (time to market, innovation levels and supply chain flexibility and productivity).

Majority of firms, however, do have a preference to adopt a number of financial indicators as means of measuring their performance. Net profit after tax, stock turnover rate, return on assets (ROA), Return on Investment (ROI) and return on Equity (RoE) are normally used as financial/accounting indicators by firms according to (Tavitiyaman, Zhang & Qu, 2012). According to (Bagorogoza & Waal, 2010) some of the other common measures of performance are stakeholder satisfaction, profitability, market share, productivity level, growth rate and competitiveness. Financial performance measures extend to which an enterprise is creating value for its owners whereas the financial performance of micro finance institutions can be gauged by evaluating how the enterprise generates revenues and incurs expenses through its various activities, measured using financial ratios analysis. (Amjad & Akram 2011).
1.1.3 Financial Innovation and Financial Performance

Before the introduction of the electronic banking, the banking transactions were done manually which slowed down the settlement of transactions (Kahinga, 2014). This involved the posting of one transaction from one ledger to another by human beings. The evolution of the technology has enabled financial institutions to offer electronic banking. This is by the use of new technologies such as ATMs (automated teller machines), mobile based banking, EFT, personal computer (PC) banking, account-to-account transfer, credit cards, online statements and pay bills among others (Mwaura, 2013).

Through these technologies, clients are able to access information relating to their accounts from anywhere, at any time across the clock. Effectiveness and efficiency of banking services has been enhanced by internet banking. Information system cannot be ignored or overlooked by financial institutions. This is because they play a vital role in these institution’s operations especially because customers are aware of innovations and advancements in technology and therefore demand services of higher quality which can lead to financial performance. Through the study of the influence of internet and mobile banking on financial institutions’ performance in Kenya, it was established that internet banking adoption has improved financial and operational performance of the banking sector due to high increase in customer deposits. This is accredited to the enhanced efficiency, effectiveness and performance (Oruro & Ndungu, 2013).
The use of technology has several advantages reaching from regulations and reduction in operating costs, service accessibility increases to the financial institution and increased customers who will embrace the technology. All these will in turn influence the company’s financial performance (Nzau, 2013). The electronic banking enabled the Microfinance Institutions (MFIs) to automate the repetitive tasks resulting in greater effectiveness and efficiency, improved time usage and improved controls (Nytathira, 2012). It has facilitated effective controls over overhead expenditure and other operational costs by the institutions henceforth improving profitability in the future (Sabana, 2014). The electronic banking reduces paperwork and thus improves proper documentation for records as a whole (Ngumi, 2014). Microfinance institutions continue to invest more on ICT platforms in preference over additional staff recruitment required to provide service to the increasing customer numbers hence leading to a reduction in payroll costs (Nzau, 2013).

1.1.4 Microfinance Institutions in Kenya

The microfinance movement was begun in 1970 by Dr. Muhammad Yunus in Bangladesh. From there it has extended to other parts of the world, drawing the attention of multitudes because of great success in lending practices, poverty alleviation and empowerment of women. About 1.4 billion people worldwide face poverty, living on less than a dollar a day, facing societal and financial segregation. The recent food crisis has made the situation worse by driving millions into extreme poverty. The UN has an intense interest in respect of the emerging significance of microfinance as a tool for
reducing poverty in Africa and evidence demonstrate that microfinance in Africa is emerging at all levels of the financial sector, (World Bank 2009).

Most Microfinance Institutions (MFIs) in Kenya have been using M-PESA to provide micro-loans to their customers. The MFIs operating in Kenya are regulated and licensed by Central Bank of Kenya (CBK) under the 2006 Microfinance Act and the Regulations for Deposit Taking MFIs (CBK 2008). These regulations govern the establishment, supervision and licensing of the MFIs. They also control the commercial operations of all MFIs in Kenya. Almost all MFIs in Kenya do also take deposits hence Deposit Taking Institutions. Some of the advantages of utilising mobile banking such as M-PESA when receiving or making deposits include convenience, cost reduction, and reduced risk of fraud. The competition occasioned by M-PESA product to the existing financial payment alternatives in the financial market has led commercial banks to innovate a competitive product christened PesaLink. Whereas M-PESA limits daily money transfer amounts to ksh.140,000 (CBK).

The Central Bank of Kenya recognizes the part that financial inclusion plays in poverty eradication, and desires to promote the savings investment cycles that lead to economic development. Thus, the regulator has undertaken numerous initiatives and reforms to boost monetary inclusion through developing the appropriate financial structure. This includes the licensing of deposit-taking micro financial institutions (DTMs) and credit reference bureaus (CRBs); promoting take up of mobile banking financial facilities and the agency banking model. Already these reforms and creativities have led to significant
enhancements in the reach, level and deepness of access to financial facilities, specifically among the lower echelons of the population. In fact, the results, gauged by the statistics, are amazing: deposit accounts have grown extremely. Microfinance sector in Kenya was organized into various categories which include regulated MFIs, transforming MFIs under (AMFI) act; non-regulated; credit only MFIs; financial wholesalers; micro-insurance providers and development institutions (Ongaki, 2012). A list of various categories of MFIs can be found from the Association of Microfinance Institutions (AMFI).

1.2 Research Problem

Financial innovation is critical for it spurs the growth of the economy through the improvement of the financial sector efficiency and effectiveness. Financial innovation embraces the firm profitability due to the overview of the of new or better products, amenities and process in the firm (Heffernan &Fu, 2008). The financial innovation has been triggered by information asymmetries in the financial markets, globalization and market imperfection which has created the need of the financial institutions to concentrate on the new ways to develop new products and services in the financial sector. Microfinance institutions are capital-intensive firms and require sustainable improvement in their operations in order to remain competitive in the financial sector. Thus there is need for the microfinance institutions to concentrate on developing new ways of the operations, products and process in order to improve their profitability and to increase their market share in the competitive financial sector.
According to Brugger (2004) the MFIs like any other financial institution need to increase the value to their customers, reduce risks, increase the deposits levels and loans levels and reduce the transaction costs of the customers. Financial innovation has been seen as the only way out the microfinance institutions can be able to increase their operational efficiency which will ultimately improve their profitability. Financial innovation is essential in the microfinance institution for it influences the financial performance of the firm, thus the financial innovation in the microfinance through institution, product and process innovation are the main contributor to the enhancement of the profitability of the microfinance institutions.

Various empirical studies globally and local scholars have examined the themes of financial innovation and performance. Earlier studies have created mixed results concerning the effect of financial innovations on financial performance. Studies by Franscesa & Claeys (2010) concluded that financial innovations had slightest effect on financial performance. Studies by Heffernan & Fu (2008) state that innovation has come with a newer and more improved processes and products that reduce the production costs of current financial services in financial firms that embrace Innovation. On the other hand, Mwania & Muganda (2011) reiterates that the benefits of financial innovations far overcome the limitations and hence financial innovation has significant contribution to financial performance. Nevertheless, the study concentrated on commercial banks instead of MFIs.
Mugo (2012) focused on MFI institutional innovativeness on the operational efficiency. However, the study failed to link institutional innovations to levels of performance. Chemitei (2012) examined the influence of innovation in generating competitive benefits to MFIs as divergent to financial performance. A study by Mwangi (2014) dwelt on the impact of financial innovation on deposit taking MFI’s returns in Kenya. However, the study concentrated on deposit taking MFIs whereas majority of MFIs are not dealing with deposits but do provide out credit services. None of the studies have focused on the effect of financial innovation on financial performance of MFI and in connection to that, this research seeks to fill the research gap by answering the following research question, what is the relationship between financial innovations and financial performance of microfinance institutions in Kenya?

1.3 Objective of the Study

To determine the relationship between financial innovations and financial performance of microfinance institutions in Kenya.

1.4 Value of the Study

The study will be important to the policy makers plus regulators such as Central Bank of Kenya (CBK) on the benefits of adopting innovation as a tool to enhance efficiency, cost reduction, increased convenience and lower risk of fraud by the microfinance institutions. The results of this study will benefit the policy makers to set policies that promote adoption of ICT by financial institution and boost performance and profitability.
The study will be important to MFIs to be able to understand the effect of financial innovations on financial performance. The outcomes of this study are expected to be of significance to the Kenyan clients who would help from increased financial innovations. Innovations such as mobile banking contributed positively to the economy and reduce money in circulation among the citizens in the country thus help poverty eradication amongst different demographics.

To help the government to come up with necessary legislations that enhance development of financial innovations and understand the risks involved in undertaking financial innovations and take the necessary precautions. It will help the government to come up with regulations governing the operation of MFIs.

Academicians are expected to take advantage of the results of this study as it would add value to them in terms of accessing the prevailing knowledge in finance and review the literature. The study findings are expected to be of reference by the policy makers in government formulation, comprehensive and balanced policies that lay basis for banking innovation. The policies will enhance global competitiveness of the country, resilient economy and attainment of essential national goals.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This chapter entails the theoretical groundwork that forms the basis of the research study, related literature on the financial innovation and financial performance, research areas, theoretical approach, literature review summary and the empirical review studies on the financial innovation and financial performance, alongside the conceptual framework linking financial innovation on the financial performance.

2.2 Theoretical Foundation of the Study
A theory is a concept that provides explanation on the relationship between variables in a particular phenomenon (Dawson, 2009). The research study is anchored towards the Schumpeter Innovation Theory as the main theory, Transaction Cost Theory, Constraint-Induced Innovation Theory and Regulation Innovation Theory. Below are the explanations of the theories;

2.2.1 Schumpeter Innovation Theory
Schumpeter innovation theory was developed by Schumpeter (1928), which recognized that innovation is an opportunity for new profits by entrepreneurs. These super profits will then attract a new wave of investments by groups of imitators thereby eroding the profit margins from the innovation. The function of entrepreneurship emphasizes on establishing the opportunities for generating value for performance that will transform the
flow of income and expand the commercialization of the organization. According to Schumpeter (1934), innovation is essential in enhancing growth in a capitalize system.

The theory emphasized on the innovation as a way of creating new ways of running an enterprise to make it more profitable and increasing their efficiency and effectiveness in their operations (Schumpeter, 1939). He further elaborated on the historical background on the innovation to have a positive influence in the financial performance of the financial sector. It is related to this topic of study since it brings out the aspects of innovation and its impact on performance. The theory is essential for it recognizes the need for innovation to enhance the profitability of the firm.

2.2.2 Constraint-Induced Innovation Theory

The constraint-induced innovation theory was developed by Silber (1983), an American economist. The theory emphasized on the profit maximization of the financial institutions as the main reason to implement financial innovation in the organization. The theory indicated that the external factors can be able to induce the reasons why firms need to concentrate on the financial innovation which includes but not limited to policies, organization management and the leadership style of the organization in the pursuit of maximizing the profitability of the firm.

The restriction in the environment enables the firms to establish new ways of creating avenues of generating income and to enhance the efficiency in the operation of the firm. The theory further elaborated on the financial innovation on the microeconomics
perspective in terms of adversity of the innovation to improve the microeconomic variables in the economy. Although various theories have been advanced in research of innovation none has significantly torched on the product innovation. The Schumpeter theory of innovation is the only one which has tried to explain how the innovation of products can improve the performance of these institutions. The theory is essential in the research study for it recognizes some external factors that induce the innovation and other factors that influence the development of the innovation in the financial sector.

2.2.3 Transaction Cost Innovation Theory

The transaction cost innovation theory was developed by Hicks and Niehans (1952). The theory recognized on dominant factor of the financial innovation as a way of reducing the costs associated with the financial transactions. The theory further elaborated on the need to advance the transaction innovation as it enhances on the financial services being offered by the financial institutions. The theory gives the perception of the microscopic economic structure change that gives a radical reason of financial innovation in order to provide benefits to the financial institutions. One of the major causes of financial innovations is to control transaction costs in any MFI. Transaction requires time, which comprises both costs and time to gather information which can only be controlled by employing appropriate process and products innovation. Minimizing costs increase profit opportunity enhances positive financial performance (Levich, 1988).
One of the major causes of financial innovations is to control transaction costs in any firm. Financial services need time of operations which consumes both costs and the time needed to gather information. Reducing costs enhance profit opportunity hence improved positive financial performance (Levich, 1988). The theory is essential in the study for it emphasizes on the need to implement innovation in the financial sector in order to reduce the financial cost associated in the financial transaction.

2.2.4 Regulation Innovation Theory

The Regulation Innovation Theory was developed by Scylla et al (1982). The theory emphasized on the financial innovation on the basis of the development of the economy. The theory recognizes that financial innovation is associated with the social and economic regulation for it influences the causality of the economic variables and social perspective of the country. Scylla et al, (1982) recognizes that the financial innovation needs to recognize the planned budget with firm controls and in a free-market economy as at the regulation and reforms of the financial innovation can be regulated in order to have a direct influence in the profitability of the financial institutions. Finance innovative activities that are government controlled can only perform in the market economy. Government management and intervention can hinder the financial activities and due to that, many kinds of financial innovations will come up with the intention to circumvent. Scylla et al (1982).

The game between the government and the market eventually create the curved development process called, “control-innovate, controls again-innovates again”. The
theory extended the extent of financial innovation in that government action is also viewed as one of the sources of financial innovations. Therefore, regulation innovation is regarded as part of the wider financial innovation. Particularly, it esteems rules and regulations that govern financial innovations. Financial controls through the body of rules and regulations provide the obstructive strength of financial innovations.

2.3 Determinants of Financial Performance

Financial performance is the profitability of a business enterprise measured through various measures mostly return on assets, return on equity, efficiency operational, leveraged and liquidity. Profit-making enterprises and entities are continuously looking for new and improved products/services, procedures and organizational structures in order to reduce production costs, satisfy customer demands and hence yield superior profits. However, this can occur through formal research and growth programs; occasionally it occurs over extra informal "tinkering" that was trial and error efforts. When effective, the outcome is innovation. The consequence of financial innovation to the visionaries in terms of the remunerations and the impression to entire society is a subject for theoretical literature. Innovation normally has positive impact on improving financial performance of modernizers (Boot & Thakor, 2007).

2.3.1 Financial Innovations

Financial innovation is an on-going process where new financial products, services and procedures are formed or and standardized products have been distinguished in order for the companies to respond at the continuously changing economic environment. Financial
innovation by firms is a crucial determining factor of financial performance and growth of any telecommunication company. Like any other financial behaviors, it usually arises as an expectation of material gains as a result of cost-benefit analysis. The innovation brands possible for reduce costs and increase revenues. On the issue of cost-reduction, specifically, exogenous technological change gives room for cost reduction and encourages effective as well efficiency (Mathenge, 2013). It’s measured by total figure of deposits.

2.3.2 Capital Adequacy

Capital adequacy are the shareholders fund contributed for business and can be expressed as percentage ratio of a financial institution to the amount of primary capital to its assets loan and investment, used as a measure of its financial strength and stability. MFIs require capital for net security in the case development and advancement of business. The ratio analysis how much of the MFIs' resources are sponsored by the donor’s fund and is a representation for capital adequacy of any MFI by appraising the capability can be absorb losses. According to historical review literature, the relationship on capital and performance of a firm cannot be estimated (Gupta. 2008). The researcher found a positive correlation between capital and profitability while others studies found no collinearity.

For capital adequacy to be achieved by any financial institution, the following requirements of tasks need to be addressed; creating a conducive environment for business, inviting private investors, and addressing microfinance institutions on sustainable equilibrium. A number of ways are available to address these challenges
including encouragement of private financial institutions into the market through competitive financial systems; encouraging government’s critical play and constructive roles, ensuring good policies and legal-economic frameworks; encouraging donor contributions through appropriate government interventions as well as assisting countries to reinforce their legal structures and regulatory systems (Gupta. 2008). Capital adequacy can be measured by the ratio of equity capital to total assets.

2.3.3 Interest on Loans

The institution loaning rates was always anticipated to have an effect on financial performance of MFIs countrywide. Interest on loan has direct impacts on MFIs' net income and total expenses, and the net result that further affect profitability. In conformity with the researcher's expectations, the interest rate variable has positive effect that is also statistically significant and this indicates that the financial performance of MFIs in Kenya have a tendency of increasing with increase in interest rates. Due to the fact that borrowers do not have readily available substitute sources of loan to boost their investments, the doctrine of availability rather than the cost doctrine therefore ends up being the only option. This means that they are ready to obtain loans from the MFIs at whatever cost as far as possible. The higher loan interest rates are beneficial to the MFIs in terms of greater profits, but this comes at the expense of the country’s economic development. Interest on loan is measured by ratio of interest on loan and net profit.
2.3.4 Size of the firm

Another element of financial performance is the firm size, is significant characteristic to gain performance. Large firms have more resources and capacity to undertake more invention lines leading to high production resources in an organization. This enables the firm to improve financial performance since they can mitigate risks (Alvarez & Barney, 2001). Small firms are more flexible; larger companies have better prerequisite’s behavior in comparison to medium or small firms. The reason why larger firms have better equipped to involve with a number of networking mutually in width and depth that is, networking intensity with the actors, with other organizations as well as outside the banking industry (Pais & Stork, 2011). Firm size can be measured using total assets.

2.4 Empirical Review

Several studies have been done both locally and globally in this field of financial innovation concerning MFIs on the primary, through county-level and consultants. All the data were obtained from MFIs, CBR reports and internationally audited financial statements were available. According to their findings, MFIs in Africa have a habit of report inferior levels of profit, using return on assets, than MFIs globally.

Following Agbool (2006) study on Information and Communication Technology (ICT) in the Nigerian banking sector, it was the established that the key driving force of rivalry in the banking sector was technology. According to the research there was an increase in the implementation of ATMs, EFT, Debit cards, mobile banking and other electronic banking. Adoption of ICT improves the banks sectors; leading to efficiency and effective
market, changing the image of firm widely, faster and more efficient market. He concluded that it was very important for bank’s management to strengthen investments in ICT products in order to accelerate speed of service, convenience, and precise services and increase competition.

Heffernan et al (2008) in their working paper on Financial Innovation in the UK surveyed over 1100 financial firms in the United Kingdom to establish the factors determining financial innovations and the success of their sales by use of Logit and generalized Tobit models. The study established that financial innovation increases with financial firms’ size, level of education of employees, greater emphasis on R&D expenditure, the availability of funds and the extent of cooperation between firms. Cooperation, R&D and level of appropriateness are the key variables that drive the success level of financial innovation which is estimated by the percentage share of innovations sales. Firms in the London area have their tendency to innovate being significantly higher, although Scotland does well at the same time. As compared to firms in financial intermediation such as in pension and insurance sectors, stock broking, fund management et al are more innovative.

According to Shirley & Sushanta (2006). Study to investigate the effect of information technology on the banking sector in the US. Through theoretical and empirical analysis on how financial innovation related to information technology such as internet-based banking, electronic payment systems, security investments and information exchange can impact on profits via competition in bank’s financial services. The survey comprised of
68 banks in the US studied over a period of more than 20 years to approximate the effect of financial innovations related to information technology on banks profitability. The findings of the study were that although IT may lead to cost savings, increased spending on IT can lead network effects thereby leading to lower profits. The association between expenditures on IT and financial performance of the banks was further contended to be restricted to the level of network effect. They concluded that if network effect is insignificant, IT expenditures are most probably going to reduce expenses on payroll and increase share of the market, revenue as well as profits.

Kasekende (2015) carried out a survey to investigate the impact of financial innovation on money demand evidence from Sub-Saharan Africa University of Cape Town South Africa. The research has been widely done in industrialized countries, because of its key contribution in monetary policy. However, few studies have focused on developing and less developed countries. This is surprising as there has been a significant growth in financial innovations in Africa south of the Sahara in recent years, which could have important implications for developing country macroeconomic policy. A sample of 34 countries was used. The results suggest that the relationship between financial innovations and money demand is negative. The implication is that financial innovation plays a central role in explaining money demand in Africa south of Sahara and considering such innovations as mobile money in the region, this can have significant implications for future policy design.
Locally Mugo carried out a study in the year 2012 to establish the influence of financial innovation on the growth of microfinance institutions in Kenya. He studied 34 registered MFIs by the CBK by the year 2012. The findings of the study showed that most MFIs have come up with innovations of new services such as mobile banking, business current and savings accounts, SMEs loans, school fees loans, financial and managerial trainings. In a bid to grow their firms, other MFIs have internetworked their offices, opened new branch networks and innovated new products. Besides innovation, there was positive and strong relationship between financial growth and a variety of other reasons such as attending to specific needs of clients, the need for client retention and to reduce transaction time. The survey’s conclusion was that MFIs’s financial innovations lead to accumulative growth of the firms in several dimensions such as products lines, market size, volumes of credit sales and the overall level of profitability.

Muriungi (2014) carried out a study to establish influence of financial innovation on financial performance of deposit taking microfinance institutions in Kenya. All deposit-taking microfinance institutions with branches in Nairobi were involved in this study. Stratified sampling method was used and respondents were drawn from all the three main management staff levels of the head office branches from the 8 deposit-taking MFIs. Both primary and secondary data were used. Secondary data was accessed from the CBK (2012) report. Both qualitative and quantitative analysis was carried out. Statistical tool, SPSS, was used to code and enter quantitative data. The following recommendations were made: For organization to be effect on its financial performance particularly financial institution they must recognize product innovation. This due to the realization
that consumers are changing their preference as the innovation, in order to have large market share, organization have to adopt the modern marketing strategies in order to fit in the current market needs and organizations have to embrace process innovation.

Okombo (2014) carried out a study to investigate the impact of Electronic Banking on financial performance of Deposit Taking Micro Finance Institutions in Kisii, Kenya. The target population of this survey was the DTMs in Kisii town and specifically the employees in these DTM. The random sampling was used to identify eighty defendants in the DTMs in Kisii County. Data was collected using questionnaires. The study utilized the descriptive research design and the questionnaire as means of data collection. The census sampling method was used for sampling. There was significant statistical (positive) relationship between the low transaction costs and financial performance. Results from findings established that decrease on the transactional costs leads to improved financial performance among the Microfinance Institutions.

Mugane (2015) did a research to establish the effect of financial innovations on the financial performance of commercial banks in Kenya. The population research study was entirely on the 43 commercial banks in operation in Kenya. Primary data was used in the study. Linear regression model was used in the analysis with the help of SPSS version 20. The study findings showed that there is a significant and negative relationship between product innovation and ROA. The relationship between service innovation and ROA and also organizational innovation and ROA was found to be positively significant. The study recommended that Commercial banks should affect product innovation strategies that
won’t increase their operational risks which in turn affect their financial performance and banks should focus more and invest more in both service and organization innovation as the two will lead to better financial performance.

A study by Maina (2016) sought to establish the effects of financial innovation on financial performance of microfinance institutions in Nakuru, Kenya. The population of the study was 187 individuals working in microfinance institutions in Nakuru and a sample of 70 respondents obtained using stratified random sampling technique. The study adopted both primary data and secondary. Primary data collection was done using questionnaires and secondary data was collected using data collected sheets. To analyze the data, descriptive and inferential statistics as well as regression analysis were used. The study found out that some of the innovations applied to MFIs include partnership, opening new branches, mobile banking and branch networking. The study further recommended the management of MFI to align routine procedures.

2.5 Conceptual Framework

Conceptual framework is a graphic illustration of a correlation amongst variables. The variable that is manipulated to establish the effect it has on another variable is called the independent variable. Dependent variable is a variable that is affected by the independent variable. According to Mugenda and Mugenda (2003), a dependent variable is a function of an independent variable.
The dependent variable in this study was represented financial performance of MFIs whereas the independent variables are Capital adequacy, Interest on loans and size of MFI. The conceptual relationship between variables is shown below.

**Source**: Researcher (2017)
2.6 Summary of the Literature Review

The review of literature revealed mixed results on the relationship between financial innovations and financial performance of MFIs. The theories of microfinance reveal different theoretical arguments on positive effect of innovations and financial performance. Empirical studies demonstrate that financial innovations can have equally positive and adverse effects on financial performance of a firm. MFIs is growing and increasing in size and portfolio from the last period henceforth making important contributions towards making financial facilities more available. However, significant statistical data on the how financial innovation is contributing to financial performance of MFIs is vital. The objective was to study the relationship between financial innovation and financial performance of MFIs in Kenya. From the foregoing studies, the research finds that studies are strong in effects of financial innovation in commercial banks as compare to MFIs. This therefore could be that there is a contextual gap which this study seeks to address.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design and methodology that was employed in the study. Specifically, the research design, study population, as well as the sample design and sampling procedure, methods of data collection and research procedures, data analysis and presentation of the results techniques.

3.2 Research Design

This study will adopt a descriptive research design this is because it highlights a characteristic behaviour on one variable because of another variable (Kothari, 2004). This kind of design will adopt a descriptive design which aims on establishing relationship of financial innovations and financial performance. The study pursues to describe a descriptive design which will seek to portray precisely the features of a specific individual, situation or a group. The design fits the proposed study which will aim to determine the relationships between variables that is financial innovation and financial performance of MFIs in Kenya.

3.3 Population

According to Mugenda and Mugenda (2003), population is defined as the entire collection of interest by the researcher which are in term of people, items or events in which he wishes to make some implications. The target population of interest in the study
comprised of all 13 Microfinance institutions operating in Kenya that have been licensed, registered and regulated by the Central Bank, Kenya (CBK). (Appendix 1)

3.4 Sample
A sample means a subject of the whole population, which is selected and analyzed, and the results obtained are generalized to represent the whole population (Kothari, 2004). In the research, because of the few number of MFIs licenses the study adopted a census study where all the 13 licensed MFIs were studied. This ensures that we get adequate secondary data for the purpose of the research study.

3.5 Data Collection
The study used secondary data since the data collected is quantitative in nature. Secondary data for a period of five years was collected from audited financial statements of MFIs as per the specific variables concerning the study. Kieso, et al. (2007) a period of five years affords an improved way of identify the trends. Further, other empirical studies did previously used the five-year period for financial analysis. To attain an adequate picture, the study reviews secondary data for (2012-2016) is deemed to address issues that might change with time in respect to the variable under study. Association of Microfinance Institutions Kenya (AMFIK) published reports, financial reports published by MFIs and CBK reports on MFI Sector in Kenya. From deposit published by MFIs, Published Financials statement of the MFIs, the study will seek to extra total deposits, net on assets, interest on loans, net profits and equity of MFIs which will be used to measure financial innovations, capital adequacy, firm size and interest on loan.
3.6 Data Analysis and Presentation

The analysis will aim to determine the relationship between financial innovation and financial performance of MFIs over the five-year period. Regression analysis will be performed on the data to test any effect of financial innovation (independent variable) on a firm’s financial performance (Dependent variable). To identify the determinants of firm performance, the model specified in the equation below will be estimated. The variables will include the financial innovations that handle based on ATM, Mobile banking, Agency banking of MFIs, capital adequacy, Interest on loan and size of the firm A multivariate regression equation will be used as shown below;

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu \]

Whereas \( Y \) = Financial Performance measured by Return on Assets (net income / average total assets)

\( X_1 \) = Financial innovation (log of total deposits)

\( X_2 \) = Capital adequacy (Ratio of equity to total assets)

\( X_3 \) = Interest on loans (Ratio of interest on loans and net profits)

\( X_4 \) = Firm size (Log of total assets)

\( \beta_0 \) = Intercept of the regression model

\( \beta_1, \beta_2, \beta_3 \) = Coefficients of the regression model

3.7 Test of Significance

F-test was used for testing the significance of entirely coefficients and t-test for the test significance of specific coefficients. The significance of the regression model was determined at 95% confidence interval and 5% level of significance.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section precisely follows the laid-out structure of chapter three. Response rate, diagnostic tests, descriptive statistics and correlation as well as regression analysis is seen in this section. Discussion of research findings is also covered at length in this chapter. The response rate looked at the population studied and the data obtained from this population. The diagnostic tests seen in this chapter involves the collinearity test performed in order to establish whether collinearity between independent variables existed. Kurtosis, skewness, mean and standard deviation are descriptive statistics of the study that were looked at. Pearson correlation coefficient was carried out in order to establish the kind of association that exists among the study variables. Model’s goodness of fit, results of ANOVA and estimated model were regression tests performed for the study.

4.2 The Response Rate

The study population consisted of 13 firms’ microfinance institutions in Kenya licensed and regulated by the CBK. The sample used 9 firms which were consistently active from 2013 to 2016. Since on 2012 there was 6 MFIs, 2013 and 2014 were 9 MFIs, 2015 and 2016 there was 13 MFIs, regulated and licenses by CBK. The representation of 69.2 % which exceeds 50% response rate considered as a good response rate by Mugenda & Mugenda (2003).
Data for all the study variables were obtained from the audited financial statement of CBK for a four-year period. These data were then pieced together accordingly and an average value for each study variable was used for analysis. In summary the required data for study was obtained in full and used accordingly for analysis purpose. This means that the results obtained from the study findings were sufficiently reliable and therefore reliance on study results were guaranteed.

4.3 Data Validity

The study had an objective of determining the effect of financial innovation on financial Performance of MFIs firms operating in Kenya. The study was carried out at 95% confidence level and the standard error was 0.613 and the significance level below 0.025 Variables under this study meaning the data was reliable for the purpose for all of the research study.

4.4 Descriptive Statistics

The mean, standard deviation, skewness and kurtosis were descriptive statistics that were performed for the variables of the study. Table 4.4.1 below shows the descriptive statistics performed for the study
The mean value for financial performance of licensed microfinance institutions in Kenya was found to be 0.21425. This means that on average the financial performance of microfinance institutions measured using ROA stood at 21.425%. The mean value for financial innovation was found to be 6.52415; this value was obtained from the natural logarithm of mean of total deposits. It means that the total deposits of microfinance institutions stood at 65.2415%.

The mean value for capital adequacy and interest on loans were 0.34464 and 0.73143 respectively. This means that capital adequacy of microfinance institutions as measured using equity to total assets ratio was 34.464%; this value was on a lower side it translates to the fact that microfinance institutions had few adequate capitals. Also, the mean value of 0.73143 for interest on loans means that 73.143% of microfinance institution revenue is obtained from interest on loans lend out to customers because lending out loans to

### Table 4.4.1 Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Financial Performance</td>
<td>9</td>
<td>.21425</td>
<td>.050691</td>
<td>.767</td>
<td>.717</td>
</tr>
<tr>
<td>Financial Innovation</td>
<td>9</td>
<td>6.52415</td>
<td>2.120708</td>
<td>.423</td>
<td>.717</td>
</tr>
<tr>
<td>Capital Adequacy</td>
<td>9</td>
<td>.34464</td>
<td>.320323</td>
<td>.949</td>
<td>.717</td>
</tr>
<tr>
<td>Interest on Loans</td>
<td>9</td>
<td>.73143</td>
<td>.084339</td>
<td>-.004</td>
<td>.717</td>
</tr>
<tr>
<td>Firm Size</td>
<td>9</td>
<td>7.28262</td>
<td>1.984580</td>
<td>.476</td>
<td>.717</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
customers is their primary or core business. Financial performance had standard deviation values of 0.050691, financial innovation had 2.120708, while capital adequacy had 0.320323, interest on loan had 0.084339 and firm size had 1.984580 respectively. These standard deviation values show that the deviation from mean values of the study variables was very low.

The skewness values obtained were 0.767, 0.423, 0.949, -0.004 and 0.476 for financial performance, financial innovation, capital adequacy, interest on loans and firm size respectively. It means that financial performance, financial innovation capital adequacy and firm size were the study variables whose data were positively dispersed or skewed from their mean values. Interest on loans was the only study variable whose data was negatively dispersed or spread from its mean value. Kurtosis results obtained were 0.332, 1.479, 0.045, 0.348 and -1.448 for financial performance, financial innovation, capital adequacy, interest on loans and firm size respectively. It means that data for financial performance, financial innovation, capital adequacy and interest on loans were positively centered to their mean values while data values for firm size were negatively centered to their mean values.

4.5 Correlation Analysis

Correlation analysis was performed using Pearson Correlation Coefficient in order to determine the kind of association that exists between financial innovations and financial performance of microfinance institutions in Kenya. Correlation analysis performed is shown in table 4.5.1 below.
Table 4.5.1 Correlations Analysis

<table>
<thead>
<tr>
<th></th>
<th>Financial Performance</th>
<th>Financial Innovation</th>
<th>Capital Adequacy</th>
<th>Interest on Loans</th>
<th>Firm Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial Performance</strong></td>
<td>Pearson Correlation 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Financial Innovation</strong></td>
<td>Pearson Correlation .590</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.167</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>9</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capital Adequacy</strong></td>
<td>Pearson Correlation .024</td>
<td>-.840**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.151</td>
<td>.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td><strong>Interest on Loans</strong></td>
<td>Pearson Correlation .866**</td>
<td>.081</td>
<td>-.273</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.003</td>
<td>.835</td>
<td>.477</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td><strong>Firm Size</strong></td>
<td>Pearson Correlation -.145</td>
<td>.990**</td>
<td>-.851**</td>
<td>.193</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.709</td>
<td>.000</td>
<td>.004</td>
<td>.620</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation analysis determines the relationship between dependent variable and predictor variables of the study. Pearson correlation coefficient (denoted by R) is used to measure the strength of a linear relationship between two variables. R range of +1 and -1, where the score is zero it implies that there exists no association between the variables where a score below zero shows that the relationship between the variables is a negative one.

From the table above was a summary of the relationships that exists between financial performance and financial innovation, capital adequacy, interest on loan and firm size financial innovation had positive of .590 in terms of total deposits in association with
financial performance. Capital adequacy have weak positive relationship of .024 and financial performance. An increase in capital adequacy in this case translates to an increase in financial performance this might not be significantly realized. Interest on loans was found to have a very strong positive association of 0.866 with financial performance. This means an increase in interest on loans leads to a substantial increase in financial performance. Therefore, a higher ratio of interest income to PAT which was a measure of interest on loans translates to a higher financial performance in form of ROA.

The study found a weak negative association of -0.145 to exist between firm size and financial performance. This means that an expansion of microfinance institution in form acquisition of more assets and opening of more branches consumes firm’s resources thereby negatively affecting its finance performance in the year of acquisition of more assets and expansion. It should however be noted that the negative effect of increased firm size is weak and insignificant and therefore a microfinance institution should not cease to increase its firm size.

This study also found weak multicollinearity among independent variables. Financial innovation has no multicollinearity with relationship capital adequacy. However, there was a positively multicollinearity between financial innovation and interest on loan of .835. Interest on loan and firm size has a positive multicollinearity of .620, while interest on loan and capital adequacy have positive correlation among each other of .477. Other independent variables values were approximately equal to zero implying that multicollinearity no relationship at all.
4.6 Regression Analysis

This study had an objective of establishing the relationship between financial innovation and financial performance of MFIs in Kenya. To determine this relationship, regression analysis was used conducted to determine financial innovation and financial performance of MFIs and SPSS was used to analyze the data. Coefficient of determination, R2 was used as a statistical measure to predict how well the data fit the model. R2 was used to explain the degree to which dependent variable change, adjusted R2 was used to measure unbiased estimate of the population.

Regression analysis was carried out on the variables to establish the ANOVA and model coefficients

**Table 4.6.1 Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.930&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.865</td>
<td>.730</td>
<td>.026346</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Firm Size, Interest on Loans, Capital Adequacy, Financial Innovation

The research findings from the table above, R were 0.93. This is the correlation and it measures how the dependent and the independent variables move in relation to each other, meaning that there is a positive relationship between the dependent variable and the independent variable of the study in the sense that when independent variable change by one unit, then dependent variable by 0.93 unit. From the analysis of variance above the coefficient of determination (R<sup>2</sup>) was 0.865. This means that regression model
explains 86.5% of the variation in financial performance of microfinance institutions to be caused by changes in financial innovation, changes in capital adequacy, changes in interest on loans and changes in firm size.

**Table 4.6.2 Results of ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.018</td>
<td>4</td>
<td>.004</td>
<td>6.404</td>
<td>.050b</td>
</tr>
<tr>
<td>Residual</td>
<td>.003</td>
<td>4</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.021</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research findings

From the analysis of variance above, the sum of square for regression was .018; the F-value of the regression model was 6.404 and the degrees of freedom of 4 tested at 95% confidence level and 0.25 significance level. The researcher sought to establish the relationship between financial innovation and financial performance of MFIs in Kenya. The study model was therefore statistically significant as the significance level was 0.05 and therefore was below the significance level of 0.25 two–tailed
### Table 4.6.3 Estimated Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.065</td>
<td>.000</td>
<td>.472</td>
</tr>
<tr>
<td></td>
<td>Financial Innovation</td>
<td>.20</td>
<td>.000</td>
<td>.397</td>
</tr>
<tr>
<td></td>
<td>Capital Adequacy</td>
<td>.33</td>
<td>.000</td>
<td>.567</td>
</tr>
<tr>
<td></td>
<td>Interest on Loans</td>
<td>.487</td>
<td>.000</td>
<td>2.577</td>
</tr>
<tr>
<td></td>
<td>Firm Size</td>
<td>-.009</td>
<td>.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

- a. Dependent Variable: Financial Performance
- b. Predictors: Financial innovations, capital adequacy, interest on loan and firm size

Final regression equation for the study was derived from table 4.6.3 above and it was as follows:

\[ Y = 0.065 + 0.20X_1 + 0.33 X_2 + 0.487X_3 - 0.009X_4 \]

Unstandardized coefficients show how dependent variables vary with independent variables when other variables are held constant. From the model above, a unit increase in \( X_1 \) will lead to an increase in \( Y \) by .20 units; a unit increase in \( X_2 \) will lead to an increase in \( Y \) by .33 units while a unit increase in \( X_3 \) will lead to increase in \( Y \) by .487 and a decrease in \( Y \) by .009 units.

### 4.7 Discussion of Research Findings

A positive association, though weak positive relationship was found to exist between financial performance and financial innovation. This implies that as financial innovation
increase, their financial performance also increases with a weak magnitude. Thus, an investment in financial innovation by a microfinance institution in a given financial year will lead to increased returns with time on financial performance by margin and then more returns will then be realized in successive years and in return lower transaction cost in an organization. Thus, leading to improvement of services, convenience, effectiveness and efficiency with technology in MFIs. This finding therefore supports the preposition of Constraint Induced Innovation Theory which emphasizes that innovation in organizations is a way of maximization of profits in the long-run (Silber, 1983).

Capital adequacy was found also to have a positively low correlation with financial performance. The study found out that the mean ratio of equity to total assets which was a measure of capital adequacy was 0.33464 which is approximately equal to 33.464%. This level of capital adequacy was generally very low and it means that licensed microfinance institutions in Kenya lacked adequate financial resources to invest in acquisition of assets and expansion thus explaining why financial performance was positively low affected by lack of sufficient resources of capital adequacy. MFIs require more capital for effectiveness and efficiency operations in financial sectors.

The study also found out that a very strong positive relationship existed between firm size and financial innovation. This was explained by the fact that big firms have the adequate supply of human and financial resources to invest in financial innovation; this in turn leads to an increase in financial performance of that big firm. This finding was in line
with the study results of study by Hefferman et al (2008) where they found out those big firms have resources that enables them to invest in financial innovations.

Interest on loans was found to have a very strong positive relationship with financial performance. This means that if a microfinance institution realizes more in terms of interest on loans to customers then it translates to increased financial performance through increased volume of revenues. Thus, a microfinance institution should ensure that secured loans are maintained at its optimum level every other time so that the firm can continuously realize constant increase in incomes from the interest received on loans to customers.

Firm size was found to have a very weak negative correlation with financial performance. This is because increase in the size of the firm involves injection of capital expenditure whose returns are expected to be realized back in fairly long period of time. Thus investment in increasing firm’s size will lead to an insignificant decrease in firm’s financial performance in that period. This insignificant weak negative correlation between firm size and financial performance should not discourage microfinance institutions from increasing their firm sizes because some of the MFI's are small size while others are larger firms that enjoys economies and competitions in the market this will have a mixed impact on financial performance.
CHAPTER FIVE
SUMMARY, CONCLUSION AND DISCUSSION

5.1 Introduction
This section looked at the study findings summary, conclusions of the study and recommendations to policy makers. Limitations of the study are also seen in this chapter so that readers can know the extent of caution that they should take when placing their reliance on findings of the study. Recommendations and for further research are also provided in this section.

The summary of study findings was derived from descriptive, correlation and regression statistics performed. Conclusions of the study provide a brief explanation on the extent to which the study objective was met. Recommendations for policy provide policymakers with suggestions that are necessary for wealth maximization of their firms.

5.2 Summary of Findings
This study had an objective of establishing the relationship between financial innovation and on financial performance of MFIs in Kenya. To achieve this objective, correlation analysis, regression model and descriptive statistics were used. Secondary data was collected from CBK report and analyzed using SPSS.

A positive association, though weak positive relationship was found to exist between financial performance and financial innovation. This implies that as financial innovation Increase, their financial performance also increases with a weak magnitude. Thus an investment in financial innovation by a microfinance institution in a given financial year
will lead to increased returns with time on financial performance by margin and then more returns will then be realized in successive years and in return lower transaction cost in an organization. However, it will improve services, convenience, effectiveness and efficiency with technology in MFIs. This finding therefore supports the preposition of Constraint Induced Innovation Theory which emphasizes that innovation in organizations is a way of maximization of profits in the long-run (Silber, 1983).

Capital adequacy was established to have a positively low relationship with financial performance. The study found out that the mean ratio of equity to total assets which was a measure of capital adequacy was 34.464%. This volume of capital adequacy was largely very low and it means that licensed microfinance institutions in Kenya lacked sufficient financial resources to capitalize in procurement of assets and growth thus elucidating why financial performance was positively low affected by lack of sufficient resources of capital adequacy. MFIs require more capital for effectiveness and efficiency operations in financial sectors.

The study also found out that a very strong positive relationship existed between firm size and financial innovation. This was explained by the fact that big firms have the adequate supply of human and financial resources to invest in financial innovation; this in turn leads to an increase in financial performance of that big firm. This finding was in line with the study results of study by Hefferman et al (2008) where they found out those big firms have resources that enables them to invest in financial innovations.
Interest on loans was found to have a very strong positive association with financial performance. This means that if a microfinance institution generates more in terms of interest on loans to customers then it transforms to better financial performance through bigger volume of revenues. Therefore, a microfinance institution should ensure that secured loans are maintained at its optimum level always so that the firm can continuously realize continuous upturn in proceeds from the interest received on loans to customers.

Firm size had a very weak adverse association with financial performance. This was because growth in the size of the firm involves an injection of capital resources whose returns are expected to be realized back in justly extended period of time. Therefore, investment in increasing the size of the firm leads to an inconsequential decline in firm’s financial performance for that financial year and return on investment are then realized in successive years. The insignificant weak negative correlation between firm size and financial performance should not depress microfinance institutions from growing their firm sizes because its adverse effect on financial performance in short-run are negligible and immaterial and the long-run positive effects or impact are greater.

This study also found positive multicollinearity among independent variables. Financial innovation has no multicollinearity with relationship capital adequacy. However, there was a positively multicollinearity between financial innovation and interest on loan of .835. Interest on loan and firm size has a positive multicollinearity of .620, while interest on loan and capital adequacy has positive relationship among each other of .477. Other
independent variables values were approximately equal to zero implying that there was no multicollinearity relationship at all.

\[ Y=0.065 + 0.20X1 + 0.33 X2 + 0.487 X3- 0.009X4 \]

### 5.3 Conclusion

The study aimed to determine the kind of relationship that exists between financial performance and financial innovation. For this objective to be achieved a five year mean for all the study variables were calculated and then used for analysis. Descriptive statistics such as mean, standard deviation, kurtosis and skewness were performed. Correlation and regression analysis as well was performed using SPSS version 24 so as to establish the kind of association that exists among the study variables. Results of the study led to the following conclusions.

Financial performance and financial innovation had weak positive association. This was explained by the fact that financial innovation involves firm’s commitment of huge financial resources or investment in capital expenditure which are realized back instantaneously in form of increased financial performance and lower payoff cost. Capital adequacy was found to have a very weak positive relationship with financial performance. Sufficient capital needs to be injected into the firm so as to translate to better financial performance because inadequacy of capital which was a characteristic of micro finance institutions impaired their ability to improve on their profitability.
Interest on loans was found to have been positive relationship with financial performance. This means that micro finance institutions should concentrate in their core or primary business of lending loans to their customers. Since the study has established a very strong positive relationship between these two variables. Firm size has a very weak negative relationship with financial performance. Investment in expanding the operations of the firm is a capital expenditure to the firm whose returns are unlikely to be felt in a short period instead returns from such investments are paid back in consecutive years after investment.

5.4 Recommendations for Policy

Recommendations for policy drawn from the study findings are as follows: Investment in financial innovations by MFIs is a capital expenditure to the firm whose benefits will lead to increased returns with time on financial performance by margin and then more returns will then be realized in successive years and in return lower transaction cost in an organization. However, it will improve services, convenience, effectiveness and efficiency with technology in a firm. It is important for MFIs to be involved in continuous research and development in order to meet the demand in the market and satisfy the consumers. Capital inadequacy is not sufficient enough for growth of its financial performance. This means that management of MFIs should look for more donors that can fund their projects and affordable sources of capital in order to finance their operations and in turn leading to growth of their financial performance.
Interest on loans is the core business of micro finance institutions and a very strong positive association between financial performance and interest on loans has been established by the study. This calls for more concentration by micro finance institutions in expanding their core business of lending out to customers without necessarily diversifying to doing other businesses.

5.5 Limitations of the Study

The study relied on secondary data from the audited financial statement of 9 licensed MFIs by CBK as from 2013 to 2016. The aim of the research was to carry out the study with the entire 13 licensed MFIs for five-years. However, in 2012 there were only 6 licensed MFIs, in 2013 and 2014 there were 9 licensed MFIs, in 2015 to 2016 there were 13 licensed and regulated MFIs. Therefore, data from 9 MFIs were considered for analysis in this study. Results from the study may therefore not be a true reflection of the findings of entire licensed microfinance institutions in Kenya.

Another challenge on the study was total deposits in financial statement of MFIs on computation of financial innovation, it was not classified as which amount had been transacted through ATM, Mobile banking, Agency banking and other transactions. This might negatively affect the findings of the study.

Time was a limiting factor in this research; the researcher had little time to accomplish the research, being academic in nature it was subject to strict deadlines which had to be met by the researcher, strikes by lecturers, being a year of election, this affect the research study.
5.6 Recommendations for Further Research

The results obtained from the study gave mixed results for positive association between financial innovation, capital adequacy and negative association with the size of the firms’ financial performance was revealed by the study. A further research behind this kind of relationship is being suggested for further investigation by the researcher. A comparative study should be conducted financial sectors and other investment firms to find out which kind of relationship commercial banks and MFIs that exists between financial innovations and financial performance then findings can be compared and plausible conclusions drawn.
REFERENCES


APPENDICES

Appendix I: Microfinance Institutions in Kenya

1. Caritas Microfinance Bank Ltd
2. Century Microfinance Bank Ltd
3. Choice Microfinance Bank Limited
4. Faulu Microfinance Bank Limited
5. Kenya Women Microfinance Bank Ltd
7. Musoni Microfinance Institution
8. Rafiki Microfinance Bank Ltd
9. Remu Microfinance Bank Ltd
10. SMEP Microfinance Bank Ltd
11. Sumac Microfinance Bank Ltd
12. U&I Microfinance Bank Ltd
13. Uwezo Microfinance Bank Ltd

Source: CBK (2017)
Appendix II: Audited Financial Statement of Licensed Microfinance Institutions in Kenya and Raw Data used for the Study

<table>
<thead>
<tr>
<th>Microfinance Institution</th>
<th>FP</th>
<th>FI</th>
<th>CA</th>
<th>IOL</th>
<th>FS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAULU</td>
<td>0.229</td>
<td>9.604</td>
<td>0.007</td>
<td>0.801</td>
<td>10.160</td>
</tr>
<tr>
<td>KWFT</td>
<td>0.199</td>
<td>9.476</td>
<td>0.017</td>
<td>0.765</td>
<td>10.073</td>
</tr>
<tr>
<td>SMEP</td>
<td>0.178</td>
<td>7.799</td>
<td>0.147</td>
<td>0.686</td>
<td>8.679</td>
</tr>
<tr>
<td>REMU</td>
<td>0.237</td>
<td>6.646</td>
<td>0.204</td>
<td>0.771</td>
<td>7.597</td>
</tr>
<tr>
<td>RAFIKI</td>
<td>0.155</td>
<td>7.036</td>
<td>0.231</td>
<td>0.587</td>
<td>7.140</td>
</tr>
<tr>
<td>UWEZO</td>
<td>0.313</td>
<td>4.736</td>
<td>0.374</td>
<td>0.876</td>
<td>5.925</td>
</tr>
<tr>
<td>CENTURY</td>
<td>0.160</td>
<td>4.673</td>
<td>0.944</td>
<td>0.659</td>
<td>5.354</td>
</tr>
<tr>
<td>SUMAC</td>
<td>0.258</td>
<td>4.311</td>
<td>0.743</td>
<td>0.722</td>
<td>5.376</td>
</tr>
<tr>
<td>U&amp;I</td>
<td>0.200</td>
<td>4.437</td>
<td>0.434</td>
<td>0.715</td>
<td>5.239</td>
</tr>
</tbody>
</table>

**Key**

FP  Financial Performance  
FI  Financial Innovation  
CA  Capital Adequacy  
IOL  Interest on Loans  
FS  Firm Size  

**Source:** Central Bank of Kenya (CBK) 2017