THE EFFECTIVENESS OF FINANCIAL INNOVATION STRATEGIES ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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DECLARATION

I, the undersigned, hereby declare that this is my original work and has not been presented to any institution or university other than University of Nairobi for academic credit. I further declare that I followed all the applicable ethical guidelines in conducting the research.

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The research project has been submitted for examination with my approval as University supervisor.

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My appreciation goes to the Kenya National Bureau of Statistics staffs for assisting me with the relevant publications needed for this study.

DEDICATION

I dedicate this piece of noble work to my dear fiancée Josephine Muendi and my mum Florence Nafuna for being there for me as I pursued my study and encouraging me to continue to the end despite my busy work schedule.

LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
CMA	Capital Markets Authority
DTM	Deposit Taking Microfinance
KPOSB	Kenya Post Office Savings Bank
SACCOS	Savings and Credit Co-operative Societies

LIST OF TABLES

Table 3.1 Group Classification Table

Table 3.2 Model of SPSS Output

Table 3.3 Predicted Group Memberships

Table 4.1 Regression Analysis Data

Table 4.2 Proportion of Net profit Allocated for Financial Innovation

Table 4.3 Mean and Standard Deviation for the Variables of the Study

Table 4.4 Correlation Coefficient

Table 4.5 Regression Model Summary

Table 4.6 Analysis of Variance

Table 4.7 Prior Probabilities for Groups

Table 4.8 Standardized Discriminant Function Coefficients

LIST OF FIGURES

Figure 4.1 Product and Process Innovations for the Large Peer Banks in Kenya

Figure 4.2 Expenditure on Computer Software for the Large Peer Banks in Kenya

ABSTRACT

The purpose of this study was to determine the effectiveness of financial innovation strategies on the financial performance of the commercial banks in Kenya. In addition, the study sought to classify those commercial banks that have been effective in financial innovation against those commercial banks that have been less effective in financial innovation on the basis of a given set of discriminating variables. This study adopted a cross-sectional descriptive survey research design where the population for the study consisted of all the 43 commercial banks in Kenya as provided by the Central Bank of Kenya's Bank Supervision Annual Report, 2012. The data for analysis was derived from mainly secondary data sources including official CBK publications and the relevant financial statements for the commercial banks in Kenya. The findings from the regression analysis show that the model was able to explain only 23% of the variations in the financial performance of the commercial banks in Kenya with the rest being explained by other factors not captured by the study. Furthermore, process innovation had a positive significant effect on the financial performance for the banks while product innovation and the proportion of net profit set aside for financial innovation had a negative impact on the financial performance of the commercial banks. The findings from the discriminant analysis revealed that the return on net assets is the most important in classifying commercial banks that have been effective in financial innovation against those commercial banks that have been less effective in financial innovation. This implies that the return on net assets had the greatest discriminating power out of all the discriminating variables used in the analysis. The classification results indicate that of the 20 commercial banks initially classified as being effective in financial innovation, 17 banks (85%) were correctly classified by the discriminant model while 3 banks (15%) were classified incorrectly by the model. Additionally, of the 21 commercial banks initially classified as being less effective in financial innovation, 19 banks (90.5%) were correctly classified by the discriminant model while 2 banks (9.5%) were classified incorrectly by the model. The study also found that the discriminant model was significantly reliable for prediction. On the basis of the study results, the paper concludes that the mixed results derived from the relationship between financial performance and financial innovation necessitates the need to put in place a formal risk management framework so as to mitigate against the adverse effects of financial innovation. The paper also recommends that prior to any financial innovation strategy being implemented it should be preceded by a structured cost benefit analysis so as to ensure that the investments funds allocated for innovation provide a good return and benefit for the commercial banks. The study draws a discussion of the results from both a theoretical perspective where the paper notes that the wealth induced innovation theory is supported by the results from the discriminant analysis while the transaction cost innovation theory is supported by the results from the regression analysis and the practical perspective of the results which attempts to provide a real life explanation of the results of the study. Finally, the paper admits that the study faced a few challenges such as the blurred definition between product and process innovation but ultimately all the limitations were mitigated effectively. Suggestions for further research were laid down just to underlie the extensive scope for this study and numerous opportunities for the research questions that still remain unanswered.

TABLE OF CONTENTS

DECLARATION……... ii

ACKNOWLEDGEMENTS…… iii

DEDICATION……..... iv

LIST OF ABBREVIATIONS…… v

LIST OF TABLES……. vi

LIST OF FIGURES…… vii

ABSTRACT……..... viii

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study ……... 1

1.2 Research Problem……..... 4

1.3 Research Objectives……..... 5

1.4 Value of the Study …….. 6

CHAPTER TWO: LITERATURE REVIEW

2.2 Theoretical Literature…….…..... 8

2.3 Empirical Literature Review……..……..... 12

CHAPTER THREE: RESEARCH METHODOLOGY

3.2 Research Design…….……..... 17

3.3 Population …..... 19

3.4 Data Collection ……..……..... 20

3.5 Data Analysis……... 22

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction……... 27

4.2 Data Analysis……... 27

4.3 Results……..... 35

4.4 Discussion…….. 41

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction…….. 44

5.2 Summary of Findings…… 44

5.3 Conclusions…….. 45

5.4 Limitations of the Study…….. 45

5.5 Recommendations……. 46

5.6 Suggestions for Further Research……. 47

6.0 REFERENCES…… 48

Appendix-A List of All Commercial Banks in Kenya……..…… 50

CHAPTER ONE

INTRODUCTION

The first chapter of this paper which seeks to assess the impact of financial innovation on the Kenyan banking sector is organised as follows; a brief background of the Kenyan banking sector and its adoption of the financial innovation will be provided in section 1.1. Furthermore, a conceptual framework will be used to explain the research problem in the second part (section 1.2). Finally, the research objectives and the value of the study will be highlighted in section 1.3 and section 1.4 of the chapter respectively.

1.1 Background of the Study

The financial service sector is perhaps the most significant economic sector in modern societies. (Harker & Zenios, 1998).In the Kenyan financial sector this is reinforced by the fact that the number of commercial banks have increased tremendously to approximately 43 commercial banks(Central bank of Kenya supervision report, 2012).Consequently, the result has been an intense competitive environment for the commercial banks in Kenya.

Financial innovation can be defined as the emergence of new financial products or service, new organizational form or new processes for a more developed and complete financial market that reduces costs and risks, or provide an improved service that meets particular needs of financial system participants(Ho, 2006).Moreover, financial innovation is also driven largely by consumers force.

The outstanding benefits of financial innovation notwithstanding, financial innovation which requires a huge outlay of investment capital cost is normally undertaken in an uncertain financial environment. Therefore, given the competitive pressures that force commercial banks in Kenya to undertake financial innovation, there has been a varying degree of success

(effectiveness) of financial innovation strategies among commercial banks in Kenya. Hence it is not surprising that five (5) years down the line, some commercial banks in Kenya which had embarked on the same foot as other similar commercial banks will experience success of this financial innovation while others may not be as successful as other commercial banks. One of the main reasons for this could be difference in the risk management among the commercial banks in Kenya.

1.1.1 Financial Innovation

Financial innovation can be defined as the emergence of new financial products or service, new organizational form or new processes for a more developed and complete financial market that reduces costs and risks, or provide an improved service that meets particular needs of financial system participants (Ho, 2006).Most commercial banks in Kenya have embarked on financial innovation strategies due to the competitive pressures, need to satisfy the consumers ever changing needs and the rapid pace of technological change.

1.1.2 The Impact of Financial Innovation

Majority of commercial banks in Kenya that have embarked on financial innovation strategies have experienced a varying degree of success on financial innovation. Successful innovation in financial services can improve capital productivity with beneficial effects that permeate through the wider economy. Unsuccessful innovation can have the opposite effect. (World Economic Forum report, 2012).This is because, while financial innovation among commercial banks is capable of increasing banks' market share, reduction of financial risks and increase in the variety of innovative financial products for commercial banks, financial innovation may cause commercial banks to experience significant losses when the banks fail to achieve the benefits of financial innovation due to poor risk management framework.

1.1.3 Indicators of Commercial Banks' Financial Success

The study will attempt to categorize the performance of commercial banks in Kenya due to financial innovation on the basis of four (3) discriminating variables as provided by the central bank report; ***Bank Supervision Annual Report, 2012*** which includes among others; the number of product innovations, the number of process innovations, and the return on net assets.

The number of product innovations will be used in the study as a yardstick measure of financial innovation among the commercial banks in Kenya.

The number of process innovation will also be used as a measure of financial innovation among the commercial banks in Kenya.

The return on net assets will be used as measure of financial performance among the commercial banks in Kenya.

These indicators will discriminate those commercial banks in Kenya that have been effective or successful in financial innovation against those commercial banks that have been less effective or successful in financial innovation

1.1.4 Context of the Study

The significance of the commercial banks in Kenya cannot be understated. This is because any crisis that occurs in the banking sector can have serious consequences within the financial sector as a whole and worse still the whole economy. Kenya has a relatively well developed financial sector which comprises 43 commercial banks, 1 mortgage finance company, 7 Deposit Taking Microfinance companies (DTMs), some 3,500 active Savings and Credit Cooperatives (SACCOs), one postal savings bank - Kenya Post Office Savings

Bank (KPOSB) 125 foreign exchange bureaus, a host of unlicensed lenders, and an Association of Microfinance Institutions (AMFI) with 56 members3.(Cracknell, 2012).The context of this study is an assessment of the effectiveness of financial innovation on the performance of commercial banks within Kenya which now stand at 43 commercial banks according to the Central bank annual report, 2012.

1.2 Research Problem

Theoretically financial innovation is expected to increase a firm's performance. Specifically, financial innovation especially in a commercial bank is expected to translate to increased market share, increase in the variety of innovative financial products, an improved return on net assets and reduction in the banks' risk exposure.

Given that financial innovation on a bank is expected to increase its financial performance, it is apparent from the review of literature that majority of studies have not attempted to assess the reasons for the varying degree of success on financial innovation among commercial banks in Kenya. The primary reason for this varying degree of success on financial innovation is the differences in the risk management framework. Although risk management is one of the primary functions of a bank-traditionally it was the primary function, very little has been done to date to link risk management with performance. (Harker & Zenios, 1998).

Gakure & Ngumi (2013) noted in their study that previous studies have produced mixed results regarding the impact of innovations on bank performance. It is at the center of such mixed conclusions that creates and necessitates the need to carry out a study from a Kenyan context to establish the effect of bank innovations on commercial banks' profitability. The objective of the study was to establish the influence that bank innovations have on profitability of commercial banks in Kenya.

Therefore, this study seeks to deal with the following research gap; the impact that financial innovation has had on the success of commercial banks in Kenya so as to come up with two categories of commercial banks on the basis of their effectiveness in employing the financial innovation strategies. Consequently, the study will assess the reasons for the varying degree of success on financial innovation for the commercial banks in Kenya.

This study therefore seeks to answer the following research questions derived from the topic:

i. Do financial innovation strategies impact on the financial performance of commercial banks in Kenya ?
ii. Can the performance characteristics of commercial banks in Kenya categorize commercial banks that are successful in financial innovation against those that were less successful in financial innovation?
iii. What is the reason for the varying degree of success on financial innovation among the commercial banks in Kenya?

1.3 Research Objectives

The main objective of this study is to determine the relationship between financial innovation strategies and financial performance among the commercial banks in Kenya.

However, there are other specific objectives of the study which include:

i. To assess the performance characteristics (indicators) of successful financial innovation among the commercial banks in Kenya.

ii. To categorize those commercial banks in Kenya that have been successful on financial innovation against those that have been less successful on the basis of the different performance indicators of the commercial banks in Kenya.

iii. To analyze the reasons for the varying degree of success on financial innovation among the commercial banks in Kenya.

1.4 Value of the Study

The contribution of the study to theory will be to confirm and reinforce the theoretically expected relationship that financial innovation does have a positive impact on the performance of a firm. Moreover, the study will also explore the impact of risk management on the relationship between financial innovation and the performance of commercial banks in Kenya.

The following stakeholders will be the greatest beneficiaries of the findings of the study to practice.

1.4.1 Other Corporate Sectors

This study will seek to enhance the importance of financial innovation not only on commercial banks but also in the performance of other sectors of the economy. The findings will also provide a benchmark for learning and improvement for those entities and specifically commercial banks that have been less successful on financial innovation.

1.4.2 Regulatory Authorities

The study will facilitate effective measures from the Central Bank of Kenya to increase its insistence on banks to adhere to the risk management framework so as to reduce risk exposure.

1.4.3 Researchers

The study will build on the existing body of knowledge and points out areas for further research hence researchers who wish to study the area of financial innovation will be made aware of the determinants, impact and challenges facing innovation in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In chapter two, the first part (section 2.2) will assess the various theoretical body of knowledge and major theories on financial innovation. The second part (section 2.3) will focus mainly on the empirical literature review where the authoritative definitions, types of financial innovation, benefits, determinants and challenges of financial innovation will be reviewed. Finally the section will explore the methodology and findings of previous studies on financial innovation.

2.2 Theoretical Literature

There are a variety of theories of financial innovation that have been included in the body of knowledge and will form the theoretical foundation of this section of the literature review.

2.2.1 Information Asymmetry Theory

This theory by Chen(1995) states that a party to a transaction may be disadvantaged and consequently suffer loss due to that fact that the other party has all the information relating to the transactions. This theory argues that in such a situation there is likelihood of the occurrence of the moral hazard problem and adverse selection.

Relevance and Implication to the Study

This theory reinforces the fact that risk management framework is important for any institution undertaking financial innovation.

2.2.2 The Theory of Financial Intermediation

According to the modern theory of financial intermediation, Chen (1995) contends that financial intermediaries are active because market imperfections prevent savers and investors from trading directly with each other in an optimal way. The most important market imperfections are the informational asymmetries between savers and investors. Financial intermediaries, banks specifically, fill – as agents and as delegated monitors – information gaps between ultimate savers and investors.

Relevance and Implication to the Study

This theory implies that for any institution to be effective in financial innovation it is imperative for it to manage its risk effectively.

2.2.3 The Regulation Constraint Theory of Financial Innovation

According to William Silber (1983) financial innovation is often viewed as a product of regulation. The argument is that most financial innovation tend to circumvent regulatory constraints. The main hypothesis is quite straightforward: new financial instruments or practices are innovated to lessen the financial constraints imposed on firms.

Relevance and Implication to the Study

This theory is relevant to this study since it shows that institutions will always be constrained in their pursuit of financial innovation success by the regulations.

2.2.4 Wealth Induced Financial Innovation Theory

Greenbaum and Haywood (1973) reviewed the history of American financial market and argued that the growth of wealth is the determinant of demand of financial Innovation. In other words, the fast development of economy caused financial innovation to develop at a high speed.

Relevance and Implication to the Study

This theory confirms that the main success yardstick for any firm undertaking financial innovation is increased market share and profits.

2.2.5 Constraint Induced Financial Innovation Theory

American economist Silber (1983) advanced constraint-induced financial innovation theory. This theory pointed out that the objective of profit maximization of financial institution is the key reason of financial innovation. There are some restrictions (external restrictions such as policy and internal restriction such as organizational management) in the process of pursuing profit maximization.

Relevance and Implication to the Study

This theory implies that the main motivation for firms undertaking financial innovation is increased profits and market share.

2.2.6 Circumvention Theory of Innovation

American economist Kane (1981) is the pioneer of circumvention innovation theory. He thinks that many forms of government regulations and controls, which have the same property of implicit taxation, embarrass the profitable activity engaged by the company and the opportunity of earning profit, so the market innovation and regulation innovation should be regarded as the continuous fighting process between independent economic force and political force.

Relevance and Implication to the Study

This theory implies that firms are constrained by the prevailing regulations in their attempt to be effective in financial innovation.

2.2.7 Regulation Innovation Theory

Regulation innovation theory was put forward by Scylla (1982). They argued researching financial innovation from the perspective of economy development history. And they thought financial innovation connects with social regulation closely.

Relevance and Implication to the Study

This theory is relevant to this study in the sense that it argues that financial innovation must always take the market and social consideration into account so as to be effective.

2.2.8 Transaction Cost Innovation Theory

The transaction cost innovation theory's main pioneers are Hicks and Niehans (1983). They thought that the dominant factor of financial innovation is the reduction of transaction cost.

Relevance and Implication to the Study

This theory reinforces the fact that a firm will be deemed to be effective in financial innovation when it manages to maintain and even increase profits.

2.3 EMPIRICAL LITERATURE REVIEW

2.3.1 Financial Innovation

Ho (2006) defines financial innovation as the emergence of new financial products or service, new organizational form, or new processes for a more developed and complete financial market that reduces costs and risks or provide an improved service that meets particular needs of market system participants.

According to Wyman (2012) he contends that in the public mind, innovation is often thought of in terms of revolutionary new physical products or a new technology. However, innovation is clearly a much wider phenomenon, seen across many dimensions of economic life, including manufacturing and other business processes, as well as new business and organizational models.

Allan and Gale (1994) contend that financial innovation can be viewed as: introduction of new financial instruments or service or practice, introduction of new uses for funds, finding out new sources of funds, introduction of new processes or techniques to handle day-to-day operations, or establishing a new organization, all these changes being part of existing financial institutions, and emergence of spectacular growth of new financial institutions and markets.

2.3.2 Determinants of Financial Innovation

2.3.2.1 The need to reduce production costs

Ho (2006) contends that financial innovation, like other economic behaviours, generally arises in anticipation of material gains following a cost-benefit analysis. The innovation makes possible either a reduction in costs or an increase in revenues, or both. On the cost-

reducing side, in particular, exogenous technological change provides room for cost reduction that induces innovation.

Thornton (1994) argues that high variable and unpredictable inflation, interest rates and exchange rates have prompted financial innovation-Organizations have no control over these factors so the only way to minimize the impact of these factors is to embrace financial innovation.

2.3.2.2 Technological advancement

Technological advances in telecommunications, information processing and computing are universally agreed to be a major factor underlying the growth of financial innovations. Matsushita, (1996), Cohen, Wesley and Levine (1989) contend that technology has worked in three major ways to bring this about. Firstly, the greatly reduced costs and expanded scope of telecommunications have created a global financial market. This has allowed providers of innovations to match end-users, either directly or indirectly, who were previously in isolated markets.

2.3.2.3 Regulation

Chew (1997) has argued that the main incentive to innovate is a desire to evade official regulation. Establishment of Eurocurrency market is the example of Ham-Fisted regulation because it was originally developed as a device to evade Regulation Q, which was a restriction on the maximum interest, paid on bank deposits. Moreover, off-balance sheet lending and offshore banking can be used to evade a wide range of controls on banks.

2.3.2.4 Competitive environment

Thornton (1994) states that financial innovation is fundamentally market driven. Firms offer new products because it is profitable. The existing structure of the financial industry, degree of concentration and competition in the banking sector, ease of entry, profitability, extent of

development and of specialization among different types of instruments, available choice of portfolio assets and the interaction of market forces with regulations affects financial innovations.

Ho (2006) contends that competition has also emerged between commercial banks and other financial institutions and thus the development and globalization of financial markets have intensified the need for modifying the current structure and condition of the financial system.

2.3.3 Types of Financial Innovation

The OECD (2005) manual identifies four types of financial innovation:

Product Innovation: OECD (2005) defines product innovation as the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.

Process Innovation: OECD (2005) manual describes process innovation as the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.

Marketing Innovation: OECD (2005) manual describes marketing innovation as the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. Marketing innovations are aimed at better addressing customer needs, opening up new markets, or newly positioning a firm's product on the market, with the objective of increasing the firm's sales.

Organizational Innovation: OECD (2005) manual defines organizational innovation as the implementation of a new organizational method in the firm's business practices,

workplace organization or external relations. Organizational innovations can be intended to increase a firm's performance by reducing administrative costs or transaction costs, improving workplace satisfaction (and thus labour productivity), gaining access to non-tradable assets (such as non-codified external knowledge) or reducing costs of supplies.

2.3.4 Benefits of Financial Innovation

Wyman (2012) contends that financial innovations have helped certain kinds of firms to cut the cost of funds raised for investment and to raise funds more securely and quickly. For example, the venture capital industry, a financial services innovation, helped to launch many of the high technology firms that created prosperity in the United States from the 1950s through to today, including E-Bay/PayPal and Amazon.

Simpson (2002) suggests that e-banking is driven largely by the prospects of operating costs minimization and operating revenues maximization. A comparison of online banking in developed and emerging markets revealed that in developed markets lower costs and higher revenues are more noticeable.

2.3.5 Challenges of Financial Innovation

Johnson (1991) is of the view that although financial innovations can enable each separate organization to handle its position comfortably, stability of the financial system as a whole may be endangered in three aspects: Firstly, the risks, after being segregated and transferred, may be clustered among few banks, few exchange rates or interest rates, and few maturity dates.

The World Economic Forum report (2012) argues that innovation introduces Knightian uncertainty through the unpredictability of customers' responses to the innovation and, in a broader sense, of unforeseeable ripple effects through the wider economy.

Emery and Finnerty (2002) and Shiller (2002) argue that there is a close link between financial innovation and the cycle of speculative bubbles and catastrophic busts that has been the cause of much economic and social misery.

2.3.6 Methodology and Findings

Ben-Horim and Silber (1977) test the proposition that regulatory constraints induce innovation. They construct a linear programming model to estimate the opportunity costs (shadow prices) of deposits, debentures, and capital (net worth) for large banks from 1952-1972. They Found that the rising shadow prices of these items, as they approached regulatory constraints (such as Regulation), were associated with some of the major innovations of the 1960s, such as the negotiable CD.

2.3.7 Summary of Literature Review

The body of theoretical literature has mainly emphasized the fact that firms undertake financial innovation to reduce costs and increase their profit potential. However, most firms are constrained by the prevailing regulations in their financial innovation endeavor. Furthermore, the body of empirical literature has fairly confirmed the proposition in the theoretical literature in which some firms experienced reduced costs and improved profits due to major innovations.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The first section of this chapter will discuss the research design that will form the foundation of this particular study. Section 3.3 will analyse the population of the study while data collection will be explained in section 3.4 in which the major focus will be on secondary data sources. Finally, the chapter will discuss the application of the regression and discriminant analysis in section 3.5 where a regression and discriminant function will be provided.

3.2 Research Design

A data analysis design technique will be used in this study. This is because the objectives of this study is to analyse the effectiveness of financial innovation strategies on the financial performance of commercial banks in Kenya and consequently categorise the commercial banks into those that have been effective on financial innovation and those that have been less effective on financial innovation strategy on the basis of various performance indicators. This therefore fits in the analytical framework for the study.

The first step in the design process is to derive a regression function that will be able to estimate the relationship between financial performance as the dependent variables and the three measures for financial innovation which comprise the independent variables; number of product innovations, number of process innovations and the percentage of bank's net profit allocated for financial innovations.

The next step in the design process is to estimate the return on net asset (financial performance) for each commercial bank given the various values of product innovation,

process innovation and the portion of net profit set aside for financial innovation for the year 2012.In addition, an estimate of the return on net asset for each commercial bank for the year 2007 will be derived based on the regression model and the values of the independent variables for the study that existed in the year 2007.A data analysis will be undertaken for each commercial bank to assess those banks that have been successful against those that have been less successful on financial innovation.

To enhance validity and reliability of the regression model's ability to categorise the commercial banks into those that have been effective and those that have been less effective on financial innovation, a discriminant analysis will complement the regression model by classifying those commercial banks that have been successful on financial innovation against those commercial banks that have been less successful on financial innovation on the basis of three discriminating variables i.e. the number of product innovation, the number of process innovation and the bank's return on the net assets.

The dependent variable will be coded as follows:

Effective on financial innovation	0
Less effective on financial innovation	1

After the variables have been identified, a statistical package such as SPSS will form an algorithm which determines how well the three (3) discriminant independent variables will correctly classify those commercial banks that have been successful on financial innovation from those commercial banks that have been less successful on financial innovation.

Therefore this design will come up with the following classification table:

Table 1: Classification Table

ACTUAL GROUP	NUMBER OF CASES
Effective on financial innovation	xx
Less effective on financial innovation	xx
TOTAL	43

3.3 Population

The population for this study will be all the 43 commercial banks in Kenya as per the Central bank of Kenya's Bank Supervision annual report 2012.Gakure (2012) also used a population of 43 commercial banks in Kenya. The list of all the commercial banks in Kenya has been provided in appendix A.

Given that there are only 43 commercial banks in Kenya, this study will not sample the banks but will instead undertake an analysis of all the commercial banks in Kenya.

The analysis will summarise the secondary data sources as follows:

The following are variables that the research paper will consider:

3.3.1 Dependent Variable

Since the main objective of the research is to assess the effectiveness of financial innovation strategies on the financial performance of commercial banks in Kenya, financial performance will be measured by the return on the net assets which will be the dependent variable.

3.3.2 Independent Variables

In order to come up with the regression function, the study will use three independent variables:

3.3.2.1 Number of Product innovations

This is a ratio data variable and will include among others the number of new deposit accounts, new credit arrangements, credit cards, debit cards and other financial products. The hypothesis is that an increase in the number of product innovations will lead to an increase in the banks' return on net assets.

3.3.2.2 Number of Process Innovations

This is a ratio data variable and will include among others the number of agency banking outlets and the introduction of electronic banking, internet banking and mobile banking platforms. The hypothesis is that an increase in the number of process innovations will lead to an increase in banks' return on net assets.

3.3.2.3 Percentage of Net profit Allocated for Financial innovations

This is a ratio data variable and will comprise of that portion of the banks' net profit that is set aside to finance the financial innovation strategies. The hypothesis is that a higher proportion set aside for financial innovation is likely to lead to an increase in the banks' return on net assets.

3.4 Data Collection

The data to be used for the study will be collected from mainly secondary data sources. These sources will include among others; Central Bank of Kenya's Bank Supervision Annual

Report 2012 and the Central Bank of Kenya annual report: Financial inclusion in Kenya. Additionally, data will also be obtained from the respective commercial banks published data.

These secondary data sources will seek to come up with data relevant for the study; banks' return on net assets, the number of product innovations, the number of process innovations and the proportion of net profit allocated for financial innovations.

3.4.1 Identification of Variables

For the purpose of the identification of variables relevant for the study, an exploratory research will be undertaken so as to formulate this problem more precisely, clarify concepts of effective financial innovation strategies, gather explanation, gain insight, eliminate impractical ideas, and eventually forming a hypothesis which will state that the financial performance of commercial banks in Kenya is determined by the three independent variables; the number of product innovations, the number of process innovations and the proportion of net profit allocated for financial innovations.

The research paper will undertake an exploratory research using the following:

i. Literature search

ii. Central Bank of Kenya publications

iii. Case study

The results of the exploratory study will enable the paper come up with variables for the research study

3.4.2 Validity

Internal validity will be enhanced by ensuring that the instrument for data collection i.e. the secondary data sources collect and measure what is relevant for the study. One way is by using various data sources to complement the available Central Bank of Kenya data sources.

Moreover, the paper will also enhance content validity by undertaking an analysis of all the commercial banks in Kenya. i.e. 43 commercial banks. Criterion related validity will also be enhanced to ensure that the models can be used for future prediction and analysis.

3.4.3 Reliability Consideration

To enhance its reliability, the secondary data sources will be collected strictly from the official published data sources.

3.5 Data Analysis

The main instrument of data analysis for this study will be the regression analysis and the discriminant analysis that will be able to come up with a regression function that will estimate the relationship between financial performance of commercial banks in Kenya and the financial innovation strategies. Discriminant analysis will categorize the two groups of commercial banks on the basis of their success in financial innovation.

3.5.1 Regression Analysis

This is a statistical process for estimating the relationship between a dependent variable and one or more independent variables of the study. The first step in the study design will be to come up with a regression model as shown below:

$Y = d_0 + d_1X_1 + d_2X_2 + d_3X_3$

Where: Y is the return on net assets as a measure of financial performance

d_0 is the constant on the regression equation

d_is are the regression coefficients

X_1 is the number of product innovations

X_2 is the number of process innovations

X_3 is the percentage of net profit allocated for financial innovation

Therefore, the regression model will attempt to establish the relationship between financial performance of commercial banks in Kenya and the financial innovation strategies as shown.

$$\underbrace{\text{Return on net assets}(Y)}_{\text{Financial performance}} = \underbrace{d_0 + d_1 X_1 + d_2 X_2 + d_3 X_3}_{\text{Financial innovation}}$$

3.5.2 Discriminant Analysis

The final part of the research design will be to come up with a discriminant function. This is a linear combination that seeks to determine which variables are the best predictors of group membership. In this case the discriminant analysis will determine which variables will best categorize whether a given commercial bank has been effective in financial innovation or less effective in financial innovation.

This study will aim to come up with a discriminant equation of the form:

$D = d_o + d_1 x_1 + d_2 x_2 + \ldots + d_p x_p$

Where:

D_i is the score on discriminant function which indicates the effectiveness of financial innovation strategies on the performance of commercial banks in Kenya.

d_is are the weighing coefficients

d_o is the constant on the discriminant equation.

Xs are the values of the discriminating variables which are the independent variables to be used in the analysis.

From the discriminant function it is possible to analyse and predict for a given commercial bank having a certain value of the discriminating variables whether it has been effective in financial innovation or less effective in financial innovation. From the analysis we can also conclude using the coefficients which variable is the most important in categorising the two groups of banks.

3.5.3 Statistical Tools for Analysis

The data will be analyzed using spss statistical package where an algorithm will determine how well the discriminating variables will correctly classify those commercial banks that have been effective in financial innovation from those that have been less effective in financial innovation.

The following is an example of the results that may be produced from the spss output:

Table 3: Model of SPSS Output

	UNSTANDARDISED	**STANDARDISED**
X_1	d_{o1}	d_1
X_2	d_{o2}	d_2
X_3	d_{o3}	d_3
X_4	d_{o4}	d_4
CONSTANT	d_{oo}	d_o

The results will enable us come up with a discriminant function of the form

$D = d_o + d_1x_1 + d_2x_2 + d_3x_3$

Where D is the score on discriminant function.

d_is are weighing coefficients

d_o is the constant on the discriminant function.

x_1 is the number of product innovations

x_2 is the number of process innovations

x_3 is the return on net asset

Given that $d_1 > d_2 > d_3$ then we may conclude that the number of product innovations(x_1) has the greatest discriminating power which implies that if a commercial bank has several innovative financial products then it is likely to be categorized as successful in financial innovation.

3.5.4 Test of Significance of the Discriminant Function

The chi-square test of significance will be used to test the significance of the discriminant function where the chi- square value from the spss output will be compared with the chi-square from the table at 5% significance level with (k-1) (c-1) degrees of freedom. K being the number of variables (4).

3.5.5 Determination of the Validity of the Discriminant Analysis

The discriminant function can be tested for its validity by estimating its ability to correctly classify the commercial banks with given value of x_1, x_2, and x_3.

For example the discriminant analysis may come up with the following classification results.

Table 4: Predicted Group Membership

ACTUAL GROUP	NUMBER OF CASES	0	1
Effective on innovation	0 21	17	4
Less effective on innovation	1 23	3	20

This shows that 80% of those commercial banks that have been effective in financial innovation have been classified correctly while 87% of those that are less effective on financial innovation have been classified correctly by the model.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents data analysis, results and discussion. The data used in this study has been analyzed using descriptive techniques including mean and percentages. This is so as to be able to facilitate the performance of regression analysis and discriminant analysis. Moreover, the data used in this study has been sourced mainly from secondary data sources. This chapter specifically, seeks to answer and accomplish the research questions and objectives as stated in chapter one. This chapter is organized into sections, where the first part (section 4.2) attempts to analyze the various data on the banks' financial performance such as return on net assets, proportion of net profit allocated for innovation and the various financial innovation strategies employed by the commercial banks in Kenya. Section 4.3 will explore the results generated by this study and finally section 4.4 will provide both a theoretical and practical discussion of the results of the study.

4.2 Data Analysis

This section will provide an analytical perspective of the data used in this particular study.

4.2.1 Financial Performance

In order to be able to measure financial performance of the commercial banks in Kenya, the study used the return on net assets as a yardstick for financial performance. This section will provide detailed information on the return on net assets for each of the 43 commercial banks in Kenya as given by the Central Bank of Kenya Bank's Supervision Annual Report 2012.

The data analyzed in this section has been drawn from a crossectional analysis for all the banks in Kenya for the year 2012.

The table that follows shows the data that will be used in the regression analysis.

Table 4.1: Regression Analysis Data

Banks	Return on Net Assets (%)	Number of Product Innovations	Number of Process Innovations
Kenya Commercial Bank Ltd	5.2	18	7
Standard Chartered Bank Ltd	5.9	10	5
Barclays Bank of Kenya Ltd	7.0	19	5
Co-operative Bank of Kenya Ltd	4.8	54	5
CFC Stanbic Bank Ltd	3.5	22	4
Equity Bank Ltd	7.4	16	7
Bank of India Ltd	2.4	8	3
Bank of Baroda Ltd	3.6	2	2
Commercial Bank of Africa Ltd	4.0	13	4
Prime Bank Ltd	2.7	3	2
National Bank Ltd	1.7	18	3
Citibank N.A	10.4	2	2
Bank of Africa Ltd	1.3	15	3
Chase Bank Ltd	2.7	21	4
Imperial Bank Ltd	5.5	10	2
NIC Bank Ltd	4.2	7	3
Ecobank Ltd	-4.8	4	5
I& M Bank Ltd	5.2	9	5
Diamond Trust Bank Ltd	4.9	10	2
Family Bank Ltd	2.7	33	7
Habib Bank Ltd	6.5	6	2
Oriental Commercial Bank Ltd	1.8	7	2

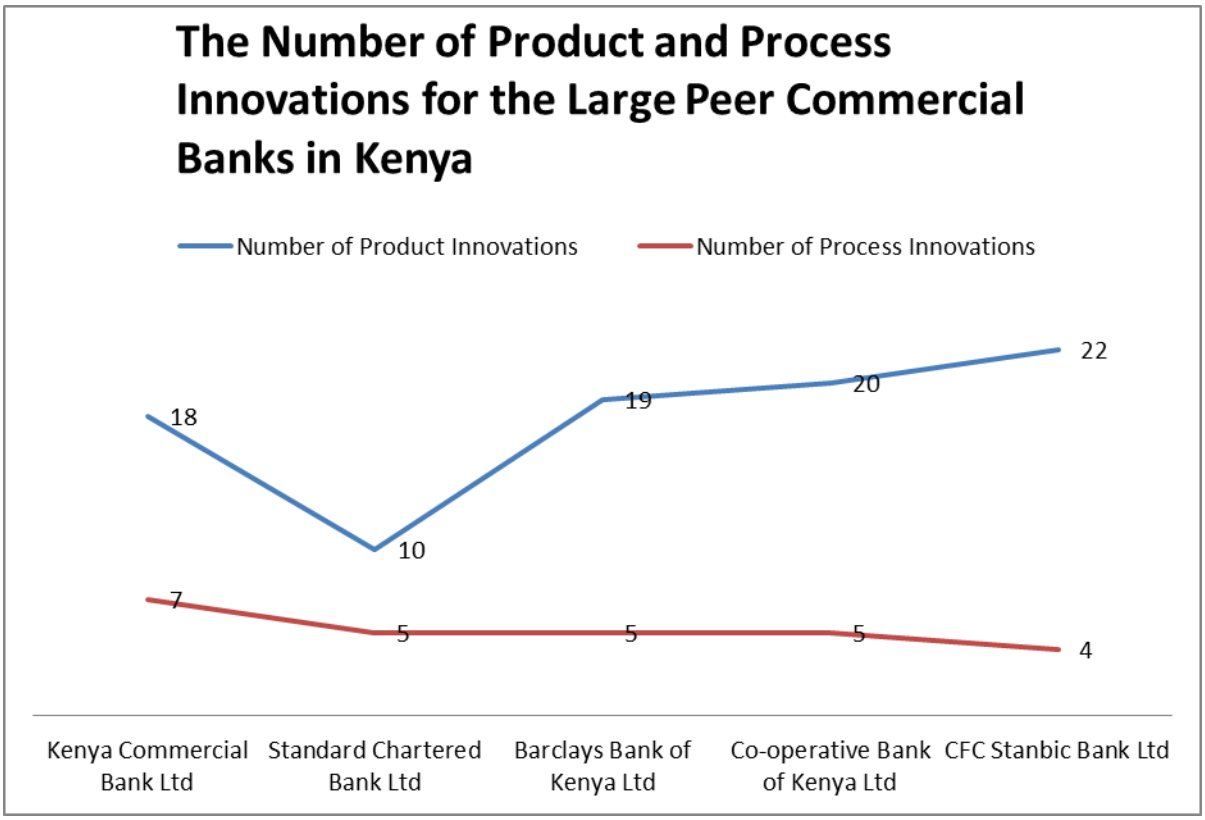
Habib A.G Zurich	4.2	-	-
Middle East Bank Ltd	0.8	7	2
Dubai Bank Ltd	-1.2	11	3
Consolidated Bank of Kenya Ltd	1.0	22	3
Credit Bank Ltd	1.3	17	2
Trans-national Bank Ltd	3.7	17	3
African Banking Corporation Ltd	2.9	6	2
Giro Commercial Bank Ltd	1.7	6	2
Equatorial Commercial Bank Ltd	-4.6	6	2
Paramount Universal Bank Ltd	1.2	9	3
Jamii Bora Bank Ltd	1.5	23	3
Fina Bank Ltd	2.0	14	2
Victoria Commercial Bank Ltd	4.8	3	2
Guardian Bank Ltd	1.9	10	3
Development Bank of Kenya Ltd	0.8	7	2
Fidelity Commercial Bank Ltd	0.9	4	2
Charterhouse Bank Ltd	-	-	-
K-rep Bank Ltd	3.2	8	3
Gulf African Bank Ltd	2.8	18	3
First-Community Bank Ltd	2.9	7	3
UBA Kenya Ltd	-13.6	7	3

Source: Bank Supervision Annual Report 2012

4.2.2 Financial Innovation Strategies

There are a variety of financial innovation strategies implemented by commercial banks in Kenya so as to be able to achieve a good financial performance and maintain their competitiveness. Commercial banks in Kenya have over the last 5 years increased their efforts in financial innovation. This study will explore only product innovations and process innovations since they account for the majority of financial innovation strategies employed by the banks.

Figure 4.1 Product and Process Innovations for the Large Peer Banks



Furthermore, commercial banks in Kenya have over the last 5 years increased their budget for financial innovation whereby a significant proportion of their net profit for the year is allocated for innovation. This study will use the proportion of net profit spent on the

acquisition of new computer software for commercial banks in Kenya as a yardstick for the proportion of net profit allocated for financial innovation.

The figure below shows the product and process innovations for the large peer commercial banks in Kenya and shows the extent in which financial innovation efforts has been increasing over the years due to competition.

Table 4.2 Proportion of Net profit Allocated for Financial Innovation

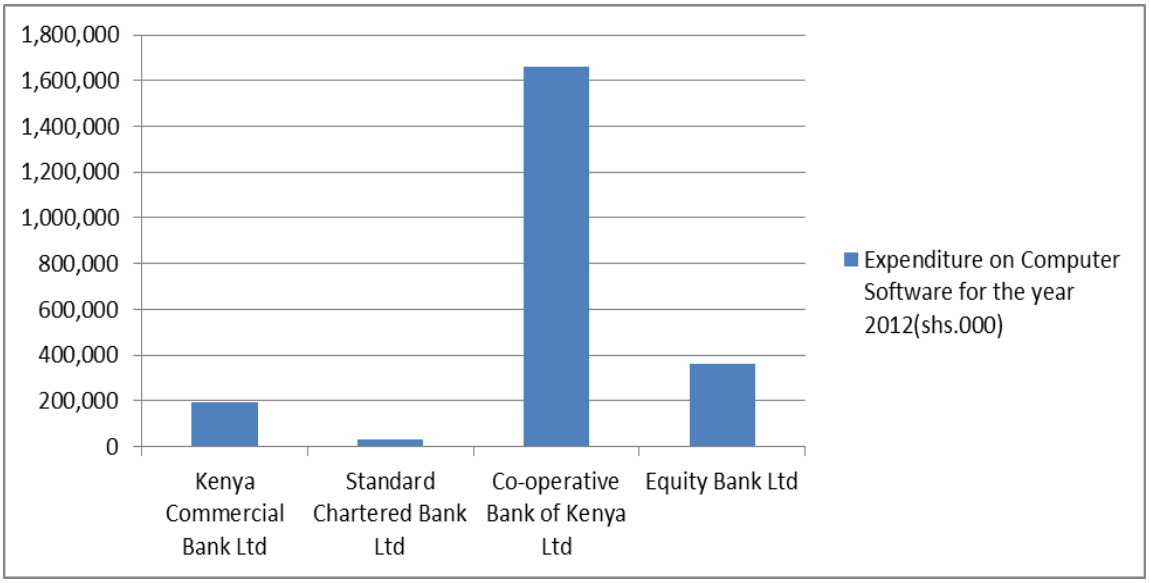
Banks	Expenditure on software for the year 2012 Shs.000	Net profit for the year 2012 Shs.000	Proportion of Net profit allocated for innovation (%)
Kenya Commercial Bank Ltd	191,018	11,089,839	1.72
Standard Chartered Bank Ltd	29,425	8,069533	0.36
Co-operative Bank of Kenya Ltd	1,662,414	7,329,433	22.68
Equity Bank Ltd	363,000	10,997,000	3.30
Bank of Baroda Ltd	6,123	1,363,881	0.45
Commercial Bank of Africa Ltd	60,748	2,640,500	2.30
National Bank Ltd	448,066	729,752	61.40
Bank of Africa Ltd	16,204	473,743	3.42
Chase Bank Ltd	125,635	904,370	13.89
Imperial Bank Ltd	80,643	1,403,302	5.75
NIC Bank Ltd	339,005	2,907,862	11.66
Ecobank Ltd	158,458	(1,055,754)	15.01
I& M Bank Ltd	154,116	3,362,893	4.58
Diamond Trust Bank Ltd	34,291	3,068,693	1.12
Family Bank Ltd	95,907	540,718	17.74
Oriental Commercial Bank Ltd	0	94,468	0.00
Middle East Bank Ltd	7,150	44,342	16.12
Trans-national Bank Ltd	10,543	213,393	4.94
Giro Commercial Bank Ltd	0	226,360	0.00
Equatorial Commercial Bank Ltd	18,337	(481,940)	3.80
Jamii Bora Bank Ltd	1,784	52,331	3.41
Fina Bank Ltd	0	283,400	0.00

Victoria Commercial Bank Ltd	94,325	350,532	26.91
Consolidated Bank of Kenya Ltd	36,009	139,249	25.86
CFC Stanbic Bank Ltd	0	1,922,884	0.00
Prime Bank Ltd	962	954,719	0.10
Bank of India Ltd	3,411	120,128	2.84
Citibank N.A	0	4,428,587	0.00
Habib A.G Zurich	0	250,021	0.00
Dubai Bank Ltd	-	-	
Credit Bank Ltd	31,628	69,669	45.40
African Banking Corporation Ltd	8,852	423,883	2.09
Paramount Universal Bank Ltd	-	-	
Guardian Bank Ltd	-	-	
Development Bank of Kenya Ltd	0	71,953	0.00
Fidelity Commercial Bank Ltd	19,379	90,051	21.52
Charterhouse Bank Ltd	-	-	
K-rep Bank Ltd	0	196,078	0.00
GulfAfrican Bank Ltd	0	242,221	0.00
First-Community Bank Ltd	-	-	
UBA Kenya Ltd	339	50,909	0.67

Source: Author (2013)

In addition the figure below shows for the large peer commercial banks the expenditure that was budgeted for financial innovation.

Figure 4.2: Expenditure on Computer Software for the Large Peer Banks



4.2.3 Categorization of the Banks' Effectiveness in Financial Innovation

Among the objectives of this study was to come up with a classification of those commercial banks in Kenya that have been effective in financial innovation against those that have been less effective in financial innovation. This entails the performance of the discriminant analysis technique. Initially, return on net assets is used to classify commercial banks as effective in financial innovation or less effective in financial innovation before the performance of the discriminant analysis.

4.3 Results

This section will provide the results for both regression analysis and discriminant analysis so as to be able to answer the research questions given in chapter one.

4.3.1 Descriptive Statistics

The following table provides the mean and standard deviation for the four (4) variables used in the regression analysis. This shows that the mean return on net assets for all the

commercial banks in Kenya was 3.45% which was an improvement compared to previous years.

Table 4.3: Mean and Standard Deviation for the Variables of the Study

	Mean	Std. Deviation	N
Return on Net Assets (%)	3.4485	2.16768	33
No. of Product Innovations	11.7879	6.62268	33
No. of Process Innovations	3.1818	1.55029	33
Proportion of Net profit Allocated for Innovations (%)	8.2412	11.68745	33

Source: Spss Output

4.3.2 The Extent of the Model Relationship

The results show that the number of product innovations and the proportion of net profit allocated for financial innovations are negatively related to financial performance(return on net assets) while the number of process innovation is positively related to financial performance(return on net assets).

Table 4.4 Correlation Coefficient

		No. of Product Innovations	No. of Process Innovations	Proportion of Net profit Allocated for Innovations (%)
Pearson Correlation	Return on Net Assets (%)	-.207	.297	-.299
	No. of Product Innovations	1.000	.533	.275
	No. of Process Innovations	.533	1.000	-.011
	Proportion of Net profit Allocated for Innovations (%)	.275	-.011	1.000

Source: Spss Output

4.3.3 Model Summary

From the model summary, at 95% significant level, the model explains only 23% of the variations in financial performance (return on net assets). This implies that 23% of the variations in financial performance are explained by the variations in financial innovations strategies for the commercial banks in Kenya with the rest of the variations in financial performance being explained by other factors not captured by the study.

Table 4.5 Regression Model Summary

Model	R	R Square	Adjusted R Square
	.549[a]	.301	.229

Source: Spss Output

4.3.4 Analysis of Variance

The ANOVA table shows that the variance of the difference of the means between the regression model and the residual is significantly lower and thus the model can be relied upon for prediction.

Table 4.6 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	45.259	3	15.086	4.163	.014[a]
Residual	105.104	29	3.624		
Total	150.362	32			

Source: Spss Output

4.3.5 Regression Model

From the table of the coefficients, the study derived a regression model below which will be used for prediction.

$Y = 3.057 – 0.145\ X_1 + 0.743\ X_2 – 0.032\ X_3$

Where:

X_1 is the number of product innovations

X_2 is the number of process innovations

X_3 is the proportion of net profit allocated for financial innovation

The regression model indicates that the number of process innovation has a positive impact on the financial performance of the commercial banks.

The section that follows will provide the results for discriminant analysis.

4.3.6 Group Classification

Only 41 commercial banks were involved in the discriminant analysis. This is because there were missing data or information for the remaining two Commercial banks in Kenya was not available.

Table 4.7: Prior Probabilities for Groups

D	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Effective in Financial Innovations	.500	20	20
Less Effective in Financial Innovations	.500	21	21
Total	1.000	41	41

Source: Spss Output

Therefore, as the table shows those commercial banks that have been initially classified as effective in financial innovation have been given a probability of 0.5 similar to those commercial banks that have been classified as less effective in financial innovation.

4.3.7 Discriminant Function

The discriminant function has been derived from the coefficients as shown in the table below.

Table 4.7: Standardized Discrimininant Function Coefficients

D	Function
	1
Return on Net Assets (%)	.322
No. of Product Innovations	-.029
No. of Process Innovations	.258
(Constant)	-1.282

Source: Spss Output

Hence the discriminant function will be stated as follows:

D = -1.282 + 0.322(Return on Net Assets) -0.029 (No. of Product Innovations) + 0.258 (No. of Process Innovations)

This implies that given information on the discriminating variables for a particular commercial bank in Kenya, it is possible to categorize the bank as either effective in financial innovation or less effective in financial innovation. Moreover, the discriminant model indicates that the return on net assets has the greatest discriminating power in classifying those commercial banks that have been effective in financial innovation against those commercial banks that have been less effective in financial innovation.

4.3.8 Classification Results

Table 4.8: Classification Table

		D	Predicted Group Membership		Total
			Effective in Financial Innovations	Less Effective in Financial Innovations	
Original	Count	Effective in Financial Innovations	17	3	20
		Less Effective in Financial Innovations	2	19	21
	%	Effective in Financial Innovations	85.0	15.0	100
		Less Effective in Financial Innovations	9.5	90.5	100

Source: Spss Output

The classification results shows that out of the 20 commercial banks that were initially classified as effective in financial innovation, 17 banks(85%) were correctly classified while 3 (15%) were classified incorrectly. Furthermore, out of the 21 commercial banks initially classified as less effective in financial innovation 19 (90.5%) were correctly classified while 2(90.5%) were classified incorrectly. This shows that the discriminant model used in this study is significantly reliable.

4.4 Discussion

The results of this study underlie the dynamic nature and the challenging scenarios provided by financial innovation such that the results seem to confirm the inconsistencies encountered by researchers in establishing the relationship between financial performance and financial innovation. The discussions will explore the theoretical implication and the practical implication of the results of the study.

4.4.1 Theoretical Implication

As noted by Gakure & Ngumi (2013), previous studies in financial innovations have produced mixed results regarding the impact of innovation on the banks' performance. The dynamic nature of the study is confirmed by the results since the regression model was able to explain only 23% of the variations in the banks' financial performance. This is partly because of the opposing forces of the independent variables for this particular study. Both the number of product innovations and the proportion of net profit allocated for financial innovation have a short-term negative impact on the financial performance due to the cost outlays involved. However, the numbers of process innovations have been noted to increase the banks' efficiency in operation and productivity which in turn lead to an increase in the financial performance for the banks.

Ho (2006) and the World Economic Forum Report, 2012 noted that the main underlying factor that affects the relationship between financial performance and financial innovation is the risk management framework employed by the commercial banks. This is a fact since most financial innovation comes with a lot of risk exposures for the banks which may consequently drain down the positive effects of financial innovation.

As shown by the discriminant model, financial performance (return on net assets) is the most important factor in determining whether a bank has been effective in financial innovation or less effective in financial innovation. This proposition is supported by Harker and Zenios (1998).

4.4.2 Practical Implication

The results provided by this study, have a practical basis since in analyzing the impact of product innovations and the proportion of net profit allocated for financial innovation it is

possible to conclude that given the fact that both involve huge outlays of cash investments, then it is rational to conclude that in the short-term the return on net assets will fall as these two variables increase. This is because the expenses will reduce net profit, while the investments will increase the banks' net assets portfolio. The fact that the number of process innovations has a positive and significant impact on financial performance is also supported from a practical perspective as the immediate impact of the process innovations among commercial banks is to increase efficiency and productivity in the banks' operations which consequently leads to an increased financial performance.

As portrayed by the wealth induced financial innovation theory, financial performance (return on net assets) is the most important discriminating factor in assessing those banks that have over the years been effective in financial innovation against those that have been less effective in financial innovation.

CHAPTER FIVE

SUMMARY, CONCLUSSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusions and recommendations.

5.2 Summary of Findings

The purpose of this study was to determine the effectiveness of financial innovation strategies on the financial performance of the commercial banks in Kenya. This entailed the determination of the linear relationship between financial performance (return on net assets) and financial innovation strategies(number of product innovations, number of process innovations and the proportion of net profit allocated for innovations).Additionally, the objective of classifying commercial banks that have been effective in financial innovation against those that have been less effective in financial innovation entailed the performance of the discriminant analysis.

The findings from the regression analysis show that the model was able to explain only 23% of the variations in the financial performance of commercial banks in Kenya with the rest being explained by other factors not captured by the study. Furthermore, the number of process innovations had a positive significant impact on financial performance while the number of product innovations and proportion of net profit set aside for innovations had a negative impact on financial performance.

The findings of the discriminant analysis revealed that the return on net assets is the most important in classifying commercial banks that have been effective in financial innovation against those that have been less effective in financial innovation. Moreover, the

classification results indicate that of the 20 commercial banks initially classified as effective in financial innovation, 17 banks (85%) were correctly classified while 3 banks (15%) were classified incorrectly. Additionally, out of the 21 commercial banks initially classified as less effective in financial innovation, 19 (90.5%) were correctly classified while 2(9.5%) were classified incorrectly. The study found the discriminant model to be significantly reliable for prediction.

5.3 Conclusion

Given that the relationship between financial performance and financial innovation produces mixed results, it can be concluded that different financial innovation strategies produce different financial performance reactions. For instance, product innovations and the proportion of net profit allocated for financial innovation produce a short-term negative impact on financial performance since the two variables involve huge outlay of cash set aside for investment. However, process innovations have been a catalyst for increased banks' efficiency and productivity which have consequently improved the banks' financial performance.

It is worth noting that most commercial banks undertake financial innovation to improve their financial returns. Hence, the discriminant analysis confirms this proposition by singling out return on net assets as the main discriminating variable. In addition, the implications of the results of the discriminant analysis mean that the discriminant model used in the study is significantly reliable given that 87.8% of the original grouped cases were correctly classified.

5.4 Limitations of the Study

The main challenge of this study was that given secondary data sources were used in the analysis, there were instances where product and process innovations overlap. This proved

difficult for the study to categorize a certain innovation as either product or process innovation However, to mitigate this scenario, process innovation for this particular study was defined to include the presence of mobile banking, internet banking, agency banking and diaspora banking. Additionally, it was difficult to obtain relevant data for foreign owned banks that had their financial statements prepared by the parent company. To mitigate this, the foreign owned banks were eliminated from the analysis. Finally, there was also a situation where certain banks did not have published annual reports. This was mitigated by analyzing the respective banks' financial statements which were less detailed.

5.5 Recommendations

In an attempt to establish effective financial innovation strategies for commercial banks in Kenya, the study provides the following recommendations;

(i) Commercial banks undertaking financial innovation strategies to improve financial performance should balance their allocations for financial innovations so as to ensure that only an amount that is considered cost effective is allocated for financial innovation.

(ii) Commercial banks undertaking financial innovation strategies to improve financial performance should undertake a preliminary cost-benefit analysis to realize their objectives.

(iii) Commercial banks undertaking financial innovations should have a formal risk management framework in place to mitigate any adverse effects of financial innovations.

5.6 Suggestions for Further Research

Given the scope and limitations of this study, the researcher suggests the following for further study:

(i) The scope of this study should be expanded to include other variables not identified in this study as captured by the error term.

(ii) To compare the effectiveness of financial innovation strategies across the different sectors of the economy, a study of similar nature should be carried in an industry other than the banking industry.

(iii) Since this particular study found a small relationship between financial performance and financial innovation, then it would be a good idea to have a study on the benefits of financial innovations among the commercial banks in Kenya.

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Appendix A-List of All Commercial Banks in Kenya

BANKS	PEER GROUPS
Kenya Commercial Bank Ltd	Large
Standard Chartered Bank Ltd	Large
Barclays Bank of Kenya Ltd	Large
Co-operative Bank of Kenya Ltd	Large
CFC Stanbic Bank Ltd	Large
Equity Bank Ltd	Large
Bank of India Ltd	Medium
Bank of Baroda Ltd	Medium
Commercial Bank of Africa Ltd	Medium
Prime Bank Ltd	Medium
National Bank Ltd	Medium
Citibank N.A	Medium
Bank of Africa Ltd	Medium
Chase Bank Ltd	Medium
Imperial Bank Ltd	Medium
NIC Bank Ltd	Medium
Ecobank Ltd	Medium
I& M Bank Ltd	Medium
Diamond Trust Bank Ltd	Medium
Family Bank Ltd	Medium
Habib Bank Ltd	Small
Oriental Commercial Bank Ltd	Small
Habib A.G Zurich	Small
Middle East Bank Ltd	Small

Dubai Bank Ltd	Small
Consolidated Bank of Kenya Ltd	Small
Credit Bank Ltd	Small
Trans-national Bank Ltd	Small
African Banking Corporation Ltd	Small
Giro Commercial Bank Ltd	Small
Equatorial Commercial Bank Ltd	Small
Paramount Universal Bank Ltd	Small
Jamii Bora Bank Ltd	Small
Fina Bank Ltd	Small
Victoria Commercial Bank Ltd	Small
Guardian Bank Ltd	Small
Development Bank of Kenya Ltd	Small
Fidelity Commercial Bank Ltd	Small
Charterhouse Bank Ltd	Small
K-rep Bank Ltd	Small
GulfAfrican Bank Ltd	Small
First-Community Bank Ltd	Small
UBA Kenya Ltd	Small

Source: Bank Supervision Annual Report 2012