EFFECT OF INNOVATION ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

BY

MAUREEN MORAA MUNG'EI

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

2017

DECLARATION

I declare that this research project is my own work and it has not been submitted for any degree or examination in any other university.

Signature: …………………………….. Date:………………………………

Maureen Moraa Mung'ei

D61/80933/2015

This research project has been submitted for examination with my approval as University Supervisor.

Signature: …………………………….. Date: ………………………………

Dr. Winnie Nyamute

Senior Lecturer,

Department of Finance and Accounting

School of Business

University of Nairobi

ACKNOWLEDGEMENTS

DEDICATION

I dedicate this study to my mother for the provision of requisite resources for my education and especially for her guidance on the importance of pursuing a Masters of Business Administration Course.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Kenya has evolved in innovation over the years, her being the home to an early entrant form of mobile money banking with world class standards. This innovation and evolution of other new technologies in Kenya formed the basis for this study. The objective of this study was to determine the effect of innovation on the financial performance of commercial banks in Kenya. To achieve this objective, secondary data was collected from the Central Bank annual commercial banks supervisory reports, the Nairobi Securities Exchange and from the respective websites of the individual commercial banks. Data was then analyzed by the SPSS using the linear regression analysis. The population used in this study was 15 registered commercial banks in Kenya. From the findings of the study, innovation has a negative effect on the financial performance of the commercial banks in Kenya. An F-test at 5% level of significance was employed in this study and from the findings. Innovation was statistically insignificant in the financial performance of commercial banks. From the correlation analysis, teller machines, mobile banking customers and bank agents were found to be negatively correlated with the financial performance measured by return on assets. The study concluded that innovation has no impact on the financial performance of commercial banks.

LIST OF ABBREVIATIONS

ATMs   -   Automated Teller Machines

CDS   -   Central Depository System

RBT   -   Resource Based Theory

SMEs   -   Small and Medium Enterprises

SPPS   -   Statistical Package for the Social Sciences

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Innovation refers to the act of starting something for the first time or introducing something new (Laforet, 2006). Interest rate risk, exchange risks, credit risks and liquidity risks are the common risks commercial banks face hence the need to innovate as a way of managing these risks. Innovation exists so as to minimize the transactions, search and marketing, costs for the parties in financial transactions. In the contemporary business environment, customers are aware of the market dynamics as a result of readily available information in the market. Therefore, commercial banks have been forced to look for better business strategies in order to remain competitive hence the need and adoption of innovation to cater for this informed customers.

Innovation is a key factor globally and has continuously gained recognition. Hansen (2005) argued that greater efficiency and diversity in financial intermediation is achieved as a result of innovations which increases productivity and growth potential of the economy. Innovations also creates convenience to cardholders by giving them 24 hour access to their banked cash, increase in retail purchase outside banking hours that is, cash from ATMS has extended shopping hours providing. By extending the shopping hours, sales are increased and more job opportunities.

According to transaction cost innovation theory (Hicks, 1982), innovation by any business entity is aimed at reducing the costs of transactions. Innovations foster quick absorption of information by various players which is ultimately reflected in the security prices of the

business entity. Derivatives market is one of the key innovations in the market sector, it has enabled the expansion of markets at the same time acting as a strategy for risk reduction. Trading in derivatives has really contributed to minimal transaction costs and the agency costs. Funds are made available at lower costs which will enhance financial stability.

1.1.1 Innovation

Innovation is the process of developing new products or improving the products. It also involves new processes adopted by firms and new services (Laforet, 2006). Activities that portray innovation include the expansion into new market segments, change of the new and competent management in a business entity, and when decisions are strategically made. Innovations majorly occur in financial institutions. The main types of innovations include the institutional based innovations, process based innovations and product based innovations. Institutional innovations basically involve changes in business structure, when a business entity establishes new financial intermediaries, when an entity transforms in the legal and supervisory structures.

The main types of institutional innovation include the modernization of the financial systems from the traditional financial systems. Modern financial systems are products of innovation which speed up work by increasing the number of transactions. Agent banking is one form of institutional innovation with dramatic adoption in many local banks. Bank agents are majorly outlets which are contracted and controlled by mobile networks to help

in processing of the transactions of the customers. These outlets normally perform transactions on behalf of the banks.

The transactions performed by agency banking include, accepting customer deposits, withdrawals, transferring money, paying utilities, account balance inquiry and direct deposits from an employer. These agents can be supermarkets, convenience, stores, petrol stations, hardware shops, pharmacies salons and many more. Local examples of agency banking include Equity Agent Banking, KCB Mtaani, Co-op KwaJirani and Postbank Mashinani. Another good example is the credit reference bureaus which provide timely and accurate information on one's credit worthiness, ability to pay back a loan and can be a base for interest rate charging and other loan's terms.

Another example of institutional innovation in the banking sector is Islamic banking – a new concept that is guided by Islamic Sharia law. Banks offering Islamic banking include Gulf Africa Bank and First Community Bank.

Process innovations are innovations that cover the newly introduced business processes by a business entity which can lead to better utilization of the resources and expanding the markets. Office automation is one of the examples of these processes, it eliminates wastefulness by eliminating duplication of responsibilities hence improved output. Common examples are E-banking and it mainly takes the form of Automated Teller Machines and Telephone transactions; Access to the banking services is thus convenient,

fast and available throughout. Banks are also able to provide services more efficiently and at relatively low cost.

Thirdly, we have product innovations which have been introduced by the commercial banks majorly to gain the market share and remain competitive due to ever changing business environment. Main examples include: personal unsecure loan, money transfer services such as MPESA and Mshwari. Mshwari is a product of commercial bank of Africa and Safaricom Limited which offers customers to borrow and save. According to the Central bank of Kenya, Commercial bank of Africa has continued to report impressive financial reports because of the Mshwari report. The other example of product innovation is mobile banking which involves providing banking transactions which include mobile phones deposits and withdrawals by the customers.

Customers can also get the mini statements for their accounts and the transactions, checking of account balance, confirming most recent transactions personal identification provision, blocking stolen or lost cards and indicating the status of the cheque. Majority of the banks have also introduced students and youth accounts, a good example is the YEA account from the Cooperative Bank. In the past savings accounts were characterized by features such as high minimum opening and operating balances, restrictions on the number of transactions and monthly ledger fees. However, nowadays banks have developed savings account with features such as zero operating costs and opening balances. Innovation is measured by the number of product, process and institutional innovations.

1.1.2 Financial Performance

According to Frank (1990), financial performance is the process of evaluating how business organizations have utilized their limited resources in the revenue generation. Financial performance of business entities is basically measured by the liquidity ratios, profit ratios and solvency ratios. Profit ratios in any business organization are used to portray, how a company has been efficient in employing its resources in a more efficient manner. Liquidity ratios of a business entity on the other hand informs us on the capacity of business, entities to manage their obligations in the short term and the solvency ratios deals with long term financing needs by measuring the degree to which business entities have financed their business activities using the borrowed funds. Normally, the financial performance is determined from the business entities financial statements.

1.1.3 Innovation and Financial Performance

Innovation is becoming key in financial institutions performance. Commercial banks are adopting them to gain a competitive edge over their peers in the fierce market. Some are going ahead and copying the innovations in the industry to remain relevant in the customer markets. Generally, innovations are contributing greatly to financial performance of commercial banks translating to good margins, high profits and tremendous positive growth of the commercial banks. According to the transaction cost innovation theory (Hicks, 1982), innovation is aimed at reducing transaction costs which will translate to improved financial performance.

1.1.4 Commercial Banks in Kenya

Kenya has a total number of registered Commercial Banks. Commercial Banks and are regulated by the Central Bank of Kenya, they are also governed by the Company's Act, the Banking Act and the Central Bank of Kenya Act. The Central Bank of Kenya normally oversees the operations of the commercial banks. The common notable commercial banks which have adopted innovations include National Bank of Kenya, NIC Bank, Cooperative Bank of Africa and Family Bank. Innovations have continued to play an important role in the financial performance of the commercial banks. Although innovations are important to commercial banks for gaining a competitive advantage, attracting new customers and market share and reduction of operational costs, it is important for the commercial banks to carryout adequate research in order to achieve all anticipated benefits and avoid failed innovations.

1.2 Research Problem

Innovation is a critical issue of major concern for many business entities in the world. It is a strategy many commercial banks are using to rebuild the global financial systems which had collapsed. Many commercial banks have adopted innovations as a way of remaining competitive. According to Alfred (2007), the commercial banks which have adopted and implemented the innovations in the banking sector globally are 456,000.

Innovations has continued to play a crucial role among the banks in Kenya, most commercial banks are always looking for ways of reducing the adverse effects of the strict regulations and in the process have come up with new products, services, processes and

organizational forms to circumvent these regulations and meet customer's needs. Several studies have been done in this area of innovation, Mwangi (2015) assessed the effect of innovation on the financial performance of SMEs in Kenya from 2006 to 2013. Using a sample of 31 SMEs in Kenya he concluded that innovation had a significant influence on the financial performance of the SMEs in Kenya.

Ohanda (2011) conducted a study on the effect of innovation on the financial performance of commercial banks in Kenya from 2001 to 2010. The population of his study was 57 commercial banks. However, he selected 11 commercial banks as the sample for the study. He used the secondary data in the study, he also employed the multiple linear regression model to test the relationship between innovations and the financial performance from the findings of his study he concluded that innovations positively impacted the financial performance of the commercial banks.

Alukanya (2014) concluded a study to investigate the effect of financial innovation on the financial performance of financial institutions in Kenya. The period of study was from 2005 to 2013. He used the population of the 210 registered financial institutions in Kenya as per the Central Bank of Kenya. However, the sample selected for the study, was 83 financial institutions. The study used both primary and secondary data from the findings of the study, the financial institutions which had adopted innovations performed poorly. The major reason for this was high default rates which were contributed from mobile payments. He concluded that innovation had a negative effect on the financial performance of financial institutions.

The earlier researchers conducted on innovation have presented varied outcomes from different researchers. Some researchers have confirmed a significant positive effect of innovation however others have disagreed. However, these researches have weaknesses, some studies failed to bring out the analytical model used in the analysis, in some studies the criteria for commercial banks, selection was not elaborate. Therefore, this research seeks to answer this research question: what is the effect of innovations on the financial performance of commercial banks in Kenya?

1.3   Research Objective

The objective of this research was to investigate the effect of innovation on the financial performance of commercial banks in Kenya?

1.4   Value of the Study

The management of the banks will benefit from this study since it will shed more light on innovation and in evaluating the benefits of innovation in the banking industry.

The study will act as a source of literature. It will be of great to scholars who will want to do further research on innovations by acting as a source of empirical literature.

CHAPTER TWO: LITERATURE REVIEW

2.1   Introduction

This chapter covers the theoretical review and empirical review related to innovations, determinants of financial performance of commercial banks, conceptual framework and summary of literature review.

2.2   Theoretical Review

The theories related to innovations include, innovation diffusion theory (Rogers, 2001) and according to this theory, new skills and concepts are recognized, they spread into the external environment, social cognitive theory (Davis and Luthans, 1981) which concluded that every individual can be innovative if given a chance to interact with the external environment, resource based theory (Penrose, 1959) which states that innovation is achieved by the bundle of resources owned by the business entity and transaction cost innovation theory (Hicks, 1982) which concluded that innovation by any business entity is aimed at reducing the costs of transactions.

2.2.1 Innovation Diffusion Theory

Innovation involves the creation of new technologies. The business environment has continually changed due to forces of technological changes hence the need for innovativeness to cope with the competition. According to this theory, new skills and concepts once recognized, they spread into the external environment and the society at large (Rogers, 2001). Innovation can be either for personal benefit or it can be part of a business organization. Strategic decisions aimed at gaining competitive advantage.

Innovation involves the adoption process and it ranges from the point knowledge is gained up to the point of forming attitudes regarding innovations. Attitude involves people making decisions on accepting the innovation or rejecting the innovation. Adoption of innovation is determined by how complex the technology is, how, compatible the technology is and the ultimate benefits from the adopted technologies. Any business organization can either adopt a new technology or it can adopt it the second time after the adoption by the earlier business entities. Innovation is key and technology has contributed to the growth of financial innovations mainly in two ways. Firstly, by lowering the transaction costs incurred by business entity when financial transactions are processed. When transaction costs are minimized, financial institutions will gain from the creation of newest products and services for its clients' secondary easy acquisition of information for the business entities to make informed decisions. Stiff competition among the player in the financial sector has resulted in all the players trying to come up with new products, ideas and services so to obtain a competitive advantage. However, Meiville (2005) argued that adoption of technology is sometimes motivated by managers with own self-interest.

2.2.2 Social Cognitive Theory

According to Davis and Luthans (1981), every individual can be innovative if given a chance to interact with the external environment. The behavior of human beings is critical in any business environment, therefore it is the responsibility of the management of any business entity to recognize and promote any entrepreneurial skills which seem promising. Promotion of entrepreneurial skills will aid in the advancement of innovation. The management in any business entity has a responsibility to continually identify any factors

which has potentials of transforming entrepreneurial activities because the current business environment is competitive hence the need for innovation.

The theory of social cognitive emphasizes the significant of the external environment due to its effect on the human behavior which has an ultimate influence on innovation. It puts more emphasis on the need for the development of human skills which is influenced by the behavior of human beings and the environmental factors. This theory portrays a view that the individual behaviors and actions are influenced by external environment. Every person is capable of transforming the environment and becoming innovative provided they are given necessary support and recognition. Therefore, it is the responsibility of commercial banks to offer the necessary support to its staff to encourage innovation and creativeness. It is also an individual responsibility of any person to take advantage of endowed innovative skills for personal development which will improve the performance levels among individuals.

2.2.3 Resource Based Theory

According to Penrose (1959) innovation is achieved by the bundle of resources owned by the business entity. Every business entity is endowed with different types of resources which make them competitive in achieving the goals by remaining competitive. Therefore, it is the responsibility of any business entity to exploit these resources which they have on their disposal. The management must come up with strategies which are valuable to the entity resource based theory asserts the crucial role resources play in a business entity without taking into account the capabilities of the entity in promoting competitive

advantage. The resources of the business entities should be protected and organized towards the satisfaction of the needs of the customers so that the company can remain competitive.

Therefore, the success of any business entity will depend on the capacity of a business entity to continually innovate new products which are aimed at satisfying the needs of the customers in the market by offering high quality goods. The RBT tries to put more emphasis on the managerial based mechanisms which demand that it puts mechanism which is geared at ensuring maximum exploitation of resources to achieve the organizational goals. The resource based theory tries to put more emphasis on the internally endowed resources of a firm as opposed to the external environment.

2.2.4 Transaction Cost Innovation Theory

Innovation by any business entity is aimed at reducing the costs of transactions (Hicks, 1982). For the example the introduction of the CDS which aimed at addressing the limitations of manual trading system was aimed at the reduction of transaction costs since it is a computerized system that facilitated trading of securities and keeping of records of security ownership in electronic accounts without necessarily having to use a share certificate. They will earn more profits from the improved services. The objective of any business is to maximize the profits at the same time keeping the costs minimal. The costs of transaction should also be minimized in the auditing sectors as well since they will form the overall cost of the business.

2.3   Determinants of Financial Performance of Commercial Banks

It is becoming increasingly important for all commercial banks to adopt innovations. This is because innovations enable business entities to become more competitive in the provision of services this will help the business entities in the better satisfaction of the customer desires in the market this will improve financial performance. The determinants of financial performance of commercial banks include corporate governance, macroeconomic: factors, liquidity, management efficiency and capital adequacy.

2.3.1 Corporate Governance

The performance of a business entity is normally guided by the involvement of various parties including the owners of the business entity and the managers together who are motivated by the spirit of attaining the objectives of the business entity. The objectives of the business entity can be achieved only by good business practices among the stakeholders hence the need for corporate governance which acts as a constitution for business entities (Friedman, 1970). A legal framework is therefore needed for running the company for purposes of protecting the owners from bad managers and the business from owners who may take advantage of the limited liability status. Accountability is key for the success of any business entity. Commercial banks in Kenya should always make sure that all time they practice good corporate governance practices since they normally improve the financial performance.

2.3.2 Macroeconomic Factors

The macroeconomic factors include exchange in fluctuation rates, inflation, interest rate changes and political factors. Exchange rate fluctuations have a significant effect on the financial performance. Exchange rate fluctuations can be as a result of poor international relations among the countries in the world which will adversely affect the performance. On the other hand, when good international relationships exist, there is minimal fluctuation in exchange rates hence improved financial performance for the commercial banks. Inflation is also a key factor which influences the performance of commercial banks. High inflation rates affect the financial performance negatively while low inflation rates are favourable for the commercial banks. When interest rates are high they scare away the borrowers hence the profit for banks decline. In Kenya for example, since the interest rate capping many commercial banks have reported declined profits because the lending levels has been affected ultimately reducing the interest income. Many banks have been forced to scale down most of its operations as a result of declined profits. Political stability in a country is good for investment opportunities since it is able to attract more investment opportunities hence increased financial performance. If there is political instability, the rate of business activities slows down and the effect is felt in every sector of an economy hence poor financial performance.

2.3.3 Liquidity

Liquidity is the measure of how first a security can be turned into cash. Liquidity is a key factor in the determination of the profits of the commercial banks. If an entity is able to meet its obligations, then the entity is operating efficiently. Efficient management of the

resources will improve the financial performance (Dang, 2010). With enough levels of liquidity, the commercial banks are guaranteed higher profits. Liquidity in the commercial banks is normally assessed from amounts of the deposits and the total assets of commercial banks the higher the customer deposit to total assets the higher the liquidity and vice versa.

2.3.4 Management Efficiency

Every business entity is always determined in ensuring the resources are not wasted since the same resources are meant to improve the operations of an entity (Martinez, 2009). It is the duty of the management of the commercial banks to ensure that the bank's operational expenses are kept as minimal as possible while at the same time ensuring the profits are maximized management efficiency can be achieved by employment of the competent staff in the commercial banks. Competent staff will ensure any risks associated with any bank operations are minimal this will lead to improved financial performance. The management should put adequate control systems to monitor the operations in the commercial banks. This will ensure minimal losses among our commercial banks this will translate to improved financial performance. Management efficiency is measured by earnings growth rate.

2.3.5 Capital Adequacy

The financial performance will depend on the amount of money available in the banks to support their operations. Banks with a relatively high amount of money to cater for their operations tend to perform better than those with strained resources. One of the reasons which bring about capital inadequacy is the bankrun which is brought about by the fear of

customers losing their money as a result of collapsing of commercial banks. Therefore, commercial banks need to set up emergence funds to cater for bankruns. Other risks which are faced by commercial banks include credit risk which is due to high default rates from the customers. Therefore, the commercial banks should maintain adequate levels of capital to cater for these uncertainties.

2.4 Empirical Review

Different empirical literatures that have been reviewed on the effect of innovations on the financial performance have presented different conclusions. Some studies have confirmed positive gains from innovations. However, some studies have concluded of insignificant effect of innovations on the financial performance of the business entities involved.

Gitau (2013) conducted a study to assess the effect of financial innovation on the financial performance of commercial banks in Kenya between 2006 to 2011. A total of 30 commercial banks were considered for the study. However, 12 commercial banks were selected as the sample for the study. He used the secondary data which was ready available from the websites of the commercial banks. The study majorly focused on the process innovation component. While financial performance was measured by return on equity. The study also employed a linear regression model in the analysis. The study concluded that, financial innovation improved the financial performance of the commercial banks.

Sewing et al (2014) studied the effect of innovation on the financial performance of small and medium Sped enterprises in China. The period of the research was between 2009 and

2013. The study used both secondary data and primary data for the 159 small and medium sized enterprises. The study employed the multiple linear regression in the analysis. Financial performance was measured by return on investment and innovation was measured by the number of mobile money transfer services. From their study, they concluded that innovation was insignificant on the financial performance of the SMEs.

Nyathira (2015) did a study on the effect of innovations on the profitability of commercial banks in Kenya between 2005 and 2013. 24 commercial banks were taken as the sample for the study. The research relied on the secondary data which was collected from the Nairobi Securities Exchange for the analysis. The linear regression model was also employed in the study to analyze the degree of the relationship between the innovation and the financial performance from the study findings, commercial banks which had adopted innovations performed better.

Korir (2014) conducted a study to assess the effect of financial innovations on the financial performance of commercial banks in Kenya. The study period was from 2004 to 2013. The study relied on both primary data and the secondary data for the sample of 11 commercial banks. Correlation analysis was employed in establishing the relationship between the financial innovation and financial performance. He concluded that innovation had a significant positive influence on the financial performance of the commercial banks.

Keru (2014) conducted a study on the effect of financial innovation on the financial performance of commercial banks in Kenya. This was a case study of Kenya Commercial Banks from 2007 to 2013. The study majorly looked into the effect of mobile banking on

the profitability of the commercial bank group. He measured the financial innovation by the number of mobile phone transactions and financial performance by the profit margin. From the findings of the study he concluded that mobile banking had no significant effect on the financial performance of commercial banks.

Momanyi (2015) conducted a study on the effect of innovations on the risk management of commercial banks in Nairobi County. The study used a sample of 16 commercial banks in Nairobi County from 2009 to 2013. The study used the secondary data which was obtained from the websites of the companies. The research also applied a simple linear regression model in the study. From the findings of the study, the researcher concluded that innovations like mobile lending has exposed commercial banks to risks for example credit risks where customers end up defaulting on repayment of mobile loans. He concluded that innovation had a negative effect on the financial performance of the commercial banks.

Mabrouk (2011) did a study on the effect of financial innovation on the profitability of banks in Pakistan. This was a case study of Iraji Commercial Bank. The study majorly looked into the effect of the effect of the automated teller machine on the performance of commercial banks and mobile money services. The study measured the financial performance by return on assets and financial innovation by the number of automated teller machines and the number of mobile phone transactions. He concluded that financial innovations improved the financial performance.

Mahomood and Malik (2011) did a study on the effect of financial innovation on the financial performance of commercial banks in Pakistan between 1999 to 2009. This was a 10-year study period which targeted 300 commercial banks in Pakistan. However, the researcher selected 93 commercial banks for the study. Secondary data from the published financial statements was used in the study by computing the return on the investment in determining the financial performance. The study also used the linear regression model in the analysis. They concluded that financial innovation exposed the commercial banks to liquidity risks which in turn negatively affected their financial performance.

Ofoegbu (2010) did a study to assess the effect of product innovation which focused on the telephone banking on the financial performance of commercial banks in Nigeria from 2000 to 2008 for the 210 commercial banks in Nigeria. The sample for the study was 83 commercial banks in Nigeria. Secondary data was used to measure the relationship of the variables under study. The linear regression model was also employed in the study. From the findings of the study, the profits of the commercial banks declined after the adoption of mobile banking. The banks suffered high default rates which negatively affected the financial performance. He concluded that productive innovation had a negative effect on the financial performance.

Achary (2011) did a study on the effect of financial innovation on the financial performance of microfinance institutions in India. The period of study was between 2001 and 2009. The study focused on 112 microfinance institutions in India, secondary data was used to analyze financial innovations and financial performance descriptive statistics was employed in the

analysis of the results. From the findings of the study, financial innovations played a key role in the profitability of the microfinance institutions in India. The institutions which adopted the financial innovations posted higher profits compared to the institutions which had not adopted financial innovations. He concluded that financial innovation improved the financial performance of the microfinance institutions in India.

From the findings of the studies, researchers come up with different results on the effect of innovations on the financial performance among different business entities. Some studies concluded that innovations indeed improved the financial performance of the entities involved in this strategy. Some studies however, proved that innovation was insignificant on the financial performance. Therefore, this study is carried out to unearth the truth on the effect of innovations on the financial performance of the business entities.

2.5 Conceptual Framework

Independent Variables　　　　　　　　　　　　　**Dependent Variable**

| Innovations

  - Product innovation
  - Institutional innovation
  - Process innovation | → | Financial Performance
Return on Assets |
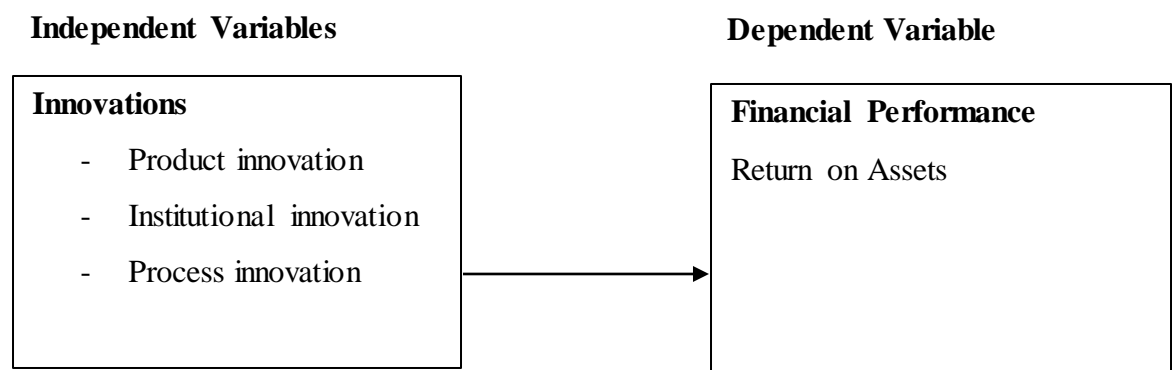
Figure 2.1: Conceptual framework

2.6   Summary of Literature Review

The literature review include the theories highlighted and they include, innovation diffusion theory (Rogers, 2001), social cognitive theory (Davis and Luthans, 1981). Resource based theory (Penrose, 1959) and transaction cost innovation theory (Hicks, 1982). Determinants of financial performance of commercial banks were discussed as well and they include, corporate governance, macroeconomic factors, liquidity, management efficiency and capital adequacy, empirical review which include Gitau (2013), Sewang et al. (2014), Nyathira (2015), Korir (2014), Keru (2014), Momanyi (2015), Mabrouk (2011), Mahamood and Malik (2011), Ofoegbu (2010) and Acharya (2011) and the conceptual framework. From the literature reviewed, the sample size used in some research was too small, the period of study was short and some research lack the analytical model. This study will therefore aim to address those research gaps on the effect of innovations on the financial performance of commercial banks in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1   Introduction

This chapter discusses the methodology that was used in conducting this study. It discusses the research design, population of the study, data collection and data analysis techniques that was employed.

3.2   Research Design

This research used the descriptive research design. The research design aims at describing a condition under study. It will describe the relationship between innovations and the financial performance of commercial banks.

3.3   Population

Population is defined as a set of elements which are well defined (Mugenda, 2008). The population of this study was 43 registered commercial banks in Kenya. The period of the study was from 2005 to 2016.

3.4   Sample and Sample Design

A sample is a subset of a population (Mugenda, 2005). The sample for this research was 15 commercial banks. A census survey was conducted to get the significant sample size.

3.5   Data Collection

Data collection is the process of gathering information about a situation under survey (Mugenda, 2005). This research used the secondary data since it was readily available in

the websites of the commercial banks, the capital markets authority and also from Central Bank of Kenya annual commercial banks supervisory reports.

3.6   Diagnostic Tests

This study tested multicollinearity by the use of correlation coefficient, normality by Kurtosis and Skewness and heteroscedaciticity by the help of the weighted generalized least square.

3.7   Data Analysis

The secondary data collected was tabulated and analyzed to determine the effect of innovations on the financial performance of commercial banks in Kenya. Data was analyzed by using the descriptive and inferential statistics by help of SPSS and ANOVA. The linear regression model that was applied is:

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

Where Y is the financial performance which was measured by return on assets

β_0 is the free term of the equation

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

X_1 is institutional innovations, measured by total number of registered bank agents

X_2 is process innovation, measured by the total number of Automated Teller Machines

X_3 is product innovations, measured by the total number of registered mobile banking customers,

e is the error term

3.7.1 Test of Significance

This research used an F-test in measuring innovation and financial performance at 5% level of significance.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter presents the analysis of the data that was collected. It starts with the analysis of data in terms of descriptive statistics and ends with inferential statistics which was data analysis in terms of correlation analysis and regression analysis.

4.2 Data Presentation

The independent and dependent variables were determined from the secondary data collected and were presented in the following graphs which were aimed at portraying trend performances. The secondary data included the total teller machines, mobile banking customers, mobile banking agents, net income and total assets.

4.2.1 The Analysis of Teller Machines
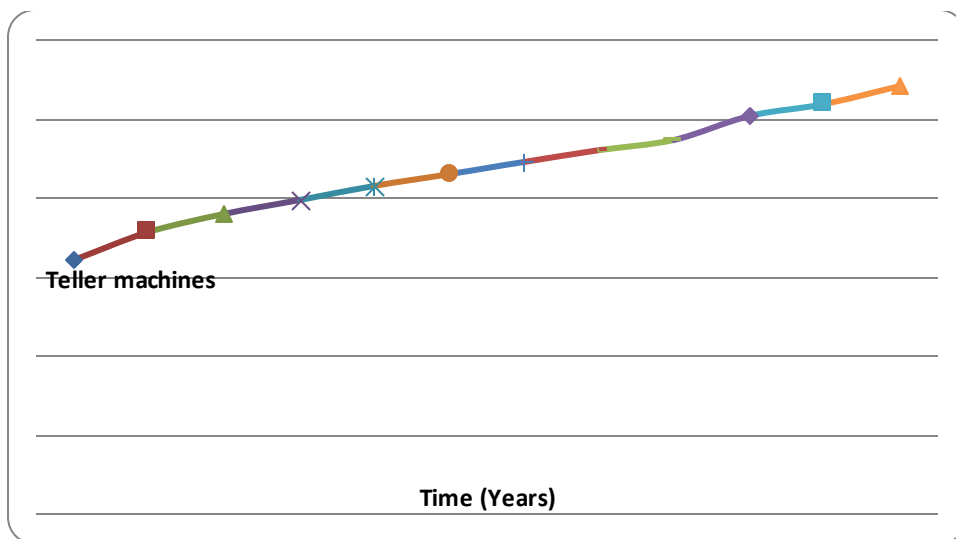
Figure 4.1: Analysis of Teller Machines

From the findings of the study as shown from the graph above, the numbers of teller machines of the commercial banks have been increasing over the period under study. On average, the total teller machines were 161, 178, 190, 199, 208, 215, 223, 230, 237, 252, 259, 271 for the years 2005 to 2016. Therefore, it is projected that as time goes by the number of teller machines keeps on increasing.

4.2.2 The Analysis of Mobile Banking Customers
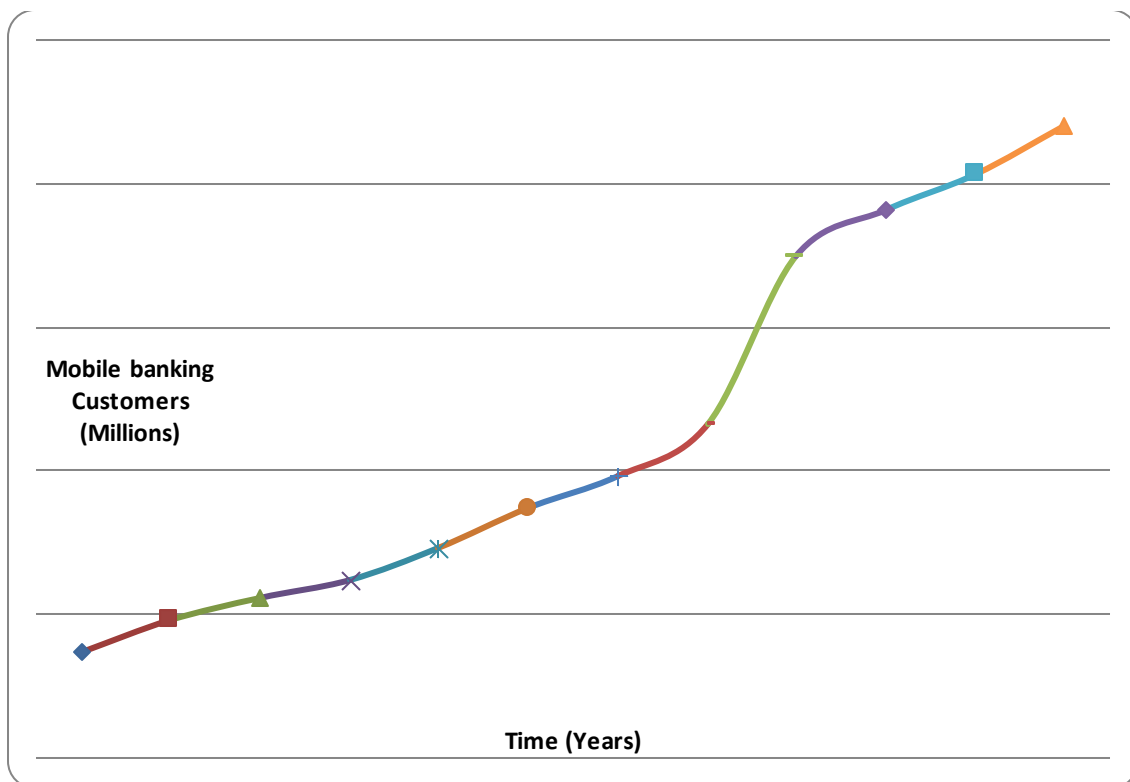
Figure 4.2: Analysis of Mobile Banking Customers

From the findings of the study, since the introduction of mobile banking, commercial banks have witnessed increased number of customer using their mobile phones to perform banking services which include balance inquiry, cash deposit, cash withdrawal and

26

requesting for loans. This is evident from the graph above. In 2005, the average mobile banking customers stood at 0.37 million and has since grown up to 2.20 million in 2016.

4.2.3 The Analysis of Bank Agents
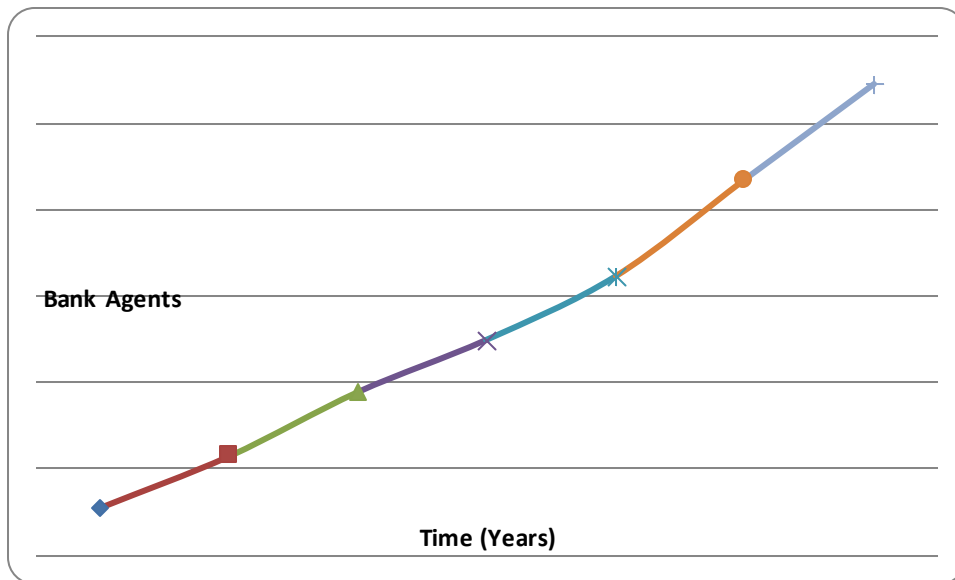
Figure 4.3: Analysis of Bank Agents

Agency banking has revolutionized the banking sector in Kenya. Today many commercial banks have adopted agency banking as a way of reaching many customers in remote areas. Since the introduction of the first agency banking by Equity Bank and Cooperative bank in 2010, many commercial banks are slowly adopting this model to remain competitive. Over the years, the number of bank agents have greatly increased and it is evident from the graph above.

4.2.4 The Analysis of Financial Performance
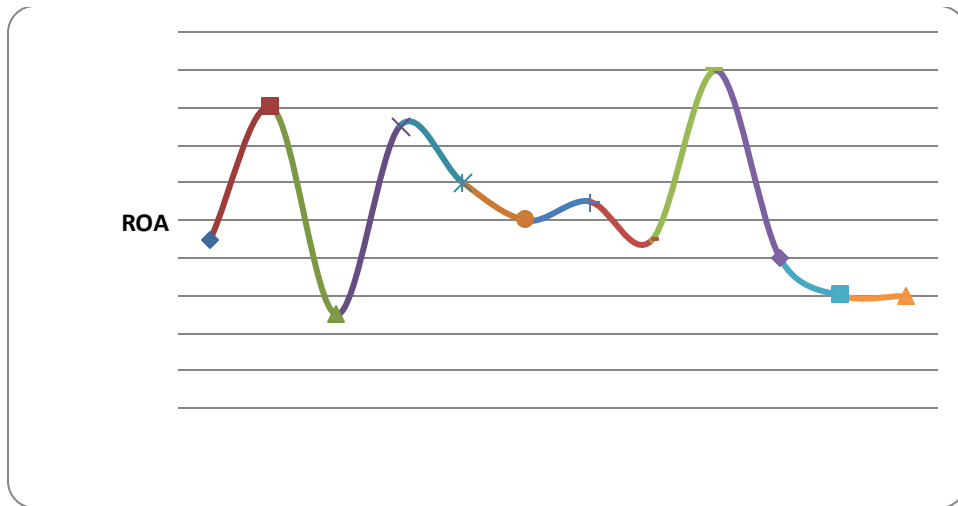
Figure 4.4: Analysis of Financial Performance

On average, the financial performance posted mixed signals for the period studied. There was no particular trend on the financial performance as a result of innovation.

4.3   Correlation Analysis

Table 4.1: Correlation Matrix

		Teller Machines	Mobile Banking Customers	Bank Agents	ROA
Teller Machines	Pearson Correlation	1	0.461	-0.027	-0.095
	Sig. (2-tailed)		0.000	0.721	0.203
	N	180	180	180	180
Mobile Banking Customers	Pearson Correlation	0.461	1	0.099	-0.139
	Sig. (2-tailed)	0.000		0.187	0.063
	N	180	180	180	180
Banking Agents	Pearson Correlation	-0.027	-0.099	1	-0.067
	Sig. (2-tailed)	0.721	0.187		0.372
	N	180	180	180	180
ROA	Pearson Correlation	-0.095	-0.139	-0.067	1
	Sig. (2-tailed)	0.203	0.063	0.372	
	N	180	180	180	180

In determining the correlation between the return on assets, teller machines, mobile banking customers and total number of bank agents, a Pearson moment correlation was conducted. Based on the findings of the study, a negative relationship exists between the total number of teller machines, mobile banking customers and banking agents. However, a positive relationship exists between mobile banking customers and teller machines. A negative relationship exists between banking agents and teller machines as well as banking agents and mobile banking customers.

4.4 Regression Analysis

Table 4.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.164	0.027	0.010	0.20189

This research applied the coefficient of determination in evaluating whether the model was fit or not. The value of the adjusted R Square was considered in determining the variability in the return on assets as explained by the total number of teller machines, mobile banking customers and banking agents. The correlation coefficient was 0.164 which shows that there is a weak relationship between mobile banking customers, teller machines, banking agents and ROA. The value obtained for the coefficient of determination was 0.027 and the value of the adjusted R Square was 0.01 which basically means that 1% of the variations in the return on assets is measured by the financial performance. The 99% is contributed by other factors which were not factored in this model.

Table 4.3: Summary of One Way ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.199	3	0.066	1.629	0.184
	Residual	7.174	176	0.041		
	Total	7.373	179			

The ANOVA was employed in testing the significance of the model further. On analysis of the outcome, it was revealed that the P-value was 0.184 which is greater than 0.05 which implies that the model was insignificant. It means that the total number of teller machines, mobile banking customers and the banking agents will not affect the return on assets which is a measure of financial performance.

Table 4.4: The Regression Coefficient Table

	Unstandardized Coefficients		Standardized Coefficient		
Model	B	Std. Error	Beta	T	Sign
1 (constant)	0.138	0.028		5.026	0.000
Teller machines	-5.200E-5	0.000	-0.038	-0.452	0.652
Mobile banking customers	-0.014	0.009	-0.129	-1.537	0.126
Bank agents	-8.855E-6	0.000	-0.081	-1.081	0.281

From the table of the Coefficient the regression model becomes:

ROA =0.138-5.200E-5teller machines-0.014mobile banking customers-8.855E-6bank agents.

Based on the findings above, a unit change in the number of teller machines will cause the financial performance to decrease by 5.200E-5 unit factor. It is a negative relationship and the relationship is insignificant. A decrease in the number of mobile banking customers by 0.014 will lead to an increase in the financial performance. A decrease in the number of bank agents by 8.855E-6 will lead to an increase in the financial performance of commercial banks. The p value for all the variables analysed are greater than 0.05 indicating that the variables were insignificant. Therefore, they have no effect on the financial performance of commercial banks.

4.5   Interpretation of the Findings

The descriptive statistics revealed that the number of teller machines has tremendously increased since the year 2005. In 2005, on average the industry recorded an average of 161 teller machines which has since improved to 271 in the year 2016. From the study, it was also established that the number of teller machines is negatively and not significantly related to return on assets which was the measure of financial performance. One major reason for increased number of teller machines is the need for minimizing the operational costs which guarantees competitive advantage in the banking industry. Automated teller machines yields higher productivity as a result of cost-efficiency compared to human beings, they have enabled the performance of basic transitions and access to accounts without necessary going into the banking hall. A study by Otieno (2015) argued that teller machines have indeed revolutionized the banking industry and has led to improved financial performance. However, the teller machines were found to be statistically insignificant.

From the trend performance of the number of mobile banking customers, it is evident that mobile banking customers have greatly improved since the year 2005. As shown from the graphs, there is a constant increase in the number of mobile banking customers. The more the number of mobile banking customers, the more the number of transactions, the more the revenue and the better the financial performance. However, it was evident from the study that the total number of mobile banking customers were negatively related with the financial performance.

The bank agents have taken over the banking industry in this competitive world, many banks have resorted to agency banking in the hope of reaching customers in remote areas and indeed it is paying. From the Central Bank Annual supervisory reports, it is evident that the agency banking has doubled in the span of 2 years. The first idea of agency banking was implemented in 2010 by the equity bank. Since then, more banks have adopted this model. The transactions through agency banking platform have really increased.

From the analysis of the correlation, it was evident that a negative relationship exists between the teller machines and return on assets. The value of the Pearson correlation coefficient was -0.095 which confirmed a weak negative relationship between the number of teller machines and financial performance and the relationship was insignificant since the P-value was 0.203 which is greater than 0.05, the number of mobile banking customers was also found to be negatively correlated to the return on assets. Lastly, the bank agents are negatively correlated to the return on assets since the p-value is 0.372 which is also greater than 0.05.

Regression analysis was also performed, from the model summary, the value of the correlation coefficient was 0.164 which again confirms a weak relationship between the teller machines, mobile banking customers, bank agents and return on assets. The adjusted R square value implies that teller machines, mobile banking customers and bank agents influence the financial performance by 1%, other factors which are not in this model will affect the financial performance by 99%. The model of analysis was tested further by the help of ANOVA which found it to be effective since the p-value obtained of 0.184 was greater than 0.05. Thus the model was insignificant. The regression coefficients obtained were all negative factors which confirmed that teller machines, bank agents and mobile banking customers have a negative influence on the financial performance. The findings of this study concurs with the findings by Momanyi (2015) who concluded that innovations have a negative influence on the financial performance of commercial banks in Kenya.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study findings, conclusion, recommendations, limitations of study and areas for further research.

5.2 Summary

The objective of this study was to determine the effect of innovation on the financial performance of commercial banks in Kenya. From the findings of this research, it was evident that innovation has an insignificant effect on the financial performance of commercial banks in Kenya. It confirmed that a weak relationship exists between the teller machines, mobile banking customers, bank agents and the financial performance of commercial banks.

From the findings of the study, the number of teller machines have increased over the years and this has been occasioned by the urge of minimizing the costs in the banking industry which are aimed at improving the financial performance. However, from the findings of the study it was established that teller machines had an insignificant influence on the financial performance.

The study findings revealed that the adoption of agency banking was a significant milestone by the commercial banks as a means of remaining competitive. Agency banking has significantly changed the banking industry ranging from the general operations of

business activities and gradually to profitability and this leads to improved financial performance. Agency banking is a way to go for many commercial banks due to stiff competition in the banking industry. Agency banking has enabled penetration of the banking services to the remote areas which forms part of a higher percentage of customer base. This study relied on the secondary data which was obtained from the Capital Markets Authority, the websites of the individual commercial banks, the Nairobi Securities Exchange and the Central Bank annual commercial banks supervisory reports.

5.3   Conclusion

The study found a weak negative relationship between teller machines and financial performance of commercial banks. The teller machines offer the commercial banks an opportunity to serve more customers without transacting from banking halls and this saves time and human traffic inside the bank. However, the study revealed that teller machines negatively influenced the financial performance. The descriptive study revealed further that teller machines have increased over the years.

Mobile banking platform allows the customers to transact at a convenient period of time without necessary coming into the banking halls. Mobile banking platform allows customers to send, receive and apply for loans via mobile phones. However, from the research findings, this application has not contributed positively to the financial performance of commercial banks. The findings of this research are consistent with the study by Keru (2014) who concluded that innovation has no significant effect on the financial performance of commercial banks.

5.4 Recommendations

From the findings of this study, I recommend that a larger sample size is selected to carry out research. This will enable a representative research on the effect of innovation on the financial performance of Commercial banks in Kenya.

The study recommends that more finances to be set aside to facilitate data collection. This will overcome financial challenges that may hinder completion of an extensive research.

The study also recommends that more quality time is set aside to carry out the research. This will allow a more conclusive research to enable one collect more data and to analyze over a longer period of time.

The study also recommends that qualitative aspects of financial performance are incorporated in the model. This will enable one capture both qualitative and quantitative aspects of financial performance.

5.5 Limitations of the Study

Due to time constraints the study only covered a period of 11 years. The period of study was between 2005 and 2016. Despite the time constraint, the results were conclusive.

The sample size for the model only covered 15 commercial banks in Kenya. Due to time constraints it was difficult to get data from all commercial banks.

Lack of adequate financial resources. Collecting data from all commercial banks required more financial resources.

Qualitative aspects which are significant on the financial performance for example, good corporate governance, high quality products, good customer care services and effective management were not captured by the secondary data.

The sample size used in the analysis of the banking agents was limited. Only 6 commercial banks out of the total 43 registered commercial banks were considered in this study. This was based on the fact that these are the only banks which have adopted agency banking and the same results were used to generalize the effect of innovation in the financial performance of the entire banking industry in Kenya.

5.6 Areas for Further Research

A study should be done on the effect of innovations but focusing on the financial performance of small and medium sized enterprises.

A study should be done using both the secondary data and primary on the effect of innovation on financial performance. Primary data will bring out qualitative aspects which directly affect the financial performance which are not addressed by the secondary data for example good corporate governance, high quality services and good customer care which contributes to improved financial performance of commercial banks.

REFERENCES

Acharya, C. N. (2011). Effect of financial innovations on the financial performance of micro institutions in India. The empirical evidence. *Journal of finance 28, 112*-172.

Alfred, D. D. (2007). *Corporate Finance (2ndED.),* Lagos: High Rise Publishers.

Alukonya, M. R. (2014). Effect of financial innovation on the financial performance of financial institutions in Kenya. *Unpublished MBA Thesis of University of Nairobi.*

Gitau, S. (2013). Effect of financial innovations on the financial performance of commercial banks in Kenya. *Unpublished Master of Science Thesis of University of Nairobi.*

Gitman, L. A. (2005). *Principles of Managerial Finance* (11th Ed.), New York: Addison Wesley Inc.

Hansen, R. M. (2005). *Management Accounting* (7th Ed.) Singapore: South-western.

Hutchison, J. (2005). *Corporate Finance: Principles of Investment, Financing*

Keru, G. W. (2014). Effect of Financial Innovations on the financial performance of commercial banks in Kenya. *Unpublished MBA Thesis of University of Nairobi.*

Korir, K. (2014). Effect of financial innovations on the financial performance of commercial banks in Kenya. *Unpublished MBA Thesis of University of Nairobi.*

Kotler, P. (2001). *Principles of marketing* (3rd edition), Prentice Hall. Education.

Laforet, S&Tann, T. (2006). Innovative characteristics of small manufacturing firms. *Journal of small business and enterprise development*, 13, 363-380.

Lee, K., & Kang, S. M., (2007). Innovation types and productivity growth: Evidence from Korean manufacturing SMEs. *Global Economic Review*, 36, 343-359.

Mabrouk, B. T. (2011). Effect of Financial Innovations on the profitability of banks in Pakistan. The empirical evidence. *Journal of Finance,* 141, 342-403.

Mahamood, C. M. & Malik, N. (2011). Effect of financial innovations on the financial performance of commercial banks in Pakistan. The empirical evidence. *Journal of Finance,* 11, 189 – 231.

Momanyi, B. K. (2015). Effect of innovations on the risk management of commercial banks in Nairobi County. *Unpublished MBA Thesis of University of Nairobi.*

Mugenda, O.M. (2005). Research Methods: *Quantitative and Qualitative Approaches.*

Mwangi, J. M. (2015). Effect of innovations on the financial performance of the small and medium sized enterprises in Kenya. *Unpublished MBA Thesis of University of Nairobi.*

Nyaga, J.M (2013). Effect of Innovations on the financial performance of commercial banks in Kenya. *Unpublished Master of Science Thesis of University of Nairobi*

Nyathira, A. W. (2015). Effect of Innovations on the profitability of commercial banks in Kenya. *Unpublished MBA Thesis of University of Nairobi.*

Ofoegbu, A. D. (2010). Effect of Product Innovation on the financial performance of

      commercial banks in Nigeria. The empirical evidence. *Journal of*

      finance, 20, 16-57.

Ohanda, M. N. (2011). Effect of innovations on the financial performance of commercial

      banks in Kenya. *Unpublished Master of Science Thesis of University of*

      Nairobi.

Otieno, O.W. (2015). Effect of Innovations on the financial performance of commercial

      banks in Kenya. *Unpublished Master of Science Thesis of University of*

      Nairobi.

Rogers, E. M. (1995). *Diffusion of innovations,* 3rd edition. New York.

Schumpeter, J. A. (1934). *The theory of economic development*, 3rd edition. Cambridge.

Sewang, P. S. Winder, K., & Zhang, S. B. (2014). Effect of Innovation on the Financial

      Performance of Small and Medium Sized Enterprises in China. The

      Empirical Evidence. Journal *of Finance*, 10, 25-59.

APPENDICES

APPENDIX I: LIST OF COMMERCIAL BANKS IN KENYA

1. ABC Bank

2. Bank of Africa

3. Bank of Baroda

4. Bank of India

5. Barclays Bank of Kenya

6. Chase Bank Kenya

7. Citi Bank

8. Commercial Bank of Africa

9. Consolidated Bank of Kenya

10. Cooperative Bank of Kenya Ltd

11. Credit Bank

12. Development Bank of Kenya

13. Diamond Trust Bank

14. Dubai Islamic Bank

15. Ecobank Kenya

16. Equity Bank

17. Family Bank

18. First Community Bank

19. Giro Commercial Bank

20. Guaranty Trust Bank Kenya

21. Guardian Bank

22. Gulf African Bank Limited

23. Habib Bank AG Zurich

24. Housing Finance Company of Kenya

25. I & M Bank

26. Imperial Bank (In Receivership)

27. Jamii Bora Bank

28. Kenya Commercial Bank

29. Mayfair Bank

30. Middle East Bank Kenya

31. National Bank of Kenya

32. NIC Bank Limited

33. Oriental Commercial Bank

34. Paramount Universal Bank

35. Prime Bank

36. SBM Bank Kenya

37. Sidian Bank

38. Spire Bank

39. Stanbic Bank Kenya

40. Standard Chartered Bank of Kenya

41. Trans National Bank of Kenya

42. United Bank for Africa

43. Victoria Commercial Bank

APPENDIX II: DATA TEMPLATE

TELLER MACHINES												
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Barclays	251	307	315	340	347	350	369	373	381	392	402	412
Diamond Trust Bank	72	85	89	93	97	102	109	112	116	118	126	137
Equity Bank	314	348	362	382	391	402	408	421	438	502	512	520
Housing Finance	55	58	61	63	73	76	80	83	87	91	93	97
I&M Bank	100	103	108	112	115	132	141	144	153	161	173	198
Kenya Commercial Bank	261	292	331	342	353	361	382	421	433	481	502	530
National Bank of Kenya	193	207	263	289	331	342	360	368	371	387	391	403
NIC Bank	132	145	153	158	161	167	170	174	183	193	198	210
CFC Stanbic Bank	173	185	189	193	197	205	209	212	216	220	228	233
Standard Chartered Bank	123	128	132	137	140	152	158	163	170	198	203	219
Cooperative Bank	422	450	461	482	500	519	522	527	538	545	556	570
Consolidated Bank	71	76	78	80	85	87	91	98	102	107	110	117
Ecobank	28	36	38	40	43	47	50	56	58	61	63	68
Family Bank	204	219	232	238	240	243	247	255	260	264	268	273
Commercial Bank of Africa	21	30	35	38	40	43	45	49	54	58	63	73

MOBILE BANKING CUSTOMERS (MILLIONS)												
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Barclays Bank	1.13	1.23	1.49	1.52	1.76	1.87	2.13	2.2	2.34	2.46	2.67	2.89
Diamond Trust Bank	0.01	0.03	0.04	0.08	0.09	0.12	0.14	0.21	0.43	0.53	0.61	0.72
Equity Bank	0.93	1.23	1.56	1.67	2.19	3.21	3.64	4.17	4.23	4.68	4.89	5.13
Housing Finance	0.2	0.5	0.6	0.7	0.8	0.9	0.9	0.11	0.12	0.14	0.15	0.16
I&M Bank	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.09	0.11	0.15	0.16	0.18
Kenya Commercial Bank	0.84	1.12	1.29	1.38	1.67	1.71	2.13	2.27	3.68	3.83	4.12	4.56
National Bank of Kenya	0.1	0.2	0.3	0.5	0.6	0.7	0.8	0.8	0.9	1.1	1.21	1.32
NIC Bank	0.02	0.09	0.09	0.1	0.11	0.31	0.33	0.43	0.51	0.57	0.6	0.61
CFC Stanbic Bank	0.01	0.02	0.02	0.03	0.04	0.07	0.11	0.12	0.14	0.16	0.25	0.35
Standard Chartered Bank	0.02	0.03	0.04	0.04	0.04	0.06	0.09	0.12	0.15	0.17	0.21	0.23
Cooperative Bank	1.97	2.28	2.41	2.53	2.68	2.91	3.12	3.62	3.81	4.03	4.13	4.39
Consolidated Bank	0.03	0.03	0.04	0.05	0.05	0.07	0.08	0.14	0.15	0.18	0.18	0.19
Ecobank	0.02	0.05	0.07	0.08	0.09	0.11	0.12	0.13	0.13	0.14	0.15	0.17
Family Bank	0.28	0.37	0.43	0.53	0.61	0.63	0.69	0.72	0.78	0.81	0.82	0.87
Commercial Bank of Africa	0.02	0.03	0.04	0.08	0.17	0.26	0.31	2.23	8.73	9.64	10.35	11.23

BANK AGENTS							
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Equity Bank	2193	3517	3982	4803	5179	8818	10190
Diamond Trust Bank	0	0	0	0	482	1139	2520
Kenya Commercial Bank	0	1230	3152	4803	6030	7137	8155
Nation Bank of Kenya	0	0	0	0	615	789	932
Cooperative Bank	1020	2113	4187	5224	6187	7186	8765
Family Bank	0	0	0	138	873	988	2236

ROA												
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Barclays	0.06	0.06	0.05	0.05	0.06	0.07	0.07	0.07	0.08	0.08	0.06	0.07
Diamond Trust Bank	0.02	0.03	0.05	0.02	-0.01	0.03	0.02	0.01	0.05	0.02	0.06	0.03
Equity Bank	0.01	0.03	0.03	0.05	0.03	0.01	0.02	0.03	0.04	0.01	0.02	0.08
Housing Finance	0.01	0.02	0.02	0.01	0.07	0.06	0.08	0.02	0.24	0.02	0.02	0.01
I&M Bank	0.2	0.3	0.4	0.72	0.22	0.17	0.23	0.22	0.88	0.04	0.1	0.1
Kenya Commercial Bank	0.03	0.02	0.06	0.05	0.02	0.05	0.05	0.05	0.03	0.02	0.05	0.04
National Bank of Kenya	0.12	0.19	-0.5	0.3	1.2	0.12	0.13	0.14	-0.13	0.011	0.18	0.18
NIC Bank	0.53	0.64	0.48	0.27	0.07	0.08	0.64	0.6	1.2	0.85	0.09	0.08
CFC Stanbic	0.16	0.04	0.01	0.13	0.01	0.02	0.02	0.18	0.04	0.04	0.01	0.02
Standard Chartered Bank	0.11	0.03	0.01	0.06	0.04	0.02	0.01	-0.08	0.05	0.06	0.11	0.04
Cooperative Bank	0.01	0.02	0.03	0.04	0.02	0.27	0.25	-0.01	0.04	0.03	0.01	0.02
Consolidated Bank	0.02	0.28	-0.01	0.56	0.01	0.46	0.03	0.03	0.05	0.05	0.06	0.01
Ecobank	0.05	0.71	0.06	0.07	0.12	0.02	0.03	0.07	0.12	-0.03	0.07	0.08
Family Bank	0.02	0.04	0.03	0.01	0.04	0.04	0.07	0.01	0.01	-0.02	0.03	0.04
CBA Bank	0.01	0.02	0.01	-0.09	-0.03	0.07	0.04	0.04	0.01	0.02	0.07	0.06

44