

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Financial innovation has been defined by many scholars. According to (Roger, E.M, 2002), it refers to development of new products and services, realignment of processes with the organizations operations, formulation of new institutions, embracing new technology and ideas among other aspects that bring about change in financial markets. The analysis of financial innovations has become increasingly important with the recent changes in banking activity. (Ebrahim and Hussain, 2010) identify financial innovation as one key of financial development transmission channels. However, despite the fact that financial innovation is an expensive affair, its adoption has become more of a necessity than a choice for banks, especially in emerging markets like Kenya. Many commercial banks have adopted many innovations so as to reap maximum benefit in terms of profit and efficiency.

Financial innovation has been both praised as the engine of growth of society and castigated for being the source of the weakness of the economy (Josh Lerner and Peter Tufano, 2011). Even though financial innovation has been attributed to increase in profitability, efficiency in management, expansion of business and so on, it has also brought in some negative aspect such as increased risk to the banking sector, introduced moral hazard, fraud, and increased cost of operations and immense inconvenience and loss of revenue due to technological failure. In Kenya, banks have embraced financial innovation either as pioneers or as imitators but nevertheless, this venture has help many of the banks attain sizable growth in profitability.

Kenyan commercial banks level of profitability has been on a steady increase from 2005 to 2010, just after implementation of I.T solutions and aggressive expansion, coupled with innovative product launch in the market, the results shows an impressive increase in profitability over the years (Prof. NjugunaNdung'u, 2010).This study will focus on the 44 Central bank of Kenya registered commercial banks and it will provide a good understanding of the extent to which financial innovation has driven profitability of commercial banks in Kenya.

1.1.0 The Commercial Banks in Kenya

The Commercial banks in Kenya are governed by the Banking Act, Companies Act, the Central Bank of Kenya Act and the various important guidelines issued by the CBK. The banking sector was liberalized in 1995 and exchange controls lifted. The CBK, which falls under the Minister for Finance, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system.(Central Bank of Kenya, 2011). Over the last few years, the Banking sector in Kenya has continued to growth in assets, deposits, profitability and products offering. The growth has been mainly underpinned by an industry wide branch network expansion strategy both in Kenya and in the East African community region and automation of a large number of services and a move towards emphasis on the complex customer needs rather than traditional ‘off-the-shelf’ banking products. Players in this sector have experienced increased competition over the last few years resulting from increased innovations among the players and new entrants into the market. (CBK, 2010)

According to studies by Enhancing Financial Innovation and Access (EFInA) a non-profit organization that promotes financial inclusion, around 20% of Kenyans had bank accounts and about 8% had access to other forms of formal financial services in 2006. By 2009, the percentage of people with bank accounts had crept up to 23% but those using other formal services, particularly M-Pesa, had shot up to 17%. Today’s figure is likely to be even higher because the number of M-Pesa subscribers using the service to deposit and withdraw cash and do money transfers has reportedly increased to 10 million. This is one of the main catalysts that have triggered far-reaching change in the country’s banking and financial services landscape.(Microfinance Africa, 2011).

There are approximately 12 million bank accounts in Kenya. With a total population of more than 39 million people, there is clear scope for further penetration of the market. Nevertheless, this figure represents significant growth in the banking industry from the mere 2.6 million accounts that were open at the end of 2005. The Kenyan banking Industry is among the more mature in Africa; this, both in terms of product offerings and profitability. A six-month sector report by the Central Bank of Kenya (CBK) shows banks earned Sh40.8 billion in profits before tax as at the end of June 2011, compared to Sh34.9 billion in June 2010.(Riba Capital, 2011)

1.1.1 Financial Innovation

This research will focus on financial innovation as adopted by commercial banks in Kenya and how it has contributed to profitability. Financial innovation has been instrumental in a number of ways; it has contributed to efficiency and diversity in many of the Kenyan Commercial banks, made funds and financial products more available at lower cost which has enhanced financial stability. Financial innovation is portrayed by many activities such as institutional setting, establishing new management, strategic decision making, expanding to new markets, system realignment among other activities (Hartmut Schneider, 1997). All this activities that portrays financial innovation will centre on three major areas. This will include; Institutional innovation, Process innovation and Product innovation.

Institutional innovation also called financial system innovations will centre on issues such as the number of branches opened by commercial banks as part of expansion strategy, diversification in terms of the banking institution looking at various ways of generating income by venturing into different sectors of the economy. Institutional innovation can affect the financial sector as a whole and it's concerned with change in business structures by establishing new intermediaries or change in legal and supervisory framework.

Process Innovation will involve issues such as the introduction of new business process leading to improved efficiency, market expansion use of computerized information system to service delivery with accounting and client data management. (Schrieder, G., and F. Heidhues, 1995)

Product innovation will involve issues like introduction of new credit, deposit insurance, leasing, hire purchase and other financial products. Product innovation usually responds to change in market conditions, especially in response to competition. (Hartmut Schneider, 1997)

1.1.2 Financial Innovation and Profitability by Commercial Banks in Kenya

The banking sector is one of the financial institutions that have embraced institutional innovation by diversifying into areas such as insurance business and stock brokerage services to supplement its bottom line profitability. Some of the banks that have acquired stock brokerage firms include, NIC bank, Cooperative bank, Equity bank among others that trades directly at the stock exchange using custodial license. Kenyan banks have also undertaken restructuring and massive expansion strategies as part of institutional innovation by opening many branches countrywide. There has been an Exponential growth of bank branches from 534 end of 2005 to 1030 end of September 2010. (Prof. NjugunaNdung'u, 2010).

The Kenyan banking industries has also been in the forefront in embracing technology, which is a key process innovation. Notable application of ICT by commercial banks is the development of products and services such as: Networked branches, ATMs, Internet banking, Electronic Bill Payment (Transfer), M-Pesa money transfer, SMS & Telephone Banking, POS Banking (Credit and Debit Cards). This development has enabled banks to provide more diversified, secure and convenient financial services. Introduction or upgrading of new core banking systems with robust architecture adaptable to the rapidly changing technological environment in major commercial banks such as KCB, Commercial bank of African and Standard Chartered Bank among others has tremendously improved the banking process and reduced inefficiencies in the bank's operations which have improved profitability. (IsaacAwuondo, 2008).

There has been a massive investment in product innovation by commercial banks which introduced very innovative products into the banking market. Product innovations which have been embraced by banks in Kenya include introduction of new deposits accounts, new credit arrangements, credit cards and debit cards. According to CBK report, the Number of deposit accounts has increased from 2.55m in 2005 to nearly 12 million at end of September 2010. Some of products introduced by the banks in Kenya include accounts targeting youth i.e. "Bankika account" by KCB, for children savings i.e. "Jumbo junior account" by Cooperative bank, for business people i.e. "BiasharaBoresha account" by KCB, for salaried people i.e. "MkopowaSalo" by Barclays bank and for women, "Diva Club account" by Standard Chartered Bank Kenya.

1.2 Statement of the Problem

This study will be focusing in the period between 2005 to 2010, one important aspect during this period has been aggressive embracing of financial innovation by banks in Kenya, either to boost the banking process, to realign the banking institutions by opening new branches or to a great extent introducing very innovative products that have attracted many customers, either corporate or individual customer with lower income base. Has investment in technology and other financial innovation been the cause of this impressive surge in banks profitability? This study will look at the commercial banks in Kenya which will help answer the question whether banks aggressive investments on financial innovation has helped them attain steady growth in profitability. This study will seek to demystify the insinuation that financial innovation is a waste of resources, which has not contributed to the impressive profitability the Kenyan banks have been enjoying.

Many of the study conducted on financial innovation including (Mwangi, 2007) who carried out a study on Factors Influencing Financial Innovation of companies listed at Nairobi Stock Exchange have not addressed the Kenyan context and have not been specific on profitability as a measure of financial innovation but rather, these studies have been looking at the influence of financial innovation on the overall performance of firms in their respective countries, very few focusing on financial innovation on profitability of their banking industry. Since every country is unique and operate on different microeconomic environment, this study will be unique as it will highlight the impact of financial innovation on profitability of commercial banks in Kenya, which will provide more knowledge that is specific to the Kenyan context.

Studies conducted in Kenya, on financial innovation including (Kamotho A. D, 2009) carried out a study on Mobile Phone Banking: Usage Experiences in Kenya have not exhausted on the issue of profitability but have centered their studies on productivity, which involve many aspects such as efficiency, risk and performance. This study will focus on the research gap that has not been exploited in details, which will focus on profitability as a single variable that has been affected by financial innovation by commercial banks in Kenya.

1.3 Objective of the Study

The objective of the study will be to establish the relationship between financial innovations and profitability of commercial banks in Kenya.

1.4 Importance of the Study

This research will be of great importance as it will contribute to the body of knowledge as far as the educating the people on the impact of financial innovation if it's properly implemented and controlled. The study will highlight how financial innovation can be harness to reap the maximum benefit in terms of efficiency and Profitability in the Kenya banking industry.

The study will provide an in-depth understanding of the Kenyan Banks operations and how the financial innovation has contributed to their success. Among other stakeholders, the study will be important to:

Management and Shareholders: The management and shareholders of Kenyan banking industry can use these study findings to make decisions on the role of financial innovation on profitability and therefore seek to increase investment that will improve shareholders wealth.

Government: This study will help the government understand the importance of financial innovation and therefore look at ways to improve investment in this area through legislation and regulations.

Researchers and Scholars: This study will provide headway on financial innovation in the banking sector and will be used as a base for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will present the studies on financial innovationson profitability of commercial banks. The review of literature will therefore focus on financial innovations, functions of financial innovations, benefits of financial innovations and its role on commercial banks profitability.

2.2 Theoretical Framework

2.2.1 Financial Innovations

The significance of financial innovation has widely touted. Many leading scholars, including (Miller, 1986) and (Merton, 1992), highlight the importance of new products and services in the financial arena, sometimes characterizing these innovations as an “engine of economic growth” that have contributed to many financial institutions including banks in realizing impressive profits.

According to (Merton Miller, 1986) he was of the view that, the period from the mid-1960s to mid-1980s was a unique one in American financial history. History shows that financial innovation has been a critical and persistent part of the economic landscape over the past few centuries. In the years since Miller’s 1986 study, financial markets have continued to produce a multitude of new products, including many new forms of derivatives, alternative risk transfer products, exchange traded funds, and variants of tax-deductible equity that have boosted firms profit levels. A longer view suggests that financial innovation, like innovation elsewhere in business—is an ongoing process whereby private parties experiment to try to differentiate their products and services, responding to both sudden and gradual changes in the economy and attain profitability.

At several levels, these arguments are plausible. Financial innovations can be seen as playing a role akin to that of the “general purpose technologies” delineated by (Bresnahan andTrajtenberg,

1995) and (Helpman, 1998): not only do these breakthroughs generate returns for the innovators, but they have the potential to affect the entire economic system and can lead to far-reaching changes. For instance, these innovations may have broad implications for households, enabling new choices for investment and consumption, and reducing the costs of raising and deploying funds. Similarly, financial innovations enable firms to raise capital in larger amounts and at a lower cost than they could otherwise and in some cases (for instance, biotechnology start-ups) to obtaining financing that they would otherwise simply be unable to rise. This latter idea is captured in a recent model of economic growth by (Michalopoulos, Laeven, and Levine, 2010), who argue that growth is driven not just by profit-maximizing entrepreneurs who spring up to commercialize new technologies, but also by the financial entrepreneurs who develop new ways to screen and fund the technologists.

2.2.2 Financial Systems Functions

(Miller M.H, 1992) in his book Miller, M.H. (1992), “Financial innovation: Achievements and prospects”, *Journal of Applied Corporate Finance* 4:4-11, came up with six functional decomposition functions delivered by financial systems: This include, moving funds across time and space, the pooling of funds, managing risk, extracting information to support decision-making, addressing moral hazard and asymmetric information problems and facilitating the sale and purchase of goods and services through a payment system.

Many scholars and writers use slightly different lists of functions, but there is much overlap in these descriptions. For example, According to (Finnerty, 1992) identified a set of functions, two of which correspond closely to Merton’s functions (reallocating risk and reducing agency costs), and a third (increasing liquidity) which is a blend of Merton’s movement of funds and pooling of funds functions.

2.2.3 Causes of Financial Innovations

Most studies on financial innovation identify globalization and increasing volatility as drivers of innovation. With greater globalization, firms, investors and governments are exposed to new risks (exchange rates or political risks), and innovations help them manage these risks. A variety of innovations are attributed to attempts to meet the needs of specific investor clienteles.

Some authors point to increasing volatility as a stimulus to innovation. For example, (Smith, Smithson&Wilford, 1990) document the increase in the volatility of interest rates, exchange rates, and commodity prices, and draw a link between this increase in riskiness and financial innovation.

Shocks to technology are thought to provide a supply-side explanation for the timing of some innovations. Advances in information technology support sophisticated pooling schemes that we observe in securitization. IT and improvements in telecommunications (and more recently the Internet) has facilitated a number of innovations (not all successful), including new methods of underwriting securities (e.g., Opinion), new methods of assembling portfolios of stocks (folioFN), new markets for securities and new means of executing security transactions. (White, 2000) articulates this technological view of financial innovation.

2.3 Models of Financial Innovations

Some economists argue that financial innovation has little to no productivity benefit: (Paul Volcker, 2010) states that "there is little correlation between sophistication of a banking system and productivity growth," that there is no "neutral evidence that financial innovation has led to economic growth", and that financial innovation was a cause of the financial crisis of 2007–2010, while (Paul Krugman, 2010) states that "the rapid growth in finance since 1980 has largely been a matter of rent-seeking, rather than true productivity." And therefore not linking innovation to profitability.

(Tufano,1989) and (Carrow, 1999) carried out a study on the incentives of investment banks to innovate, focusing on the market shares they capture and the underwriting spreads they charge on new types of securities. Both studies found that innovators earn higher market shares than followers, even though imitation is rapid. These studies reached different conclusions about whether innovating investment banks charge higher underwriting spreads than do follower banks. In some academic models, parties most constrained or inconvenienced by imperfections would be the most likely to innovate, as the shadow costs of releasing these constraints would be greatest for these firms.

(Silber, 1975, 1983) articulated the constraint-based notion of innovation. This suggested that the smallest, weakest firms, who face the most constraints, would be the most likely to innovate. In the broad field of innovation, this seems to be the case, with smaller firms thought to be more innovative. There is some anecdotal evidence that supports this conclusion in financial services. However, this anecdotal observation is not consistently supported by the empirical data. At least for securities innovations, larger, more financially secure investment banks have consistently been the leading innovators (Tufano, 1989).

(Matthews,1994) adapts industrial organization models to show why there might be a self-reinforcing cycle between innovation and market share, with larger firms innovating and thereby increasing their size at the expense of their rivals. It is probably fair to note that cross sectional determinants of the locus of financial innovation is still an eminently researchable question.

Financial risk has always been an element of financial systems regardless of the pace of financial innovations. It has been argued that the primary function of financial intermediaries has always been to manage and even bear risks such as credit risks, interest rate risks foreign exchange risks, legal risks, operational risks, fraud, and so forth.

The literature on why firms manage risk can be traced back to 1984. In that year (Stulz,1984) first suggested a viable economic reason why a firm's managers, who are presumed to be working on behalf of firm owners, might concern themselves with both expected profit and the distribution of firm returns around their expected value. He provided a rationale for why firm's objective functions may be concave so they actively want to avoid risk. His contribution is widely cited as the starting point of this burgeoning literature. Since that time a number of alternative theories and explanations have been offered.

Recently, (Santomero, 1995) presented a useful review of the following explanations, divided into four: Managerial Self Interest, The Non-Linearity of Taxes, The Costs of Financial Distress and The Existence of Capital Market Imperfections

In each case, the economic decision maker is shown to face a non-linear optimization, and this leads it to concern itself with the variability of returns. In the first case the objective function itself is concave, while in the others the effect of some feature of the economic environment is to lead firm managers to behave in a risk adverse manner.

2.4 Empirical studies

Empirical studies of the adoption of financial innovations have focused on the introduction of automated teller machines (Hannan& McDowell (1984, 1987) and (Saloner& Shepherd, 1995), small business credit scoring (Akhavein, Frame & White, 2001), patents (Lerner, 2002), off-balance sheet activities of banks (Molyneux&Shamroukh, 1996), (Obay, 2000), junk bond issuance (Molyneux&Shamroukh, 1999) and corporate security innovations (Tufano, 1989).

Some types of financial innovation are driven by improvements in computer and telecommunication technology. For example, (Paul Volcker, 1998) suggested that for most people, the creation of the ATM was a greater financial innovation than asset-backed securitization. Other types of financial innovation affecting the payments system include credit and debit cards and online payment systems like PayPal. These types of innovations are notable because they reduce transaction costs.

The central question in much of this literature is to determine which organizations adopt innovations and how quickly they do so. While this literature is rich, much of it plays off the question of whether larger firms or smaller firms lead innovation, a long-standing debate. There is also a sociological aspect to this research, in that it tries to understand the relative importance of external stimuli versus internal factors: organizational characteristics and competitive interactions among potential adopters. In many of these studies, it has been the larger firms that have innovated more rapidly, for example, with larger banks more quick to adopt credit scoring or larger investment banks, faster to underwrite new securities.

Bringing new securities to market requires the voluntary cooperation of both issuers and investors. As a business proposition, innovation surely has the potential to enable businesses to create value. This is the theme in a business book, *The Power of Financial Innovation*, by (Geanuracos and Millar, 1991), which studies 75 firms around the globe, showing how the world's best-managed companies are putting the latest instruments to effective use.

While it is surely the case that some businesses will use innovation to profit, there is little systematic evidence on the benefits enjoyed by investors and issuers, and how they share any

benefits of innovation. Preliminary evidence suggest that innovative investors in the 1970s and 1980s apparently endured greater risk than later investors (measured by variability of ex post holding period returns) and earned slightly higher returns for bearing these additional risks. However, whether the extra return is appropriate for the level of extra risk borne is difficult to ascertain in a small sample.

A series of studies of individual innovations looked at the wealth impacts of Innovations. (Nanda & Yul, 1996) studied poison puts in convertible bonds, and concluded that shareholders benefited from this innovation, perhaps at the expense of bondholders. Rogalski & Seward (1991) studied foreign exchange currency warrants and found that their issuers apparently benefited from this innovation, although they also found that investors substantially over-paid for this innovation. As a general proposition, we have a great deal more to learn about the pricing of financial innovations and how benefits, if any, are shared among participants. This is a long standing research topic in industrial organization; (Tirole, 1988,) for a discussion of the appropriation of the returns to innovation.

Studies of commercial banks' adoption of Internet banking include those by: (Furst, Lang, & Nolle, 2002), who analyzed survey data on Internet banking as of the third quarter of 1999. Using logit models, they found that a bank's choice of adopting Internet banking is related to holding company affiliation, location in an urban area, higher fixed expenses, and higher non-interest income. Among banks that offer Internet-related services, a greater number of service offerings were positively related to bank size and the length of time offering Internet banking.

(Sullivan, 2000) compares banks in the 10th Federal Reserve district that had transactional Internet websites as of the first quarter of 2000 to those that did not have such web-sites. He finds the former to be significantly larger and located in areas with a more educated population and a higher population fraction in the 18 to 64 age group. Banks offering transactional Internet web-sites are also found to have higher non-interest expenses and higher non-interest income

(Mantel, 2000) and (Mantel & McHugh, 2001) both used a consumer survey of 1,300 people to study usage of electronic bill payment and debit cards. In the former study, the usage of electronic bill payment services was found to be positively related to age, income, and gender

(female). The latter study found that debit card usage is related to age, income, and market size (population).

More recently, (Akhavain, Frame, & White, 2001) examine the diffusion of small business credit scoring (SBCS) by large banking organizations in the mid-1990s. Estimates from a hazard model indicate that larger banking organizations and those located in the New York Federal Reserve district adopted this technology sooner. A Tobit model confirms these results and also finds that organizations with fewer separately chartered banks, but more branches, introduced innovation earlier, which is consistent with theories stressing the importance of bank organizational form on lending style.

(Tufano, 1989) did a research on Financial Innovation and first mover advantages. The objective of the study was to determine whether financial products innovators enjoy first mover advantages. The data was collected from 1,944 publicly traded securities, where he specifically, used a sample of 58 innovation to test whether investment banks that create new securities benefits by charging higher prices (underwriting charges) than imitators or by capturing large quantities. The study was conducted over the period 1974-1986.

Tufano concluded that investment banks that created new financial products did not charge higher prices in the period before imitative products appear and in the long run charges lower than rivals. However these innovators did underwrote more public offerings that they innovated, than did the imitating rivals. Overall, Tufano's results was not consistent with monopoly pricing of new securities issues by innovators, but rather with the presence of cost advantages that allow these institutions to capture market shares.

According to (Lerner, 2006) who investigated the origins of innovation in US financial Service firms between 1990 and 2002; He identified two sources -Wall Street Journal Index (WSJI) from Wall Street articles as an innovation indicator and Factiva Database. Of the total 20916 observations or entries in the journal only 651 items meet the required criteria for innovations. The distribution was further reclassified into various panels and industry of innovators.

The analysis focuses on the nature of the financial institutions that undertake the innovations. He estimates both pool and random effects panel data models under different specifications (e.g. negative binomial, poisson). He finds that smaller firms account for a disproportionate share of

the innovations, as do less profitable firms though their profitability increases significantly in subsequent years. Older, less leveraged firms and those located in regions with more financial innovation are more innovative.

According to (Mwangi, 2007) who carried out a study on Factors Influencing Financial Innovation of companies listed at Nairobi Stock Exchange. The objective of the study was to explain the macro-environmental and micro-environmental factors influencing financial innovation in Kenya's securities market. The population used in this study was 48 companies listed on the Nairobi Stock Exchange in 2005. An exploratory survey was conducted between September 2005 and March 2006, of which 31 respondents was obtained. The data was analyzed using descriptive statistics. Semi-structured questionnaire, drop and pick method was employed. Data in this study was summarized and presented in forms of tables, percentages, frequencies, mean scores and standard deviations.

Based on regulatory factor, the finding concluded that Kenyan laws protecting investors was the major factor influencing financial innovation. This result is similar to the finding by Frame (W.S and White L.J., 2002). Further, the research finding showed that unstable forex rates were the most important factor influencing financial innovation among market volatility factors. Mwangi also observed that the absence of automated trading systems as a technological factor was found to influence financial innovations regularly. Finally he argued that global financial competition and integration had an influence on financial innovation with increased financial competition amongst financial institutions influencing financial innovation the most.

(Kamotho A. D, 2009) carried out a study on Mobile Phone Banking: Usage Experiences in Kenya. The study cover the two main dominant mobile banking service providers- Safaricom and Zain - during the three year period 2006-2008, from inception with total outlets of 8000 agents. This number tripled compared to 876 branches and 1424 ATM for commercial banks (CBK, 2008)

The study was informed by a quantitative survey on M-Banking services and demand. Data on usage and exploitation patterns was gathered through reliable cluster sampling techniques using comprehensive questionnaire. Kamotho; observed that competition triggers innovation and creativity. Continuous innovation not only yield new products but rather promotes efficiently in

the performance of activities. Hence lowering the transaction cost. This finding is also confirmed by (Tufano, 1989). Contrary to popular wisdom that mobile phone money services are meant for funds transfer and remittances, his findings concluded that 96% of the respondents used the M-banking service as form of funds storage.

This chapter has reviewed literature on the financial innovation and how it has contributed to banks performance in terms of profitability. Different researchers have had different views on how financial innovation has contributed to financial success of many firms while other researcher have been skeptical and could not establish a relationship between financial innovation and profitability. The review of the literature has been anonymous in their research that financial innovation is a necessity for firm to record impressive profit outlook. This literature review also emphasized on the benefit of first timers than imitator in attaining the impressive profits from financial innovation. Kenyan researchers (Mwangi, 2007) looked at some other aspects of internal and external environment that has contributed to innovation and therefore improved Kenyan banks profitability.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This is a very important chapter in this research. This Chapter will highlight the research methodology to be used in this study. The research methodology will detail the research design to be used to achieve the objective stated out earlier in the study. It will discuss the population, sample and sampling techniques, data collection methods as well as data analysis and methods used to present the data in the study.

3.2 Research Design

This research will use casual study which will be employed to understand the relationship between financial innovation and profitability for Kenyan banking industry. The casual study will be used in the research design to provide details of Kenyan banking sector which shades will light to other financial institutions.

Causal Research explores the effect of one thing on another and more specifically, the effect of one variable on another. The research is used to measure what impact a specific change will have on existing norms and allows researchers to predict hypothetical scenarios upon which a company can base its business plan. (DJS Research, 2011)

A casual effect arises when a variation in one phenomenon, an independent variable leads to results on average in variation in another phenomenon, the dependent variable. This study will seek to find the change in financial innovation, the independent variable from 2005 to 2010 on the dependent variable which is the Kenya bank profitability.

3.3 Population and Sample

According to (Cooper and Schindler, 2008), population is referred to as the collection of elements about which we wish to reference. Kenya has 44 registered commercial banks by Central bank of Kenya, countrywide. (CBK, 2011) The population of this study will be all registered banks in Kenya. (Appendices, List of registered Banks in Kenya)

For the purpose of this research, the study sample will be based on a census survey of all the commercial banks in Kenya.

3.4 Data Collection

Secondary data will be collected from the commercial banks published reports and archive from the banks websites. Other secondary data will be sourced from the Central bank of Kenya publications and achieves. Primary data will also be used as there will be a questionnaire administered for officials of the commercial banks in the study. The study will focus on the period between the years 2005 to 2010.

3.5 Data Analysis

Data analysis usually involves reducing accumulated data to manageable level, developing summaries, looking for patterns, and applying statistical technique (Cooper and Schindler, 2002). The data collected from the field will be checked for consistency, completeness and usefulness. This will entail field edits, data results validation and central editing. (Kothari, 2004) points out that analyzing research data includes coding, tabulating responses, translating the responses to specific categories and then entering them in a statistical package for Social Science (SPSS)

The study will use the qualitative method of data analysis, to minimize the margin of errors. Questionnaire will be coded according to each variable. The raw qualitative data will be fed to the computer and analyzed using (SPSS) version 17 program. Factor analysis statistical technique will be used. Charts and tables will be used to present the results of the study in order to convey visual impression of meaning or to clarify information that may be hidden within the data.

Regression

Obviously commercial banks' profitability is affected by both external environment and internal environment and the level of innovation adopted. To address this issue, we use following model:

$$P = f(X1, X2, X3, Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, \xi)(1)$$

This model seeks to explain the relationship between profitability and the factors that contribute to profitability of commercial banks apart from financial innovation which may be internal or external to the organization.

P= Profit

Z=innovation (include two dimensions: depth and breadth)

X=external environment (financial regulation system, macroeconomic environment, conditions of market competition)

Y=internal environment (operating system, ownership structure, human resource, enterprise culture, etc)

ξ =random factor (unpredictable political, economic, military transformation)

How the variables will be measured

Innovation: the innovation will be measured based on banks bank branch network growth, number of bank accounts opened by customer, number of customers using ATMs, mobile banking and internet banking

External environment: This will be measured by the percentage (%) increase in level of taxation, interest rate, inflation, general state of the economy and government regulation.

Internal environment: this will be based on the management structures, customer, suppliers, competitors among others

In a sense, model (1) gives the determining function of commercial banks' profitability. Although it is hard for this study to do mathematics statistics about the inner relationship between those elements and innovation, and all elements we listed here may not include all

elements which will affect banks profitability, this nonobjective determining function help us to understand the profitability at mechanism level.

If put some random factor and indistinctive factor aside, we may be can hold this idea that X1, X2, X3, Y1, Y2, Y3, Y4 and Z1, Z2, Z3, Z4 determine the profit behavior of commercial banks in some extent. The exchange of these elements will result in the change of commercial banks' profitability. Its practical significance can be understood like this: commercial banks should take dynamic innovative activities based on these elements. This is also the general theoretical significance of this model.

Due to the different external and internal environment for various commercial banks, there is no standard profit model for all commercial banks. As the main body of the profit, commercial banks should analyze the internal, external influence and financial innovation factor carefully, take the initiative to explore the profit model which follow the principle of value maximization. This process should always follow the differentiated thread, through accurate positioning for internal and external environment and innovation, explore and operate profit model with own characteristics; generate the profit system which includes product innovation, management innovation, risk management innovation and system innovation to meet the differential demands between internal and external environment.

3.6 Data Validity and Reliability

The relevance of the questionnaire will have to be subjected to an expert's review in the related field of financial innovation in order to be valid in the data collection. Sampling validity also stem from the selected commercial banks which make a good representation of the population which is the commercial banks in Kenya while the reliability test used was the Cranach's reliability test, used to test the reliability of factors extracted from dichotomous (that is, questions with two possible answers) and/or multi-poin formatted questionnaires or scales (with a rating scale of: 1 = poor, 5 = excellent) the higher the score, the more reliable the generated scale is. If the results obtained from the test is 0.7 and above, then the instrument is reliable (Whalen, 2004)

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATIONS

4.1 Data Analysis

This research focused the relationship between the high level of profits that commercial banks in Kenya are enjoying and whether this can be attributed to the ongoing financial innovation that is being adopted by commercial banks in Kenya. The study seeks to establish the relationship between the financial innovation and whether it has contributed to the profit level enjoyed by commercial banks in Kenya. The study was conducted using questionnaires and secondary data obtained from commercial banks website, publications and the Central Bank of Kenya. Statistics were collected from 40 commercial banks which answered the questionnaire and the findings were presented in a chart, which was used to show the relationship.

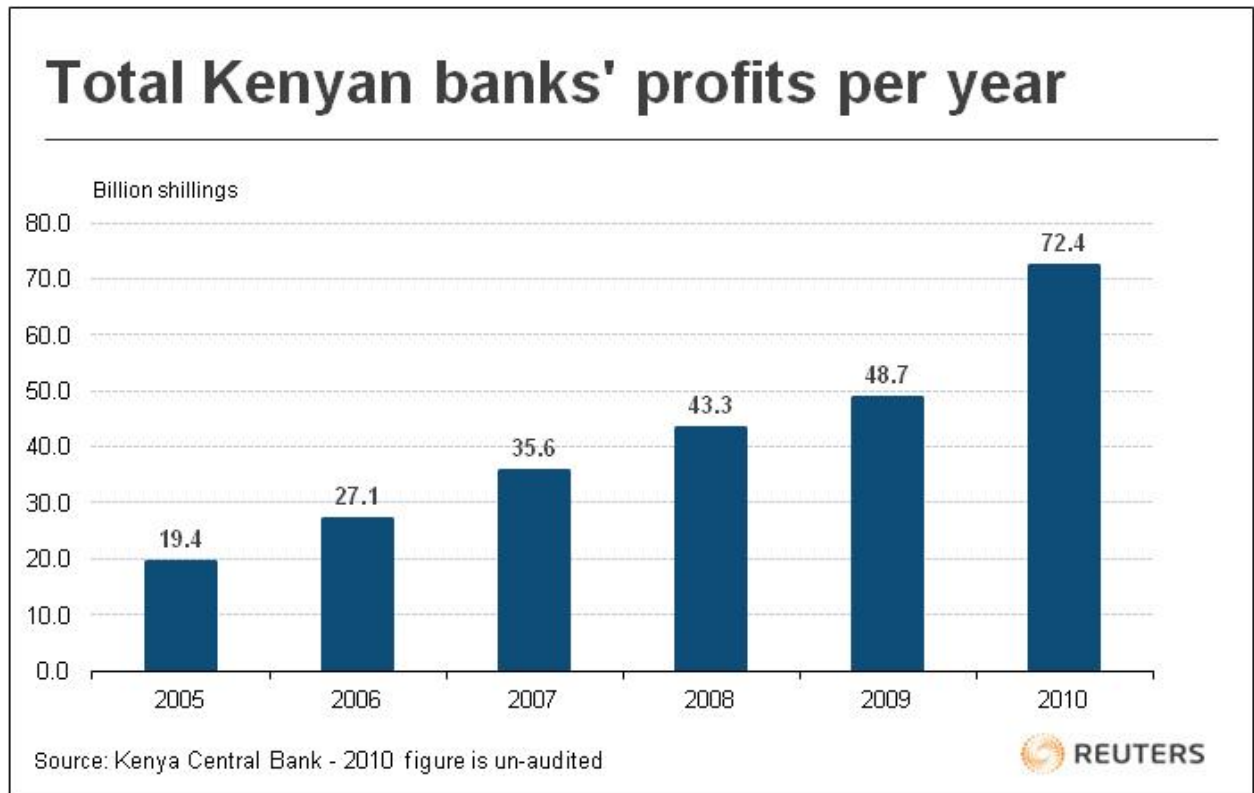
Obviously commercial banks' profitability is affected by both external environment and internal environment and the level of innovation adopted. To address this issue, we use following model:

$$P = f(X1, X2, X3, Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, \xi)(1)$$

From the data collected from questionnaire, many of the respondents agreed that there is a direct relationship between financial innovation and profits recorded by commercial banks. The respondents noted that without financial innovation, many banks in Kenya could have collapsed or have very serious financial problems. The questionnaire collected qualitative data as well and small insignificant quantitative data that provided information on the level of financial innovation adopted by commercial banks

Based on the secondary data collected from banks publications, website and the Central Bank of Kenya, there was enough evidence to suggest that Kenya commercial banks have had leap in profitability especially when the first ATM started to gain ground with customers.

Table 1

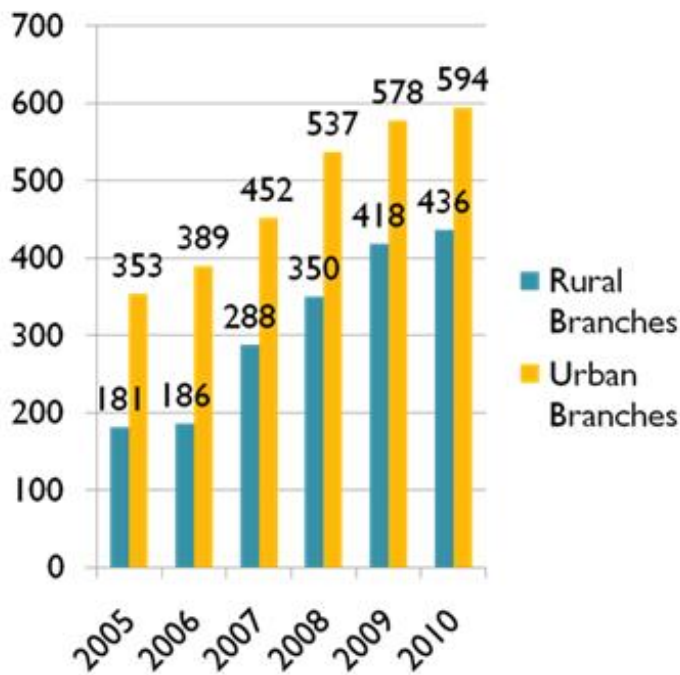


Focus of the study, Kenyan banks Profitability from 2005 to 2010

Table 2

Institutional Innovation

Outcomes - Expanding Financial Services: Branch Networks, MFIs



- Exponential growth of bank branches from 534 end of 2005 to 1030 end of September 2010.
- Number of rural branches has grown by 140% compared to 68% in urban areas.
- 2 Deposit Taking Microfinance Institutions have opened 31 branches since 2009(16 in rural areas).
- Increased outreach programme by Kenyan banks and DTMs reaching rural unbanked and under banked Kenyans.

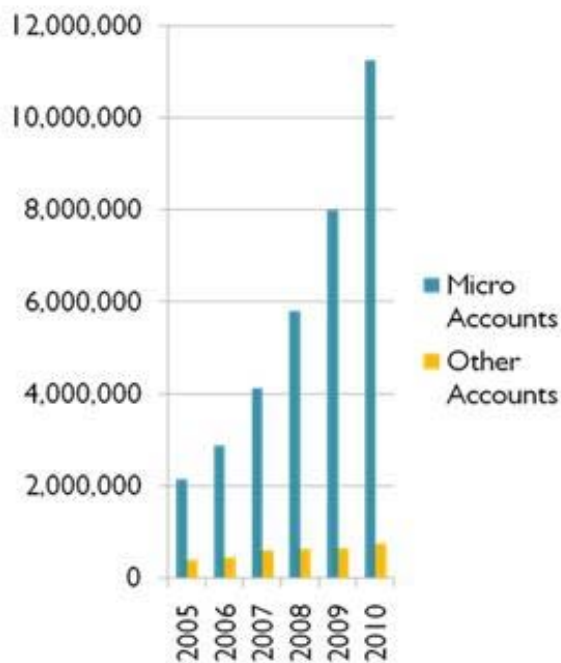
12

Source: Prof. NjugunaNdung'u, Governor, Central bank of Kenyaatthe LegatumCenter's 2010 Convergence, Massachusetts institute of technology (MIT)29th October, 2010

Table 3

Product Innovation

Outcomes - Growth of Kenyan Banking Sector and Deposit Protection Fund (DPF) - Deposit Accounts



- Number of deposit accounts has increased from 2.55m in 2005 to nearly 12 million at end of September 2010.
- Number of micro accounts has increased by 425% from about 2.14 million accounts in 2005 to about 11.25 million accounts at end of September 2010.
- Growth attributable to reduced costs of maintaining micro accounts and introduction of innovative instruments.
- But also increased branch outlets that solve the physical distance.
- Barriers of entry have been significantly reduced.

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Source: Prof. NjugunaNdung'u, Governor, Central bank of Kenya at the Legatum Center's 2010 Convergence, Massachusetts institute of technology (MIT) 29th October, 2010

Based on Table 1 (Kenyan Banks Profits from 2005 to 2010) and Tables 2, 3, 4(Institutional, Product and process innovation) from the diagrams. There has been a steady increase in the level of Product, process and institutional innovation form 2005 to 2010 and equally there has been an increase in the level of Commercial bank profits in the period 2005 to 2010. Even though there is other internal and external factors associated with the increase in profits, there is reasonable evidence to suggest that there is a direct relationship between the financial innovation and the level of commercial banks in Kenya Profitability.

Other related studies carried out by Paul Volcker, suggested that some types of financial innovation are driven by improvements in computer and telecommunication technology. For example, (Paul Volcker, 1998) suggested that for most people, the creation of the ATM was a greater financial innovation than asset-backed securitization. Other types of financial innovation affecting the payments system include credit and debit cards and online payment systems like PayPal. These types of innovations are notable because they reduce transaction costs especially for the banking sector.

4.2 Summary of findings

Based on the findings of the questionnaire and the secondary data collected for this study, it was concluded that Based on Table 1 (Kenyan Banks Profits from 2005 to 2010) and Tables 2, 3, 4(Product, process and institutional innovation) from the above diagrams. There exist a relationship between financial innovation and Profitability.

Based on the findings from the questionnaire, many commercial banks in Kenya have pride themselves by improving their profit base and efficiency through financial innovation. Through this study, the banking sector has embraced institutional innovation by venturing into other financial activities by diversifying into areas such as insurance business and stock brokerage services to supplement its bottom line. For instance ABC bank introduced the ABC Capital and ABC Insurance as its subsidiaries. Some of the banks that have acquired stock brokerage firms include, NIC bank, Cooperative bank and Equity bank that trades directly at the stock exchange using custodial licence. Other banks that have custodial license include; Barclays bank of Kenya, National bank, CFC Stanbic bank, Equitorial Commercial bank, Prime bank and Kenya Commercial bank. Kenyan banks have also undertaken massive expansion strategies as part of

institutional innovation by opening many branches countrywide. This massive expansion has contributed to increased revenue base and profit. There has been an Exponential growth of bank branches from 534 end of 2005 to 1030 end of September 2010. The Number of rural branches has grown by 140% compared to 68% in urban areas with 2 Deposit Taking Microfinance Institutions have opened 31 branches since 2009(16 in rural areas).Increased outreach programme by Kenyan banks and DTMs reaching rural unbanked and under banked Kenyans. (Prof. NjugunaNdung'u, 2010)

To improve its institutional innovation, for example, ABC bank successfully realigned its business model into Strategic Business Units (SBUs) to match the changing needs of its very loyal customers. The results of this market segmentation initiative were three Strategic Business Units: Corporate Banking, Business Banking and Retail Banking, created specifically to drive business. (ABC Bank website, 2011)

According to statistics from Central bank of Kenya (CBK, 2008) the banking sector in 2008 employed 2,714 new employees of, which 1,275 were managers, nearly half the total number of the new staff. Cutbacks in the number of managers in the sector mark a significant shift in Kenya are banking industry. In 2009, for instance, the sector grew the number of managers on its payroll by 6.4 per cent to 6, 156 or 23.5 per cent of its total workers even as it cut on the number of supervisors, clerical and support staff, according to Central Bank of Kenya (CBK) data.

The restructuring in the Kenyan banking industry has been phenomenon, just to mention but a few, Kenya commercial Bank re-structuring carried out in 2006 to 2008 trimmed the bank's executive team down to 7 from 22 in a move that was expected to check staff costs that rose from Kshs 4 billion in 2006 to Kshs 9.3 billion in 2007, stifling profit growth. This pushed its cost to income ratio to 67.9 per cent, only rivaled by Co-op Bank's 80.7 per cent. . (Kasembeli Albert, 2011)

Barclays Bank set the tone for layoff of senior bank managers in January 2008 when it parted ways with 200 managers. The bank lay off 200 middle level managers to cut payroll costs that grew to Kshs 8.3 billion 2007 from Kshs 7.2 billion in 2008. Equity Bank's 2010 annual report also showed that it had cut the size of its executive suite to 9 managers from 14 following the

merger of directorships such as Marketing and Treasury, Human Resources and Customer Service as well as IT and Projects. Kenya's third largest lender by assets, Co-operative Bank, laid off 34 managers in a cost-cutting measure aimed at trimming its payroll and reducing reporting layers to increase speed in its operations. The Bank's board made the decision to send home four "chief" managers, a similar number of "senior" managers and 26 middle level managers in 2008. (KasembeliAlbert, 2011)

Notable application of ICT by the commercial banks in Kenya is the development of products and services such as: Networked branches, ATMs, Internet banking, Electronic Bill Payment (Transfer), M-Pesa money transfer, SMS & Telephone Banking, POS Banking (Credit and Debit Cards). This development has enabled banks to provide more diversified, secure and convenient financial services. Operational risk mitigation through development of Business Continuity Plans (BCP's) which are focused on core banking solutions, back-up systems, disaster Recovery Sites (DRS) and enhancement security systems. Introduction or upgrading of new core banking systems with robust architecture adaptable to the rapidly changing technological environment in major banks such as Kenya Commercial bank, Commercial bank of African and Standard Chartered Bank among others.(Isaac Awuondo, 2008). Adoption of Finacle core banking software by Equity bank, I&M bank and ABC bank has tremendously improved the banking process and reduced inefficiencies in the bank's operations which have improved profitability. The introduction of M-pesa money transfer by mobile phone service provider Safaricom caused a scare to the banking industry since it tried to capture a large section of the Kenyan population which was un banked but banks in Kenya have embraced the innovation and adopted it for the advantage and it has gone a long way to improve their profitability. Also small banks which could not afford huge investment in putting up ATMs came together under the umbrella of Pesa point to offer ATM services to their clients.

There has been a massive investment in product innovation by commercial banks which introduced very innovative products into the banking market. The banks in Kenya have also introduced the credit card and debit card payment system. Product innovations which have been embraced by banks in Kenya include introduction of new deposits accounts, new credit arrangements, credit cards, debit cards, insurance and other financial products. According to CBK report, the Number of deposit accounts has increased from 2.55m in 2005 to nearly 12

million at end of September 2010. The Number of micro accounts has increased by 425% from about 2.14 million accounts in 2005 to about 11.25 million accounts at end of September 2010. Growth attributable to reduced costs of maintaining micro accounts and introduction of innovative instruments has also contributed to increased branch outlets that solve the physical distance including Barriers of entry which has also been significantly reduced. (Prof. NjugunaNdung'u, 2010), Some of products introduced by the banks in Kenya include accounts targeting youth i.e. "Bankika account" by KCB, for children savings i.e. "Jumbo junior account" by Cooperative bank, for business people i.e. "BiasharaBoresha account" by KCB, for salaried people i.e. "MkopowaSalo" by Barclays bank and for women, "Diva Club account" by Standard Chartered Bank Kenya.

4.3 Interpretations

Based on the findings of this research, the secondary data obtained from the Central bank of Kenya indicated that there has been a steady increase in profits by commercial banks in Kenya from 2005 to 2010. During the similar time there has been a steady growth of financial innovation which included, product, process and institutional innovations.

This is interpreted to mean that there is a direct relationship between banks profit and the increased level of financial innovation. This relationship has also been revealed by the questionnaire with respondents noting that there is a direct relation between financial innovation and profitability as commercial banks in Kenya have been recording impressive profits over the years under review as many banks were embracing aggressive financial innovation.

$$P = f(X1, X2, X3, Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, \xi)(1)$$

P= Profit

Z=innovation

X=external environment

Y=internal environment

ξ =random factor

Innovation: the innovation will be measured based on banks bank branch network growth, number of bank accounts opened by customer, number of customers using ATMs, mobile banking and internet banking

External environment: This will be measured by the level of taxation, interest rate, inflation, general state of the economy and government regulation.

Internal environment; this will be based on the management structures, customer, suppliers, competitors among others

Random factor; this are the unpredictable political, economic, military transformation

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

From the findings and discussions, the study concludes that Kenyan commercial banks conceptualize financial innovation as means to create impact in the profit performance. Commercial banks make decisions to conceptualize financial innovation due to the banking industry pressure in offering quality products, enhancement of effectiveness of the banks and improve banks competitiveness in the market. The study also conclude that Kenyan commercial banks conceptualize financial innovation as it lead to improvement of the bank's profitability as a result of increasing banks staff capabilities, various choice of communications are developed and reduction in management costs. The study also concludes that commercial banks in Kenya make decisions to invest in financial innovation, which include but not limited to product innovation, process innovation and institutional innovation depending on its financial capabilities as well as technical features. The banks Organizational culture or value also influences firm's decision making in investing in financial innovation.

The study further concludes that Implementation of financial innovation make commercial banks to save great resources and reduces costs of operations, reduce cost per transaction in banks operations and enable commercial banks in Kenya to satisfy their customer's needs. The study also concludes that implementing product, process and institutional innovation makes the commercial banks become more flexible in their operations as it leads to acquisition of qualified personnel in the bank, production of quality products and expand the banks market shares.

Finally, the study concludes that commercial banks in Kenya make decisions to invest in financial innovation so that they can differentiates their product, develop new products in the market and improving quality of existing products, increase it specialization and division of labor.

Financial Innovation has brought about the degree of openness, ability to innovation for commercial banks in Kenya. Compared with the commercial banks in developed countries, commercial banks in Kenya transition remain the trace of planned economy, the dominant

position of market is still not perfect, internal driving force is still lacking. Meanwhile, relative laws and regulations, technique and professionals in existence cannot completely meet the development demand even though there has been an increased level of profits by Kenyan banks when it's adopted.

This research was not without its limitations. First, economic conditions change over time and are an important source of financial innovation. It is not possible to address this issue because of the cross-section nature of the sample. Second, the firms' names were coded in the survey, so we were unable to match the information with other firm-level datasets. Consequently, more detailed firm-specific data could not be tested in the model. Nor was it possible to test for the effects of regulation, considered an important driver of financial innovation, though this problem may not be serious because there were no major financial reforms during the survey period. Finally, there are features in the survey itself that should be clarified or changed. For example, innovations that are new to the market and new to the firm are not necessarily mutually exclusive yet firms answering the questions had to choose one or the other. Nonetheless, substantial progress has been made in obtaining answers to the questions posed. Based on these results, future work should be aimed at further development of theoretical and empirical models, and investigating the extent to which these findings carry over to other countries.

5.2 Recommendations

It is recommended that commercial banks in Kenya should adopt financial innovation as a means of improving banks efficiency and therefore promote banks performance which will boost profit levels.

As a result of these study findings, it is recommended that commercial banks in Kenya should invest in the latest technology such as internet banking and mobile banking as a way of providing banking services. This is because more and more Kenyans are acquiring mobile phone and would be desirable for commercial banks in Kenya to tap into this huge and growing market to improve their profit margins.

ATM is becoming more of a necessity than a priority for commercial banks in Kenya. The advent of ATM services has enabled dramatic reduction of banking queues and has made money

readily available to customers. Even though acquiring of ATM is relatively expensive, it is recommended in this study for smaller Kenyan commercial banks to partner together and offer ATM services which will supplement their profit margins.

To eliminate the issue of bureaucracy, this study recommends key institutional innovations which include, restructuring of commercial banks to improve efficiency, effectiveness and improve performance in terms of profit outlook. Many commercial banks in Kenya have not embraced corporate restructuring in many years which have resulted in duplication of roles and unaccountability.

It's recommended that commercial banks in Kenya diversify their business portfolio. Even though many commercial banks in Kenya have ventured into stock market trading and insurance services to streamline their bottom-line, the finding in this research would recommend increased level of diversification by commercial banks to caution themselves against risks associated with banking sector risks.

There is no doubt that financial innovation has rescued many commercial banks from near collapse. With the advent of electronic money transfer such as Mpesa, many Kenyans have been relieved of the expense of sending and receiving money which has drastically reduced. This study recommends that commercial banks in Kenya should embrace the modern electronic funds transfer such as Mpesa rather than perceiving it as completion. Banks such as Equity bank has embraced Mpesa technology for its benefit by enabling its customers to withdraw money from their account using Mpesa. Also Family bank has launched the popular pesa pap! Services that have enable fast access to money to pay for utility service.

There is no doubt from the findings of this research that there is a direct relationship between increased branch network and improved profit margins. Many commercial banks in Kenya have expanded their branch network by more than 60% from 2005 to 2010. This has enabled tapping into many unbanked Kenyan population with specific banking products suited to specific groups. It's recommended that commercial banks adopt products innovations that will serve the interest of specific groups such as products for women, men, youth, religious belief such as Islamic banking and may other groups in order to tap into these markets.

It's recommended that commercial banks in Kenya embrace the use of credit and debit card as means of payment. These technologies are very convenient and encourage sending that spur banks profits. The use of credit cards and debit cards has had a major impact on commercial banks profits around the world and Kenya is no exception.

Even though financial innovation has been instrumental in increased level of profitability for commercial banks, it can lead to moral hazards, fraud and serious security breach. It's recommended that commercial banks but in place stringent security measures to counter fraud and other misconducts which can cause huge financial loss to the commercial banks in Kenya.

It is recommended that commercial banks in Kenya should select the correct innovation model which should accord with its own characteristic in the Kenyan banking industry.

Commercial banks should Broaden innovation form and context in light of own actual situation instead of imitating other commercial banks as by doing so, the bank exposes itself to a lot of risk.

It's also recommended that commercial bank in Kenya should Handle variety of relations to pave the way for innovation. Those relations include regulations, operating strategy, riskmanagement, performance evaluation, and service level.

In the financial innovation area, commercial banks need to build capacity on selected fronts. It includes the integration offinancial innovation into current bank business marketing policy and the development of long-term marketing vision. However, it must be emphasized that there is also an important role for policy-makers.

5.3 Limitations

During the time this research was being carried out, many limitations were encountered in the research process which could have made the research project not be feasible, useful and reliable.

There was the limitation of the sample size. The questionnaire did not get the desired respondents and for those that gave feedback on the questionnaire were not very keen to understand the questions and probably provided unproven information which could affect the findings of the research. If the sample size is too small, it will be difficult to find significant relationships from the data, as statistical tests normally require a larger sample size to ensure a representative distribution of the population and to be considered representative of groups of people to whom results will be generalized or transferred.

Among the negative aspects that was encountered during the research was the time constraints as a lot of time was spent planning, finding instruments to collect data, analyzing the data, and all the other processes necessary to make and implement my project. This consumed the time as I had many responsibilities at home and work.

Another concern I had when carrying out this project was narrowing the research topic so that it was not too general and not too specific, and most important, that it was possible to obtain results out of it that could help other researchers once it was completed. I found this constraint especially challenging due to the complexity of the subject I wanted to address in my research project which was related finance.

Another limitation was the lack of available and/or reliable data--a lack of data or of reliable research data especially from the Kenya context limited the scope of research analysis, which was a significant obstacle in finding a trend and a meaningful relationship.

There was lack of prior research studies on the topic—since citing prior research studies forms the basis of the research literature review that helps lay a foundation for understanding the research problem the research was investigating. Many of the research studies focused on other issues of financial innovation but were not specific to profitability as was supposed to be the case.

Measure used to collect the data was also a major limitation—after the research completion it was discovered during the interpretation of the findings, that the way in which data was gathered inhibited to some extent the ability to conduct a thorough analysis of the results.

It was also difficult to measure the variable used in the studies as the variable used different units of measure and there comparison was difficult.

Many of the commercial banks in Kenya do not make public some of their information which could be instrumental in coming up with good and reliable findings.

It was a limitation in terms of cost of undertaking the research project as it was required to a lot of resources to come up with a good research and therefore a reliable research finding.

5.4 Suggestions for further Research

This study identified a number of suggestions for further research.

Pace of financial innovation by commercial banks in Kenya is still not fully embraced and therefore more research is needed in this areas like; stock market in-efficiency and role of savings and investment funds in influencing financial innovation.

There is a great work that need to be done about the pricing of financial innovations and how benefits (appropriation of returns), if any, are shared among participants e.g. bond holders, equity holders

Legal and regulatory framework is not well harmonized across borders in the case of mobile banking, customer/consumer protection in the area of mobile banking and lack of global technology standards. This should be the focus on future research.

The role of technology in spurring new financial innovations. Do innovations occur every time new technology comes into place? Local studies have not been carried out on this area

Academic research could help to understand whether patenting will encourage or discourage innovation, change the nature of financial innovation, encourage more innovation by smaller

players, or change the competitive/cooperative interactions among commercial banks. In part, this yet-to-be completed work will simply build upon the extensive body of work in the industrial organization field on patenting. However, trying to understand what—if anything—is different about the financial services industry, and the implications for protection of intellectual property and the nature of competition, is likely to be a fertile area for future work.

Finally a challenge to Kenya researcher to conduct more in-depth research about financial innovation and profitability in specific focusing on the commercial banks in Kenya as other researchers have been focusing on the overall performance. This will be an important undertaking for future research.

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APPENDIX

Questionnaire

A) Background Information

1) Name of the Bank Your position.....

B) Bank Information

2) How many bank branches does the bank have?

0-10 11-20 21-30 31-40 more than 40

3) How many ATMs does the bank have

0-10 11-20 21-30 31-40 more than 40

4) Is the ATMs fully owned by the bank

Yes No

5) Does your bank offer credit cards

Yes No

6) Does the bank have subsidiaries

Yes No

If yes, what kind of subsidiary

7) Has there been an increase in the number of bank accounts opened from 2005 to 2010

0-10000 10001-50000 50001-100000

Other figure specify.....

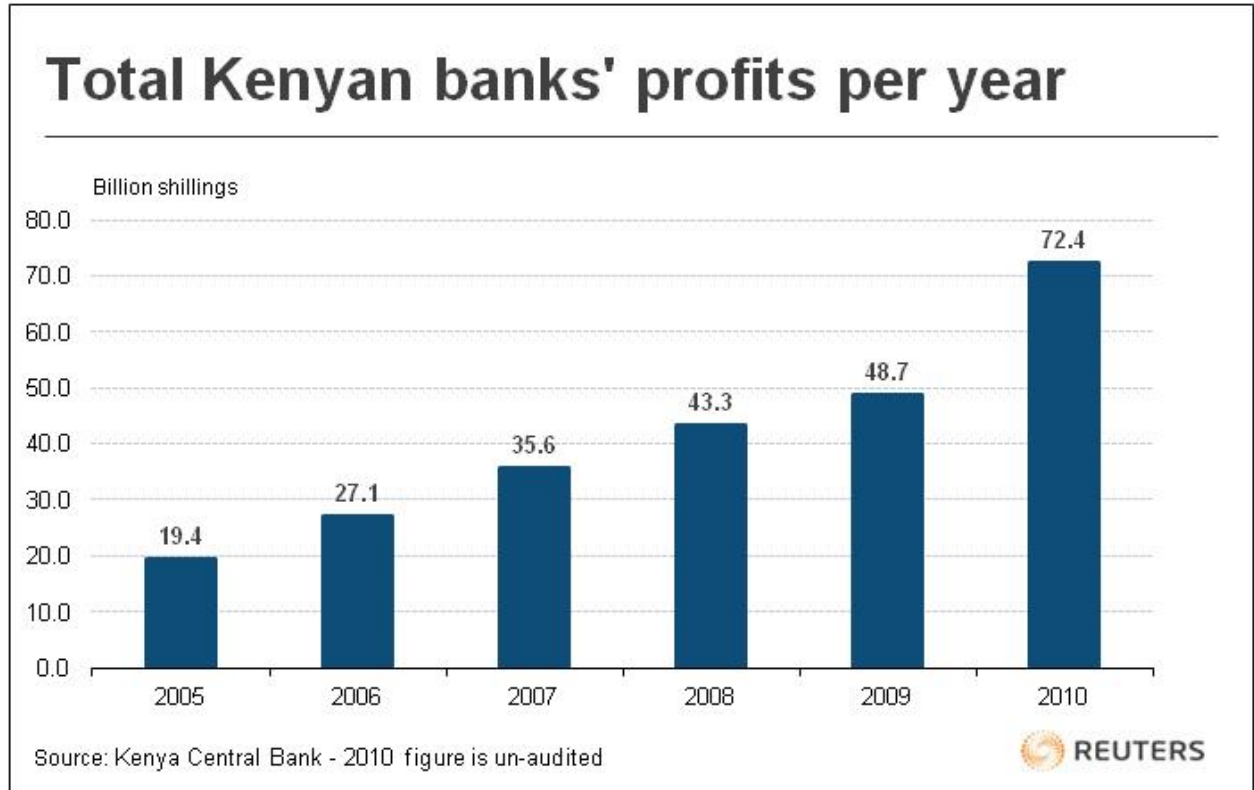
c) General Information

1-Not at all; 2-Less extend; 3-Moderate extend; 4-Large extend; 5-To a very large extend

	1	2	3	4	5
Has the number of banked Kenyans Increased?					
To what extend has the commercial banks in Kenya embraced technology					
Have ATMs improved commercial banks profits in Kenya					
Have commercial banks in Kenya profit from financial innovation					
To what extend has Kenyans embraced mobile/ internet banking					
Has restructuring in commercial banks in Kenya paid off in terms of efficiency and profitability?					
To what extend has financial innovation contributed to profitability of commercial banks in Kenya.					
To what extend is the credit/debit card being used in Kenya					
Has the risk of financial innovation in commercial banks in Kenya contributed to loss reporting?					
Can Kenyan commercial banks survive without financial innovation?					
Does the cost of financial innovation justify the benefit in terms of banks profitability?					
Has competition contributed to embrace of financial innovation by commercial banks in Kenya?					
To what extend does pioneers profit out performs the imitators of financial innovation					

Tables

Table 1

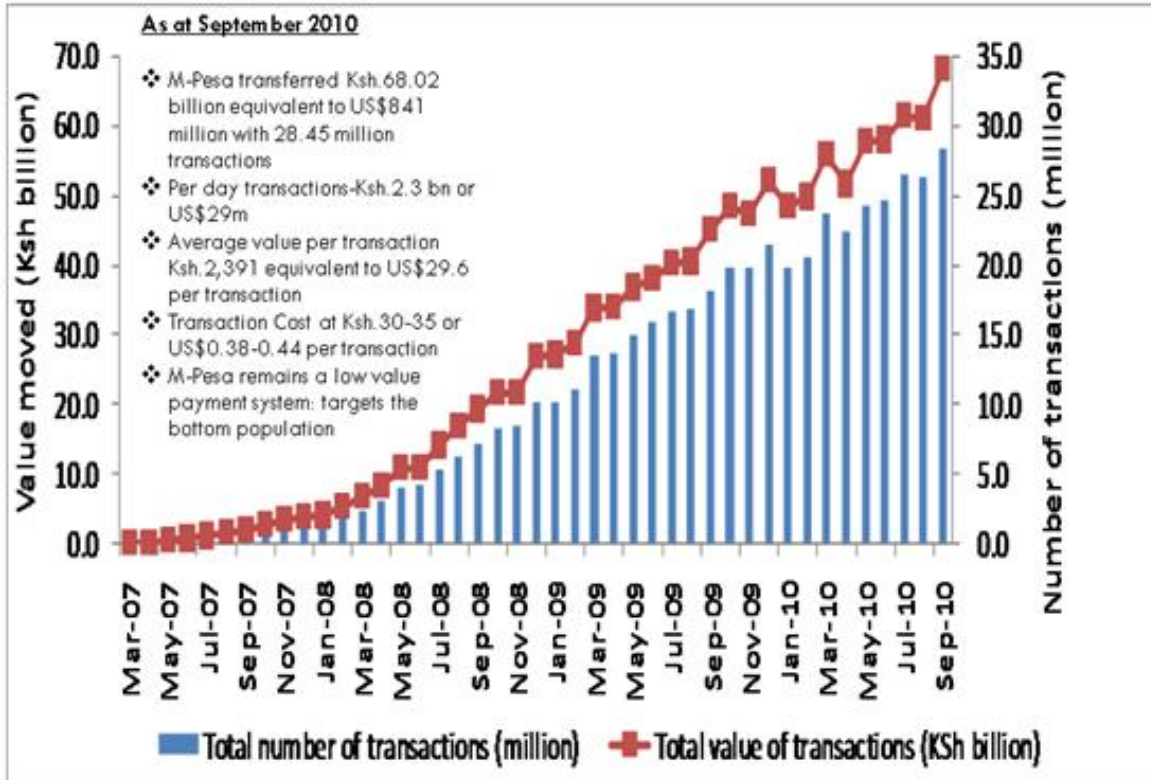


Focus of the study, Kenyan banks Profitability from 2005 to 2010

Table 2

Process Innovation

Outcomes – Mobile Phone Financial Services - M-Pesa Flows, Volumes & Values



This seems to be corroborated with other two pieces of evidence in the same period:-

- *Accounts in the banking sector have increased.
- *Currency outside banks as a ratio of broad money has declined.

List of Registered Banks in Kenya

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank
6. Chase Bank (Kenya)
7. Citibank
8. Commercial Bank of Africa
9. Consolidated Bank of Kenya
10. Cooperative Bank of Kenya
11. Credit Bank
12. Development Bank of Kenya
13. Diamond Trust Bank
14. Dubai Bank Kenya
15. Ecobank
16. Equatorial Commercial Bank
17. Equity Bank
18. Family Bank
19. Fidelity Commercial Bank Limited
20. Fina Bank
21. First Community Bank
22. Giro Commercial Bank
23. Guardian Bank
24. Gulf African Bank
25. Habib Bank
26. Habib ltd
27. Habib Bank AG Zurich
28. I&M Bank
29. Imperial Bank Kenya
30. Jamii Bora Bank
31. Kenya Commercial Bank
32. K-Rep Bank
33. Middle East Bank Kenya
34. National Bank of Kenya
35. NIC Bank
36. Oriental Commercial Bank
37. Paramount Universal Bank
38. Prime Bank (Kenya)
39. CFC Stanbic Bank
40. Standard Chartered Bank
41. Trans National Bank Kenya
42. United Bank for Africa
43. United Bank Ltd
44. Victoria Commercial Bank

(Source Central Bank of Kenya, 2011)