

**EFFECT OF FINANCIAL INNOVATION ON FIRM PERFORMANCE
OF MICROFINANCE BANKS IN KENYA**

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DECLARATION

I, the undersigned declare that this research project is my original work and has not been presented to any other institution or forum for any other award prior to this declaration.

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DEDICATION

I would like to thank the Lord having given me knowledge, strength and resources to conclude this study. Special dedication goes to my dearest mum, my fiancé, my brothers and my friends Kate and Karengé. You have always been a shoulder to lean on throughout my life and will forever be in debted to you all.

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ABBREVIATIONS AND ACRONYMS

ATM	Automated Teller Machine
BAAS	Banking as a Service
CBK	Central Bank of Kenya
CL	Confidence Level
KPI	Key Performance Indicator
CTS	Cheque Truncation System
GOK	Government of Kenya
ICT	Information Communication Technology
MDG	Millennium Development Goal
MFB	Micro finance Bank
NGO	Non-Governmental Organization
RTGS	Real Time Gross Settlement
SACCO	Savings and Credit Corporative Organization
SASRA	Sacco Societies Regulatory Authority
SMS	Short Messaging Service
SPSS	Statistical Package for Social Science
USAID	United States Agency for International Development
UNDP	United Nations Development Programme
VSAT	Very Small ApertureTechnology

ABSTRACT

The study sought to determine the effect of financial innovation on firm performance of microfinance banks as they are banking sector key players for low and medium income earners in Kenya. The research consisted of 3 departments from 13 microfinance banks regulated by the CBK. Both primary and secondary data were employed in the study. The predictor variables were product, process and institutional innovation; response variable was firm performance of the MFBs while the control variable was the size of the firm. The annual performance publications for the years 2015-2017 constituted the secondary data, while primary data was gathered through questionnaires. The summary of data collected was done by descriptive statistics while the T and F tests were performed to measure the accuracy of the data. Correlation and regression analysis were conducted to establish the association between financial innovation, size and firm performance. According to the findings, product innovation indicated that respondents were in agreement with all the constructs of product innovation. On Customers using online loans in the MFB had a mean of 4.28; the microfinance bank having Forex Services had a mean of 4.23, Customers using money transfers had the highest mean of 4.72. Respondents also indicated that their customers pay utility bills using bank products with average mean of 4.49. On process innovation, the research findings indicated that the respondents agreed with all constructs of process innovation. Implementation of ATM transactions had a mean of 4.62, agent banking transaction implementation had a mean of 4.46 while mobile and internet banking implementation by microfinance had mean of 4.36 and 4.36 respectively. Therefore, on the basis of the results, it is clear that microfinance banks have implemented various process with latest technologies. Respondents in regards to institutional innovation indicated that the indicator of having an active agency banking platform had a mean of 3.8 while the respondents indicated that banks had increased branches in strategic places had mean of 3.79. Utilization of Credit reference bureau services had a mean of 3.9, offering Islamic banking services had the least mean of 3.69 which was an indication that this service is not fully implemented by MFB. Lastly, the respondents' findings indicated that MFB offer products to specific market niche with a mean of 4.13. According to these findings, financial innovation indeed affects firm performance of micro finance banks. The ANOVA model also revealed an adjusted R^2 of 19.2% which was coefficient determination. The adjusted R-square implied that 19.2% of the total variance of firm performance is explained by the model. This means that 80.8% of the total variance of firm performance cannot be explained by the model.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Yilmaz, Alpan and Ergun (2005) recognize financial innovations as critical enablers for organization's performance by creating value in the undeniably unpredictable and quickly evolving environment. In the dynamic and globally competitive environment, the incapacity of reputable organizations to come up with breakthrough financial innovations that was help them operate effectively is a truism today (Davila, 2014). Financial innovation is part of strategy implementation that enhances firm performance through increased expansion and reduced risks (Drucker, 2001). Times have changed and so are the financial firms operations. In addition, innovation in the sector of finance pertains to new, better procedures that reduces cost of providing existing services that are financial and therefore improving overall firm performance Nofie, (2011). According to Agboola (2006), financial innovations are key components to financial institutions development in financial emergency as they financial performance.

This research was informed by three theories. These are the financial intermediation theory, technology acceptance model as well as diffusion of innovation theory. Financial intermediation theory, financial intermediaries deter investors and savers from trading on one to one basis in a favorable manner. Informational asymmetries between investors and savers are the most significant market imperfections (Van Wensveen & Scholtens, 2003). The model of technology acceptance explains the manner in which customers make use of an innovative idea. Technology acceptance theory was be applied in this study to establish how technology acceptance influences financial innovations among microfinance institutions in Kenya. The theory of diffusion of innovation denotes giving a message about a clue which is original to associates of a social system through various recommended channel. Innovations have to achieve acceptance in a large coverage in order to be justifiable.

Microfinance is a sector of the financial market that serves low income earners and poor people by offering them services such as loans. Microfinance in Kenya commenced in the 1960s with the Non-governmental organizations setting up pilot programs and evolved through time to a

fully commercialized sector monitored by the CBK of Kenya. Microfinance facilities give access to those that are financially excluded, these being mostly the lower income households in Kenya's case. In its economic retrieval policy for prosperity and creation of jobs that covered the period 2003 to 2007, the government of Kenya cites the importance of financial systems and improved access to financial services across the economy (Government of Kenya, 2007). Microfinance banks like any other institutions in the economy have faced a number of challenges and stiff competition and have had to rely on financial innovations in order to be efficient and profitable.

1.1.1 Financial Innovation

Financial innovation refers to utilizing information communication technology (ICT) by financial institutions in carrying out their daily activities (Kumbhar, 2011). Financial innovation can also refer to as a new something that lessens prices, decreases hazards or offer upgraded merchandise, amenity or a tool that fulfills the demand of contributors inside a financial system (Frame & White, 2002). Ho (2006) describes financial innovation as being the development of financial services and services, new organizational methods for further established and broad financial market places that lessens risks or offers services that encounter precise requirements of actors in a financial scheme.

Schrieder and Heidhues (1995) categorize financial innovation into four broad categories: Financial systems innovations, financial institution innovations, processing innovation and product innovation but still highlighted that strong linkages existed between these categories. Financial systems innovations recount to variations in the total finance scheme affecting all the parties involved in the process of intermediation. Financial innovations relate to the variations in an organization and legal form of a firm often seeking to come over legal and economic limitations on postponement of financial facilities to extra parts which includes the deprived. Process innovation is applicable on cultivating efficiency and market share by increasing the organizational and service delivery aspects of financial establishments. Financial product innovations involve in the creations of fresh or altered financial amenities that have never happened or fluctuate considerably from prevailing services such as being the overview of elastic saving amenities in non-urban financial organizations.

Financial innovation can be measured by their ability to react to increased competition and ability to address the financial demands of clients mostly affected by poverty and low income. Financial innovations can also be measured on their ability to expand formal financial service coverage to widely spread and low income clientele and in the process of doing so reduce intermediary financial risks and costs. Other measures of financial innovations include increase in profit or loss, customer satisfaction, productivity, efficiency, cost reduction among others (Christopher, Visit, Amy & Mike, 2005).

Institutional innovation assist organizations by re-architecting themselves in order to produce richer inventions at all stages, including corporate models, and organization systems. As substructures and expertise improve very day, organizations have developed more to accommodate advantages of the aids of creating at better volumes in order lower costs and advance limits. To organize the struggles of numerous persons to facilitate greater market places, some corporations generate command-and-control pyramids, firm silos like management systems and strict procedures to generate steadiness and likelihood. Some of these official innovations refer to the dynamics on microfinance buildings. Examples of institutional innovations within Kenya do include; the overview of Credit Reference Bureau, Retail Financial Services, bank assurance, Islamic banking and commercial microfinance banks getting into investment services (Akello, 2011).

1.1.2 Firm Performance

Richard, Yip, Johnson and Devinne (2009), define firm Performance as the organization capability to realize its mission by having proper governance, management and continuous rededication to results attainment. Yahaya and Lamidi (2015), consider performance as a theme that continuously happens in paradigm of management. The effectiveness of an organization can be measured through examination of the activities it conducts so as to attain its goals. The most notable aspects that can be used to gauge the performance of an organization are the outputs and their effects (Bien, 2002).

Firm performance is an indicator of how efficiently or poorly an entity is putting its resources into use. It measures the level at which financial objectives are being met. It measures the efficiency applied by an entity in the use of its assets to create profits. It can be used to compare the performance of various firms or can be utilized to conduct an assessment of the performance of the same firm in various periods of time (Aosa & Machuki, 2011). Financial viability is the ability of the firm to survive. It implies that the firm's financial resources inflow must exceed the outflow. The factors that improve the firm's financial viability include positive cash flow, financial surplus and multiple sources of funding (IDRC, 1999).

No consensus has been reached on the best or even the most sufficient measure of firm performance. This is because, there are many varied views of what desirable outcome of organizational effectiveness and because performance is often characterized by theory and research purposes being performed. Firm performance measurement targets the internal processes to determine efficiency and effectiveness of an action which has a given set of metrics. Firm performance measurement indicators act as proxies for various phenomena in the organization (Henri, 2003). According to Richard et al. (2009) some use financial measures as a criterion to judge the success or fail of a decision or action.

1.1.3 Financial Innovation and Firm Performance

Financial innovations are used by financial firms as planned sub variables that are tough to outshine the prevailing competition. Roberts and Amit (2003) argues that in a changing business environment, fruitful innovation creates a non-similar position that can render a financial institution a competitive edge and can enhance firm performance. This ability to uphold the unending innovation and enhancement of the institution on a continuous basis (Porter, 2004). Institutional innovation requires the adoption of a new principle of "scalable learning" with the aim of coming with better firms. Through new architectures, firms can build "creation spaces" that aid the firms increase their flow of information in their organization's walls thus fostering their learning, adaptability, and downstream of product and process innovations.

With reference to Harker and Zenios (2000), it is stated that process innovations encourage more competitive force. Primarily, it opens up new conveyance channels, keeping in mind that they

are not affordable for the organization; hence customers get the chance to rely them and access demand. Nevertheless before, the bank branch was the main network of dispersion of financial amenities, we see today an assortment of network sent away the outlet's supremacy. The economies of scale that lead to more incorporated automation cause more economies of scope effects. As financial establishments, in concurrence with all other retail services – understand that consumer satisfaction and loyalty lead to a fixed progression, they go for increasing the share of customers' wallets that they are servicing. With stage automation, a representative can get a single view of the whole customer relationship; economies of scope can be made when a firm offers appropriate product mix to support its customer base.

Alam et al states firm performance is a construct of multidimensional that consists of fundamentals that include, user-oriented performance consisting of service and product performance, customer satisfaction; market and financial performance, consisting of profits, market position revenue, employees performance comprising satisfaction of employee; and effectiveness of the organization, consisting of level of production, innovation and Flexibility of the supply chain.

1.1.4 Microfinance Banks in Kenya

Microfinance is an essential branch of the financial services that are offered in a low and middle income economy to lessen the negative effect of poverty in that economy. The importance of microfinance is that it offers financial support services to those economically excluded, mostly these being the lower income households in Kenya's case. In its economic retrieval plan for prosperity and creation of jobs that covered the period between 2003 and 2007 Kenyan government cites the importance of financial systems and improved access to financial services across the economy (GOK, 2007). In vision 2030 Kenya's growth plan between 2008 and 2030, financial inclusion is one of the economic goals and Microfinance institutions are highlighted as one of the institutions that was be used to achieve this. Currently, there are 13 microfinance banks in Kenya controlled by CBK. (Central Bank Act 2019)

In the 21st century, banking is considered as innovative banking. The banking philosophy has completely been transformed by technological changes along with many financial innovations

which has heightened the competitiveness of Kenya's banking industry. The banking system operates under an environment experiencing huge dynamism and challenges which has necessitated for new product, process and market innovations. The application of information technology has yielded fresh innovations in merchandise planning and changed their mode of distribution in the finance and banking sectors. Several initiatives are being undertaken in the banking sector to give good services to clients. Internet banking is employed as a planned source for attainment of greater competence, reduction of cost and control of operations through replacement of labor intensive and paper based approaches with computerized procedures consequently causing advanced profitability and productivity. Innovations in the banking segment include; Internet banking, Short Messaging Services (SMS) banking, M-Pesa, ATMs and Very Small Aperture Technology (VSAT).

1.2 Research Problem

Financial innovation is fundamental in spurring the growth of financial institutions globally. Innovation is a continuous process that is geared toward providing a better selection of financial products and financial instruments which is a fundamental feature in establishing the competitiveness and the progress of financial institutions. Over time, various innovations have been introduced in the Kenyan financial sector and range from internet banking, agency banking, introduction of ATMs, mobile banking, credit card and debit cards, bank assurance, retail banking, online lending and money market funds etc. This in return has greatly played a big role in assisting individuals and businesses attain their economic goals efficiently. Innovation have simplified way of doing business within the financial organizations (Ongwen, 2015). In addition it has led to better coverage, reduced risks and greater efficiency in the execution of services.

The world financial crisis between 2007-2009 serve as a reminder that financial innovations does as well bring substantial costs along with the benefits. It is paramount to point out that potential problems increase with the advancement and complexity of these financial instruments as time goes by. Today in the Kenyan financial sector transaction errors, online, agent and mobile fraud, network failures are some of the cons that come along with financial innovations This in returns has lowered the client's attitude and way of thinking thus reducing the bank's credibility hence a bad reflection on profitability.

Today, many micro finance banks face are faced with limited growth and expansion as a huge challenge making it unclear whether their level of innovation is sufficient in running their businesses. This is an underscore fact because only 13 Microfinance banks are hitherto registered and licensed as opposed to 42 commercial banks certified by CBK. Growth and Performance are linked in such a way that a firm will stagnate if it does not record sound firm performance. For decades, Microfinance banks have been in existence primarily helping the low level society members (EUI 2010). They have employed thousands of Kenyans who are sole providers in their homes across the country. In the event micro finance banks performance is wanting and they happen to lay off their staff or shut down, many families who would be affected directly and indirectly. In Addition, they remit taxes to the government and poor performance would translate to reduced remittance of tax.

According to Singh and Pooja (2009) financial innovation has an unimportant effect on bank's performance, while Woldeesenbetand Batiz-Lazo (2006) argued that financial inventions influenced bank performance significantly. Other studies conducted by Musiime and Malinga (2011) revealed that there exists substantial good association between financial innovation and customer satisfaction. This study however did not factor how financial innovation impact performance. Locally, Njoroge (2013) revealed that there have been a number of innovations in this sector which have impacted positively on service delivery level of microfinance institutions in Kenya. Njeri (2013) examined both financial performance and innovation in Nairobi county deposit taking SACCOs, specifically looking on process innovation. Ketere (2014) found out those financial institutions tirelessly strive seek for more efficient ways to serve their clients. Finally Matayo, (2016) performed a research on impact of innovation management on the development of MFBs in Nairobi. Despite the above, scarce studies examined how financial innovation affects the firm performance of Microfinance firms. Thus, the research study seeks to find a solution to; how financial innovation has an effect on MFBs firm performance in Kenya?

1.3 Research Objective

To resolve whether financial innovation has an effect on the firm performance of microfinance banks in Kenya

1.4 Value of the Study

Regulators and Policy makers were to gain knowledge and understanding on how microfinance banks work in a changing environment and what affects their performance. They were to further understand how financial innovations influence performance and take regulatory measures to mitigate their negative effects. This knowledge was lead to better policies being implemented which was spur growth in the microfinance bank sector.

Microfinance banks seek to be financially viable, reduce their costs, enhance their outreach and operate efficiently. This research provided findings that will enable the microfinance banks to make better informed decisions regarding financial innovations and performance. Microfinance clients will benefit if the relationship is proved because they will receive services efficiently. The results of the research are of great importance to finance theory and to future researchers, since it can be a point of reference. The findings might also be significant to scholars and researchers, in identifying study gaps on the related topics of the researchand also reviewing of the empirical literature to institute further areas of research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The section presents theoretical review and empirical studies conducted by other researchers and authors. This comprises theories of financial innovation, empirical review done within the scope of study, factors that determine firm performance, conceptual framework of study and eventually overview of literature review.

2.2 Theoretical Review

Here various theories that explain financial innovations have been reviewed and they include diffusion of innovation theory, financial intermediation theory and technology acceptance model.

2.2.1 Technology Acceptance Theory

Davis (1989) developed this theory, he explains the manner in which customers recognize and exploit an innovation. This theory emphasizes that when a customer is gifted with another innovation, certain characteristics affect their decisions on the revenues and exploitation time. This integrates seemingly suitability and perceived usefulness. Technology acceptance theory holds established underlying sequence of sincere behavior beliefs and character. Communal clinicians formed the proposition of anticipated action. Davis, Toxall and Pallister (2002) acknowledged two vibrant portions; gotten suitability and realized efficacy.

In different lessons, Technology Acceptance theory is broadly embraced and significantly adds to the expansion of a forecast of how a person accepts technology (Fishbein & Ajzen, 2010). The level of comfort by use of a definite technology a person distinguishes the alleged need for implementation (Davis, 1989). Technology acceptance theory has numerous limits that comprises the main drive planning the model of frugality and generality (Dishaw & Strong, 1999), without taking into attention non-organizational set of the association (Davis & Venkatesh 2000) and overlooking the aspects which restrain the approval of ICT (Sun & Zhang, 2006). In

this survey, Technology acceptance theory was exploited to determine how the exploitation of technology boosts microfinance banks' performance in Kenya and how availability of innovations influences exploitation of financial innovations amongst banks in Kenya.

2.2.2 Financial Intermediation Theory

The modern theory on financial intermediary was developed by Allen and Santomero (1998). The theory builds on the information of economics of imperfect that came up during the 1970s with the contributions of Rothschild and Stiglitz (1976), Akerlof (1970) and Spence (1973). Traditional theory posits that the existence of banks is justified because financial markets are Informational imperfect and there are transaction costs. It is based on the view, intermediaries serve to bring down costs of transactions and imbalances of information (Leland & Pyle, 1977). The Modern theory of financial intermediation on the other hand, states that “financial intermediaries are active because market imperfections deter investors and savers from trading directly with each other in an optimal way. The utmost vital market imperfections are the informational asymmetries between savers and investors” (Van Wensveen & Scholtens, 2003).

Banks purposely act as financial intermediaries to address areas that may occur between investors and savers as they have relatively informational advantage with the two. They are mandated to monitor investors on behalf of savers resulting in transactional costs. Similarly, banks bind the mismatch of maturity between investors and savers so as to enable payments by economic partners through settlement provision, payment and clearing system (Van Wensveen & Scholtens, 2003). As a result, they employ qualitative asset transformation activities in order to ensure financial intermediation affordance, soundness regulation and safety.

However, Allen and Santomero (2001) criticize the theory on grounds that it perceives risk management as an emerging factor in the financial sector and puts the notion of contribution charges at the front line. Theory application is appropriate to the study as MFB performance could be enhanced by improving customer deposits through development of channels that was facilitate easy and convenient undertaking of bank transactions by the customers.

2.2.3 Diffusion of innovation theory

This is an ancient theory of social science and was brought into being by E.M. Rogers (1962). However Mahajan and Peterson (1985) advanced it, according to the author, an innovation is introduction of any impression, exercise or article into a social system for the first time whereas diffusion of innovation is the procedure whereby the innovation is taken through detailed systems over a certain time around a social system. According to this theory, there are five adopter categories i.e. early majority, early adopters, late majority, laggards and innovators. In this context, the theory seeks to define the way which new creations such as mobile banking and internet are adopted and used within a social system.

Innovation adoption process takes time. He further argues that diffusion of innovation is affected by resistance to change because it slows down the innovation adoption process. Innovation adoption process is affected by five major attributes namely triability, compatibility, relative advantage, observability and complexity (Rogers 1995). Rogers further argues that new innovations adoption is dependent on the manner in which new association observes its comparative advantage, compatibility, intricacy and observability. If a Kenyan organization observes the benefits of financial innovations, then these innovations will be adopted when other prerequisite tools are available. Innovation adoption is faster in organizations with information technology departments and internet access as opposed to those without.

2.3 Financial Performance Determinants

Financial innovation is the level of performance of any industry on a quantified time, conveyed in terms of general returns and losses. It is through evaluation financial performance that policy creators evaluate the outcomes of occupational policies and actions in intentions terms. For a firm to continue making it has to constantly keep improving and introduce new products/services, institutional structures and processes with an aim to bring down transaction costs, maximize profits and meet customers' needs. However, this can be triggered by continuous research and development.

2.3.1 Financial Innovation

Process innovation is the key basis for greater performance in any business. Today, the art of digitization has brought on board new trials in numerous firms. The only method to respond to these trials and resolve them efficiently is by embracing the implementation of fresh deviations and rapidly reinventing procedures transversely verticals and geographies. New client needs and new skills certify that innovation is a normal activity. Process innovation ranges from utilization of data management software, office automation, improved business processes among others, the use of internet and telephone transactions, Real Time Gross Settlement (RTGS) leading to increased efficiency.

According to Lawrence and Scott (2001), product innovation relates to variations in microfinance financial services, formation of fresh sorts of financial products that fit the desires of clients within the numerous segments. Product innovation is not a choice in the business world but a requirement. Long gone are the days when organizations could depend on their long product cycles, top stuffs or old occupational models to withstand development only. Nowadays, corporations are obliged to keep with the pace of quick variations in knowledge and customer behavior by either inventing new explanations or refining present products in order to initiate development and productivity. Examples of product innovations in Kenya include; introduction of customized online loans like M-Kopa, Mpesa, improved credit and debit management cards linked to Kenswitch and Pesapoint, insurance policies, personal unsecured loans and money transfers etc.

Institutional innovation assist organizations by re-architecting themselves in order to produce richer inventions at all stages, including corporate models, and organization systems. As substructures and expertise improve very day, organizations have developed more to accommodate advantages of the aids of creating at better volumes in order lower costs and advance limits. To organize the struggles of numerous persons to facilitate greater market places, some corporations generate command-and-control pyramids, firm silos like management systems and strict procedures to generate steadiness and likelihood. Some of these official innovations refer to the dynamics on microfinance buildings. Examples of institutional innovations within

Kenya does include; the overview of Credit Reference Bureaus, Retail Financial Services, Commercial Microfinance banks getting into investment services.

2.3.2 Size

Among the determinants of financial performance, firm size is of the most recognized determinant (Beard & Dess, 1981). The fundamental association between these two variables has extensively been tested with unclear results. Studies reveal that the sizes of a company and its performance financially have a positive relationship. Generally, large firms are assumed to have more effect and are more efficient than smaller firms. This is because their capital accessibility and market power tend to offer access to investment opportunities as compared to availability in smaller firms (Amato and Wilder, 1985). Size of the Firm helps to achieve economies of scale.

2.4 Empirical Review

Ongwen (2015) focused on how product innovation impacts financial performance of commercial banks for 4 years. Descriptive research design was used to conduct the research and 43 commercial banks in Kenya constituted the study population. Regression results established the presence of a positive statistically significant association between innovated products Ratio and ROA. The study results resolved that product innovations affect financial performance positively. More so, the study recommended that product innovation information be availed mostly to advisory and regulatory bodies to guide commercial banks on the need to implement sound strategies geared towards continuous innovativeness.

Njoroge (2013) did a research on how financial innovations have an effect on the financial performance of MFIs in Kenya. The research was done on the 47 microfinance institutions under the regulation of 2006 Microfinance Act for the period between 2011 and 2013. Analysis of primary data was done by descriptive and inferential statistics. Descriptive statistics has been used in summary of qualitative data and presentation done in frequency tables. Primary data on the other hand was analyzed through SPSS version 17. The findings established that financial innovation adopted by MFIs in Kenya is a key determinant of financial performance. Therefore the researcher recommended a study to be done on the problems that MFIs encounter when implementing innovative products, services and ways to address such challenges.

Mugo (2009) examined financial innovation effect on microfinance institutions (MFIs) growth in Kenya. The research sought to answer which were the adopted financial innovations by MFIs in Kenya and what was their effect on the growth of these financial firms. All 34 MFIs registered in Kenya were studied. By use of correlation design in SPSS, analysis of primary data was done. The investigation findings established most of the microfinance institutions (MFIs) studied had new innovations like financial trainings, mobile banking, partnerships, business accounts, and customized loans. Others had networked their offices, expanded intensively and new products innovations in a bid to increase revenue and satisfy their customers. The study established that financial innovation employed by MFIs yield an cumulative growth of the firm in a range of dimensions ranging from sales of loans, market share, profitability and products.

Mulandi (2016) did a survey on the factors influencing profitability of microfinance institutions in Kenya. An analysis of multiple correlation and regression which consisted of cross sectional data that took into consideration various attributes of selected microfinance institutions in Kenya was applied. Independent variables studied included composition of credit portfolio, amount of capital, deposit liabilities, technology employed, credit portfolio, control ownership disparity, labor productivity, MFI size, risk level, MFI ownership and MFIs structural affiliation. A positive association was found between all variables and profitability of the MFIs. The degree of association between the predictor variables and profitability varied among factors with the portfolio composition and size, size of deposit liabilities and capital size having the strongest positive association with profitability whereas size of the MFI and control ownership disparity had the weakest positive association with MFIs profitability.

Omondi (2013) focused on the association between the financial performance and lending rates of the deposit taking MFIs in Kenya, through the identification of 54 microfinance samples. 20 Microfinance banks were interviewed randomly using appropriate scientific methods. The findings considered effects of technological advancements on the target group, how technology improves staff performance, innovational changes in firms. Technological adoption in all departments and how legislation affects implementation of technology. The study findings revealed that technology tends to have a positive impact the general performance of Kenyan based MFIs.

Bartai (2017) studied the association between financial innovations and the financial performance of MFIs in Kenya. The study used descriptive research design on the 13 Micro finance institutions controlled by CBK in the country. The study population comprised of 9 licensed out of 13 regulated and licensed by CBK as at 2017. The sample of study conducted on 9 MFIs. Financial statement of CBK 2017 report provided the secondary data. The research established a weak positive and significant relationship existed between financial innovation and financial performance (ROA). The association between financial innovation, capital adequacy and financial performance was found to be positively weak and significant.

Akello (2011) managed to accumulate a total of 16 MFB samples among other related conceptual models. This was actually focused towards identifying the impact on financial outcomes and the identification of an analytical model that defines the power of the actual association that exists amongst the identified sub-variables. The general analysis of the identified data was able to confirm that new microfinance conditions and innovation greatly contribute to cost reduction and increase in demand of financial services from these institutions by the clients. Financial innovation and financial performance are positively related.

Study by Mwangi (2014) examined on how capital expenditure affects the financial performance of Nairobi securities exchange listed firms. 53 listed companies were studied. The study was done in a of five year timeline (2009-2013) through which a review of annual financial statements was conducted. Regression analysis was applied to ascertain the connection between financial performance and capital expenditure, and it was established that a positive statistically significant association is in existence between the predator and predicted variables.

2.5 Summary of Literature Review

The section outlined and discussed theories of financial innovation. The determinants of firm performance were as well covered and they include financial innovation and size. A review of literature also brought forth different reactions between financial innovation and firm performance. Empirical studies demonstrated both positive and adverse effects of financial innovation on firms. This chapter therefore proves that there has been significant dynamics in financial technologies, delivery of services and products in the last three decades. Much has been

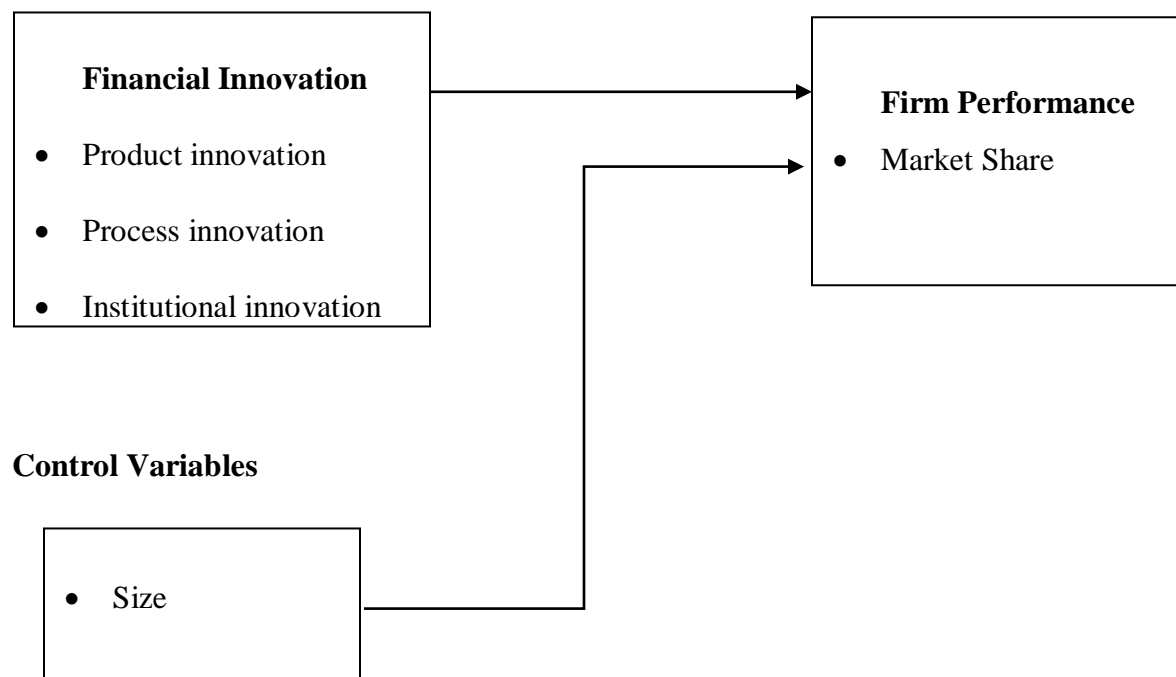
done in banks but no studies have covered the financial innovation effect on performance indicators of Microfinance banks in terms of the market share. Bartai (2017) conducted a relationship study between financial innovation and financial performance and established that a positive significant relationship existed between the two variables. Although this study has been done, it was inconclusive on the extent of financial innovation on firm performance. This therefore was meant to determine whether there was a contextual gap between the 2 variables.

2.6 Conceptual Framework

The study intention was to explore the impact of financial innovation on the firm performance of MFBs. Financial innovation was the predictor variables; size was the control variable while firm performance of the microfinance banks was the dependent variable as illustrated below:

Predictor Variable

Response variable



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section purposed to describe methodology employed to respond to the research question. The section investigated the data collection instruments, research design, census, population size, research validity and reliability, operationalization of variables, data analysis techniques and data collection procedures.

3.2 Research Design

The research employed a descriptive research design to identify the connection that exists between a firm performance of MFBs and financial innovation. The essence of performing a descriptive research methodology was to explore factors that affect variables in the study (Khan, 2008). A descriptive research design was necessary for the research since it would show the relationships between financial innovation and firm performance. Descriptive quantitative design strategy was used that depended on both secondary and primary data.

3.3 Population of the Study

Mugenda (2003) describes a target population as a collection of elements where a sample is plucked from and measurements applied upon. The research identified 13 MFBs licensed in Kenya as the target population. The MFBs are also controlled by the CBK under the Microfinance Act of 2006 in Kenya (CBK, 2006) as shown in Appendix I.

3.4 Data Collection

The research depended on primary and secondary sources of data. Questionnaires were used to capture data for financial innovation within 3 departments of the 13 MFBs. The questionnaires were directly given to the respondents so as to reduce cost of posting. Secondary data on firm performance together with firm size on the other hand were acquired from annual CBK bank

supervision reports. The data collected was for 3 years from 2015-2017 however data for some years were missing. Market share of the MFBs was based on a weighted composite index comprising of capital, number of active deposit accounts, active loan accounts and assets

3.5 Reliability and Validity of Research Instruments

Validity is a concept that defines the truthful nature of research findings (Joppe, 2000). It is validity that ensures accuracy of information gathered. A piloting was be done on sample respondents in Microfinance banks operating within Kenya and the data obtained analyzed. Reliability is a concept that entails the identification of consistent and stable results being derived from assessment tools. This is with regards to the capability of study tools to give consist results after multiple trials (Mugenda, 2003). Pilot testing was undertaken amongst respondents from each MFB.

3.6 Data Analysis

Both secondary and primary data was gathered, coded, cleaned for any possible errors and keyed into SPSS version 21 which summarized it using descriptive statistics of percentages and means. To understand and interpret the analyzed data, tables were used to display it. Correlation of variables was determined using regression analysis which was calculated to draw inferences to the entire population. They were multiple regressions analysis done to analyze and identify relationships between the variables on the study. Firm performance was the selected response variable while the identified predictor variable was: institutional, process and product innovation and the control variable was firm size. The multiple regression model was applied as shown below in the study.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where;

Y= Firm performance of MFBs in Kenya

β_i = Beta Coefficient

α = Constant Term

e=Error term

X₁ = Product innovation

X₂= Process innovation

X₃= Institutional innovation

X₄= Size

3.6.1 Operational Definition of Variables

The research's goal was to investigate whether firm performance of MFBs is affected by financial innovation. To accomplish this said objective, the level of firm performance was viewed as the chief response variable while independent variables include product, process and institution innovation. Table 3.1 presents overview of the operational definition of the variables:

Table 3.1: Operational Definition of Variables

Variable	Variable Type	Operational Indicators	Measurement	Supporting Literature
Firm Performance	Dependent variable	Growth	Market share	Mugo,2009
Product Innovation	Independent variable	Customers satisfaction	Number of users	Ongwen,2015 Ekpu,2015
Process Innovation	Independent variable	Number of transactions	ICT expenditure	Njoroge,2013 Ekpu,2015
Institutional Innovation	Independent variable	Expenses of operation	Operational costs	Mugo,2009 Ekpu,2015
Size	Control variable	Level of assets	Total of assets	Mulandi,2006

3.6.2 Tests of Significance

Diagnostic tests had to be performed to establish common measures of the accuracy of the variables. The nature of association between financial innovation and firm performance was established by correlation analysis. This guided the researcher in making an accurate report regarding significance not by trial and error.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION, PRESENTATION AND DISCUSSION

4.1 Introduction

This section provides study results on the influence of financial innovation on firm performance among MFBs in Kenya. Collected data in relation to the study was analyzed and presented accordingly.

4.2 Questionnaire Return Rate

Collected data was from 3 departments across 13MFBs in Kenya. The research received a response rate of 100% from the study participants. Mugenda and Mugenda (2003) stated that a study should have a return rate of at least 70% in social sciences is to be considered as credible.

4.3 Size of the Firm

From results in Table 4.1, the first MFB was the largest in terms of size with an average total asset base of 31.8 Billion, this was followed by second which had an asset base of 26.5 Billion. The third one, in terms of size had an asset base of 7.6 Billion. The fourth had an asset base of 2.8 Billion. The first four MFBs close the billion bracket in terms of asset base. The sixth one had an asset base of 877.8 Million followed by the fifth one at 429.9 Million. The seventh MFB in terms of asset base had 392.7 Million, the thirteenth one had 232 Million, followed by the seventh one with 231 Million, followed by the eleventh one with 199.8 Million. The ninth, tenth and twelfth MFBs were the smallestones with 174.2 Million, 102.3 Million and 71 Million respectively.

Table 4.1 Size of the Microfinance Banks (in Ksh M)

MFB	2015	2016	2017	TOTAL	MEAN
1	31,861,000	32,153,422	31,452,000	95,466,422	31822140
2	25,324,000	27368909	26844000	79,536,909	26512303
3	7729000	7326187	7851000	22,906,187	7635395
4	2592000	2658605	3175000	8,425,605	2808535
5	186000	179761	924000	1,289,761	429920
6	608000	803468	1222000	2,633,468	877822
7	397000	351356	430000	1,178,356	392785
8	226000	214094	253000	693,094	231031
9	83000	122417	317000	522417	174139
10	-	-	307000	307000	102333
11	197000	224511	178000	599511	199837
12	7700	-	136000	213000	71000
13	184000	170590	404000	758590	252863

4.4 Firm Performance

The firm's performance was measured by the market share percentages obtained from CBK annual performance publications for the years 2015-2017. The average 3 year market share was computed and presented as shown in table 4.2.

Table 4.2 Percentage of Market Share

MFB	2015	2016	2017	TOTAL	MEAN
1	43.3	42.9	44	130.2	43.4
2	36.2	39.2	38.4	113.8	37.9
3	10.5	7.9	7.3	25.7	8.57
4	3.98	4.0	3.6	11.58	3.86
5	0.5	0.4	1.7	2.6	0.87
6	1	0.8	1.7	3.5	1.17
7	0.9	0.7	0.9	2.5	0.83
8	0.5	0.6	0.7	1.8	0.60
9	0.2	0.2	0.5	0.9	0.30
10	-	0.4	0.2	0.6	0.20
11	0.3	0.3	0.2	0.8	0.26
12	0.2	-	0.1	0.3	0.10
13	0.2	-	0.1	0.3	0.10

Results in Table 4.2 indicated that first one was the greatest performing microfinance bank with 43.4% market share. This was closely followed by the second microfinance bank with a 37.93% market share. These two are the highly performing microfinance banks since they form a total of 81.33% of the market share. This shows that the financial innovation dimensions employed by these two microfinance banks are the top in class. The next most performing MFB had a market share of 8.57%. The next microfinance bank came a distance fourth with a 3.86% market share, followed by the fifth Micro Finance bank with 1.17% of the total market share. The sixth MFB followed closely with a market share of 0.83% while the seventh microfinance bank followed with a performance of 1.17% of the market share. The eighth MFB had 0.60% market share while the ninth, tenth, eleventh, twelfth and thirteenth MFBs in terms of performance had 0.30%, 0.20, 0.26%, 0.1% and 0.1% respectively.

4.5 Diagnostic Tests

4.5.1 Test of Autocorrelation

Durbin– Watson test is usually used in testing for autocorrelation. It produces a statistic range from zero to four (Durbin, 1969). The values nearer to 2 (midpoint) propose less auto correlation, whereas values nearer to zero or four portray a positive or negative auto correlation respectively.

Table 4.3 Test of Autocorrelation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.526 ^a	.277	.192	.57291	1.763

a. Predictors: (Constant), Size, Institutional_Innov, Process_Innov, Product_Innov

b. Response Variable: Firm Perf

A result on the above table, Value of Durbin Watson is 1.7634, which is closer to 2 and consequently suggest positive autocorrelation.

4.5.2. Test of Multicollinearity

Multicollinearity is the condition of two or more independent variables being correlated highly. When the degree of correlation among independent variables is very high, there can be problems when someone fits the model and consequently tries to interpret the results. In this case, for multicollinearity to be tested, the variance inflation factors (VIF) were used to identify correlation between variables and the correlation strength. All the predictor variables were regressed against each other.

Table 4.4 Test of Multicollinearity

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.246	2.797		.803	.027		
1 Product_Innov	.278	.414	.101	.671	.047	.939	1.065
Process_Innov	.801	.403	.299	1.988	.050	.942	1.062
Institutional_Innov	.996	.409	.356	2.433	.020	.995	1.005
Size	.198	.087	.340	2.273	.029	.951	1.052

a. Dependent Variable: Firm Performance

From study results, the VIF for the independent variables ranges from 1.005 to 1.065 which shows that there is no existence of multicollinearity. Meyers (1990) pointed out that VIF ought to be less than 10; the values are within the criteria.

4.6 Descriptive statistics of product innovation

Table 4.5 Standard Deviation and Mean of Product Innovation

	N	Mean	Std. Deviation
Customers use online loans in the MFB	39	4.28	.456
The Microfinance Bank has Forex Services	39	4.23	.427
Customers use Money Transfers in the Microfinance Bank	39	4.72	.456
Customers pay utility bills using the bank products	39	4.49	.506
House Mortgages is one of the products of the MFB	39	4.05	.456
Valid N (listwise)	39		
Average Score		4.354	0.4602

Research findings indicated that the respondents agreed with constructs of product innovation. Respondents agreed that customers use online loans in MFB with a mean of 4.28. The Microfinance Bank has Forex Services had a mean of 4.23, Customers use Money Transfers in the Microfinance Bank had a mean of 4.72. Respondents agreed that Customers pay utility bills using the bank products with a mean of 4.49. House Mortgages is one of the products of the MFB had the least mean of 4.05.

4.7 Descriptive statistics of process innovation

Table 4.6 Standard Deviation and Mean of Process Innovation

	N	Mean	Std. Deviation
Automated Queue Machines (ATMs) transaction	39	4.62	.493
Agent banking transaction	39	4.46	.505
Mobile banking transaction	39	4.36	.486
Internet banking transaction	39	4.36	.486
Valid N (listwise)	39		
Average score		4.45	0.4925

Average score		4.45	0.4925
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From the table 4.6 above, the respondents indicated that their microfinance banks provided ATMs transaction with a mean of 4.62, participants noted that their banks offered agent banking services (mean=4.46). Most respondents agreed that their banks offered mobile and internet banking facilities with means of 4.36.

4.8 Descriptive statistics of institutional innovation

Table 4.7 Standard Deviation and Mean of Institutional Innovation

	N	Mean	Std. Deviation
Has an active agency banking platform	39	3.87	.615
Has increased branches in strategic places	39	3.79	.923
Utilize Credit reference bureau services	39	3.90	.552
Offer Islamic banking services	39	3.69	.614
Offering products to specific market niche e.g. children, youth and	39	4.13	.570

children

Valid N (listwise)

39

Average score

4.845

0.6548

From the result on table above, respondents agreed that their banks have active agency banking platform with a mean of 3.87, utilization of credit reference bureau services had a mean of 3.90 and MFB offering Islamic banking services had a mean of 3.90.

4.9 Correlation Matrix for the variables

By use of Pearson's Product Moment technique, correlation analysis was performed to find out if an association existed between the indicators of financial innovation and firm performance. This was meant to identify the association direction and strength between financial innovation and firm performance. Correlation values range from -1 and +1. A correlation coefficient of +1 designates a perfectly positive linear association whereby -1 shows a perfectly negatively linear relationship.

Table 4.8 Correlation Matrix

		Correlations					
			Firm Performance	Product Innovation	Process Innovation	Institutional innovation	Size of MFB
1	Firm Performance	Pearson Correlation	1				
		Sig. (2- tailed)					
2	Product Innovation	Pearson Correlation	.549**	1			
		Sig. (2- tailed)	.001				
3	Process	Pearson	.486**	.545**	1		

	Innovation	Correlation					
		Sig. (2-tailed)	.000	.001			
4	Institutional Innovation	Pearson Correlation	.535**	.595**	.592**	1	
		Sig. (2-tailed)	.001	.001	.001		
5	Size of MFB	Pearson Correlation	.148**	.134**	.219**	.278**	1
		Sig. (2-tailed)	.03	.016	.006	.037	
N=39							

Results of table 4.8 above indicated moderate positive connection existed between the indicators of financial innovation and firm performance. The association between product innovation and firm performance is good, positive and statistically significant ($R=0.549$, $p\text{-value}<0.001$). The association between process innovation and firm performance similarly is good, positive and significant ($R=0.486$, $p\text{-value}=0.001$). There also exist a moderate positive linear relationship between firm performance and institutional innovation which is statistically significant ($R=0.535$, $P\text{-value}<0.05$). The association between bank size and firm performance was found to be low, though statistically significant with a coefficient of 0.148 and $p\text{-value}$ of 0.03. This result implies that the study variables were considered to have a colossal impact on influencing the firms' performance.

4.10 Regression Analysis

Table 4.9 Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.526 ^a	0.277	.192	.57291

a. Predictors: (Constant), Size, Institutional_Innov, Process_Innov, Product_Innov

The results from table 4.9 shows an adjusted R² of 0.192 which is coefficient determination. The proportion of variance is the R square in the response variable (firm performance) which can be predicted from the predictor variables (product, institutional, process innovation and bank size). The Adjusted R-square implies that 19.2% of total variance explains firm performance which is contributed by the independent variables. This means that regression model cannot explain 80.8% of the total variance of firm performance. Hence the results revealed how firm performance was influenced by that the predictor variables.

Table 4.10 ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4.276	4	1.069	3.257	.023 ^b
1 Residual	11.160	34	.328		
1 Total	15.436	38			

a. Response Variable: Firm Performance

b. Predictors: (Constant), Size, Institutional_Innov, Process_Innov, Product_Innov

Table 4.10 shows ANOVA analysis on the effect of financial innovation on the firm performance. The outcome presented, F-test was 3.257, the p-value=0.023 (p<0.05) and residual of 11.160 indicating that financial innovation influence on MFBs performance at 95% confidence level was significant.

Table 4.11 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	2.246	2.797		0.803	.027
	Product_Innov	0.278	0.414	0.101	0.671	.047
	Process_Innov	0.801	0.403	0.299	1.988	.050
	Institutional_Innov	0.996	0.409	0.356	2.433	.020
	Size	0.198	0.087	0.340	2.273	.029

a. Response variable: Firm_Performance

Table 4.11 illustrates beta coefficients of constructs that constitute the three predictor variables and control variable that predict the response variable (firm performance). The table also presents the regression analysis outcomes for the assessment on effect of financial innovation indicators on firm performance of MFBs. From the findings, product innovation affects firm performance significantly. Product innovation has P-value of less than 0.05 (p=0.047). Process and institutional innovations also have statistically significant effect of firm performance with p-values of 0.05 and 0.02 respectively from the sig-column. Size of the bank was also significant with a p-value of 0.029. Model equation can be represented as shown below.

$$Y=2.246 + 0.278 (X_1) + 0.801(X_2) + 0.966(X_3) + 0.198X_4$$

Unstandardized coefficients show how dependent variables vary with independent variables so long as other variables are kept constant. This model signified that positive effect existed on firm performance of MFBs. When the independent variables are all zeros, this means that firm

performance will be at 2.246 units. One unit increases on product innovation, causes 0.278 units increase on firm performance. One unit increases on process innovation, causes 0.801 units increase on firm performance. Finally one unit increases on institutional innovation, cause 0.966 units increase on firm performance. Control variable which is the bank size also affects the performance; one unit increase causes a corresponding increase on firm performance by 0.198.

4.11 Discussion of the Research Findings

This study was done so as to explore financial innovation effect on the performance of MFBs in Kenya. Correlation analysis of the variables indicated that predictor variables positively associated with the performance of microfinance banks which was significant according to statistics. The correlation also signifies a moderate association between firm performance and indicators of financial innovation which is significant. The association between product innovation and firm performance is good, positive and statistically significant ($R=0.549$, $p\text{-value}<0.000$). Similarly, process innovation and firm performance association is good, positive and statistically significant ($R=0.486$, $p\text{-value}=0.000$). There also exist a moderate positive linear association between firm performance and institutional innovation which is statistically significant ($R=0.535$, $P\text{-value}<0.05$). A low association between bank size and firm performance was found, though statistically significant with $r=0.148$ and $p\text{-value}$ of 0.03. These results were consistent with a study by Bartai (2017) who pointed out that positive significant association existed between financial performance and financial innovation. The study also was consistent with a study by Akello (2011) that concluded that technology advancement and institutional innovation had positive association with financial performance of Microfinance institutions in Kenya. This result implies that the variables were considered playing an important role in influencing bank firms' performance.

This research further revealed that process innovation has a significantly effect on firm performance of Micro finance banks with regression results showing one unit increase in process innovation will cause a 0.801 in firm performance. These findings match those of Njoroge (2013) who found that that process innovation significantly impacts on micro finance institutions performance with regression results showing that one unit increase in process Innovation will cause a 0.668 in financial Performance. Conclusion can be drawn therefore to suggest that the

tendency of a firm to encourage and engage in supporting new ideas and advancement processes end up in new engage in and support new ideas processes, products and institutions of MFIs.

A weak association between bank size and firm performance was established, though significant, $r= 0.148$, $p=0.03$. These results are consistent to Mwangi (2014) who discovered weak significant association existed between financial performance and size of firms listed at NSE. This is because to increase the size of a MFB, capital has to be injected whose returns are expected to reflect back after some time. Investment in the increase of a firm size resulted into decrease in the firm performance in that period.

Based on the descriptive analysis of the variables, the respondents were in agreement on the usage of various products by microfinance banks, process innovation and institutional Innovation. These results concur with Mugo (2009) who examined effect of financial innovation on growth of (MFIs) in Kenya. Research disclosed that product and process innovation increased customer retention, improved customer satisfaction thus positive performance growth.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In Chapter five, with respect to objective of the study, discussion of the findings were presented, guided by research question and objectives conclusions were made, subsequently future recommendations and suggestions for future studies were drawn.

5.2. Summary

This segment gives an overview of findings. The results showed that majority of respondents agree with indicators of financial innovation. On product innovation, most of the respondents agreed with the indicators, they agreed customers use online loans that they have.

5.3 Conclusion

In conclusion, this study established that financial innovation has a positive effect on firm performance of micro finance banks. From the regression model all elements had a positive effect on firm performance of microfinance banks. When the independent variables are all zeros, this means that firm performance will be at 2.246 units. One unit increases on product innovation causes 0.278 units increase on firm performance. One unit increases on process innovation causes 0.801 units increase on firm performance. Finally one unit increases on institutional innovation causes 0.966 units increase on firm performance. Also the control variable which is the bank size has an effect on the performance; when it increases by 1 unit, firm performance increases by 0.198. This result implies that the study variables were considered playing a vital role in influencing the bank firms' performance.

To improve on the firm performance, the MFBs should encourage their customers to use money transfer services, install more ATMs so that customers can easily access their services and mobilize their customers to pay bills using the provided bank products. The MFBs ought to also consider improving on offering Islamic banking services and products which are specific to a

particular market niche like youth. Lastly the MFBs should consider increasing branches on strategic places so as to capture more customers hence improving their performance. From the study, the size of a micro finance bank also significantly affects its firm performance. Micro finance banks should therefore invest more of their resources towards increasing their asset base so as to attain the desired asset base that would maximize their profitability.

5.4 Recommendations of the Study

The study gave an insight that micro finance banks which have not instituted financial innovation as a way of doing business in their operations should do so. Microfinance banks are encouraged to adopt all types of financial innovations ranging from the use of credit cards, ATM services, forex services, online loans, payment of utility bills through bank services and Islamic banking in way to maximize on their returns. Provision of advanced process innovations like internet banking, mobile banking and agent banking will attracts more customers thus improving the firm's performance.

Micro finance banks should also invest more of their resources in expanding their coverage in order to increase their profitability. Specifically, by opening more branches in strategic locations and engaging in agency banking they will be in a position to enjoy the economies of scale associated with large firms' thus better financial performance.

5.5 Limitation of the Study

The study intention was to use data of the entire 13 licensed MFIs for three years. However, some microfinance banks lacked data for some years hence results from the study may not be accurate data of the licensed microfinance institutions in Kenya. Lack of enough time and resources were also hindering factors. Strict deadlines for the study and the nature of the study being academic needed thorough work done.

5.6 Suggestions for further Research

The results serve as a source for future studies on effect of financial innovation on firm performance of MFBs in Kenya. Financial innovation focus only accounted for 19.2% of

regression model. The study further suggests research to be done to ascertain the other factors that account for the 80.8% of firm performance.

The secondary data that was readily available was for just 3 years, studies in the future should use a range of many years and this in return will approve or disapprove results of the study. This research also restricted itself to the 13 licensed Micro finance banks, future research be conducted on Saccos, non-financial institutions and commercial banks operating in Kenya.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

OPERATIONS DEPARTMENT

Dearest respondent,

This designed questionnaire is for assisting in data collection on effect of financial innovation on firm performance of MFBs in Kenya. Your information provision will be purely and solely for educational purposes and treated with confidentiality.

Your study involvement will be highly valued.

1. Microfinance Bank Name (**Optional**).....

2. SECTION A: INSTITUTIONAL INNOVATION

On provided statements indicate your agreement level regarding institution innovation and how it affects firm performance in your Microfinance Bank. Please check (√) in the check boxes provided, Where Strongly Agree=5, Agree=4, Neutral=3, Disagree=2 and Strongly Disagree=1

Institutional Innovation	SD	D	N	A	SA
Has an active agency banking platform					
Has increased branches in strategic places					
Utilize Credit reference bureau services					
Offer Islamic banking services					
Offers products to specific market niche e.g. women, youth and children					

APPENDIX II: QUESTIONNAIRE

SALES & MARKETING DEPARTMENT

Dearest respondent,

This designed questionnaire is for assisting in data collection on effect of financial innovation on firm performance of MFBs in Kenya. Your information provision will be purely and solely for educational purposes and treated with confidentiality.

Your study involvement will be highly valued.

1. Microfinance Bank Name (**Optional**).....

2. SECTION A: PRODUCT INNOVATION

On provided statements indicate your agreement level regarding institution innovation and how it affects firm performance in your Microfinance Bank. Please check (√) in the check boxes provided, Where Strongly Agree=5, Agree=4, Neutral=3, Disagree=2 and Strongly Disagree=1

Product Innovation	SD	D	N	A	SA
Customers use online loans in the MFB					
The Microfinance Bank has Forex Services					
Customers use Money Transfers in the Microfinance Bank					
Customers pay utility bills using the bank products					
House Mortgages is one of the products of the MFB					

APPENDIX III: QUESTIONNAIRE

ICT DEPARTMENT

Dearest respondent,

This designed questionnaire is for assisting in data collection on effect of financial innovation on firm performance of MFBs in Kenya. Your information provision will be purely and solely for educational purposes and treated with confidentiality.

Your study involvement will be highly valued.

1. Microfinance Bank Name (**Optional**).....

2. SECTION A: PROCESS INNOVATION

The table below indicates different kinds of process innovation which your MFB has been implementing over the stipulated period. By checking (√) in the check boxes, indicate the most appropriate box the most preferred by customers Where Strongly Agree=5, Agree=4, Neutral=3, Disagree=2 and Strongly Disagree=1

Process Innovation	SD	D	N	A	SA
Automated Queue Machines (ATMs) transaction					
Agent banking transaction					
Mobile banking transaction					
Internet banking transaction					

APPENDIX IV: LIST OF MICROFINANCE BANKS IN KENYA

1. Kenya Women
2. Rafiki
3. Faulu Kenya
4. SMEP
5. REMU
6. Century
7. Sumac
8. U&I
9. Caritas
10. Daraja
11. Maisha
12. Choice
13. Uwezo

APPENDIX V: SUMMARY OF TOTAL ASSETS

Total Assets

MFB	2015	2016	2017	TOTAL	MEAN
1	31,861,000	32,153,422	31,452,000	95,466,422	31822140
2	25,324,000	27368909	26844000	79,536,909	26512303
3	7729000	7326187	7851000	22,906,187	7635395
4	2592000	2658605	3175000	8,425,605	2808535
5	186000	179761	924000	1,289,761	429920
6	608000	803468	1222000	2,633,468	877822
7	397000	351356	430000	1,178,356	392785
8	184000	170590	404000	758,590	252863
9	226000	214094	253000	693,094	231031
10	83000	122417	317000	522,417	174139
11	-	-	307000	307,000	102333
12	197000	224511	178000	599,511	199837
13	77000	-	136000	213,000	71000

APPENDIX VI: SUMMARY OF MARKET SHARE PERCENTAGE

Market Share in Percentage

MFB	2015	2016	2017	TOTAL	MEAN
1	45.4	42.9	44	130.2	43.00
2	36.2	39.2	38.4	113.8	37.00
3	10.5	7.9	7.3	25.7	8.00
4	3.98	4	3.6	11.58	3.86
5	1	0.8	1.7	3.5	1.17
6	0.9	0.7	0.9	2.5	0.83
7	0.5	0.6	0.7	1.8	0.60
8	0.5	0.4	1.7	2.6	0.87
9	0.4	-	0.7	1.1	0.37
10	-	0.4	0.2	0.6	0.20
11	0.3	0.3	0.2	0.8	0.26
12	0.2	0.2	0.5	0.9	0.30
13	0.2	-	0.1	0.3	0.10

APPENDIX VII: AVERAGES FOR INDEPENDENT VARIABLES

Product Innovation Mean	Process Innovation Mean	Institutional Innovation Mean
4.40	4.25	3.80
4.40	4.50	3.80
4.40	4.25	3.80
4.60	4.50	4.20
4.00	4.25	3.60
4.80	4.50	4.00
3.80	4.25	4.00
4.60	4.25	3.80
4.20	4.00	3.60
4.40	4.25	4.20
4.40	4.75	4.00
4.40	4.50	4.00
4.20	4.50	4.00
4.60	4.75	4.00
4.40	4.50	3.80
4.40	4.25	3.80
4.40	4.50	3.80
4.80	5.00	4.00
4.40	4.50	4.20
4.00	4.50	3.60
4.40	4.25	4.00

4.40	4.50	3.40
4.60	4.50	3.60
4.00	4.75	3.60
4.60	4.75	3.80
4.60	4.25	3.80
4.20	4.00	4.00
4.00	4.50	4.00
4.40	4.75	4.00
4.40	4.25	3.60
4.40	4.00	4.40
4.00	4.50	4.00
4.40	4.75	4.00
4.60	4.50	3.40
4.40	4.50	3.60
4.20	4.75	3.80
4.40	4.25	4.00
4.00	4.75	4.00
4.20	4.25	4.20

APPENDIX VIII: DATA COLLECTED

MFB	FISCAL YEAR	Total ASSETS	MARKET SHARE
KWF	2015	31,324	45.3
Rafiki	2015	7,729	10.3
Faulu	2015	25,324	36.2
SMEP	2015	2,592	3.7
REMU	2015	397	0.8
Century	2015	197	0.3
Sumac	2015	608	0.9
U&I	2015	184	0.4
Caritas	2015	186	0.4
Daraja	2015	83	0.2
Maisha	2015	-	-
Choice	2015	77	0.2
Uwezo	2015	226	0.5
KWF	2016	32,153	42.9

Faulu	2016	273,689	39.2
Rafiki	2016	7,3261	7.9
SMEP	2016	2,658	4.0
REMU	2016	351	0.8
Century	2016	224	0.3
Sumac	2016	803	1.3
U&I	2016	170	0.7
Caritas	2016	179	1.3
Daraja	2016	122	0.4
Maisha	2016	-	0.4
Choice	2016	-	0.2
Uwezo	2016	214	0.7
KWF	2017	31,452	44
Rafiki	2017	7,851	7.8
Faulu	2017	26,844	38.4
SMEP	2017	3,175	3.6

REMU	2017	430	0.9
Century	2017	178	0.2
Sumac	2017	1,222	1.7
U&I	2017	404	0.7
Caritas	2017	924	1.7
Daraja	2017	317	0.5
Maisha	2017	307	0.2
Choice	2017	136	0.1
Uwezo	2017	253	0.7