THE EFFECT OF FINANCIAL DEEPENING ON FINANCIAL PERFORMANCE OF FINANCIAL INSTITUTIONS IN KENYA

BY

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DECLARATION

I, the undersigned, declare that 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 has been submitted for examination with my approval as appointed supervisor.

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DEDICATION

This research project is dedicated to the memory of my mother, the dearest mother in the whole world. I do not understand why God had to take you without warning. Your departure to the throne room of God leaves us with many unanswered questions. Yet, we have to rest our case in His hands assured that He and yourself, have the answers on this side of His kingdom.

Love you mom.

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LIST OF ABBREVIATION

CBK	Central Bank of Kenya
CIS	Credit Information Sharing
CRB	Credit Reference Bureau
GDP	Gross Domestic Product
NPL	Non-Performing Loans
NSE	Nairobi Securities Exchange
SME	Small and Medium Enterprises

ABSTRACT

The objective of the finding was to determine the effect of financial deepening on the financial performance of financial institutions in Kenya. The findings comprised of 50 financial institutions operating in Kenya registered by Central Bank of Kenya. The findings used a secondary data covering from the period 2015 to 2016, this period indicated an era of development of financial institutions and financial liberalization in Kenya. Data was collected from Central Bank of Kenya, websites of licensed Commercial banks in Kenya, Kenyan Capital Markets Authority, Kenya National Bureau of Statistics, Insurance Regulatory Authority and Nairobi Securities Exchange. Descriptive statistics was used to analyse using descriptive statistics including mean and standard deviation by use of the relevant computer packages such as Microsoft Office Excel and Statistical Package for Social Sciences (SPSS) program. The Spearman's Correlation Coefficient (Rsp) was used to establish the strength of the relationship between the variables, and the relationships' linearity. The Spearman's Correlation Coefficient used correlation coefficient (r) which is a measure of degree to which two variables are related and can range from 0 to +1 of positively correlated and 0 to -1 if negatively correlated. The significance value (0.00) of the F-test statistic is less than the level at which the hypothesis test was done. Regression model significantly predicted the finding. The findings indicated that financial innovations and credit accessibility explain a large part of the variation in the financial institutions' return on assets; these two variables explain up to 39% of the variation in performance. Financial innovation and credit accessibility have a significant effect on the return on assets of financial institutions. Financial institutions that maintain high levels of investment in innovation have been able to exploit emerging market opportunities. Some opportunities allow for the reduction in the costs of operations, while others make it possible for financial institutions to serve their customers in new ways, or to meet needs that the market has not met before. The findings recommends that financial institutions should increase their investment in activities that spur financial innovation High investment in financial innovation will allow the financial institutions to serve their customers better, or to reach new market segments that have unmet needs.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The growth of an economy cannot be possible without the role of the financial services. The financial institutions in Kenya has experienced different changes in its operations for instance the privatization of the financial institutions, expanding of the financial markets in order to attract more investments and liberalization of the financial sector with an expectation of increasing the investment level and the savings hence enhancing the financial performance of the financial institutions (Aizenman, 2005). The need to open up the financial system in order to improve the profitability and operational efficiency of the financial institution has been the focus to the financial sector players, for the financial market are characterized by the stiff regulation. Control of the interest rates, weak banking structures, lack of transparency and inefficient risk management structures.

The financial repression theory which was developed by Mckinnon (1973) recognizes that for the financial institutions to sustain financial improvement there is need to develop the financial infrastructures and this will ensure that the financial institutions operates efficiently and effectively. According to Nzotta and Emeka (2009), elaborates the financial repression theory by concluding that in order to enhance the performance of financial institutions there is need to put policies and infrastructures that will promote and encourage the growth of the financial institutions. Schumpeterian theory of innovations which was developed by Schumpeter (1934) emphasized on the new paradigm of the financial institutions through innovation that will expand the operations of the financial

institutions, increase the investment level, expand the credit accessibility and improve the capital growth. According to Swedberg (2000) established that innovation is very essential for the financial institutions in order to enhance the value of the financing through opening of new markets and improving the efficiency of the financial institutions.

The financial institutions have been the main contributor in the financial deepening in Kenya, for it has been the main catalyst in the economic growth (Mishkinand Eakins, 2007). The financial institutions in Kenya has been characterized by the high inflation rates, high interest rates, low investment levels, volatile interest rates, low savings and low level of financial intermediation. There is need for the government, regulatory agencies, financial intermediaries and the financial market systems to spearhead the financial deepening in the financial institutions in order to enhance the accessibility of the financial services through regulatory and institutional reforms, innovations in financial markets and legal frameworks.

1.1.1 Financial Deepening

Financial deepening refers to the increase of the financial assets in the financial sector. According to Shaw and McKinnon (1973) defines financial deepening as the enhancement of the financial services that are tailored to all the levels in the society thus increasing the availability and accessibility of the financial services in an economy. Financial deepening can also be referred to as the increase in the ratio of the money supply to the price index which indicates that the liquidity level is high hence more

money is available in the economy, thus more opportunities exist in that economy thus high growth rate and sustainability of the economy. Hence the development of the financial institutions leads to the growth of the economy. Financial deepening in the financial institutions enhances the mobilization, pooling and channeling of the saving into a productive capital pool that enhances the economic growth (Ndege, 2012).

Initially, the financial sector was experiencing the financial repression which was imposing a major challenge in the economic growth of the country (Mckinnon and Shaw, 1973). The repression of the financial institutions led to the reduction of the investment levels thus causing low investment levels, which led to the slow growth rate of the economy. The repression of the financial institutions led to the too little to be saved, and the little that it is saved, it would not be allocated to those that will lead to best returns hence leading to the slow growth rate of the economy (Otieno, 2013).

There was need to reform the financial sector in order to boost the financial institutions hence increase in the resources available for financial intermediation (Odhiambo, 2005). According to Stiglitz and Greenwald the financial deepening enhances the savings and improves the capital allocation and at the same time reduces the extent of information asymmetries and allows for the control and management of the risks that is being experience in the financial institutions. Financial deepening boosts the financial system in a way that makes the financial services accessible to the all level in the society and hence improves the financial performance of the financial institutions which ultimately leads to the growth of the of the economy (Odhiambo, 2015)

1.1.2 Financial Performance

Financial Performance refers to the ability of the firms to effectively mobilize financial resources. Financial performance in the financial institutions refers to the increase in the savings levels and the profitability that leads to the diversification of the financial services (Otieno, 2015). According to Genay (2014), financial performance refers to the capacity of affirm to accumulate sustainable profits from its customers. Profitability is one of the key indicators of the financial performance which it is referred to as the amount generated from the operations of the financial institutions after deducting all the operational costs and expenses Albertazzi and Gambacorta, (2006). Generating a sustainable income has been the main objective of most financial institutions that it will enhance their operations and sustainability in the market environment (Onuonga, 2014).

The financial performance of the financial institutions is determined by several factors whose indicators differ from one institution to another and also recognizes different factors in the measuring of the financial performance. However, there are some specific indicators which have been used by the financial institutions over the years in order to determine their financial performance which includes the operating income, which is the income from the operating activities, the net profits which is the income after deducting all the costs and expenses (Bikker, 2010). The operating income is one of the most indicator of the financial performance of the financial institutions in Kenya for it is being determined by the deepening of the financial capabilities of the firm in that particular industry and is also entails an increase ratio of money supply to (GDP) Nzotta, (2004).

The financial performance in the financial institutions was therefore calculated in terms of the ratio of the money supply to Gross Domestic Product (GDP) which is a function of domestic credit provided by the banking industry as a percentage of GDP, domestic credit to private sector as a percentage of GDP, savings levels to GDP, rate of inflation. Real lending rates, financial assets to GDP and the dummy.

1.1.3 Financial Deepening and Financial Performance

Financial deepening refers to the ability of the financial institutions to effectively mobilize savings for investment purposes. The growth of the saving levels in the financial institutions provides the real structure for the creation of the diversification of the financial claim. The financial deepening also entails the active operations of the financial institutions in the financial markets which leads to the accessibility of the financial instruments and services thus increase in the savings level and growth of the investment levels which will conform to a system that is free from financial repression (Nnanna and Dogo, 1988).

The development of the financial sector does not only have a positive impact on the financial sector growth but also leads to the growth of the economy in the country. According to Otieno (2013) a developed financial institution broadens the accessibility of its services to the customers conversely, in the underdeveloped financial system which limits the accessibility of its services to the public which leads to borrowing of the money to funds its operations, and this leads into few economic activities that would results to slow economic growth.

In underdeveloped financial institutions, growth is only restricted to the expansion of the incumbents while in the developed financial systems, the financial institutions develop mechanisms, techniques and information sharing gathering that will enable the growth and sustainability of the financial institutions. The financial deepening leads to the availability of the financial services by the financial institutions which will eventually lead to high performance of the financial institutions due to increased customer base and expansion of the financial services.

1.1.4 Financial Institutions in Kenya

Financial institutions in Kenya are governed by the Companies Act in Kenya, which provides the guidelines through the central bank of Kenya. According to the regulator of the financial institutions in Kenya, Central Bank of Kenya (CBK), as at June, 30th 2017. The financial sector comprises of 42 commercial banks, 1 mortgage finance company, 6 deposit microfinance institutions, 5 representative foreign financial institutions, 115 foreign exchange bureaus, 2 credit reference bureaus, 16 insurance companies. The Central Bank of Kenya is mandated to formulate and implement fiscal and monetary policies, and is the banker of all other financial institutions and provides the last resort of lending in Kenya. The Central Bank of Kenya ensures the proper functioning of the financial institutions in Kenya thus ensuring the liquidity level and solvency of the Kenya shilling.

According to CBK (2016) there is need for the financial institution to ensure proper financial services in order to avoid the issue of non-performing loans that has led to collapse of some financial institutions due to some defaulters tending not to pay the borrowed amount. The Central Bank of Kenya, has emphasized on the financial institutions to focus on innovations in order to enhance their operations and even increase the access of the financial services such as saving and lending levels which will lead to increase in the investment level in the economy for instance the agent banking model which has been designed to lower the cost of operation of the financial institutions while at the same time increasing the accessibility of the financial services to the society thus leading to the deepening of the financial services in the economy.

The Central Bank of Kenya has recognized a tremendous growth of the saving level and investment level due to the financial deepening that has been created by the innovation level in the financial sector. This has led to most Kenyans getting access to finances at their convenience which has been experienced with reduction of costs and time to access the financial services especially to people in the remote areas. The financial deepening has led to increased number of the customers and value of the transactions which has enhanced the quality of the financial services and increases the growth of the financial institutions. The pace of transformation in the financial sector speeded up with more new paradigms of the financial services realizing the opportunities in the financial sector, thus leading to increased financial growth of the financial institutions.

1.2 Research Problem

Financial deepening is important to the performance of the financial institutions which ultimately leads to the growth of the economy of a country. Financial banking enhances the growth of the financial institutions through accessibility of the financial services, expansions of the financial services, efficiency of the financial operations. Financial deepening enhances savings and mobilizes the investment levels which are normally influenced by the financial institutions (Merton and Bodie, 1995). Financial deepening increases the marginal productivity of the capital through the intermediation function of well-informed financial institutions (Beck, Levine and Loayza, 2000). According to Hua and Liang (2006) the financial institutions can also increase the financial deepening by improving the financial services, increase their financial services penetration, enhancing the transaction processes and providing customers with more financial services products.

The financial institution in Kenya has been the main contributor to the financial deepening. The recent reform in the financial institutions has led to the financial institution to be more proactive in order to remain competitive in the industry and improve the financial performance. One of the ways the financial institutions has incorporated in their financial services operations is to increase the saving levels, credit accessibility and expansion of the financial services. Both global and local have provided insights on the effects of financial deepening on financial performance of the financial institutions. Hua and Liang (2006) studied on the effect of financial deepening on economic productivity where their recognized that the development of the financial institutions as a components of the financial deepening. Arestis, Chortareas & Desli

(2006) recognized that the financial deepening shifts the way commercial banks operates but the study recognized the financial deepening on the microeconomic factors. Sindani (2013) studied on the effect of financial deepening on economic growth, recognized that the financial deepening is essential for the growth of the economy for it increases the saving and investment levels. Ochanda (2014) studied on the effect of financial deepening on growth of Small and Medium Enterprises, recognized that innovation provided the best platform of financial deepening which lead to the growth of the SMEs. Ochienga (2016) studied the effect of financial deepening on productivity of commercial banks in Kenya; the study established financial deepening is an important stimulator of greater banking productivity.

From the aforementioned studies, it is evident that no study has been done according to the best knowledge of the researcher on the effect of financial deepening on financial performance of the financial institutions in Kenya considering the current reforms and regulatory frameworks on the financial sector. Therefore, the finding was to fill the gap by answering the question. Does financial deepening have an effect on financial performance of financial institutions in Kenya?

1.3 Research Objectives

The objective of the study was to determine the effect of financial deepening on the financial performance of financial institutions in Kenya.

1.4 Value of the Study

The finding was an addition to the existing literature on the financial deepening and financial performance. It also assists scholars and researchers on the subject area to carry out further studies and provide comprehensive insight on the financial deepening in the financial sector.

The findings of the study would be important to the financial institutions managers as they will be able to identify how the financial deepening influences the financial performance of the financial institutions and this will provide an insight on the financial deepening.

The findings are essential to the policy makers and regulators of the financial institutions for instance Central Bank of Kenya who promotes financial sector deepening in order to ensure a sustainable growth of the financial sector. The findings of the study would be important to the investors when making their investment decisions in the financial institutions in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter entails the theoretical framework in which the financial deepening is based, literature on the financial deepening, determinants of the financial performance and a review of the empirical studies alongside conceptual framework linking financial deepening and financial performance.

2.2 Theoretical Framework

Several theories offer insights into the rationale underlying the financial deepening. The study was anchored towards the financial repression theory of financial deepening, the Schumpeterian theory of innovation and the financial intermediation theory.

2.2.1 Financial Repression Theory of Financial Deepening

The financial repression theory was developed by Mckinnon and Shaw (1973), the study recognized the need of a developed financial system that immensely contribute to the economy growth. Thus the theory emphasizes on the need to focus on policies that ensures that the financial structures operates effectively without any manipulation. Mckinnon and Shaw (1973) observed that financial repression is associated with low development of an economy which according to Nnanna and Dogo (1998) recognized it as an economy that is associated with distorted interest rates, volatile inflation, low savings, low level of financial intermediation and low investment level in an economy.

The theory is supported by various scholars and research such as Nzotta and Emeka (2009) who recognized that the policies of the financial repression is very vital for the operation of the financial institutions that promotes and enhances the operations and financial services of the financial institutions since the financial intermediation is important in the growth of an economy. The theory was relevant in the study for it showed how the policies of the financial repression had lead to the development of financial deepening that influenced the growth of the financial aspect of the financial performance.

2.2.2 Schumpeterian Theory of Innovation

Schumpeterian theory of innovation was developed by John Schumpeter (1934). The theory emphasized on the need to incorporate entrepreneurship and innovation in order to capture the opportunities for value creation and expansion of the operations in the firm through having a calculated risk taking, having proactive managers and leaders, recognizing opportunities through intellectual capital of entrepreneurs to maximize on the return on assets and expansion of the financial position of the firm.

The Schumpeterian theory of innovation goes beyond the economist theory by distinguishing explicitly between physical and intellectual capital and between saving, which enables capital flow and innovation which makes intellectual capital grow. It recognizes that the technological improvement is one of the innovations that have expanded the business operations thereby influencing the profitability of the organization. According to Swedberg (2000) recognizes the works of Schumpeter by identifying that

entrepreneurship involves doing new things in a new way, which is an essential element of value creation in the financial institution. Having a new operation system, introduction of a new method of transaction, opening of new market structures and a conquest of new source of inputs and focusing of a new industry enables the firm to recognize its potential in the financial markets (Casson, 2002). The theory is relevant to the study for it recognizes innovation as a way of the financial institutions can use to ensure financial deepening which will eventually improves their financial performance.

2.2.3 Financial Intermediation Theory

The financial intermediation theory was developed by Leland and Pyle (1977). The theory emphasized on the roles of the financial intermediaries in the financial systems. They recognized that the financial intermediaries can be categorized by four criteria that is: categories of liabilities (deposits) which are specified for a fixed sum which is not related to the performance of a portfolio, short-term deposits, and high proportion of their liabilities are chequeable and liabilities and assets which are not transferable. The theory establishes that the contribution of intermediaries is to ensure steady flow of the funds from the surplus units to the deficits units.

The role of financial intermediaries is essential in that it ensures the growth of the economy through supply of the financial commodities (Scholtens and Wensveen, 2003). The financial intermediaries ensure creation of a platform that enables transaction of different commodities. The financial intermediaries exist due to the market imperfections. As such, in perfect market situation, with no transaction or information costs, financial

intermediaries would not have existed. Numerous financial markets are characterized by informational differences between buyers and sellers.

In financial markets, information asymmetries are particularly pronounced. Investors tend to borrow with the collateral and entrepreneurs have inside information about their own investment seeking financing (Leland and Pyle, 1977). The theory is essential in the study for it emphasizes on the functions of the financial intermediaries in mobilizing, channeling and pooling savings and increasing investment levels in the economy, thus improving their efficiency and expanding their functions contributes immensely in the growth of the economy.

2.3 Determinants of Financial Performance

Financial performance is essential for the financial institutions sustainability and growth in the financial markets. These include growth in firm size and portfolio management.

2.3.1 Firm Size

The firm size which entails the net assets under the financial institution management can influence the financial performance of the financial institutions, as it is recognized that firms need to attain a minimum size to achieve the net returns of research expenses and other costs, however, the large financial capability tends to incur excessive costs resulting in diminishing or even negative marginal returns. Initially, growth in firm size could provide cost advantages as for brokerage costs for large transactions are lower while research expenses increases less than proportionately with the firm size. After exceeding

an optimal size, too large firms can lead to deviation from original objectives by investing in some lower quality assets, as it will lead to an increased in administrative costs for additional coordination among employees of the financial institutions (Indro et al, 1999). It is always assumed small financial institutions tend to perform better than the large financial institutions, and based on the market liquidity theory which recognizes that large financial institutions have difficulty in realizing its shareholding without affecting the share price when it wants to adjust the balance of its portfolio.

2.3.2 Portfolio Management

Portfolio management was considered to be a complex process consisting of various avenues for instance setting of investment style and portfolio selection and diversification. According to Chandra (2006) investment policy is one of the main factors that determine the performance of the investment level in the organization which influences the financial performance of the financial institutions. The financial institution should be keen in identifying the risks and returns of the investment levels in order to ensure a positive risk and returns that is appropriate for the financial institutions. The investment style should also be of state that influences on the investment management of constraints which includes the liquidity levels, projected investment horizons as well as other unique needs and preferences of the investors (Jaime, 2002). The conventional of the determinants is constrained on the tolerance of risk and the relationship between returns on equities and returns on bonds in all period. When comparing investments, it is essential to take into account the impact of the taxes and interest rates in order to ensure a better yield of the returns (Mishkin, 2007).

2.4 Empirical Review

Various research studies both local and global have given the rationale on the effect of financial deepening on the financial performance of the financial institutions. Chortareas et al (2011) studied on the effect of financial depth banking on the productivity nexus. The study considered the nine Latin American countries and estimate banking productivity. The finding of the study showcased an unambiguously positive correlation relationship between financial depth banking and productivity of the commercial banks in America. The study concluded that financial deepening is an important factor to enhance the productivity level. The study also provided an evidence of a reverse causality between the two variables and the extend of the financial deepening in the commercial banks.

Athanasoglou et al, (2008) studied on the internal and external determinants of the performance of the banks. The study established specific internal and external determinants that are specific influence on the performance of the commercial banks. The external determinants are variables that are not related to bank management but reflect the legal and economic factors that influence the operations of the financial institutions and performance of the financial institutions. The study focused on the profitability analysis of the banking sectors and how various financial deepening factors especially the external factors affects the financial performance of the banks.

Bikker and Hu (2002) studied on the impacts of financial deepening on the bank profitability considering the business cycle relationship in the United States. The study established that deepening the financial assets, increasing the credit facilities and

expanding the financial services has an influence in the profitability of the commercial banks in the United States. The study also recognized some common elements in the external environment as determinants of the profitability, for instance the size of the banks, capital structure of the banks, risk management and expenses management. The study findings showed that there is a significant and positive relationship between size and bank profitability. The study also recognized other factors that influence the financial, legal and mismanagement of funds as the cause of financial repression that affects the profitability of the banks.

Goddard et al (2004) studied on the impact of financial deepening on the small and medium sized banks to capital and profitability. The study established there was little savings that was being experienced in the small and medium size banks in which it leads to slow growth rate of the profitability. Thus there was need of the risk management in the banking sector that it will influence the financial deepening which is inherent in the nature of the banking business. The study further recognized that poor quality of the financial services, low level of liquidity is the major cause of the bank failures.

Demirguc-Kunt and Huizinga (2000) studied on the effects of the financial deepening on the bank profitability considering the cyclical movements. The findings show the extents on the bank profitability are correlated with the business cycle. The findings suggested that positive correlation relationship between financial deepening and profitability. The study concluded that financial deepening is essential in the financial sector which influences the performances of the banking sector.

Odhiambo (2009) studied on the in pact of interest rates reforms on financial deepening and economic growth in Kenya. The study used financial depth as a measure of financial deepening and it was measured using the ration of broad money to gross domestic products. The annual time series data was used from 1968 to 2004. Co-integration and correlation models were applied. The study finding showed a positive impact of interest rates reforms on financial deepening in Kenya.

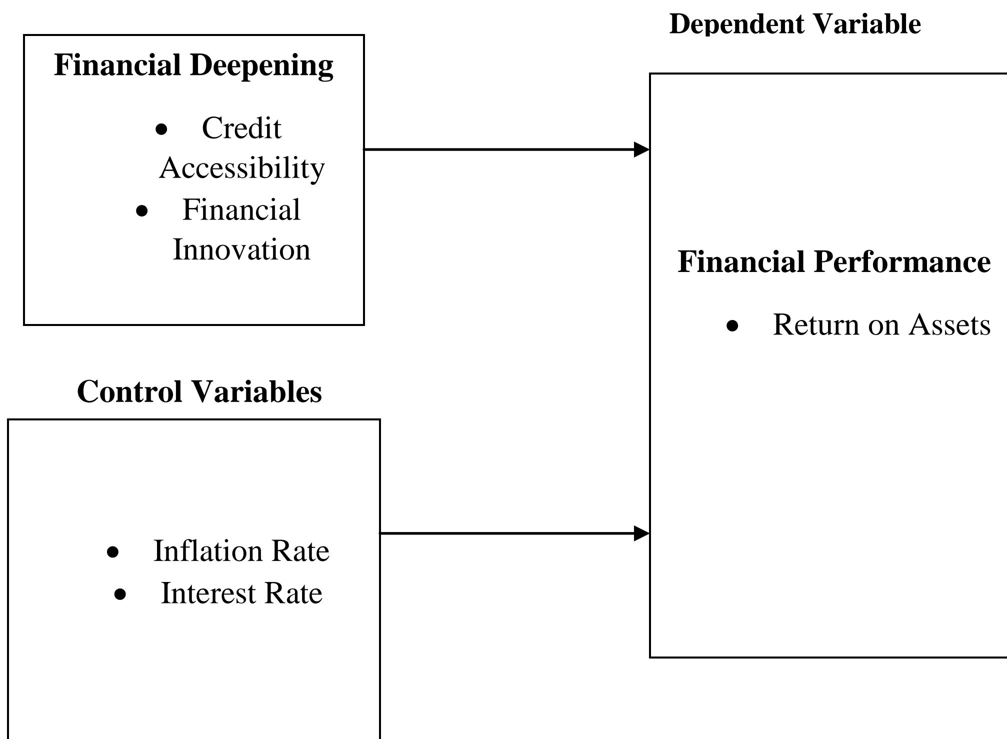
Kenyoru (2013) studied on the effect of financial innovations on financial sector development. The financial deepening was measured in terms of the number of depositors with commercial banks and other institutions per 1000 adults. Financial innovation was measured in terms of the mobile money transactions, number of agency banking and value of m-banking sector. The data was collected for the period 2007-2012. The results showed the mobile money transactions had a negative effect on financial deepening while value of m-banking transactions had a positive effect on financial deepening. The effect of agency transactions was not shown. The study concluded that none of the effects were significant suggesting no significant effect of financial innovations on financial deepening.

Ochanda (2014) studied on the effect of financial deepening on the small and medium sized enterprises in Nairobi County, Kenya. The survey data was collected from 100 SMEs. The financial deepening was measured using financial innovation and credit access. The findings show that both credit accessibility and financial innovation had positive effects on the growth of SMEs. The study concluded that financial deepening has a positive effect on the growth of SMEs in Nairobi County in Kenya.

2.5 Conceptual Framework

A conceptual framework is a tool that shows the relationship between the relationship between the dependent variable and the independent variable (Kombo and Tromp, 2009). Hence, provides an understanding of the subsequent findings by showing the relationship between the variables. The conceptual framework in the study shows how the financial deepening through financial innovation and accessibility of credit had an effect in the financial performance of the financial institutions especially on the return on assets.

Figure 2.1: Conceptual Framework



Source: Researcher (2017)

2.6 Summary of the Literature Review

The study focused on the theories which were the financial repression theory, financial intermediation theory and Schumpeterian theory of innovation which formed the basis of the study. It recognizes the firm size and portfolio management as the determinant of the financial performance. Through the empirical review it was recognized that financial deepening has been of interest by different scholars but it was established no research study has been done on the best knowledge of the researcher on the financial deepening and financial performance of financial institutions in Kenya especially due to the reforms that has happened to the Kenyan financial market. Thus created a gap that the study intended to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter details the research methodology that was used in the study. The sections presented included research design, population and sample descriptions, data collection and data analysis.

3.2 Research Design

Research design in the findings was a causal study design which involved an investigation of what caused the other among different variables (Chandran, 2004), the findings adopted both descriptive and explanatory designs. Causality was the most preferred because the findings attempted to investigate what effect of financial deepening on financial performance of financial institutions in Kenya. First the findings described the trend in both financial deepening and profitability of banks. Secondly, an explanatory approach to explain whether financial deepening had any effect on financial performance and carefully test causal research objective of the study.

The independent variable was presumed cause, and the dependent variable was the potential effect. In the context of the findings, performance of financial institutions was the dependent variable while proxy measures of financial deepening formed the independent variables. The design involved philosophical assumptions that guide the financial deepening direction of the collection and analysis of financial deepening variables and quantitative approach in research (Creswell and Plano, 2007).

3.3 Population

The study was to consider a set of financial institutions during a period of financial reform that enhanced financial depth, examining whether financial deepening have an effects on financial performance of financial institutions. The population of the study comprised of 50 financial institutions operating in Kenya registered by Central Bank licensed website which was drawn from different financial sectors.

3.4 Sample

The research study used stratified random sampling as described by Cooper & Schindler (2006), was applied to come up with the sample size. This is because the population of the financial institutions are heterogeneous the use of stratified sampling technique was to ensure each industry for instance commercial banks, insurance companies, microfinance institutions and mortgage institutions are presented in the sample for fair generalization and comparison for the findings.

The sample size of the research study was 50 financial institutions listed at the Central Bank of Kenya. This was arrived through a formula developed by Kelley & Maxwell (2003), which is 0.101 as the sample size multiplied by total population (0.101*500). This formula is derived from a series of samples assuming non-zero probability and is appropriate when the population is large.

3.5 Data Collection

The study used secondary data covering the period 2015 and year 2016. This was an era of development of financial institutions and financial liberalization in Kenya. Data was collected from Central Bank of Kenya, websites of licensed Commercial banks in Kenya, Kenyan Capital Markets Authority, Kenya National Bureau of Statistics, Insurance Regulatory Authority and Nairobi Securities Exchange. All the variables on financial deepening and financial performance were extracted. With the use of data collection guide, the researcher extracted the secondary data that was relevant to the study.

3.6 Data Analysis

The data was collected from the financial institutions operating in Kenya was analyzed using descriptive statistics including mean and standard deviation by use of the relevant computer packages such as Microsoft Office Excel and Statistical Package for Social Sciences (SPSS) program. Two methods of data analysis were therefore adopted to enable the researcher conduct a comprehensive analysis. Regression analysis was used for the objective.

The information from the analysis was displayed by use of bar charts, graphs, pie charts and tables to search for any correlation between financial deepening and performance of the financial institutions.

The following regression equation was used to show the relationship between financial deepening and financial performance of financial institutions in Kenya.

$y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + E$

Where: y = Financial performance measured by Return on Asset

α = Constant; y intercept, that is, the value of y when x is equal to zero

$\beta_1 \ldots \beta_4$ = the slope representing degree of change in independent variable by one-unit variable

X1= Credit Accessibility measured by the ratio of the loans to the deposit balance.

X2 = Financial Innovation measured in terms of the mobile money transactions, number of agency banking and m-banking (Core capital to risk weighted assets ratio).

X3= Size of the firm measured by natural log of total assets

E = error term

3.7 Diagnostic Tests

A test was first done to establish and validate the most appropriate research model design for the study. This was essential in order to sustain the empirical results and obtain accurate policy recommendations and conclusions for the study. The advantage of the secondary data it considered both path and space thus making it easier to perform the test and has the ability to have a heterogeneity effect.

The Haussmann specification test was performed for it was to determine whether to use a random effect model or fixed effect model. The Haussmann specification test was based on the hypothesis of no correlation between the financial deepening and financial performance of financial institutions.

3.7.1 Statistical Test of Significance

Correlation analysis was used to establish the existing relationship between the dependent and independent variables. The Spearman's Correlation Coefficient (Rsp) was used to establish the strength of the relationship between the variables, and the relationships' linearity. The Spearman's Correlation Coefficient used correlation coefficient (r) which is a measure of degree to which two variables are related and can range from 0 to +1 of positively correlated and 0 to -1 if negatively correlated.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the data obtained as set out in the methodology. It covers the descriptive statistics, correlation analysis, regression analysis and interpretation of the findings. This chapter reveals important patterns on how the study variables have affected financial institutions, and the resulting insights provide a good basis for recommending actionable plans that they could use to improve performance.

4.2 Response Rate

The study population involved 50 financial institutions in Kenya. However complete information was only available in 39 institutions which represent 78% response rate. Mugenda & Mugenda (2013) suggests that a response rate of more than 50% is good enough and can be relied upon for data analysis to represent the characteristics of the population.

4.3 Descriptive Statistics

Table 4.1 below shows the summary descriptive statistics of the study variables.

Table 4.1: **Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Y=ROA	78	-7.0100	20.1000	2.312821	3.4757471
X1= credit accessibility	78	.4248	1.6118	.888495	.2343870
X2= Financial Innovation	78	5.9000	43.7000	20.562821	8.0753611
X3=Size	78	8.5629	13.1319	10.655273	1.2801666
Valid N (listwise)	78				

Financial performance of financial institutions in Kenya was represented by Return on Assets. The lowest ROA was -7.01% while the highest was found to be 20.1% with a mean of 2.31% and a standard deviation of 3.48.

The level of credit accessibility (X1) on the other hand was represented by the ratio of loans to deposit balance. The lowest record was .42 while the highest was 1.61, the mean was .89 with a standard deviation of .23

Financial innovation which was the second independent variable that was measured by Core capital to risk weighted assets ratio had the company registering the highest innovation set at 43.7% while the lowest was recorded at 5.9% and a mean of 20.56% and standard deviation of 8.07%.

The other independent variable was size of the company that acted as a control variable. It was measured by calculating the natural logarithm of total assets of each company. The company that was construed to have the biggest size had a record of 13.13 while the lowest had 8.56 with a mean of 10.66 with a standard deviation of 1.28.

4.4 Correlation Analysis

Correlation analysis was performed in order to establish the nature of the relationship among the study variables. Table 4.2 below shows the matrix of Pearson correlation coefficients.

Table 4.2: Correlation Matrix

	Y=ROA	*X1= credit accessibility*	*X2= Financial Innovation*	*X3=Size*
Y=ROA	1			
X1= credit accessibility	-0.38489	1		
X2= Financial Innovation	0.218257	-0.266682252	1	
X3=Size	0.410929	-0.153376356	-0.420723264	1

The correlation of variables ranges from 1 to -1. The closer the correlation is to 0, the weaker is the correlation between the variables. Negative correlation means that the relationship between the variables is inverse, meaning the increase in one variable leads to a decrease to the other variable, the vice versa is true.

X1 is inversely related to the dependent variable, financial performance. This means that increasing the ease of access to credit would decrease the financial performance of the financial institution. This would more so be probable if issue of bad debts and non-performing loans is brought out.

Financial innovation (X2) shows a positive relationship with the dependent variable. This can be interpreted to mean that increase in innovation (financial deepening) increases financial performance of the financial institution.

The other variable X3 (Size) also shows a positive correlation with the dependent variable. This would mean that as a company increases in size, it is able to enjoy from the economies of scale, thereby increasing its profitability.

4.5 Regression Analysis

Regression analysis was performed in order to evaluate how the regression model predicted the performance of financial institutions. This section presents the findings of regression analysis.

4.5.1 Model Summary

Table 4.3 below summarizes the regression model.

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622[a]	.387	.362	2.7762971

a. Predictors: (Constant), X3=Size , X1= credit accessibility, X2= Financial Innovation

R square represents a statistical measure which shows how close the data is to the fitted regression line. It is referred to as coefficient of determination. A low coefficient of determination shows that the model hardly predicts the variability of the data around the mean. A 100% R square shows that the model fully predicts the variability of the data around the mean.

The adjusted R square on the other hand only shows the R square adjusted as per the number of variables present.

The table shows an R square of 0.387 which means that the model can be used to explain 38.7% of data variation around its mean.

4.5.2 ANOVA

The regression model was tested for significance using the F-test of significance of a regression model. Table 4.4 below shows the ANOVA summary of the significance test.

Table 4.4: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	359.844	3	119.948	15.562	.000[b]
	Residual	570.379	74	7.708		
	Total	930.223	77			

a. Dependent Variable: Y=ROA

b. Predictors: (Constant), X3=Size , X1= credit accessibility, X2= Financial Innovation

In order to decide if the overall results are significant, F statistic must be used in combination with the p value. In Anova, the null hypothesis is rejected when the p value is smaller than alpha and when the critical value of F is less than the calculated value of F.

According to the table above the calculated F value is 15.562 while the critical F value; $F_{(3,77,0.05)}$ is 2.1 This shows that calculated F value> than F critical.

The p value is .000[b] and this shows that it is less than alpha value which is 0.05. This therefore means that there is significant effect of financial deepening on financial performance of financial institutions in Kenya.

4.4.3 Regression Coefficients

The coefficients of the regression model were also estimated and then tested for significance. Table 5 below shows the coefficients of the regression model and the result of the significance tests.

Table 4.5: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95%Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-14.481	4.262		-3.398	.01	-22.973	-5.989
	X1= credit accessibility	-2.892	1.470	-.195	-1.967	.053	-5.821	.037
	X2= Financial Innovation	.171	.046	.397	3.675	.000	.078	.263
	X3=Size	1.488	.286	.548	5.203	.000	.918	2.057

The table shows the unstandardized coefficients for the y intercept as 14.48 and error term as 4.262

Coefficients for X_1, X_2, and X_3 are -2.89, 0.171, 1.488. The linear model $\mathbf{Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + \varepsilon}$ thus becomes;

$Y=14.48 - 2.89X_1 +0.171X_2 + 1.488X_3 +4.262$

4.5 Interpretation and Discussion of Findings

The findings show that the R Square is 0.387, and this means that about 38.7% of the variation in the financial institutions results from the variation in their financial innovation and credit access. That the regression model explains a substantial part of the variation in the dependent variable is indeed proof of how the investment policy is one of the main factors that determine the performance of the investment level in the organization which influences the financial performance of the financial institutions. The financial institution should be keen in identifying the risks and returns of the investment levels in order to ensure a positive risk and returns that is appropriate for the financial institutions (Chandra, 2006).

From the findings, the F-test statistic has a significance value of 0.00; considering the model was tested at the 0.05 significance level, the regression model is a significant predictor of the financial performance of the institutions that were included in the study. What this means is that the regression model explains more variation than it does not explain, and this is evident in the sum of squares due to regression and the sum of squares due to residual factors. The significance of the regression model goes to show that Santamore (1997)'s argument that allocation of the investment levels in the financial institutions determines their future financial performance is valid. Thus, there is need for the financial institution to enhance a comprehensive selection of portfolio that can generate substantial return to the institutions. Portfolios that encourage innovation are helpful for financial institutions that wish to sustain competitive advantage.

The coefficient of financial innovation in the regression model is 0.171, meaning a unit change in the ratio of financial costs to credit output increases the financial performance of financial institutions by 0.171. It is not difficult to see why a high level of financial innovation would improve the financial performance of financial institutions because Swedberg (2000) recognizes the works of Schumpeter by identifying that entrepreneurship involves doing new things in a new way, which is an essential element of value creation in the financial institution. Innovations help financial institutions reduce their costs of operations, and this means that less of their revenue goes into paying the costs of operations. From the findings, the coefficient of credit accessibility is -2.892, meaning a unit change in credit accessibility reduces the ROA by 2.89. This means that increase in credit accessibility may lead t bad debts and increase non-performing loans that reduces profitability and thereby impends performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

In the preceding chapter, the researcher presented the research data, analyzed it and drew necessary insights. In this chapter, the study findings are summarized and the necessary conclusions drawn. The chapter also offers recommendations for improving performance in financial institutions.

5.2 Summary

The objective of the study was to determine the effect of financial deepening on the financial performance on financial institution in Kenya. The findings show that financial innovations and credit accessibility explain a large part of the variation in the financial institutions' return on assets; these two variables explain up to 38.7% of the variation in performance. Considering the multiple factors that influence the return on assets, 38.7% is too big a proportion to be accounted for by two variables, and this goes to show how credit access and financial innovation are important for financial institutions. The test of significance of the regression model has shown that the regression model is a significant predictor of the dependent variable.

From the findings, it is clear that financial innovation drives the effectiveness and efficiency of financial institutions because it opens new avenues for saving some operating costs and offering new products. The tests of significance of the regression coefficients indicate that the independent variables are significant predictors of the

dependent variable. The significance of the regression coefficients affirms the significance of the regression model. Overall, the data affirms theoretical propositions on the interplay between innovation, organizational efficiency and effectiveness; financial institutions that invest more on innovation are more efficient and effective compared to those that invest less in innovation, and this difference is manifest in their return on assets.

5.3 Conclusion

Financial innovation and credit accessibility have a significant effect on the return on assets of financial institutions. Financial institutions that maintain high levels of investment in innovation have been able to exploit emerging market opportunities. Some opportunities allow for the reduction in the costs of operations, while others make it possible for financial institutions to serve their customers in new ways, or to meet needs that the market has not met before. Either way, financial innovation, and the resulting increase in credit access, enables firms to earn more income from their assets. The findings from the study was in consistent with Goddard et al (2004), establishing that financial deepening improves the accessibility of the financial services, increase in the customer base and reduction in the risks.

If financial innovation helps lower operating costs, it means the financial institutions will be left with more revenue after they have paid their operating expenses, meaning the return on assets will increase, as indicated by Bikker and Hu (2002) that financial deepening increases the credit facilities and expansion of the financial services but also

leads to reduction of operational cost and increase in the profitability of the firm. On the other hand, if financial innovation enables the financial institutions to meet their clients' unmet needs, then the institutions will earn more revenue, which means if they are using the same assets to generate the revenue, their return on assets will increase. Financial institutions that innovate are in a good position to enhance credit access because high levels of efficiency in using assets, or high levels of effectiveness in meeting client needs, mean an expansion of the client base.

5.4 Recommendations

Considering the value of financial innovation, this study recommends that financial institutions should increase their investment in activities that spur financial innovation. In an increasingly competitive environment, financial institutions should strive to sustain high levels of efficiency and effectiveness, and financial innovation is a good way to do it. Investing in financial innovation will allow financial institutions to reduce their operating costs, and this means they will be able to price their products and services effectively. Low operating costs also help the financial institutions maintain adequate cash reserves that can make them more effective in making the changes that the external environment necessitates. High investment in financial innovation will allow the financial institutions to serve their customers better, or to reach new market segments that have unmet needs. An expanded customer base and market share is important for competitive advantage because it sustains performance during turbulent times.

5.5 Limitations of the Study

The analytical model of this study did not allow the examination of insights on how various approaches to innovation influence the outcomes in terms of financial performance, meaning that, from the findings, it is not clear if different innovation strategies would yield the same outcome.

The study did not consider how organizational factors influence the relationship between the study's variables. Large financial institutions have more resources than the medium and small institutions do, meaning their approach to financial innovation will not be the same. With their enormous resources, large financial institutions can develop innovative products that span a wide spectrum, and this means these institutions can appeal to a wider segment of new markets than smaller institutions can do.

The efficiency of investments in financial innovation, therefore, differs in large financial institutions and small financial institutions because such an investment in a large institution earns more than the one in a smaller institution does. Thus, it is important to examine if organizational factors influence the relationship between financial innovation, credit access and financial performance.

The study also faced the time constraints, it is suggested that the future study should consider more periods since my study only focused on the 4 year period of the study variables.

5.6 Suggestions for Further Research

This study should be replicated but the analytical model should include a variable that measures the organizational factors that influence the strategy for financial innovation in a financial institution. Delineating the factors that shape how financial institutions undertake financial innovation would help provide insight on the elements that affect the link between financial innovation, credit access and financial performance. As financial institutions turn to innovation as a strategy that helps them acquire and sustain competitiveness, it is important that they understand the factors that influence the effectiveness of financial innovation in helping them improve their financial performance, and finding out the moderating variables is one way to find such insights.

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APPENDICES

Appendix I: Introduction Letter

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SCHOOL OF BUSINESS

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE 4/10/2017

TO WHOM IT MAY CONCERN

The bearer of this letter NANCY CHEPKITENG

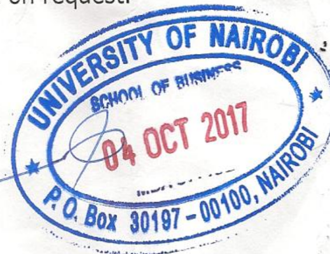
Registration No. D61/83883/2016

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.



PATRICK NYABUTO
SENIOR ADMINISTRATIVE ASSISTANT
SCHOOL OF BUSINESS

Appendix II: Data Collection Form
FINANCIAL INSTITUTION PROFILE

1. Name of the firm…………………………………………………...
2. Year of Establishment……………………………………………...
3. Number of employees currently employed in the bank

   Below 100 [ ] 101-500 [ ] 501-1000 [ ] Above 1000 [ ]

FINANCIAL PERFORMANCE OF FINANCIAL INSTITUTION FROM JANUARY 2015- DECEMBER 201

Name of the Firm	Year	Quarterly Period	ROA= (Net Income/Total Assets	Financial Innovation=No. of Credit/ Costs incurred	Credit Accessibility=No. of Loans/ Total Deposits
	2015	Q1			
		Q2			
		Q3			
		Q4			
	2016	Q1			
		Q2			
		Q3			
		Q4			

II: List of Commercial Banks in Kenya as at 31st December 2016

1. African Banking Corporation Ltd.

2. Bank of Africa Kenya Ltd.

3. Bank of Baroda (K) Ltd.

4. Bank of India

5. Barclays Bank of Kenya Ltd.

6. CFC Stanbic Bank Ltd.

7. Chase Bank (K) Ltd.

8. Citibank N.A Kenya

9. Commercial Bank of Africa Ltd.

10. Consolidated Bank of Kenya Ltd.

11. Co-operative Bank of Kenya Ltd.

12. Credit Bank Ltd.

13. Development Bank of Kenya Ltd.

14. Diamond Trust Bank (K) Ltd.

15. Dubai Bank Kenya Ltd.

16. Ecobank Kenya Ltd

17. Equatorial Commercial Bank Ltd.

18. Equity Bank Ltd.

29. Family Bank Ltd

20. Fidelity Commercial Bank Ltd

21. GTB Ltd

22. First community Bank Limited

23. Giro Commercial Bank Ltd.

24. Guardian Bank Ltd
25. Gulf African Bank Limited
26. Habib Bank A.G Zurich
27. Habib Bank Ltd.
28. Housing Finance
29. Imperial Bank Ltd
30. Investment & Mortgages Bank Ltd
31. Jamii Bora Bank.
32. Kenya Commercial Bank Ltd
33. Sidian Bank Ltd
34. Middle East Bank (K) Ltd
35. National Bank of Kenya Ltd
36. NIC BANK
37. Oriental Commercial Bank Ltd
38. Paramount Universal Bank Ltd
39. Prime Bank Ltd
40. Standard Chartered Bank (K) Ltd
41. Trans-National Bank Ltd
42. UBA Kenya Bank.