AN ANALYSIS OF FINANCIAL INNOVATIONS IN THE KENYAN BANKING SECTOR

BEATRICE WAMBUI KINUTHIA
D61/70601/2008

A Management Research Project Submitted In Partial Fulfillment For The Award of Master Of Business Administration Degree, Department Of Business Administration, School Of Business, University Of Nairobi.

October 2010

DECLARATION

This is my original work and has not been presented for a degree in any other university.

Signature_____

Date _____

Beatrice Wambui Kinuthia.

D61/70601/2008.

This thesis has been presented for examination with my approval as the university supervisor.

Signature_____

Date _____

Mrs. Angela Kithinji.

Lecturer, school of business.

University of Nairobi.

ACKNOWLEDGEMENTS

I would like to take this opportunity to acknowledge people who supported me when I was working on this project.

First of all, I want to express my deep and sincere gratitude to my supervisor Mrs. Angela Kithinji, for the time she took from her busy schedule to supervise this project. Her wide knowledge and her logical way of thinking have been of great value to me. I would also pass special gratitude to my family for both the financial and moral support they provided when I was preparing for this work.

ABSTRACT

The business environment has changed and it has been characterized by stiff competition among the players and the banking industry in Kenya is no exception. Competition amongst the commercial banks has pushed the banks towards becoming more innovative. This study therefore sought o carry out an analysis of financial innovation in the Kenyan banking sector.

The objectives of the study were to analyze financial innovations in the Kenyan banking sector and to determine the motivations, benefits and challenges of financial innovations in the Kenyan banking sector. This was a census survey of financial innovation in the Kenyan banking sector, motivation, benefits and challenges of the innovations in the last 15 years. The study used primary data collected by use of a questionnaire designed and administered through “drop and pick technique”

The findings of the study indicated that most of the large and medium sized banks innovated regularly while small sized banks were split between innovating regularly and on rare occasions. In terms of ownership, banks with government participation were lead in terms of innovating regularly followed by privately owned domestic banks, then foreign public owned banks while foreign owned, private banks were on the bottom of the list in terms of innovating regularly. In terms of length of operation, those that been operating in Kenya for 5 to 15 years 100% of them undertook financial innovation regularly.

Most of the innovations were introduced in the period 2006-2009. These include ATMS, SMS banking, internet banking, youth oriented accounts, women oriented banking and children accounts. There are a number of products that had yet to be introduced by many banks, these include, credit cards, risk management, and agent banking.

Improved customer service and increase in bank revenue were the benefits that most of the respondents were in agreement with, brought about by financial innovation. There are various challenges that banks faced in adoption of financial innovation. On top of that list is introduction of similar products by competitors and customers poor response to innovative products.

DEDICATION

I dedicate this project to God, my divine inspiration.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE: INTRODUCTION.

1.1 Background of the study

Kenya's banks like other organizations are open systems operating in a turbulent environment; their continued survival depends on the ability to secure a "fit" with the environment (Cole 1990, Ansoff and McDonnell 1990, Pearce and Robinson 1997, Thompson and Strickland 1996, Johnson and Scholes 1999, Davenport 1993).

The traditional banking products are homogeneous and intangible (Kotler, 2000) which present a constraint to banks that are desirous of differentiating themselves to the targets markets, (Aaker, 1996). Banks must therefore innovate regularly to provide an array of products and services that will deliver value to their customers hence enabling them to earn more revenue, embark on cost saving opportunities and growth (Kotler, 2000, Aker, 1996).

In the past Kenyan banking sector was dominated by oligopolistic foreign banks such as Barclays bank and government owned banks such as National bank and Kenya commercial bank .However since mid 1980's locally owned private sector banks such as Equity bank and Faulu Kenya emerged and have gained a significant share of banking and financial markets.

Commercial banks have now engaged in provision of a wide variety of financial services unlike in the past where they were restricted to just deposit taking, paying out money and issuance of loans business. The practices norms and technique of banking have changed substantially in recent years with many institutions adopting more complex banking products and services designed to take risk in order to enhance income.

Advances in telecommunications, information technology and financial theory and practice have changed the way banking sector conduct business. Commercial banks are always trying to come up with ways of minimizing the potential risks which includes credit risk, capital risk, interest rate risk, foreign exchange risk, among others while at the same time trying to maximize the shareholders wealth, and this has led to introduction of new products, services, production processes and organizational forms.

1.1.1 Financial Innovation

According to Turfano, (2002), financial innovation is the act of creating and then popularizing new financial instruments as well as new financial technologies, institutions and markets. Ho (2006), defines financial innovation as the emergence of financial products or services, new organizational form, or new processes for more developed and complete financial markets that reduce costs and risks, or provide service that meets particular needs of financial systems participants. White& Frame (2009-10) further defines financial innovation as something new that reduces costs, reduces risks, or provides an improved product/services/instrument that better satisfies financial system participants' demands

Financial innovations can be grouped as new products (e.g., subprime mortgages) or services (e.g., Internet banking) which are introduced to enable the banks to respond better to changes in market demand or to improve the efficiency of the institution. In addition, product innovations relate to the introduction of new credit, deposit, insurance, leasing, hire purchase and other financial products. Another group is new production processes (e.g., new clearing house) which have led to increased efficiency and market expansion, this includes office automation and use of computers while

another group is new organizational forms (e.g., Internet only banks) which relates to changes in business structures or setting up a completely new service structure this includes Internet only banks.

According to Finnerty (1992,) and Merton (1992) financial innovations occurs to serve the functions of reallocating risk by coming up with many products and services that are less risky , increasing liquidity by attracting more deposits, reducing agency costs, reducing taxes or circumventing regulatory constraints.

Various theories have been put across to explain why financial innovations occurs and they include, Silber's (1972) constraint theory, which is one of the most influential theories of financial innovation, this theory considers product innovation as the response of an organization to the constraints placed upon it. The other theory is Kane's (1984) technology and political theory which explain financial innovation as an institutional response to financial costs created by technology. Then there is Miller's (1986) regulation and taxation theory that attributes financial innovation to attempts to alter the amount and timing of taxable income. Lastly there is the Merton's (1990) market efficiency theory which is based on the notion that financial innovations are motivated by forces designed to increase market efficiency and improve social welfare.

1.1.2 Banking sector in Kenya.

The banking sector plays a very crucial role in the economy by facilitating the flow of money from the depositors to the borrowers. Thus, banks receive money from customers and lend it out in the form of loans to individuals or businesses.

The banking sector is one of most highly regulated sector in the world and Kenya is no exception. Banking sector in Kenya is supervised and regulated by the Government through the Central Bank of Kenya and other legislations such as the company law, Banking Act and various prudential guidelines issued by Central Bank of Kenya. The sector is highly regulated because of the role it plays in the economy and the need to control the banks from charging high interest rates to the borrowers and improper application of customer's deposits (www.cbk.co.ke).

Currently there are 44 commercial banks and one mortgage firm licensed to operate in Kenya (www.cbk.co.ke). The number has grown over the years, so has the types and number of products the banks offer to the public.

In the late 1990s, a lot of bank failures were witnessed, with some banks closing down entirely while others decided to reduce the number of branches. However, a change in tide was witnessed in 2003 and banks that had ceased operations were reopened and the number of branches increased countrywide. Banks also started to serve the small households who in the past where left unbanked. This trend was spurred by the licensing of Equity Bank, which operated as a commercial bank but targeted the small households and businesses. Its actions prompted other banks to shift focus and looked at the untapped low-income market (Business Daily, 2009).

1.2 Statement of the Problem

The business environment has changed and it has been characterized by stiff competition among the players and the banking industry in Kenya is no exception. Competition amongst the commercial banks has pushed the banks towards becoming more innovative. Oloo (2004) asserted that banks have realized that to stay ahead of

competitors they have to improve their existing products or come up with completely new innovations.

In their bid to minimize risk, commercial banks have become innovative, coming up with products and services that are attractive to customers and that are less risky thus reducing the bad debt loan portfolio.

The banking sector is very highly regulated by the Government through the Central Bank of Kenya and in order to minimize the effects of this strict regulation banks have come up with new products, services and technologies.

Since the mid 1990s, banks in Kenya have been carrying out financial innovation such as mortgages, Automated Teller Machines, new savings accounts, reduction in interest rates, E-banking, stock brokerage services, insurance services, payments of utility bills among others , and this has transformed banks into a one-stop shop. Financial innovations have lead to reduction in risk, costs and have increased efficiency amongst the industry players.

The motivation for innovation, benefits and challenges of financial innovations in the Kenyan banking sector are not known. This study analyzes financial innovations, motivations, benefits and challenges of innovations in the Kenyan banking sector. Further, the nature, sequencing and types of financial innovations in the Kenyan banking sector have not been documented.

1.3 Objective of the study

1. To analyze financial innovations in the Kenyan banking sector
2. To determine the motivations, benefits and challenges of financial innovations in the Kenyan banking sector.

1.4 Importance of the Study.

The study is important to the following groups:

The study will be used by the government and industry regulators to understand the type of financial innovations in the banking industry and ensure that the regulations that exist cover all the innovations and no gaps exist.

The study will be used by industry players like banks and other stakeholders to see where more innovations are needed so as to enhance their competitiveness.

The study will show how creative thinking on the part of commercial banks in Kenya can lead to higher profits by showing how and why commercial banks were creative in the past and also enable us to obtain a better grasp of how they may be creative in future.

The study will benefit scholars by adding to the body of knowledge and form as a basis for further studies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Financial innovation has become the part and parcel of financial institutions in the whole world. The chapter reviews literature on what is financial innovation; motivations behind financial innovation, benefits and challenges faced in the process of financial innovations and after the innovations have occurred. Various theories on financial innovation will be reviewed as well as various studies on financial innovation.

2.2 The Concept of Financial Innovation

According to Turfano (2002), financial innovation is the continuous development of new products, services, and technology to deliver services and products. Financial innovation is the catalyst behind the evolving financial services, industry and restructuring of financial markets. It represents the systematic process of change in instruments, institutions, and operating policies that determine the structure of financial system. McConnel and Shwarch (1992) state that innovations take the form of new securities, and financial markets, new products and services, new organizational forms, and new delivery systems. Financial innovation is about change, an ever –present feature of a bank life, it is not how many ideas there are but how many ideas are implemented (Gitonga, 2003).

In response to tight regulations imposed by the regulators the banks have come up with new services, products, and technologies to circumvent the government's regulations and in return the government introduces more regulations to counter the new discoveries. Kane (1984) describes this process of avoiding regulations as "loophole mining". The economic analysis of innovation suggests that when the

economic constraints change such that regulations are made by avoiding them, loophole mining and innovation are more likely to occur.

Banks have moved from their traditional way of banking, where their business was to receive deposits and issue out the money in form of loans and entered into new businesses like mortgage industry, savings and loan which in the past were left to thrift organizations. The government also introduces new regulations to cover the financial innovations by banks like in the case of the recommendation by CBK to implement the Basel I and II Accord (www.cbk.co.ke). The banks have also expanded their wings to cover a wider geographical scope to go regional as well going global (Koech 2009)

According to Frame and White (2009-2010) technological changes relating to telecommunication and data processing has spurred financial innovations that have altered bank products and services, and production processes. They also state that technology improves money and capital market efficiency, information systems links financial institutions throughout the world facilitating the flow of capital and information, improving tools for data analysis and management, and open new markets to new competitors.

2.3Theories of financial innovation

2.3.1 Silber's constraint theory of innovation.

Silber (1975) attributes financial innovations to attempts by profit maximizing firms to reduce the impact of various types of constraints that reduces profitability. The theory points out that the purpose of profit maximization of financial institutions is the key reason of financial innovation. Silber notes that there are some restrictions

(including external handicaps and internal handicaps such as organizational management) in the process of pursuing profit maximization .Although these restrictions not only guarantee the stability of management they reduce the efficiency of financial institution so the institutions strive to cast them off.

Research literature has shown that firms that are less profitable in their respective sector are disproportionately innovative. Moreover, their decrease in profitability, which can be attributed to external competition or government regulation, has provided these firms with the necessary motivation to innovate in a bid to increase profitability. This finding is consistent with the suggestion in the work of Silber that investment in innovation is a rational response to an unfavorable competitive position (Silber, 1975, 1983).

The theory discusses financial innovation from a microeconomics perspective.

2.3.2 Kane's market technology and political theory of innovation

Kane (1984) sees financial innovation as an institutional response to financial costs created by changes in technology ,market needs, and political forces, particularly laws and regulations, Kane refers to the interactive process of regulation that follows institutional avoidance and innovations as dialectical process.

Financial industry is special it has stricter regulations and financial institutions have to deal with these regulations in order to reduce the potential risks to the minimum.

An example of Kane's theory where an institution responds (or adapts) to the changes in its operating environment is the rise of the shadow banking system in the US. Economists believe the current financial crisis was triggered by the shadow banking system. This "parallel" banking system essentially caused the credit market to freeze,

due to lack of liquidity in the banking system. These entities which make up the shadow banking system include hedge funds, “borrowed short-term in the liquid market and then purchased long-term, illiquid risky assets”. Banks cannot operate in such a manner but since the existing legislations were only designed to regulate banks, investment vehicles like hedge funds came up with risky innovative techniques in a bid to minimize their operational costs.

2.3.3 Miller’s regulation and taxation a theory of innovation

Miller (1986) stated that major innovations in the last 20 years have been almost exclusively the results of changes in tax laws and regulations changes. The author attributed the development of many financial claims to attempts to alter the amount and timing of taxable income. Miller also notes that financial innovations are as a result of regulatory barriers and desire of financial firms to avoid the impact of regulatory constraints.

In a speech to the Western Finance Association in 1986 Miller pointed out that financial innovation was a response to regulatory impediments to the working of market forces, he further acknowledged the role of Milton Friedman in the creation of financial future to speculate on the pound by taking a short position in the early 1970’s, at a time when one would only take a forward short position with a bank. No bank was willing to be his counterparty.

Adjustable rates mortgage (ARMSs) is an example of innovations that are consistent with this theory. The tax Reform Act of 1986 which ended federal income tax deductions for non-mortgage consumer debt, spurred substantial growth in home equity lending.

The theory is further supported by one of the Modigliani-Miler proposition that states that taxes and regulations are the only reasons for investors to care what securities firms issue whether debt, equity or any other security.

2.3.4 Merton's market efficiency theory of innovation.

Merton (1990) also provides a valuable rationale for financial innovation. His theory is based on the notion that financial innovations are motivated by forces designed to increase market efficiency and improve social welfare. Merton argued that the market is not perfect hence financial institutions must innovate to improve market efficiency.

According to Rene (2000) financial economists generally view the flow of funds to take advantage of investment opportunities and financial innovations as positive forces that makes markets more efficient, facilitate risk sharing and increase growth. Many have argued that capital flows and financial innovations lead to instability, crashes and other disasters especially the 1987 crash and the derivative disasters in the 1990's but Merton was not convinced that financial innovation was to blame for the crashes.

Merton (1990) gives three motivations for producing innovations namely, the creation of new financial structures that allow risk sharing, risk pooling and hedging as well as new financial structures for transferring resources, the improvement of economic efficiency and liquidity and reduction of agency costs.

2.4 Motivation for Financial Innovation

The most single most important stimulant to financial innovation in the last several decades has been financial regulations. Financial institutions are always looking for ways of reducing the adverse effects of these strict regulations and in the process

come up with new products and services, new ways of doing business and new organization forms. These regulations take many forms which include: high minimum capital requirements, minimum capital reserve with Central Bank, maximum interest rates that could be paid on deposits or charged on loans, restrictions on the range of activities, products, and services offered.

Banks and other market players have consistently restructured their operations to circumvent these regulations and meet customers' needs. In response the lawmakers and regulators impose new restrictions which the market participants circumvent again (Thygerson, 1995).

Miller (1986) cited that "The major impulses to successful innovations over the past twenty years have come; I am saddened to have to say, from regulation and taxes." Such innovation includes the Zero coupon bond and Eurodollar Eurobonds. Changes in regulation also stimulate innovation; Kane (1986) identified what he calls the "regulatory dialectic" as a major source of innovation. Innovation responds to regulatory constrains, which in turn are adjusted in reaction to these innovation. Bank capital requirement are a good example of regulations that impose costs on the affected parties, who then innovate to optimize in light of these constraints (Turfano 2002). Levine (1997) argued that if innovations were instead a market response to inappropriate government policies, it may only serve to offset the adverse effects of these policies. If regulatory regimes or fiscal incentives created by governments were major causes of innovation, the benefits from innovations might prove illusory. The author suggested that the Glass Steagall act in the United States, designed to separate commercial and investment banking had stimulated innovative activity in London.

Competition among the market players has seen all the players trying to come up with new products, ideas and services to try to create competitive advantage. Gitonga (2003), in his study on the innovation processes and the perceived role of the CEO found that 39% of the CEOs considers innovation as the most important factor in achieving competitive advantage.

Technology and heavy competition are the major drivers of financial innovations (Kihumba, 2008). Technology defines the organization's range of possible future. It provides an organization with some environmental constraints and determines the kind of competitive weapon, product and market that they will face (Koech 2009).

Technology further offers the potential for competitive advantage. Potter and Miller (1985) propose that the influence of Technology has been so far reaching as to alter fundamentally the rules by which firms in an industry compete with each other. They cited that it is changing the nature of competition in three particular ways: Technology is changing the industry structure, technology is creating new industries and technology is being used by many firms as a direct lever to create competitive advantage.

Information Communication Technology in Banks is used in SMS Banking where a Mobile technology allows the customer to request and receive banking information from their bank on the mobile phone via Short message service (SMS), Magnetic Ink Character Recognition (MICR) systems where characters are written in a special magnetic ink, and have the advantage that they can be read by a reader connected to a computer, Electronic Funds Transfer(EFT) which has resulted in funds transfers and funds-related message transfer being routed electronically across banks, payment of

standing orders or direct debits, and Real Time Gross Settlement System, or RTGS (Koech 2009).

With globalization, banks are exposed to new risks such as political and exchange risk and banks have to innovate to help them manage these risks. The types of innovations to help manage include coming up with new instruments (Turfano, 1989) such as swaps, futures and contracts, which can incorporate currency convertibility and transferability guarantee. For example American Development bank created a currency convertibility and transferability guarantee to address increased exchange rate and political risk.

Smith, Smithson, and Willford (1990) document that the increase in the volatility of interest rates, exchange rates, and commodity prices, draw a link between this increase in riskiness and financial innovation, they list a variety of innovations spawned by increasing volatility which includes, foreign exchange futures, swaps, and options, interest rate futures, swaps, options, and forwards and commodity swaps, futures and options.

Innovations exist so that parties can minimize transactions, search and marketing costs. Merton (1989) discusses how the presence of transaction costs provides a critical role for financial intermediaries. Madan and Soubra (1991) examined how financial intermediaries attempt to maximize their revenues net of marketing costs, which leads them to design multiple products that appeal to wider set of investors. Financial intermediaries permit households facing transactions costs to achieve their optimum consumption investments program. Turfano (2002) stated that ATMs, ACH technologies and other innovations came to minimize transaction costs.

2.5 Benefits of Financial Innovations.

Merton (1992) lamented that financial innovations is viewed as the “engine” driving the financial system towards its goal of improving the performance of what economists call the “real economy” Merton (1992) cites the US national mortgage market, the development of international markets for financial derivatives and the growth of mutual fund and investment industries as examples where innovations has produced enormous social welfare gains.

The last few centuries have demonstrated that financial innovations are crucial indeed indispensable, for sustainable economic growth and prosperity (www.economist.com/debate/days). Financial innovations involving derivatives can improve efficiency by expanding opportunities for risk sharing, lowering transaction costs and reducing asymmetric information and agency costs Merton (1995). Financial innovations promote economic growth by allocating capital where it can be most productive.

Pianalto (2007) pointed out that innovations allow markets to craft specialized mortgage contracts and to transfer risks and financial innovations has clearly benefited consumers by driving down costs. The author pointed out that since 1985; initial fees for conventional mortgage loans have fallen from roughly 2.5 percent of loan balance to about 0.5 percent. Additionally, a combination of legal and financial innovations has brought a big increase in the number of players in the mortgage market, including brokers, underwriters, servicers and rating agencies. Another advantage noted by the author was choice. A few decades ago, people were offered one or two different mortgage products, but now they can choose from multiple

instruments and payback structures. Finally customers benefit from faster loans decisions.

A research carried out by ATMIA (ATM Industry Association) in June 2007 identified ATMs as one of the financial innovations and the following benefits was associated with the ATM, it creates convenience to the society by providing cardholders with 24 hour access to their safely banked cash, increase in retail purchase outside banking hours, that is, cash from ATMS have extended shopping hours providing for greater sales, greater employment opportunities and greater convenience for today's highly mobile citizens.

Kihumba (2008) in the study on determinants of financial innovations and its effect on banks performance in Kenya found that, increase in customer service, market expansion and increased banks revenue were the most benefits derived from financial innovations. Others included reduction in the number of customers in the banking hall, reduction in operational costs and geographical expansion of banks.

According to www.wikipedia.com agent banking provides convenience to the customers because they help financial institutions to divert customers from the crowded banking halls and accesses to financial services in rural areas where banks do not have branches.

2.6 Challenges of Financial Innovations

According to Koech (2009) customers do not always embrace new products and services. In the case of E-banking, customers at first were not interested in the product because they did not understand how it operates; they deemed it insecure and expensive. A survey of bankers by Grant Thornton consultants in 2009 found that two-thirds were concerned about the security of E-banking transactions. Half said

their customers were, too. In addition, many consumers are also concerned about viruses and privacy issues that can cause glitches in the e-banking system, which can cause delays and mass confusion (Levison, 2005).

The rapid pace of financial innovation creates challenges for policy makers, according to Jenkison (2008) existing regulatory frameworks are not sufficient to cover the new innovations such as collateralized debt obligations (CDO‘s) in the USA that led to an upsurge in the mortgage market. In Kenya the introduction of mobile money transfer raised a heated debate to whether the laws that existed covered it, if it was secure and if it was undermining the traditional banking set up where one needed an account to deposit or withdraw money from forcing the government to establish a task force to study the security of the money transfer service. (www.cbk.co.ke).

Ho (2006) highlighted the challenges of financial innovation as that innovations can work against the policy effect of the transmission mechanism; for example, new financial instruments such as futures and options significantly increase the ability of economic agents to lock in current interest rates for future funding needs, countering fluctuations in the cost of finance, and improving the intertemporal substitution of income streams. The increase in transactions of some innovation products (off balance sheet items) such as derivatives could make financial positions of financial institutions less transparent, causing surveillance of the movements in assets and liabilities more difficult. Innovative products could expose financial institutions to new risks. As a result, the quality of their assets may prove to be dubious and financial institutions may find themselves in an increasingly sensitive situation. High return but highly risky new financial products with low credit ratings could be introduced into financial markets, posing a threat to the system stability.

Ackerberg and Gowrisankaran (2006) identify large fixed costs of bank adoption as the barrier to greater use of ACH transactions and thus the society's capturing the accompanying potential cost savings.

2.7 Financial Markets

A mechanism that allows people to buy and sell financial securities such as stocks and bonds, commodities such as precious metals or agricultural goods and other fungible items of value at low transaction costs and at prices that reflect the efficient market hypothesis (Jenkinson, 2008). Financial markets have evolved significantly over the years and are undergoing constant innovations to improve liquidity and increase business (Jenkison, 2008).

Financial markets facilitates, raising of capital (capital markets), transfer of risk (in the derivatives), and international trade (in the currency markets) (Jenkinson, 2008).

2.8 Financial Innovations and Financial Deepening

Financial deepening refers to the increase of financial services with a wider choice of services geared to all levels of society. In Kenya the financial sector deepening program, was initiated in early 2005 to facilitate the wealth creation and poverty reduction through the development of financial markets. The goals of the program are to facilitate and encourage the provision of financial services to the low income households and small scale businesses.

The independent trust (FSD) is currently supported by the UK's department for international Development (DFDT) which is responsible for leading the British government fight against world poverty. The FSD has recently established an innovation fund in the bid to encourage financial innovations at all levels in the economy. The funds will co- finance development and implementation of viable

projects in priority markets. In the first phase the FSD was financing projects that had the potential to significantly expand finance in two segments, namely, finance for smallholder Agriculture and small and medium Enterprises (SME) finance (www.cbk.co.ke).

The fund supports innovations which includes application of new technology, novel delivery channels or partnership and innovative products. The emphasis being on innovations within the context of the Kenyan financial market, application of ideas proven somewhere but new in Kenya like new idea of Agent banking that has been successful in Brazil and Colombia (www.cbk.co.ke).

2.9 Types of Financial Innovations

According to White (2009-2010), financial innovations that have taken place in the last 25 years are of different types and include new production processes, new products and services and new organizational forms.

2.9.1 Products

Savings accounts are one suite which has experienced a great deal of evolution. Banks have come up with different savings accounts which are flexible and customer friendly and such accounts includes Chama accounts targeting merry go rounds which evolved as a result of banks realizing that the Chama's controls a big following in terms of deposits and members and this will reduce the number of unbanked population. Banks have also introduced children accounts (Koech, 2009).

Additionally, they changed the structure of their savings accounts. In the past customers used to operate accounts with the following features, high minimum

opening and operating balances, monthly ledger fees, restrictions on the number of transactions and amount but currently banks have come up with savings accounts with totally different features such as: zero operating and opening balances, no restrictions on the number of transactions and amount, no monthly ledger fees and many other attractive features (Kihumba, 2008).

Current accounts have also not been left behind as the banks have tried to come up with current accounts that are attractive to their customers and put them ahead of the competitors (Koech, 2009).

The innovations on the types of accounts offered by the commercial banks have led to tremendous increase in the number of accounts operated by Kenyans. A survey by CBK in 2009 indicated that the number of accounts have more than tripled in the last 3 years growing from about 2.4 million accounts to about 8.4 Million.

According to Frame and White, (2009-10) mortgage is another product that has gone through a great deal of evolution. Mortgage in the past was offered by thrift organizations but in the recent past commercial banks have entered in the business of offering mortgages. The loans required substantial down payments and a good credit history and the accumulated equity was relatively illiquid. These characteristics have markedly evolved. In the US the mortgage product evolved remarkably especially in the 1980's with the wide spread introduction of various types of adjustable rate mortgages (ARM)'s which had been previously banned by the federal regulators. The Tax Reform Act of 1986 ended federal income tax deduction for non-mortgage consumer debt spurred substantial growth in home equity lending. In Kenya the growth has been spurred by the high demand of homes especially in the urban areas where the population is high and the available houses are not enough to meet the

demand (www.housingfinance.co.ke).The banks have lowered the interest rate on mortgages(Frame and White, 2009-2010).

Another innovation was money markets mutual funds which were established in 1970 when the market interest rates rose far above the interest rates that federal regulators permitted banks and thrifts to pay on deposits. The regulation interest rate ceilings imposed on depositors at that time provided the impetus for this innovation (Thygerson, 1995), mutual funds have gained popularity with fund managers and control a high proportion of total investments by investments banks, insurances and other industry players (Thygerson, 1995).

2.9.2 Services

Recent service innovations are as a result of competition among the commercial banks as each bank try to maintain and increase its market niche and meet the customers demand which keeps changing with time.

According to Frame & White (2009-2010) technological advances in information processes have created many innovations in the financial services business. Innovations promoted by technology includes: ATMs which have made it possible to deliver financial services to many locations for longer hours since they operate on a 24 hour basis. They have reduced operation costs for the banks, in terms of less staff are needed at the counters since the ATMs can offer most of the services, reduction of transaction cost to customers since withdrawing through the ATM is always cheaper than withdrawing over the counter.

Automated Teller Machines (ATMs) were introduced in the early 1970s and diffused rapidly in 1980.The ATMS were largely seen as a way of saving money by reducing the need for tellers. Even with the relatively expensive computer technology of the '70s and early '80s, the cost of processing deposits and withdrawals via ATMS proved to be less than the cost of training and employing tellers to do the same work.

To encourage customers to use the ATMs, banks at first did not charge customers for using the ATMs; in fact they used to charge customers for not using the ATMs, through what is called "Human teller fees". Banks that adopted the use of ATMs proved to be more profitable than their peers who did not embrace the idea of ATMs.

At first, a bank ATM could only be used by customers who had accounts in that bank, but in the early 1980s with the improvement in telecommunications, banks took advantage and started what is called shared ATMs networks where customers of other banks could access their money through other bank's ATMS. Banks paid other ATM owners "interchange" fees to cover the marginal cost of the "off us" transactions on the owner's machines. The ATMS were operated using an ATM card which was a magnetic card.

The ATMs have increased retail bank account and value by providing customers with the around the clock access to funds. In the mid 1980s banks started charging customers for using other owner's ATMs what was called "off us fees". The "off us fees "become common in the 1990s as the ATMs became part of the daily life in the banking industry. The ATM cards were then largely replaced through the 1980s and 1990s by the debit cards that allow customers to make payments at the point of sale

from their banks accounts without carrying allowed physical cash and this provided both safety and convenience to the customers.

In Kenya the first ATM machine was installed in 1989 by standard chartered bank followed by Barclays bank in 1995.

Debit cards are essentially ‘’pay now ‘’ instruments, where by transactions happen instantaneously using online (PIN-based) methods. Debit cards usage has increased tremendously in the recent past. Much of the research pertaining to debit cards relates to identifying the most likely users of this payments instrument. Stavins (2001) has shown that usage of debit cards is positively related to education attainment, homeownership status, marital status, business ownership, and being a white collar worker, and is negatively related to age and net worth.

1950s marked the beginning of the credit card. Diner’s Club introduced the first credit card that could be used at variety of stores and businesses. Credit card was established primarily for businessmen who used to travel and for payment of entertainment expenses. The club gave the card holders up to 60s days to make full payment. Merchants were eager to accept it because they found that credit card customers spent more if they were able to use the card.

The first bank to implement the use of credit card was the Franklin National Bank in New York (Johnson, 2005). More varieties were introduced, for example the bank of America introduced a revolving credit where customers were given an option of paying in full or making monthly payment while bank charged interest on the remaining balance (Macdonald and Koch, 2006).

In the mid 1970s the credit card industry started exploring international waters and this saw the introduction of visa card in 1977 and master card in 1979.

In 1979, with the improvement of electronic processing, electronic dial up terminals and magnetic stripes on the back of credit cards allowed retailers to swipe customer's credit card through the dial up terminal which accessed issuing bank cardholder information. The advantage of this system, besides saving paper, was increased speed of processing authorizations from 1-2 minutes.

There are five leaders in the credit card industry today namely: Visa international, Master card and American express. Discover and Diner's club credit cards account for over 90% of all E -commerce transactions (Johnson, 2005). Visa has been a leader in credit card innovation, with over one billion cards being issued, and carrying over 50% of all credit card transactions (Johnson, 2005).

Another innovation in the banking sector is E-banking also known as electronic banking which provides many different services to their customers. According to Koech, (2009) banking is no longer confined to the branches where one has to approach the branch in person, to withdraw cash or deposit a cheque or request a statement of accounts. Banks have taken into consideration the changing needs of its customers and are offering greater access and online facilities. These measures have increased profits for the bank and passed on savings to the customer.

E-banking services offer customers increased flexibility to conduct their banking transactions over the phone or online, anytime, anywhere. Bank cards offer security, as cardholders do not need to carry cash. Automated transactions are also cheaper

than paper transactions. When customers register with Phone and Internet Banking services they are issued with unique security numbers which ensure that only that customer can access account information (Hughes, 2002).

Online banking allows customers to monitor accounts and originate payments using electronic bill payments (Koech 2009).

2.9.3 Processes.

The payment systems have really undergone through various innovations which includes; Automated clearing house (ACH) which is an electronic funds transfer network connecting banks-primarily used for recurring, small dollar payments. ACH networks emerged in the 1970s although volumes grew modesty through the 1980s, being used almost exclusively for direct patrol deposits. Over the last 15 years the volumes have increased. The ACH were established to fasten the process of clearing cheques, reduce cost and become more efficient (Frame and White, 2009-10).

Another innovation in the payment system is EFT (Electronic Funds Transfer) which refers to the computer based systems used to perform financial transactions electronically. EFT is safe, secure, efficient and less expensive than paper cheque payment and collections.EFT allows customers to pay automated bills, payment of salaries and allows point of sale transactions (Frame and White, 2009-10).

Another innovation in the payment system is RTGS (Real Time Gross Settlement) which is a system where transfer of money takes place from one bank to another on a “real time” and “gross” basis. Real time means that the payment is not subjected to any waiting period. The transactions are settled as soon as they are processed. “Gross settlement” means that the transactions are settled on one to one basis without

bunching or netting with any other transaction. Once the payment is processed it is final and irrevocable (www.cbk.co.ke).

RTGS system is suited for low-volume, high value transactions. It lowers settlement risks, enable banks to manage their liquidity efficiently and provide Central Bank with better tools for monetary policy management since it gives an accurate picture of an institution's accounts at any point of time. Credit risks due to time are eliminated (www.cbk.co.ke).

RTGS system was introduced to address deficiency in the old payment systems which included cash and cheques, the methods were prone to theft, cheque substitution and cheque bouncing (www.cbk.co.ke).

Consolidated statements is another process innovation, this is the ability to merge information from a number of data files and the increased speed and reduced costs of mainframe computers has led to development of consolidated statements Accounts. This technology has led to lower transaction costs, improved risk management and time saving (Thygerson, 1995).

Advances in information technology (both hardware and software) and financial theory spurred a revolution in bank risk management over the past two decades. Two popular approaches to measuring and managing risks are stress testing and value at risk (VaR). In either case, the idea is to identify the level of capital required for the bank to remain solvent in the face of unlikely adverse environments. Fender and Gibson (2001) present a survey of stress testing in financial institutions. Berkowitz (1999-2000) and Kupiec (2000) both discuss shortcomings of stress testing for risk management, including whether the results of such tests will generally achieve equity capital allocations sufficient to stave-off default under duress.

Economic Review (2007) observe that over the last 20 years there has been various innovations regarding better management of risk by banks and the regulators, necessitated by the fact that banks have really expanded in terms of size and volumes. These innovations include the adoption and implementation of Basel I and II committee proposals. Basel I took steps towards greater risk sensitivity by creating varying capital charges for assets cases according to their credit risk. The Basel II proposal takes the risk sensitivity much further by allowing capital to vary according to the credit, operational and market risk of the bank.

Banking supervision is another area where risk sensitive approaches have been adopted again in response to the industry innovations. Most banks use risk sensitive approaches to internal audit and risk function activities (Rosengren, 2006).

Another innovation is the greater role for market discipline and financial disclosure which is emphasized by Basel II proposal on Market discipline pillar.

Another innovation is the acceptance of the benefits of earlier intervention into problem institutions. Perhaps the most important was adoption of prompt corrective action, which required bank supervisors to close a problem bank way before they had exhausted capital. The innovation gives clear directions to bank supervisors that they are accountable for closing banks promptly as they become troubled and that forbearance is not consistent with their legislative mandate. The innovations have resulted in problems at banks being addressed before the problems are severe. (Rosengren, 2006)

2.9.4 New organizational forms.

New bank organizational forms have emerged over the past few decades. Such forms include internet only banks that rose due to technological change. The dramatic increase in individual use of internet created the possibility of internet only banks. According to Delgado, Hermando, Nieto (2007), as of mid year 2002, there were some 35 Internet only banks operating in Europe and another 20 in the USA.

Agent banking is another institutional innovation; a bank agent is a retail or postal outlet contracted by a financial or mobile network to process client's transactions. Rather than a branch teller, the owner or an employee of the retail outlet who conducts the transaction and lets clients deposits, withdrawal, and transfer funds, pay their bills, inquire about an account balance or receive direct deposit from an employer. Banking agents can be pharmacies, supermarkets, convenience stores, lottery outlets, post offices, and many more. Globally, these retailers and post offices are increasingly utilized as an important distribution channels for financial institutions. The point of services range from Australia where clients from all banks can conduct their transaction, Rural France where the bank credit Agricole uses corner stores to provide financial services, to small lottery outlets in Brazil at which clients can receive their social payments and access their bank Accounts (Delgado, Hermando, Nieto, 2007).

Banking agents are usually equipped with a combination of point of sale card reader, mobile phone, barcode scanner to scan bills for bill payment transactions, Personal identification number (PIN) pads and sometimes personal computers (PCs) that connect with the bank's server using a personal dial-up.

Credit reference bureaus is another institutional innovation, it provide timely and accurate information on borrowers' debt profile and repayment history (Thomas et al, 2002).Credit bureau (U.S.A) or credit reference agency (UK) is a company that collects information from various sources and provides consumer credit information on individual consumers for a variety of uses. It is an organization providing information on individuals borrowing and bill paying habits. This helps lenders assess credit worthiness, the ability to pay back a loan, and can affect the interest rate and other terms of a loan. Interest rates are not the same for everyone, but instead can be based on risk-based pricing, a form of price discrimination based on the different expected risks of different borrowers, as set out in their credit rating.

Consumers with poor credit repayment histories or court adjudicated debt obligations like tax liens or bankruptcies will pay a higher annual interest rate than consumers who do not have these factors (Thomas, et al, 2002).In the U.S., credit bureaus collect and collates personal information, financial data, and alternative data on individuals from a variety of sources called data furnishers with which the bureaus have a relationship. Data furnishers are typically creditors, lenders, utilities, debt collection agencies and the courts (i.e. public records) that a consumer has had a relationship or experience with. Data furnishers report their payment experience with the consumer to the credit bureaus. The data provided by the furnishers as well as collected by the bureaus are then aggregated into the credit bureau's data repository or files. The resulting information is made available on request to customers of the credit bureau for the purposes of credit risk assessment, credit scoring or for other purposes such as employment consideration or leasing an apartment.

Given the large number of consumer borrowers, these credit scores tend to be mechanistic. To simplify the analytical process for their customers, the different credit bureaus can apply a mathematical algorithm to provide a score the customer can use to more rapidly assess the likelihood that an individual will repay a given debt given the frequency that other individuals in similar situations have defaulted (Thomas et al, 2002).

Another innovation has been emergence of truly global banks with variety legal entities around the world. Banks have really become global to increase their profits by expanding their businesses to other countries and regions. These banks include Barclays Bank and Standard Bank among others. Expanding globally has allowed banks to serve the unbanked population where they establish their branches (Thomas et al, 2002).

Finally in the last few years banks and other financial institutions have expanded their business portfolio to include other businesses .For example banks are offering stock brokerage services, insurance services, money transfer, payment of utility bills among other services that in the past were offered other institutions such as insurance companies. Currently customers expects bank managers to offer high returns for their deposits and this has encourage bank managers to become fund managers rather than fixed income managers as it was the case there before.

2.10 Empirical studies

Various studies on financial innovation have been undertaken; most noted been Turfano (2002) survey on financial innovation from a wide variety of disciplines: financial economics, history law, and industrial organization. Silber (1975), Kane

(1984), Miller (1986), Merton (1990), came up with various theories trying to explain why financial innovation occurs.

Miller (1992) and Finnerty (1992) in their studies on financial innovation found that financial innovations occur when banks try to relocate risk, increase liquidity, or circumvent regulatory constraints. Levine (1997) in his study on financial development and economic growth noted that financial innovation is crucial indeed indispensable, for sustainable economic growth.

Kihumba (2008), Gitonga (2003) and Nystrom (2001) in their studies identified competition and technology as the major drivers of financial innovations. Smith, Smithson and Willford(1990) document that the increase in volatility of interest rates, exchange rates and commodity prices draw a link between an increase in risk and financial innovations.

Koech (2009) on her study on E-banking services in commercial banks identified E-banking as one of the financial innovations in Kenya, she identified the benefits of E-banking to include: saving time, and providing convenience to customers. She also identified security and cost concerns as the major challenges facing E-banking.

Frame & white (2009-10) categorizes financial innovations into three categories namely: new products and services; new production processes; and new organizational forms. Finnerty (1992) identified a list of over 60 securities innovations, organized by broad type of instrument. Berkowitz (1999-2000),Fender and Gibson(2001)and Kupiec (2000) presented a survey on stress testing and its short coming as a risk management tool used by financial institutions .Delgado, Hermando, Nieto(2007) also carried out a survey on internet only banks in European.

2.11 Summary of literature review

Financial innovation has become part and parcel of the banking sector. Banks have really changed the way they do business in terms of their operations, the kind of products and services that they offer to their customers

Financial innovation is the act of creating and popularizing new financial instruments in the market. These new products and services are supposed to draw in more consumers and also reduce costs or risks associated with providing the service.

Financial innovation occurs as a result of many reasons which include regulations and taxes imposed on the financial institutions by the governments through the central bank. Competition, technology, globalization, volatility of interest rates, commodity prices and exchange are other reasons why financial innovations occur.

Many benefits have been associated with financial innovation these includes economic growth, choice of many financial instruments to choose from, decrease in operation cost to the institution, reduction in fees and charges to customers, increase in the industry players, increase in revenue of the banks among others

There are also challenges associated with financial innovation these includes failure by customers to embrace the new products mainly because they don't understand the product. Policy makers also face challenges with the rapidly innovating financial system.

Although many studies has been done on financial innovation in other parts of the world none has been done in Kenya to analyze the types of financial innovations and this is what this study seeks to establish together with the motivations behind the innovations, the benefits and challenges of the innovations.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents the research design, where a brief summary of the methods of data collection that will be used are outlined, the population of the study and the procedure for data analysis methods are expounded.

3.2 Research Design

This was a census survey of financial innovation in the Kenyan banking sector, motivation, benefits and challenges of the innovations in the last 15 years. The choice of a survey was because the size is small and the fact that most of the banks have their headquarters in Nairobi thus making it easy and cost effective to contact them. The variables assessed using descriptive measures. According to Serakan (2003) a descriptive study is taken in order to ascertain and be able to describe the characteristics of the variable of interest in a situation

3.3 Population of the study.

These consist of all 44 commercial banks operating in Kenya as at 17th March 2010; the list was obtained from the Central bank website. The study covered the period 1995-2009,fifteeen years is reasonable because data covering financial innovations in the Kenyan banking sector can be found in peer-reviewed articles, published books and the internet.

3.4 Data collection

The study used primary data collected by use of a questionnaire (see Appendix II) designed and administered through “drop and pick technique” targeting Bank

managers or Operations manager in the banks to be the respondents. The questionnaire consisted of three parts. Part I contained introductory and background questions pertaining personal and organizational issues considered relevant to the study. Part II contained questions to analyze the level of financial innovations in the Kenyan banking sector. Part III contained questions on motivation, benefits and challenges of financial innovations in the Kenyan banking sector. Part III also contained questions on recommendations for better conclusion on issues at hand.

3.5 Data analysis

After collecting the data, the questionnaires were edited for completeness and consistency before processing. Excel sheets were used to group information for analysis. Information was then grouped into meaningful subsets and analyzed using descriptive statistics. Pie charts, bar charts, frequency tables, percentages, mean and deviation will be used to analyze the data. Tabular presentation that is in a self explanatory format was used to display the results of the data analysis for better presentation and analysis of the data.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presented the analysis and findings with regards to analyzing financial innovation in the Banking sector of Kenya. A census survey was carried out and a drop and pick questionnaire was the data collection tool. The results were presented in form of tables, frequencies and pie charts and descriptive statistics. Out of the population of 44 banks, there were 32 banks that manage to respond in time generating a response rate of 73%

4.2 Shifting from EFT to RTGS and SWIFT system

The section sought to find the number of banks that had moved from EFT system to RTGS and SWIFT system. The results are tabulated below

Table 4.2 Shifting from EFT to RTGS and SWIFT system

Response rate	Frequency	Percentage
Yes	31	97%
No	1	3%
Total	32	100%

We can see that 97% of the banks under survey agreed that they had shifted their system from electronics funds transfer (EFT) to either real time gross settlement (RTGS) or Society for Worldwide Interbank Financial Telecommunication (SWIFT), while 3% still used EFT.

4.3 Relationship between Size of Bank and Frequency of financial innovation

This section sought to find how the size of the bank influenced its financial innovations. The findings are presented in table 4.3

Table 4.3 Cross-tabulation of Size of the bank and Frequency of financial innovation

		Frequency of financial innovation			Total
		Regularly	Rarely	Not at all	
Size of the bank	Large	90%	10%	0%	31%
	Medium	92%	8%	0%	41%
	Small	56%	33%	11%	28%
Total		81%	16%	3%	100%

From table 4.3 we can see that for large banks comprised of 31% of the total population and for these, 90% of them undertook financial innovation regularly, while 10% of them innovated rarely. On the other hand for medium banks they comprised of 41% of the total population and out of this, 92% innovated regularly while 8% of them innovated rarely. Small banks comprised of 28% of the total population 56% of them innovated regularly, 33% of them innovated rarely while 11% did not innovate at all.

4.4 Relationship between ownership structure and frequency of financial innovation

This part sought to find out the relationship between how ownership structure of a company affected the frequency with which it undertakes financial innovation. The results are documented in table 4.4.

Table 4.4 Cross-tabulation between ownership structure and frequency of financial innovation

		Frequency of financial innovation			Total
		Regularly	Rarely	Not at all	
Ownership Structure	Foreign owned, private bank	70%	20%	10%	31%
	Privately owned domestic bank	85%	15%	0%	41%
	With Government participation	100%	0%	0%	13%
	Foreign public owned	80%	20%	0%	16%
Total		81%	16%	3%	100%

From table 4.4 we can see that of Foreign owned, private banks comprised of 31% of the total population and out of these, 70% innovated regularly while 20% undertook financial innovation rarely while 10% did not undertook financial innovation at all. Privately owned domestic banks comprised of 41% of the total population and out of these, 85% undertook financial innovation regularly and 15% undertook financial innovation rarely. Banks with government participation comprised of 13% of the total population and of these, 100% undertook financial innovation regularly. Foreign public owned banks comprised of 16% of the total population and out these 80% undertook financial innovation regularly while 20% rarely undertook financial innovation.

4.5 Relationship between Length of Operation and Frequency of financial innovation

In this section, the research sought to find out the relationship between the number of years the bank has been under operation with the frequency of financial innovation. The findings are as per table 4.5

Table 4.5 Relationship between Length of Operation and Frequency of financial innovation

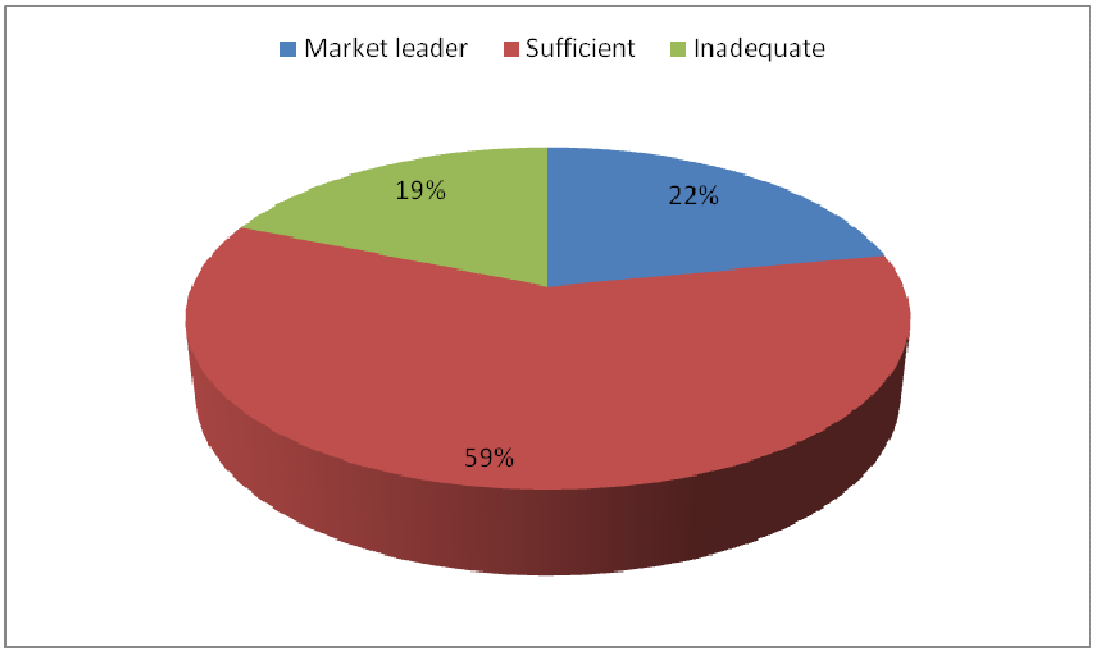
		Frequency of financial innovation			Total
		Regularly	Rarely	Not at all	
Length of operation	5-15 years	100%	0%	0%	17%
	16-30 years	67%	22%	11%	30%
	31-50 years	80%	20%	0%	33%
	Over 50 years	100%	0%	0%	20%
Total		83%	13%	3%	100%

Those banks that had been operating in Kenya for 5 to 15 years comprised of 17% of the total population and out these 100% of them undertook financial innovation regularly. For those banks that had been operating in the country for 16-30 years they comprised of 30% of the total population and out of these, 67% undertook financial innovation regularly, 22% rarely undertook financial rarely while 11% did not undertake financial innovation at all. On the other hand those that had been operating in the country for 31-50 years comprised of 33% of the total population and 80% of them undertook financial innovation regularly while 20% rarely undertook financial innovation. Those that had operated in the country for over 50 years, comprised of 20% of the total population and out of these, all of them innovated regularly.

4.6 Level of financial innovation compared to competitors

This section sought to find out how banks compared their financial innovation with that of their competitors. The results are illustrated in figure 4.6 below.

Figure 4.6 Level of financial innovation compared to competitors



For 59% of the banks involved in the study, they considered their level of financial innovation sufficient, 22% considered their level of financial innovation as the market leader while 19% considered their level of financial innovation as being inadequate.

4.7 Consequences of financial innovation

This was to determine the extent to which respondents agree with certain statements on the consequences of financial innovation. A scale of 1-4 was used, 1 being strongly agree, 2 being mildly agree, 3 being indifferent and 4 strongly disagree.

Table 4.7 Consequences of financial innovation

	N	Mean	Std. Deviation
The bank has increased new products in time	32	2.0000	1.19137
Reduction of number of processes to serve a customer	31	2.0968	.87005
Increased the number of new institution innovation	32	2.5000	1.04727

From table 4.7 we can see that the respondents mildly agreed that the bank had increased its new products in time, while a slightly higher mean of 2.0968 which translates with mild agreement that the bank had reduced the number of processes to serve a customer. On the other hand the statement about financial innovation brings about increased number of new institution innovation being mid way between being indifferent and the respondents mildly agreeing to it. We can also see that the first statement on financial innovation had brought about increased number of new products line attracted a huge variation from the respondents as indicated to by the highest standard deviation of 1.1913.

4.8 Period of Introduction of Financial innovations

This section sought to find out the period with which the banks under survey introduced different financial products. The results are summarized in the table below.

Table 4.8 Period of Introduction of Financial innovation

	1995-2000		**2001-2005**		**2006-2009**		**Not yet introduced**	
	F	%	F	%	F	%	F	%
ATMS	7	21.9	10	31.3	8	25.0	7	21.9
Mobile Banking	1	3.3	3	10.0	26	86.7	2	6.3
SMS Banking	0	0	3	9.4	24	75	5	15.6
Internet Banking	0	0	5	15.6	18	56.3	9	28.1
Youth oriented accounts	5	15.6	3	9.4	16	50.0	8	25.0
Women oriented accounts	1	3.1	3	9.4	14	43.8	14	43.8
Children accounts	10		5	15.6	10	31.3	7	21.9
Debit cards	13	40.6	11	34.4	2	6.3	6	18,8
Credit cards	8	25.0	10	31.3	2	6.3	11	34.4
Personal unsecured loans	3	9.4	9	28.1	12	37.5	8	25
Adoption of Basel I and II proposals	1	3.1	5	15.6	13	40.6	13	40.6
Agent Banking	0	0	3	9.4	17	53.1	12	37.5

Most banks comprising of 31.3% introduced ATMS in period 2006-2009, while 86.7% introduced mobile banking in the same period. SMS banking was introduced by majority of the banks in the year 2006-2009 comprising of 75% while in the same period 56% of the banks introduced internet banking. Most of the banks comprising of 50% introduced, youth oriented accounts while in the same period 43.8% of the banks introduced women oriented banking. We can also see that 43.8% of the banks had not yet introduced women orient banking. In the period 2006-2009, 31.3% of the banks involved in the study introduced children accounts, while in the period 2001-2006, 31.3% of the banks introduced credit cards. It is worthy of note that 34.4% of the banks had not introduced credit banks. Most banks comprising 37.5% had introduced personal unsecured loans in the period 2006-2009, 40.6% adopted risk management in the form of Basel I & II proposals. We can also see that 40.6% had not adopted risk management while 53.1% of the banks had introduced agent banking in the period 2006-2009.

Other financial innovations adopted by the banks under survey include asset finance, Sharia compliant products, brokerage services, mortgages and cash bank services. Other innovations introduced include paperless banking and insurance products.

4.9 Motivation for Financial innovation

In this section the researcher was interested in finding the factors that influence financial innovation and how they rate. A scale of 1-4 was used, 1 great extent, 2 some extent, 3 average and 4 No extent. The findings are documented in terms of a mean and standard deviations in table 4.9.

Table 4.9 Motivation for Financial innovation

	N	Mean	Std. Deviation
To increase revenue	32	1.4375	0.91361
Enhance customer satisfaction	32	1.5313	1.10671
Increase in the number of customers	32	1.5938	1.04293
Competition in the financial sector	32	1.875	1.15703
Macro economic conditions	32	1.9063	0.77707
Technology advancement	31	1.9355	0.85383
Customers changing demands	32	1.9375	0.98169
increase in financial risks	31	2.1613	1.03591
Size of the bank	32	2.5938	1.31638
Legislation and financial supervision	32	2.6563	1.06587

In terms of the factors influencing adoption of financial innovation, we can see that increasing revenue rank the highest with a mean of 1.4 which means it influences innovation to a great extent. Enhancing customer satisfaction and increasing number of customers follow as the most influencing factors on financial innovation. Competition comes in fourth with a mean of 1.875. Legislation and financial supervision is one of the least factors that influencing financial innovation. Size of the bank is the second last factor that influences adoption of financial innovation, and it has the highest standard variation of 1.316, which indicates that the responded varied to a great extent on their response.

Other factors that participants mentioned as influencing financial innovation include: good management that encourages staff to come up with new products and services,

influence by the parent company abroad, market driving forces like Mpesa and Zap leading to banks integrating them and the untapped Muslim community.

4.10 Effects of financial innovation

The researcher sought to find out, the extent with which financial innovation had brought about various changes in the bank's operations. A scale of 1-4 was used, with 1 being great extent, 2 some extent, 3 average and 4 No extent. The results are as per table 4.10 in terms of mean and standard deviation.

Table 4.10 Effects of financial innovation

	N	Mean	Std. Deviation
increase in Revenue	31	1.5806	.99244
increase in competitive products and services	29	1.6552	1.04457
ICT installation and maintenance cost has increased over time	31	2.0000	.89443
Cost of services has gone down	30	2.1333	.97320

From table 4.9, we can see that most of the respondents were in agreement that financial innovation had brought about increase in revenue with a mean of 1.5806; this was followed by increase in competitive products and services and then the cost of ICT installation and maintenance having increased. The last factor which the respondents were somewhat indifferent to with a mean of 2.133 was that adoption of financial innovation had reduced the cost of services.

4.11 Benefits of Financial innovation

The aim of this section was to find out the benefits brought about by financial innovation. A scale of 1-4 was used, with 1 being great extent, 2 some extent, 3

average and 4 No extent. Table 4.11 documents the results in terms of mean and standard deviation.

Table 4.11 Benefits of Financial innovation

	N	Mean	Std. Deviation
Improved customer service	31	1.5484	.85005
Increase in bank revenue	31	1.6452	.79785
Increase in market share	31	1.9355	.89202
Reduction in operational costs	31	1.9677	.98265
Reduction of customers in the banking halls	31	2.0968	1.01176
Expansion in the bank geographical coverage	31	2.1613	1.03591

Improved customer service was the benefit that most of the respondents were in agreement with, brought about by financial innovation with a mean of 1.54. The next benefit that followed was increase in bank revenue, then increase in market share and reduction in operation costs coming in fourth with a mean of 1.96. At the bottom of the list was expansion in the bank geographical coverage with a mean of 2.16, which means that financial innovation had only brought about this benefit to a small extent and it is the factor with the highest standard deviation of 1.03591, meaning the responded varied to a great extent when responding to it.

Other benefits brought about by financial innovation as mentioned by the respondents include; customer satisfaction since the customers are able to transact at their own convenience, increase in deposits which had enabled some banks to move from tier II to tier I and increase in human resource.

4.12 Challenges to adoption of financial innovation

The researcher sought to find out the challenges that affect banks under survey as they adopted financial innovation. . A scale of 1-4 was used, with 1 being great extent, 2 some extent, 3 average and 4 No extent. The results are as per table 4.12.

4.12 Challenges to adoption of financial innovation

	N	Mean	Std. Deviation
Introduction of similar products by competitors	27	1.8889	1.05003
Customers' poor response	29	2.1724	.80485
introduction of risky products and services	30	2.2333	.77385
High cost of new products and services	27	2.3704	.88353
Government restrictions	29	3.0345	.73108

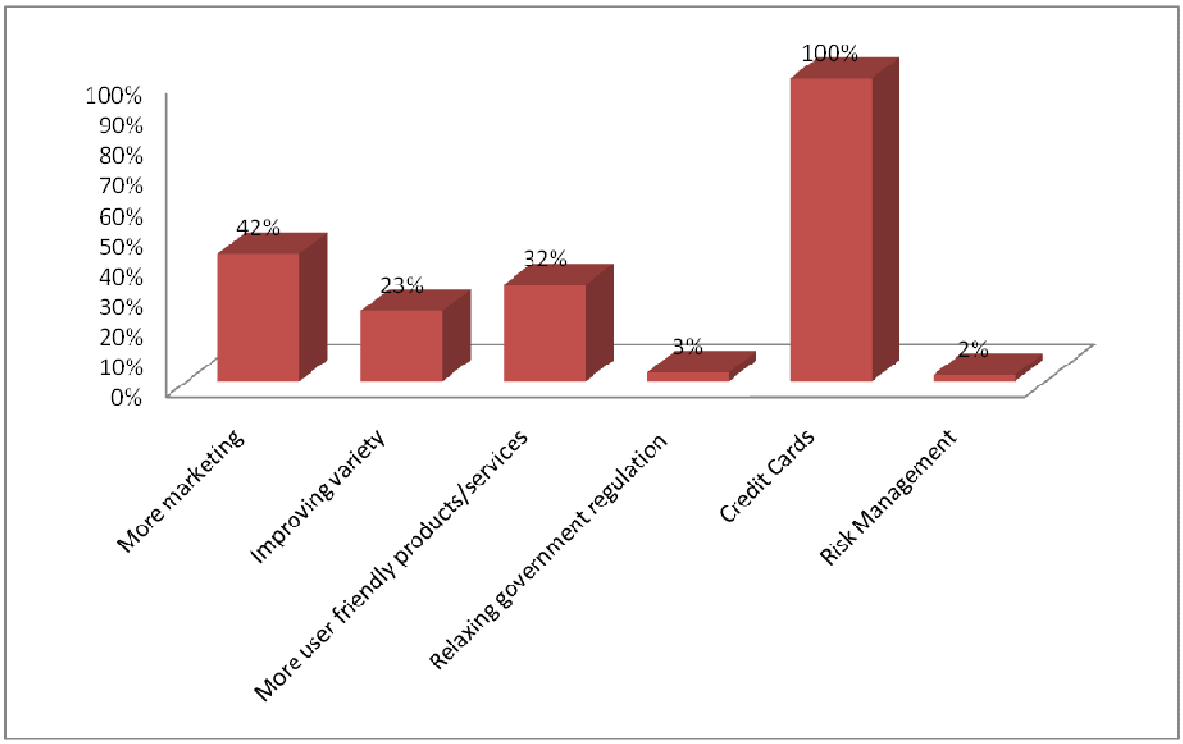
There are various challenges that banks faced in adoption of financial innovation. On top of that list is introduction of similar products by competitors with a mean of 1.88, although this factor also had the highest standard deviation of 1.05 meaning that the responses varied greatly. Following in the list of challenges are customers' poor response with a mean of 2.17, introduction of risky products at 2.2 and then the high cost of new products at 2.3. Government restrictions were rated as the least challenge with a mean of 3.03.

Other challenges mentioned include bureaucracies in that many people have to approve before an innovation is done, employee resistance, lack of capital and poor marketing.

4.13 Innovative products, the organization has to improve on

The aim of this section was to find which products and services, the banks under survey had to improve on. The results are illustrated in figure 4.13.

Figure 4.13 Innovative products, the organization has to improve on

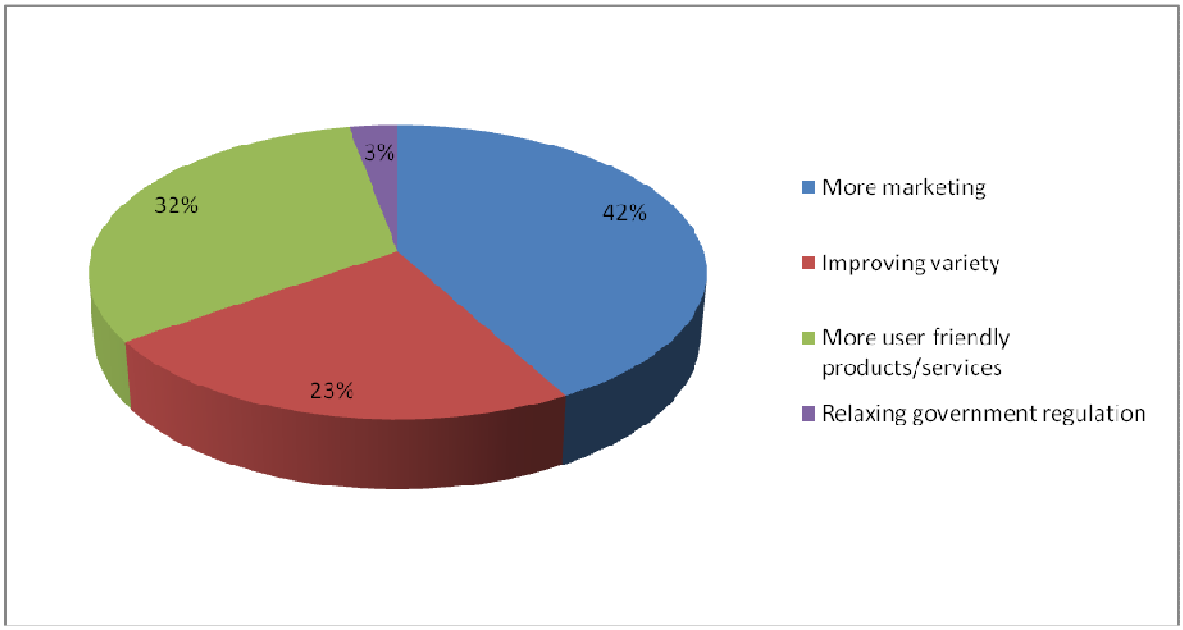


From figure 4.13, we can see that most of the respondents comprising of 30% felt that mores could be improved on mobile banking, and 21% felt that more could be improved on credit cards and flexible loans. On the other hand 15% thought more could be improved by introducing more flexible ATM network while 9% felt risk management could be improved further. A paltry 3% of the respondents felt that more could be done by increasing savings accounts with no charges.

4.14 Level of penetration of innovative products and services

The researcher sought to find out from the respondents what more could be done to improve the level of penetration of innovative products and services. The findings are as per figure 4.14.

Figure 4.14 Level of penetration of innovative products and services



From the chart we can see that 42% of the respondents were of the view that more marketing had to be done to improve the level of penetration of innovative products and services, 32% were of the idea that banks had to structure their products and services to be more user friendly in order to increase the level of penetration, while 23% of the view that the variety of products and services had to be introduced. Only 3% of the respondents were of the view that to achieve penetration of goods and services, then government had to relax its regulation on the banking sector.

4.15 Recommendations

The respondents were asked an open ended question on comments they had on financial innovation and their responses were varied. Other respondents mentioned that for financial innovation to be improved the organization structure had to be flattened, there also had to be strong customer support for new products, as well as intensive and extensive market research to find out what customers want. Other respondents mention that the bank should endeavour more into introducing products and services that meet customers' demands such as point of sales in petrol stations. The respondents also mentioned that banks could diversity to include insurance products, stock brokerage and money transfer services.

CHAPTER FIVE: SUMMARY, CONCLUSIONAND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings of the research, the conclusion and the recommendations of the study. The objectives of the study were to analyze financial innovations in the Kenyan banking sector and to determine the motivations, benefits and challenges of financial innovations in the Kenyan banking sector.

5.2 Summary of Findings

Most of the large and medium sized banks innovated regularly while small sized banks were split between innovating regularly and on rare occasions. This can be explained from the fact that large sized banks have the finance to innovate new products. In terms of ownership, banks with government participation were lead in terms of innovating regularly followed by privately owned domestic banks, then foreign public owned banks while foreign owned, private banks were on the bottom of the list in terms of innovating regularly. In terms of length of operation, those that been operating in Kenya for 5 to 15 years 100% of them undertook financial innovation regularly. This was at par with those that had operated in the country for over 50 years. Following next were those that had been in operation for 31-50 years and finally those that had been in operation for 16-30 years.

Most of the innovations were introduced in the period 2006-2009. These include ATMS, SMS banking, internet banking, youth oriented accounts, women oriented banking and children accounts. There are a number of products that had yet to be introduced by banks, these include, credit cards, risk management, and agent banking.

Other financial innovations adopted by the banks under survey include; asset finance, Sharia compliant products, brokerage services, mortgages and cash bank services. Other innovations introduced include paperless banking and insurance products.

Increasing revenue and enhancing customer satisfaction were one of the main factors influencing factors influencing financial innovation. Improved customer service and increase in bank revenue were the benefits that most of the respondents were in agreement with, brought about by financial innovation. There are various challenges that banks faced in adoption of financial innovation. On top of that list is introduction of similar products by competitors and customers poor response to innovative products.

5.3 Conclusion

Banks are faced by various external environmental challenges as well as the need to enhance customer satisfaction. Long-term bank success is linked to the ability to innovate, acquires, possess and develop unique technological capacity. Although bank investment in improvements of existing products and processes does bring growth, it is new game changing breakthroughs that will launch a company into new markets, enable rapid growth, and create high return on investment for a sustainable competitive advantage.

Banks have pursued revenue growth strategies based on their ability to acquire new customers and by cross-selling more products and services to existing customers by leveraging on technology. With globalization and increased accessibility to electronic delivery channels for products and services, banks are continuously innovating so as to provide a wide range of electronic products and services. The enhanced ICT

platforms have enabled banks to introduce internet and mobile banking services and products such as viewing of statements of accounts, enquiries on status of cheques clearance, cheque book requests, notification of entries into accounts, transfer of funds between designated accounts and utility payment services on both internet and mobile platforms.

5.4 Limitation of the study

One of the major limitations this study incurred was that most of the respondents sought did not manage to put sufficient time on the questionnaire and thus the findings could be because of a hurried work. Since most of the respondents were middle level managers who are usually busy. Another limitation faced by the researcher was that most of the respondents did not answer the open ended questions. Thus the researcher could not able to get the full information on financial innovation.

5.5 Recommendations for future study

This study was concerned with financial innovation among commercial banks in Kenya. Future studies should look at other industries that have adopted financial innovation such as insurance companies and micro finance institutions. Future studies could also look at secondary data, such as the influence of financial innovation on financial performance of banks.

REFERENCES

Aaker David (1996) **should you take your brand to where the action is. Harvard Business Review** Sept1996

Ackerberg,D.A. and Gowrisankaran,G(2006) **Quantifying equilibrium network externalities in the ACH banking industry** ,*RAND Journal of Economics*, 37(3),738-761

Ansoff H.I and McDonnell, E.J. (1990) **Implanting strategic management** 2nd Edition, Prentice Hall, London Great Britain.

Berkowitz, J. (1999-2000).**A coherent framework for stress testing**, *journal of Risk*, 2(2), 5-15.

Business Daily, 2009

Cole, G.A (1990) **Management Theory and Practice** D.P.Publications LTD,3rd Edition.

Daven Port, T.H (1993) **Process Innovation: Reengineering Work through Information Technology** .Ernst & Young USA.

Delgado, J., Hernando, I, and Nieto, M .J. (2007) **Do European primarily Internet banks show scale and experience efficiencies?,** European Financial Management, 13(4), 643-671

Fender,I and Gibson, M.S.(2001).**Stress testing in practice :a survey of 43 major financial institutions,**BIS Quartely review,June,58-62.

Finnerty,J.D.(1992) **An overview of corporate securities innovation**, *Journal of Applied Corporate Finance* 4(4):23-39

Gitonga Timothy (2003) **Innovation process and the perceived role of the CEO in the banking Industry,** Unpublished MBA project University of Nairobi.

Hernando, I and Nieto, M.J.(2007) **Is the internet delivery channel changing banks' performance? The case of Spanish banks,** *Journal of Banking &Finance*, 31(4), 1083-1099

Http//www.cbk.co.ke

Http://www.economist.com/debate/days/view/471

Hughes, T. (2002).**Marketing principles in the application of e-commerce-Qualitative Market Research**,*An International Journal*, London: Emerald Group Publishing Limited

Johnson G and Scholes, K (1999) **Exploring Corporate Strategy.** Prentice Hall,5th Edition.

Johnson Gery,Scholes Kewan & Whittington Richard (2005) **Exploring Corporate Strategy**.Los Angeles :Prentice Hall.

Kane Edward **"Accelerating Inflation Technological Innovation and the decreasing effectiveness of banking regulations** *Journal of finance* (1981)

Kane, E. J. (1986) **Technology and the regulation of financial markets, in Technology and the regulation of financial markets: Securities, futures and Banking**. A. Saundres and L.J. White, eds. (Lexington Books: Lesington, MA) 187-193

Kihumba (2008) **Determinants of Financial Innovation and its effects on banks performance in Kenya.** Unpublished MBA project University of Nairobi.

Koech Diana (2009) The role of E-Banking on general service delivery and customer satisfaction, Unpublished MBA project Jomo Kenyatta University of Agriculture and Technology.

Kotler, P (2000) **Marketing Management** Prentice Hall.

Kotler, P (2002) **Principles of Marketin**g, Fifth Edition Prentice Hall.

Kupiec, P.H.(2000).**Stress tests and risk capital** ,*Journal of Risk*,2(4),27-39

Levine (1997**), Financial Development and Economic Growth Views and Agenda**. *Journal of Economic Literature* 35,688-726

Levison,M.(2005).**The link between Services and customer satisfaction**,CIO Magazine

MacDonald S Scott& Koch, Timothy W (2006**) Management of Banking New York Internationa**l student Edition.

Madan, D and B. Soubra, B. (1991), **Design and marketing of financial products**, Review of Financial Studies 4(2):361-384

McConnell J J and E.S.Schwatz (1992**).The origin of Financial Innovation,** *Journal of Applied Corporate Finance* 4:12-23

Merton R. C. (1995) **A functional perspective of financial intermediation**, Financial Management

Merton RC (1992) **Financial Innovation and Economic performance,** *journal of applied corporate finance* 4:12-22

Merton Robert C. **The Financial Systems and Economic Performance**. *Journal of Financial Services research* Dec (1990)

Merton. C. (1989) **On the application of the continuous time theory of finance to financial intermediation and insurance,** *Geneva Papers ON Risk and Insurance*

Microeconomic and Macroeconomic origins of financial Innovation "In Financial Innovations, Federal Reserve Bank of St.louis Boston Kluwer Nijhoff publish 1984.

Miller, Merton H; (1986) **Financial Innovation: The last twenty years and next decade**. *Journal of finance and Quantative Analysis* 21, 459-471

Miller, Merton H; (1992**) Financial Innovation: Achievements and prospects**, *Journal of applied corporate finance* 4(Winter) 4-12

N. W. Ho (2006), **Financial innovation and its impact on a Central Bank Policies**

Nigel Jenkison (2008) **Financial innovation**, Reserve Bank of Australia

Oloo (2004) Banking Survey; **A comprehensive survey of Kenya's banking sector**: *The business and financial journal,* MI ISS No(1029-2195).

Pearce, J and Robison, R (1997) **Strategic Management: Strategy formulation, implementation and control**. Irwin, 6th edition Johnson and Scholes.

Sandra Pianalto, (2007) **Financial innovation: Benefits and challenges,** Federal Reserve Bank of Cleveland

Silber W William (1983) **The process of Financial Innovation** America Economic Review papers and proceedings, 73, 89-95

Silber W. (1975**) Financial Innovation**, Lexington Books, Lexington MA

Silber William **"Towards a theory of Financial Innovation .In Financial Innovation** ,Edited by William L Silber,Lexington mass DC Health,1975

Smith C., C. Smithson and D. Wilford (1990), **Managing Financial Risk** (Harper Business, New York)

Stavins, J.(2001).Effects of consumer characteristics on the use of payments instruments, New England Economic Review, Reserve Bank of Boston,(2001)(3), 19-31

Thompson, A.A and Strickland,A.J (1996**) Strategic Management: Concepts and cases** Richard D Irwin,USA.

Thygerson Kenneth J. (Kenneth James) **Management of Financial Institutions** 1st Edition (1995) pg 241-247.

Turfano, P. (1989**), Financial innovation and first mover advantages**, *Journal of Financial Economics* 25:213-240

Turfano, P. (2002), **Financial innovation**, Review of financial innovation studies, Harvard Business School

W. Scott Frame and Lawrence J White **Technological change, Financial Innovation and Diffusion in banking** Working paper 2009-10

White, Lawrence J (2000) **Technological change, Financial Innovation and Financial regulation in the US** Cambridge University Press CH 12 388-415

APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

LETTER OF INTRODUCTION

Beatrice Wambui Kinuthia

P.O Box 30645

Nairobi

Dear sir/madam

RE: RESEARCH PROJECT QUESTIONAIRE.

Am a post -graduate student at University of Nairobi undertaking a master of Business of Administration degree. In fulfillment of the award of the degree, am currently undertaking a research project on **An analysis of Financial Innovation in the Kenyan banking sector** and have selected your bank to be one of the respondents.

I kindly request your assistance by answering the questions to the best of your ability. The information will be used solely for academic purposes only and at no instance will the name of the bank will be named in the report.

Your participation and assistance will be highly appreciated.

Yours faithfully

Beatrice Wambui Kinuthia

APPENDIX II: QUESTIONNAIRE

Analysis of financial innovations in the Kenyan banking sector

This questionnaire is designed to analyze the level of financial innovation in the Kenyan banking sector. The information collected from each questionnaire will be used for academic purposes only and the responses will be treated with utmost confidentiality.

PART I

Background information

1. In the Kenyan banking sector, how would you classify the size of your organization in terms of market dominance? ***(please indicate by ticking only once)***
   a) Large ( )
   b) Medium ( )
   c) Small ( )

2. In the Kenyan banking sector, which of the following description suits your organization?
   a) Foreign owned, private bank ( )
   b) Privately owned domestic bank ( )
   c) With government participation ( )
   d) Foreign public owned ( )

3. How long has your bank operated in Kenya?

a) 5-15Yrs ( )
b) 16-30 Yrs ( )
c) 31-50 Yrs ( )
d) Over 50 Yrs

PART II ( )

Products and services

1 How often does your bank undertake financial Innovation?
   a) Regularly ( )
   b) Rarely ( )
   c) Not at all ( )

2 How would you rate the level of financial innovation being undertaken by your organization when compared to its competitors in the banking sector? ***(Please indicate by ticking only once)***

a) Market leader ( )
b) Sufficient ( )
c) Inadequate ( )

3 Indicate the extent to which you agree with the following statements?

Strongly agree (1) mildly agree (2) Indifferent (3) Strongly agree (4)

	1	2	3	4
a) The bank has increased the new products overtime	( )	( )	( )	( )
b) The bank has reduced the number of process steps to serve customers	()	()	()(	
c) The bank has increased the number of new institution innovations	( )	( )	( )	( )

2. The following table shows different innovation, please tick the ones that your bank has introduced in the last 15 yrs and in which period you introduced them.

	1995-2000	**2001-2005**	**2006-2009**
a) ATMS	( )	( )	( )
b) Mobile Banking	( )	( )	( )
c) SMS-Banking	( )	( )	( )
d) E-Banking/Internet Banking	( )	( )	( )
e) Youth oriented Accounts	( )	( )	( )
f) Women oriented Accounts	( )	( )	( )
g) Children Accounts	( )	( )	( )
h) Debit cards	( )	( )	( )
i) Credit cards	( )	( )	( )
j) Personal unsecured loans	( )	( )	( )
k) Adoption of Basel I&II proposals(Risk management)	( )	( )	( )
l) Agent banking	( )	( )	( )

5 Please indicate other innovations that are not included in the above table and tick the period in which they were introduced

	1995-2004	**2001-2005**	**2006-2009**

PART III

A) Motivation for Financial Innovation

1 In a scale from 1 to 4 Great Extent (1) Some Extent (2) Average (3) No Extent (4) indicate by using tick the extent to which different factors influence financial innovation in your bank

	1	2	3	4
a) Heavy competition in the financial sector	( )	( )	( )	( )
b) To increase revenue	( )	( )	( )	( )
c) Technology advancement	( )	( )	( )	( )
d) Customers changing demands	( )	( )	( )	( )
e) Size of the Bank	( )	( )	( )	( )
f) Macro economics conditions (Economic growth	( )	( )	( )	( )
g) Legislation and Financial supervision	( )	( )	( )	( )
h) Increase in financial risks	( )	( )	( )	( )
i) To increase the number of customers	( )	( )	( )	( )
j) To enhance customer satisfaction.	( )	( )	( )	( )

2 State any other factors that have influenced financial Innovation in your bank

……

……

B. Effects and benefits of Financial Innovation

1 To what extent do you agree or disagree with the following statements .Responses are on a scale of 1 to 4 (Great Extent (1) Some Extent (2) Average (3) No Extent (4))

	1	2	3	4
a) The cost of services offered by your bank has gone down	( )	( )	( )	( )
b) Increase in revenue	( )	( )	( )	( )
c) The bank has increased its competitive products and services	( )	( )	( )	( )
d) The ICT installation and maintenance cost has increased over time	( )	( )	( )	( )

2 Please indicate the extent to which each of the following factors best explains the benefits derived from financial innovations. Responses are on a scale of 1-4 (Great Extent (1) Some Extent (2) Average (3) No Extent (4))

		1	2	3	4
a)	Improved customer Services	( )	( )	( )	( )
b)	Reduction in no of customers in the banking halls	( )	( )	( )	( )
c)	Reduction in operational costs	( )	( )	( )	( )
d)	Expansion of the bank Geographical coverage	( )	( )	( )	( )
e)	Increase in the Market share	( )	( )	( )	( )
f)	Increase in bank revenue	( )	( )	( )	( )

3 State any other benefits that your bank has derived from financial Innovation

……

……

.

C. Challenges of Financial Innovation.

1. Please tick to what extent the following challenges affects financial innovation in your bank.Responses is on a scale of 1-4 (Great Extent (1) Some Extent (2) Average (3) No Extent (4))

		1	2	3	4
a)	Introduction of risky products and services	( )	( )	( )	( )
b)	Customers' poor response	( )	( )	( )	( )
c)	High cost of new products and services	( )	( )	( )	( )
d)	Introduction of similar products by the competitorS	( )	( )	( )	( )
e)	Government restrictions	( )	( )	( )	( )

2. Please state any other challenges that you bank encountered as a result of financial innovation or in the process of financial innovation.

……

……

……

D)Recommendations

1) Which innovative product/service does your organization need to improve on?

(*You have the option of ticking more than one product or service)*

a) Savings accounts with no charges ( )

b) Mobile banking ( )

c) Flexible loans/credit services ( )

d) Flexible ATM network **( )**

e) Credit cards **( )**

f) Risk management **( )**

2) In your opinion, what more needs to be done to improve the level of penetration of the innovative products and services?

a) More marketing **( )**

b) Improving on the variety of products and services being introduced **( )**

c) Structuring the products and services to be more user-friendly **( )**

d) Relaxing CBK/Government regulation **( )**

3) Please add any other comment on financial innovation by your bank

……

……

……

…… ***(The End...***

APPENDIX III LIST OF BANKS

Commercial banks

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. Charterhouse Bank Ltd -under statutory management
8. Chase Bank (K) Ltd.
9. Citibank N.A Kenya
10. Commercial Bank of Africa Ltd.
11. City finance Bank
12. Consolidated Bank of Kenya Ltd.
13. Co-operative Bank of Kenya Ltd.
14. Credit Bank Ltd.
15. Development Bank of Kenya Ltd.
16. Diamond Trust Bank (K) Ltd.
17. Dubai Bank Kenya Ltd.
18. Ecobank Kenya Ltd
19. Equatorial Commercial Bank Ltd.
20. Equity Bank Ltd.
21. Family Bank Ltd
22. Fidelity Commercial Bank Ltd
23. Fina Bank Ltd
24. First community Bank Limited
25. Giro Commercial Bank Ltd.
26. Guardian Bank Ltd
27. Gulf African Bank Limited

28. Habib Bank A.G Zurich
29. Habib Bank Ltd.
30. Imperial Bank Ltd
31. I & M Bank Ltd
32. Jamii Bora Bank Ltd.
33. Kenya Commercial Bank Ltd
34. K-Rep Bank Ltd
35. Middle East Bank (K) Ltd
36. National Bank of Kenya Ltd
37. NIC Bank Ltd
38. Oriental Commercial Bank Ltd
39. Paramount Universal Bank Ltd
40. Prime Bank Ltd
41. Standard Chartered Bank (K) Ltd
42. Trans-National Bank Ltd
43. Victoria Commercial Bank Ltd
44. UBA Kenya Bank Ltd.