

**THE EFFECTS OF PRODUCT INNOVATION ON FINANCIAL PERFORMANCE  
OF COMMERCIAL BANKS IN KENYA**

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## DECLARATION

### Declaration by the Student

This research project is my original work and has not been presented to any other examination body. No part of this research should be reproduced without my consent or that of University of Nairobi.

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### Declaration by the Supervisor

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

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## **ACKNOWLEDGEMENT**

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## **DEDICATION**

This research project is dedicated to my husband and son for their perseverance during my studies. To my parents for struggling so hard to bring me up during those very difficult years of childhood and without resources taking me to school.

May God bless you, Amen!!

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## **ABBREVIATIONS**

ACBF	: African Capacity Building Fund
AP	: Augmented Product
ATM	: Automated Teller Machine
CBK	: Central Bank of Kenya
CP	: Core Product
FP	: Formal Product
KCB	: Kenya Commercial Bank
KSMS	: Kenya School of Monetary Studies
R&D	: Research and Development
RBV	: Resource Based View
ROA	: Return on Assets
ROE	: Return on Equity

## ABSTRACT

This project research is concerned with product innovation and its effects on financial performance of commercial banks in Kenya. Although studies have shown that financial performance of commercial banks is influenced by bank-specific factors and industry specific factors, locally very few studies have been done to determine the key factors that influence the financial performance of commercial banks. Moreover, reforms in banking industry have brought about many structural changes in the sector and encouraged competition. As results, banks adopted competitive strategies including products innovation. The study purposively looked into how core products innovation, formal product innovation and augmented product innovation affected the financial performance of commercial banks in Kenya. This study adopted explanatory research design in which a population sample of 106 senior and branch managers from nine commercial banks was taken using the census method. Data was collected using research questionnaires and face-to-face interviews and secondary data was obtained from 2013 audited annual financial statements of commercial banks. Analyses were conducted through descriptive statistics and Ordinary Least Square technique to estimate a multiple regression equation. Findings suggested that 6.5 percent ( $R^2=0.065$ ) of the variance in financial performance may be explained by core product innovation, formal product innovation and augmented product innovation. The regression results indicated that core product innovation and augmented product innovation do not have any relationship with the financial performance of banks. However, the results revealed a negative relationship between formal product innovation and the financial performance of commercial banks in Kenya with  $\beta$  value of -4.758 and a t value of -2.022 implying a statistical significance at 5 percent level. The study also yielded conclusive information in product innovation that all commercial banks have innovated and implemented products of each type even though there was a negative or no effect at all on their financial performance and a certain amount of time might be necessary in order to observe the reflection of positive effects of innovative products on financial performance. The study also concluded with a suggestion of further and extended future research in product innovation and financial performance of commercial banks in order to establish other useful findings that this particular study may have been unable to determine.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Banking Industry is one of the most important service industries which touch the lives of millions of people. Its service is unique both in social and economic points of view of a nation. During the last decades, many countries have witnessed great change in conditions surrounding banking industry. Such transformations are results of technological changes, financial globalization, and financial environment and deregulation (Francisco and Emili, 2002).

According to Frances (2008), retail banking industry is undergoing a period of rapid change in market share, competition, technology and the demand of consumers. They further add that the final and perhaps the most important force of change in banking industry is the rapid evolution of consumer wants and desires because consumers are demanding any time-any where the delivery of financial services along with an increased variety in deposit and investment products. Thus, banking firms have been impelled to modify their competitive strategies in a wider context for products and market. One of the more important components of such strategies has been the choice of a certain specialization in their production or product innovation.

Porter (1980) showed that in any industry, the nature of competition is embodied in threat of new entrant, threat of substitute product or services, bargaining power of suppliers/buyers and the rivalry among existing competitors. The importance of introducing innovative products for banks emanates from its potential to impact all these factors. Because commercial banks deal primarily with services, development of new products and

improvement of existing ones are therefore required to be in face of changing business environment.

### **1.1.1 Product Innovation**

According to Kotler (2011) a product is anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a need or a want. Thus a product may be a physical good, service or ideas. With regard to this study, products refer to various products and services that banks offer to their customers. Product innovation is the creation and subsequent introduction of a good or service that is either new or improved on previous goods or services (Azazeet *al.* 2005). Product innovations have a market focus and are primarily customer driven. Product innovation requires that banks assimilate customer need, changes in demographic aspects and supply new ways to enter bank markets.

Saloner and Shepard (2005) put forward the theory that a more concentrated market means that businesses can better capture the needs of the consumer, thus providing an incentive for an early adoption. Allen and Santomero (2001) suggest that the launch of a financial innovation process undertaken by banks in the United States proves to be a response to the intensification of competition within financial markets. Innovation is essential to the competitive edge of all businesses but particularly important for banking and finance companies. Innovation is a key driver of growth that surprises and delights the customer with new, differentiated and relevant benefits (Sharma, 2009). A successful product innovation provides a variety of products and thus a product mix. A firm's product mix is particularly important in a competitive industry where there are multiple competitors

rivaling for different customer segments, such as the banking industry where different banks are aimed at individual and corporate incomes.

To maximize the effectiveness of their products, banks usually have to adjust their portfolio through either the development of new products, improvements of existing products or deletion of some products. A good range will have a variety of products that will fit each person's needs. The goal for any bank should be to have as many products in its product range as the market demands. The effect of a good variety of product should be improved sales because the bank will be able to capture consumers from across the market and avoid a consumer switching to a competitor.

### **1.1.2 Financial Performance**

Performance may be defined as the reflection of the way in which the resources of a company (bank) are used in the form which enables it to achieve its objectives. According to Heremans (2007), financial performance is the employment of financial indicators to measure the extent of objective achievement, contribution to making available financial resources and support of the bank with investment opportunities. Rutagi (1997) defines financial performance as to how well an organization is performing. Other researchers define performance of the organization as the extent to which an organization achieves its intended outcome Namisi (2002). The general assumption among both researchers and practitioners is that effective boards lead to effective organization. From either an internal long-term profitability or external shareholder perspective, there is an indication that good boards may be able to add value to the organization (Epstein *et al.*, 2003).

### **1.1.3 Product Innovation and Financial Performance**

An innovation is either radical or incremental by determining the degree of change associated with it (Ettlie *et al.*, 1998). Radical innovations produce fundamental changes in the activities of an organization, industry or society and represent clear departures from existing practices on one hand and incremental innovations, on the other hand, merely call for marginal departures from existing practices as they mainly reinforce the existing capabilities of organizations (Ettlie *et al.*, 1998). Incremental improvements to existing products, services and organizational routines can enhance performance, quality, and usefulness and are vital to making more competitively advanced products (Sciulli, 1998).

In the place of offering one or two or a large number of products to the customers, it is by understanding all bank related needs of a customer and then evolving a comprehensive product package which can take care of his entire spectrum of needs. Hence once the bank gives a tailor-made product, it will definitely cultivate a psychological ownership on the customer's mind. Another aspect required in a product policy is local touch that is, by considering local peculiarities; product must be local-oriented.

Grundiche (2004) argued that for a firm to compete effectively in the dynamic and competitive business environment and achieve set goals in terms of profitability, high sales volume, and large market share, it must continuously develop products and product lines to satisfy the constantly changing desires and needs of customers. According to Azazeet *al.*, (2005), the reasons for new product development the most frequently cited by top business executives are corporate growth, diversification, and the quest for a competitive edge over rival business firms. They further add another specific reason for a firm to develop new

products: exploiting new opportunities. New products are essential to the survival and long term growth of any firm (Ramaseshan *et al.*, 2002).

Geroski (1995) examined the effects of the major innovations and patents to various corporate performance measures such as accounting profitability, stock market rates of return and corporate growth. The observed direct effects of innovations on firm performance are relatively small, and the benefits from innovations are more likely indirect. However, innovative firms seem to be less susceptible to cyclical sectoral and environmental pressures than non-innovative firms. Financial innovations are used by banks as formidable strategic variables to outstrip the competition and have become an essential means for the bank to improve its performance and to maintain its effectiveness on the market (Batiz-Lazo and Woldesenbet, 2006). This stimulates the interest in studying the relationship between financial innovations and banking performance. In a highly turbulent environment, a successful innovation creating a unique competitive position can give a bank a competitive advantage and lead to a superior financial performance. This can only be maintained by ceaseless innovation and improvement of the product and the process.

#### **1.1.4 Commercial Banks in Kenya**

Kenya currently has 44 licensed commercial banks and one mortgage finance company. Of these 44 institutions, 31 are locally owned and 13 are foreign owned. The government of Kenya has a substantial stake in three of Kenya's commercial banks, (Okumu, 2006). The remaining local commercial banks are largely family owned. Commercial banks in Kenya accept deposits from individuals and turn a profit by using the deposits to offer loans to businesses with a high interest rate. In Kenya, it is the responsibility of Central Bank of

Kenya (CBK) to formulate and implement monetary and fiscal policies, apart from policy formulation; CBK has become the lender of last resort in Kenya and is the banker to all other banks.

## **1.2 Research Problem**

The banking environment in Kenya has for the past decade undergone revolution and financial innovations. These reforms have brought about many structural changes in the sector and have also encouraged foreign banks to enter and expand their operations in the country. Innovations are now thought to hold the promise of a new commercial revolution by offering an inexpensive and direct way to promote bank products and services (Linyiru 2006).

However, the competitive environment of commercial banks with more diversity in financial products and increased demand for and the offer of products seem to be stronger and fundamental in Kenyan banking industry. Casu *et al.* (2006) categorized the various aspects of product innovation in banks as the introduction of new credit, deposit, insurance, leasing, hire purchase, derivatives and other financial products such as e-banking, investment and retail banking. As a result, product innovation as one of banks competitive strategies is believed to influence more the financial performances of the banks.

This revolution in the market place has set in motion a revolution in the banking sector for the provision of a payment system that is compatible with the demands of the electronic marketplace. (Flamini *et al.*, 2009) have shown that bank performance is influenced by



bank-specific factors and industry specific factors. Product innovation is one major factor that has transformed growth of many commercial banks in Kenya.

Locally, many studies have been done to determine the factors that influence the financial performance, but none have critically analyzed effects of product innovation as a critical factor in the financial performance of commercial banks in Kenya. The aim of this study is to close this gap in knowledge by investigating the effects of product innovation on financial performance of commercial banks in Kenya.

### **1.3 Research Objectives**

The objective of this study was to evaluate the effects of product innovation on financial performance of commercial banks in Kenya.

### **1.4 Value of the Study**

The study will be helpful to various stakeholders in banking industry who are interested to the long-term strategies for profitability namely shareholders, investors and creditors in such a way that they should be able to realize the potentials and scope for the business growth in local banks. The study has provided recommendations to be considered by commercial banks to improve their products development. The study will justify whether product innovation is influence financial performance and whether banks should take critical consideration. Lastly the research helped the researcher to increase her knowledge and be able to apply and compare theoretical aspects with practices done in banks.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the existing literature that is related to the study variables. The study focuses on effects of product innovation on financial performance of commercial banks in Kenya.

#### **2.2 Theories of Product Innovations**

Financial innovation has greatly changed the business of banking. Instead of just accepting deposits and making loans the old-fashioned way, banks nowadays are increasingly active in lending without putting loans on their balance sheets, through either securitization of their asset portfolio or outright loan sales. Banks also are shifting from interest-based revenues towards fee-based activities, including lines of credit and many types of credit guarantees (Arthur, 2006).

In addition, the situation is linked to the operational and business unit level that marketing takes up in the organization (Ambler, 2000). The last situation is connected not only with the increasing expectation of the board to get short-term profits but also with the rising relevance of the financial perspective on the top management (Webster et al. 2003). The Resource Based View (RBV) recognizes the importance of a firm internal organizational resource as determinants of the firm's strategy and performance (Barney, 1991). The same author defines the term "internal organizational resources" as all assets, capabilities, organizational processes, firm attributes, information, knowledge, that are controlled by a

firm and that enable it to envision and implement strategies to improve its efficiency and effectiveness.

Although the RBV recognizes that a firm's physical resources are important determinants of performance, it places primary emphasis on the intangible skills and organizational resources of the firm (Barney, 1991). Some intangibles resources of the firm are the market-assets (Srivastava, *et al.*, 1998) such as customer satisfaction and brand equity. Market research can provide small business owners with the information they need to answer a wide range of questions, including: Who are my customers? Where are they located? How much and how often will they buy? And what product attributes do they prefer? Given the importance of market research and its potential costs, experts recommend that businesses follow a step-by-step approach in order to gain the most benefits from their research activities.

The first step in the market research process is to define the marketing problem to be addressed. Next, a marketer should determine what information is needed to solve the problem, as well as what sources should be used to acquire the information. Many businesses make a preliminary investigation at this early stage in order to give more focus to their definition of the problem and to develop tentative answers that can be tested during the next stage of the process.

The third step involves planning the research. This step includes selecting the techniques to be used for gathering data and deciding on an appropriate group, or sample, to be included in the research. Fourth, a marketer actually gathers the necessary data. The fifth step involves analyzing and interpreting the information that has been gathered. Finally, the

marketer reaches a conclusion about the marketing problem and translates the findings into changes in the firm's overall marketing strategy.

## **2.3 Theoretical Frameworks**

### **2.3.1 Evolutionary Model**

According to evolutionary model of the firm by Nelson, *et al.*, (1982) the behaviour of any firm consists of, and is based on, a set of learned principles or routines. The quality of individual firm's routines determines its position in relation to rivals, analogous to the position of species in the evolutionary chain. Firms cannot, of course, maintain their superiority permanently on the basis of their existing routines. Innovations, which enable firms to develop new and upgrade existing routines, drive the continuous changes in the economic system. The endogenous growth literature introduces the simultaneity in the relationship between innovation and performance. In this model the growth of an economy is determined by the level of technology and innovation which, in turn, depend on the share of GDP devoted to these activities (Grossman, *et al.*, 1994; Aghion and Horwitt 1998).

### **2.3.2 Social Cognitive Theory**

Despite growing recognition for the role of managers in developing entrepreneurial behaviors, more needs to be known about the specific factors that can influence innovative objective. Social cognitive theory is a recent theory of human behavior that may have significant potential for influencing entrepreneurial activity in today's business organizations. It is believed that it provides a framework that helps to facilitate entrepreneurial knowledge within established organizations.

The theory recognizes the impact of the environment on human development while also placing responsibility on the individual to grow from within. It incorporates the primary critical categories of variables influencing organizational behavior; that is, cognitive, behavioral, and environmental determinants (Davis & Luthans, 1980). In short, social cognitive theory posits that the environment, the focal behavior, and the person (including internal cognitions) reciprocally interact to explain individual actions.

A social cognitive view of corporate entrepreneurship suggests that each person can transform into an innovative and entrepreneurial individual if given the opportunity and support to develop his or her abilities. In this respect, bank management support of entrepreneurial activity is key to ensure that employees become more innovative and creative. While the corporate environment plays an important role in personal development, the individual is also responsible and can affect his or her own manner of entrepreneurial thinking. Thus, even though the organization can provide a supportive environment for entrepreneurial activity, the employees must also actively manage themselves in understanding and taking advantage of these opportunities.

## **2.4 Determinants of Financial Performance in Commercial Banks**

These are many factors that play a role in shaping the financial status of a bank. Most studies divide the determinants of commercial banks' financial performance into two categories, namely internal and external factors. Internal determinants of profitability, which are within the control of bank management, can be broadly classified into two categories, i.e. financial statement variables and nonfinancial statement variables (Linyiru, 2006).

While financial statement variables relate to the decisions which directly involve items in the balance sheet and income statement; non-financial statement variables involve factors that have no direct relation to the financial statements. The examples of non-financial variables within this category are number of branches, status of the branch (e.g. limited or full-service branch, unit branch or multiple branches), location and size of the bank, Haron, Sudin (2004). External factors are those factors that are considered to be beyond the control of the management of a bank. Among the widely discussed external variables are competition, regulation, concentration, market share, ownership, scarcity of capital, money supply, inflation and size. Haron, Sudin (2004). The government owned bank for instance, suffers incessant/frequent changes in board membership and many appointments were made based on political affiliation rather than expertise consideration.

Consequent upon this, board members saw themselves as representative, of political parties in sharing the national cake emanating thereof and thus, ascribed their loyalty to the party members rather than the proper running of the bank itself. On the side of the privately-owned banks, shareholders constituted a problem. As a result of the insiders abuse of recruiting inexperienced and incompetent personnel to hold key positions in the bank, deterioration of management culture and weak internal control system instigated by the squabbles among the high rank management decision making team, and non-compliance with laws and prudential standards, mismanagement seemed to play a major role in bank failure in Kenya.

Bank losses increased and management resorted to hiding the losses in order to buy time and remain in control, (Ogumu, 2006). The banking industry being the nerve centre of the economy is invariably affected by economic and political environment/condition of the country. For instance the Structural Adjustment Programme (SAP) introduced in 1986 led to a wide range of economic reforms that affected the banking system. Also political situation like the political crisis like the disputed election in 2008, led to massive withdrawal of funds that affected banks (especially) those around affected regions, (CBK, 2008). The regulatory and supervisory measures of the CBK are unable to keep pace with the rapid changes in the banking industry. The CBK brief (2007) noted that the ability of the CBK to perform its regulatory role had in the past been affected by political leadership and corruption in the former regime.

According to Kotelnikov (2008), product innovation is the result of bringing to life the new way of solving customer's problem that eventually benefits both customers and banks. Both external and internal factors contribute to development of innovative products tailored to specific needs and special niches. Important external factors include market research, exchange of new product ideas between banks and research or technological developments. Internal factors could relate to in-house development of new products, monitoring and evaluation of existing products and feedback from employees and customer (Sharma, 2004).

There are many aspects of the performance of commercial banks that can be analyzed. This study focuses on the financial performance of a commercial bank due to its products. Arun and Turner (2004) and (Athanasoglou *et al.*, 2006) argued that the importance of banks is more pronounced in developing countries because financial markets are usually

underdeveloped, and banks are typically the only major source of finance for the majority of firms and usually the main depository of economic savings.

Generally, a bank's performance is usually measured by fundamental analysis, which primarily relies on examining its financial statements (Thoraneenitiyan, 2010). The principal aim of fundamental analysis is to improve the ability to forecast future movements in stock performance, which can then be used to design investment strategies (Avkiran and Morita, 2008). Whilst some studies examine whether earnings reflect some of the financial information in stock prices, recent research, however, has shifted towards the use of additional data such as economic value added and efficiency to understand how they affect stock prices and returns (Thoraneenitiyan, 2010).

There are many aspects of the performance of commercial banks that can be analyzed and measured. Line items such as revenue from operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the investors may wish to look deeper into financial statement and seek out margin growth rates or any declining debt. Four useful measures of firm profitability are the rate of return on firm assets, the rate of return on firm equity, operating profit margin and net firm income (Zenios et al, 1999). Reilly and Brown (1997) argue that organizational performance can be measured in terms of profitability. This measure is used to evaluate on how well is the management of the firms total capital and the raising of funds. Profits do serve as a cushion against adverse conditions such as losses on loans or caused by unexpected changes in interest rate (Chen, 2001).



## **2.5 Empirical studies on Product Innovation and Financial Performance**

The relation between bank performance and differences in products has been the subject of great interest in the academic literature. As reported by Amihud et al., (2002), mergers of banks show huge difference in geographical or product strategies which could adversely affect overall shareholder value. Other literature such as Cornett et al., (2003) opined that the exceptions of bidders who focus on geography and product-relatedness create value.

Nwokah, Elizabeth and Ofoegbu (2009) in their study revealed and concluded among other things that product development facets of product quality and product lines/product mix were positively and significantly correlated with the corporate performance facets of profitability, sales volume and customer loyalty. Furthermore, findings by Berger and Mester (2003) seem to suggest that the product mix may play a more important role in providing a competitive advantage and improve the performance of banks. Gabriel and Valentin (2007) concluded in their study that there is a positive contribution to the profits of small and large banks coming from an optimal product mix. They further add that the difference in performance of the largest banks and the smallest banks comes from the offsetting effect of technical change

Studies on effects of innovation on performance focused on first mover and imitator competitive advantages. Mabrouk and Mamoghli (2010) argued that if the process of innovation continues and new technologies are introduced over time, innovative banks can continue to earn high profits on the various new or improved products. However, extraordinary profits will dwindle as innovations are adopted widely (Berger and Mester 2003). Studies of Subramanian and Nilakanta (1996), Han *et al.* (1998) and Li and Atuagene-

Gima (2001) report on product innovations. Many of these researches embrace more or less a positive association between product innovations and firm performance. However there are also some studies indicating a negative link or no link at all (Capon et al. 1990; Chandler and Hanks, 1994).

## **2.6 Summary of Literature Review**

From the literature review, product innovation in banks as the introduction of new credit, deposit, insurance, leasing, hire purchase, derivatives and other financial products such as e-banking, investment and retail banking. These products are introduced to respond better to changes in market demand or to improve efficiency. However, considering the evolution of bank products, Watkins (2007) categorizes bank's products into three groups - Core products, Formal products, and augmented products.

Core products are products which define the business. For a bank, some of the core products are Savings Bank Account, Current Account, Term deposit, Recurring deposit, Cash credit, Term loan, overdraft and the like. Formal product is usually a combination of two or more core products and they have strong marketing content as they cater to some specific customer needs. Formal product has the quality of providing right product with specific names as according to the requirements of customers to boost the banking business.

Augmented product is a further modification of formal product. This is the age of value addition. Everybody is sold to the idea of value added product and services. The main advantage of an augmented product stems from its strong marketing content because augmented product is made out of formal product which itself has a strong marketing

content. All these forms of products have constitutes banking business operations. Some of the products have undergone innovative transformation as a marketing and competing strategy. As a result, innovative products determine the status of growth and the general performance of banks.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presented the data collection and analysis approaches used in the study. Specifically, the chapter described the research design, study population, sample size, data collection methods and research procedures, data analysis and presentation of the results techniques among others.

#### **3.2 Research Design**

Explanatory research was used since the objective of the study was to know and understand the trait and mechanisms of the relationship and association between the independents and dependent variables. Cooper and Schindler (2006) argue that this type of research is appropriate for this kind of study because it sought to describe the relationship between two variables in which one variable led to a specified effect on the other variable. Explanatory research seeks to recognize and clarify a causal association which is substantively significant and meaningful. The relationship that was investigated in this study is the effects of product innovation on financial performance of commercial banks in Kenya.

The research adopted industry study approach in examining the relationship between product innovation and financial performance. The researcher collected qualitative data through primary information sources via data collection instruments namely research questionnaires and face to face interviews. In addition, secondary data was obtained from

2014 audited annual financial statements of the concerned commercial banks and published by CBK.

### 3.3 Study Population

A population in statistics is the specific population about which information is desired. According to Mugenda and Mugenda (2003), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. By taking a sample of twenty percent, only nine banks formed the population. The target population was all senior managers who have knowledge of practices relating to product innovation in their respective banks. They are either heads of departments, section managers and branch managers of all branches located in Nairobi. The following was the structure of the target population.

**Table 3.1- The Population of the Study**

<b>BANKS</b>	<b>DEPARTMENTS</b>			<b>MANAGERS</b>			<b>Total</b>
	<b>Head of Consumer Banking and Product Development</b>	<b>Head of Retail Banking</b>	<b>Head of Corporate Services</b>	<b>Marketing Manager</b>	<b>Operations Manager</b>	<b>Branch Manager</b>	
Equity	1	1	1	1	1	7	12
NBK	1	1	1	1	1	13	18
KCB	1	1	1	1	1	6	11
Barclays	1	1	1	1	1	1	6
Imperial	1	1	1	1	1	12	17
Family bank	1	1	1	1	1	5	10
NIC	1	1	1	1	1	4	9
Cooperative	1	1	1	1	1	5	10
CBA	1	1	1	1	1	8	13
<b>TOTAL</b>							<b>106</b>

**Source: Research Data 2014**

### **3.4 Sampling Design**

A convenient sample of respondents was selected among the population to respond to the questionnaire. The researcher therefore used a census of all the 106 managers in charge of various departments and branches to collect information on product innovation and bank performance. The reason for using a census was that only managers were assumed to have firsthand and sufficient knowledge about product innovation better than other employees.

### **3.5 Data Collection**

The researcher adopted primary and secondary data. On one hand primary data consisted of data obtained via questionnaire and face-to-face interviews. The questionnaires and interviews had both structured and semi-structured questions, with some structured questions being asked together with open-ended ones. The scale of measurement was ordinal where Likert scale (5: Very important; 4: Important; 3: Moderate; 2: Less important; 1: not important at all) will be used. On the other hand, secondary data was obtained from commercial banks' annual reports (2013), which included audited financial statements for 2014. The secondary data collected from financial statements formed the basis of testing the financial performance of the banks.

In order to legitimize the study, permission was sought from the participating commercial banks and University of Nairobi. The questionnaires, in terms of sampling validity, were designed to adequately represent the properties being measured as argued by Nachmias (1996), and were dispatched to the respondents within a reasonable and acceptable time frame of one month. Ethically, assurance was given to the respondents pertaining to the

confidentiality and anonymity of their responses and participation respectively. The researcher's contacts were also furnished to the respondents for ease of communication.

### 3.6 Reliability and Validity of Instruments

According to Nachimias (1996), reliability refers to consistency of a measuring instrument that is the extent to which a measuring instrument contains variable error. In this study, Cronbach's Alpha was used to test reliability of the instrument whereby the value of coefficient Alpha can range from zero (no internal consistency) to one (complete internal consistency). A summary of the scores of the independent variables on the Cronbach's Alpha Reliability Statistics coefficient is presented in table 3.2.

**Table 2.2 - Summary of Cronbach's Alpha Reliability Coefficients**

<b>Variable</b>	<b>Cronbach's Alpha</b>	<b>No. of Items</b>
Core Product Innovations	0.764	11
Formal Product Innovations	0.892	11
Augmented Product innovations	0.797	11

**Source: Research Data 2014**

As it is shown in the case of the instruments of this study, the Cronbach's Alpha values were above 0.7, a lower value suggested by Nunnally (1978). Therefore, the data collection instrument is therefore reliable and acceptable for the purpose of this study. According to Nachmias (1996), validity refers to the degree to which a measuring instrument measures what it is supposed to measure. Some questions could cause problems and questionnaire testing is necessary to identify and eliminate these problems. To identify and to eliminate such problems, a pilot study was given to knowledgeable respondents in the field to test the questions for relevance, comprehension, meaning and clarity. The unclear statements,

questions or indicators were modified to adequately represent the property being measured. To do so, the researcher sought assistance from experienced lecturers to help improve the validity of the instrument.

### 3.7 Data Analysis

Data analysis technique that was used is the Ordinary Least Square to estimate a multiple regression equation. Both qualitative and quantitative data were obtained because of the nature of the study. This study involved the use of content analysis procedures in the qualitative data. Data analysis was carried out using Statistical Package for Social Sciences (SPSS) version 18.0, analytical tool. Firstly, data was coded to facilitate computer input. Then, the data was summarized by use of descriptive statistics such as frequency distributions, percentages, and standard deviation. Data was presented in the form of frequency tables and bar graph in appendices. A test of Multicollinearity was conducted using the Pearson correlation analysis to check whether there is correlation between variables.

### 3.8 Statistical Model

Theoretical models are used in research to demonstrate functional relationship that exists (if they do) among variables. Specifically, these models enable the researcher to statistically determine the contribution made by the independent variable on the dependent variable. This study adopted a Linear Regression Analysis and a multiple regression equation as follow:

$$ROE_i = \beta_0 + \beta_1 CP_i + \beta_2 FP_i + \beta_3 AP_i + \varepsilon_i \quad \dots\dots\dots (1)$$

Where:



ROE : denotes the Return on Equity

CP : denotes Core Product Innovation

FP : denotes Formal Product Innovation

AP : denotes Augmented Product Innovation

$\beta_0$  : a constant, the value of ROE when all products values are 0

$\beta_1$  : denotes the regression coefficient of Core Product Innovation

$\beta_2$  : denotes the regression coefficient of Formal Product Innovation

$\beta_3$  : denotes the regression coefficient of Augmented Product Innovation

$\varepsilon_i$  : is the error time which is assumed to be a white noise.

In this study, the key independent variables were: Core Product Innovation, Formal Product Innovation and Augmented product Innovation. The key dependent variable was financial performance measured by RoE.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents the result of the analysis of the data obtained through various analysis techniques. As indicated in the research design, due to the nature of the study both qualitative and quantitative data has been used. The data obtained from the study has been clearly tabulated, analyzed, and presented using SPSS version 18.0, analytical tool.

#### **4.2 Summary of Responses**

To evaluate the effects of product innovations on the bank performance in Kenya, a survey was conducted in nine banks which include NBK, Equity, KCB, Barclays, Imperial, Family bank, NIC, Cooperative and CBA (listed in Appendix). All questionnaires administered were filled and returned. Out of these nine banks, 11.3 percent of the questionnaires were answered by NBK, 17 percent by KCB, 10.4 percent by Equity bank, 5.7 percent by Barclays, 17 percent by NIC, 8.5 percent by Cooperative bank, 8.5 percent by Family bank, 9.4 percent by CBA and finally 12.3 percent by Imperial bank.

#### **4.3 Product Innovation in Commercial Banks**

##### **4.3.1 Product Innovations**

Since this study was interested in bank product innovations and their impact on bank performance, respondents were asked to rate specific statements relating to product innovations using a Likert scale of 1-5. The results are summarized in table 4.1.

**Table 4.1 - Rating of Selected Aspects on Product Innovations**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Aspect number new products	106	2	5	3.77	.979
Aspect research and development expenses	106	2	5	3.20	1.090
Aspect provision in time service	106	2	5	3.16	.906
Aspect number new facilities	106	2	5	3.43	.805
Aspect response time to customer	106	2	5	3.46	.997
Aspect reduction in waiting time	106	1	5	2.97	1.064
Aspect reduction in interruptions	106	1	4	2.67	.983
Aspect new technology gained	106	1	5	3.10	1.195
Aspect improvement in space utilization	106	1	5	3.10	1.162

**Source: Research Data 2014**

The respondents generally agreed that when banks undertake product innovation activity consider: aspect number of new products (M=3.77, SD=0.98), aspect research and development expenses (M=3.20, SD=1.09), aspect provision in time services (M=3.16, SD=0.91), aspect number of new facilities (M=3.43, SD=0.81), aspect response time to customer (M=3.46, SD=1.00), aspect reduction in waiting time (M=2.97, SD=1.06), aspect reduction in interruptions (M=2.67, SD=0.98), aspect new technology gained (M=3.10,SD=1.19) and aspect improvement in space utilization (M=3.10, SD=1.19). The majority of respondents was involved in bank product innovation and hence was in a position of correctly rating specific aspects related to product innovations.

#### **4.3.2 Core Product Innovations**

Another aspect that the study sought to capture was on the Core Product Innovations carried out by the commercial banks in Kenya. Concerning this aspect, the study found out that all

the commercial banks in Kenya had Core products. The respondents were asked to rate the level of the Core products in their bank, and the results are presented in table 4.2.

**Table 4.2- Attributes of the Core Product Innovations as Rated by the Majority**

ATTRIBUTES	N	Rank	Majority Rate	Mean	Std. dev.
Customer segments	106	High	62.3	3.87	0.60
Branding	106	Moderate	48.1	3.13	0.94
Customer needs	106	High	36.8	3.74	0.97
Additional value to customer satisfaction	106	Moderate	37.7	3.60	1.0
Price/fees	106	Low	46.2	2.59	0.77
Expansion products strategy	106	High	60.4	3.60	0.49
Security	106	High	33.0	3.32	0.99
Communication	106	Moderate	32.1	3.60	1.030
Access	106	High	54.7	3.79	0.64
Income generating	106	High	62.3	3.87	0.60

**Source: Research Data 2014**

The first characteristics of core products is its customer segment and 62.3 percent of the respondents highly rated this attribute (M=3.87, SD=0.60). In addition, 48.1 percent rated branding of core product as moderate (M=3.13, SD=0.94). Then 36.8 percent of respondents indicated that core products highly satisfy specific customer needs (M=3.74, SD=0.97) while 37.7 percent found the value addition to customer satisfaction as moderate (M=3.60, SD=1).

However, 46.6 percent of the respondents rated prices and fees of Core products of their bank as low (M=2.59, SD=0.77). It is evident that a good number of respondents (60.4 percent) rated the expansion strategy of core product highly (M=3.60, SD=0.49), then communication was moderately rated by 32.1 percent (M=3.32, SD=0.99) while access to core products was also highly rated by 54.7 percent of the respondents (M=3.60, SD=1.03)

and finally 62.3 percent indicated that core products highly generate income (M=3.87, SD=0.60).

### 4.3.3 Formal Products Innovations

The survey also sought to find the existence of the Formal Product and its attributes. The survey found out that all the banks had Formal Product in the year 2013. Table 4.3 presents the summary of ratings relating to attributes of Formal Product.

**Table 4.3- Attributes of the Formal Product Innovation as Rated by the Majority**

ATTRIBUTES	N	Rank	Majority Rate	Mean	Std.dev
Customer segments	106	High	65.1	3.65	0.48
Branding	106	High	40.6	3.78	0.96
Customer needs are specific	106	High	42.5	3.93	0.86
Additional value to customer satisfaction	106	High	39.6	3.66	0.95
Price/fees	106	Moderate	46.2	2.61	0.82
Expansion products strategy	106	Moderate	44.3	3.10	0.74
Security	106	Moderate	39.6	3.36	3.10
Communication	106	High	37.7	4.20	3.044
Access	106	Moderate	43.4	3.41	0.766
Income generating	106	Moderate	37.7	3.90	0.80

**Source: Research Data 2014**

Majority of respondents i.e 65.1 percent highly rated customer segment of formal products (M=3.65, SD=0.48), 40.6 percent indicated that branding of formal product is high (M=3.78, SD=0.96), 42.5 percent also indicated that formal products highly respond specific customer needs (M=3.93, SD=0.86) while 39.6 found additional value to customer satisfaction by formal products as high (M=3.66, SD=0.95).

As well communication of formal products was highly rated by 37.7 percent (M=3.36, SD=3.10). Furthermore, 46.2 percent, 44.3 percent, 39.6 percent, 43.4 percent and 37.7 percent of respondents moderately rated the attributes of price/fees (M= 2.61, SD=0.82), expansion products strategy (M=3.10, SD=0.74), security (M=3.36, SD=3.10), access (M=3.41, SD=0.74 and income generating (M=3.90, SD=0.80) respectively.

#### 4.3.4 Augmented Product Innovations

Table 4.4 presents the results of Augmented Product Innovation. Respondents were asked to rate the attributes of augmented products using a Likert scale of 1-5.

**Table 4.4- Attributes of the Augmented Product Innovation as Rated by the Majority**

ATTRIBUTES	N	Rank	Majority Rate	Mean	Std.Dev.
Customer segments	106	Moderate	42.5	2.74	1.15
Branding	106	Low	37.7	2.11	1.24
Customer needs are specific	106	Low	38.7	2.72	1.27
Additional value to customer satisfaction	106	Moderate	39.6	2.13	1.12
Price/fees	106	Low	48.1	2.28	1.27
Expansion products strategy	106	Low	59.4	1.82	1.13
Security	106	Moderate	38.7	3.18	1.12
Communication	106	Low	40.6	2.16	1.24
Access	106	Moderate	46.2	2.79	1.13
Income generating	106	Moderate	44.3	2.88	1.1

**Source: Research Data 2014**

It is evident that 42.5 percent, 39.6 percent, 38.7 percent, 46.2 percent and 44.3 percent moderately rated customer segments of augmented products (M=2.74,SD=1.15), additional value to customer satisfaction (M=2.72, SD=1.12), security (M=3.18,SD=1.12) and access (M=2.79,SD=1.13) respectively. However 37.7 percent of the respondent, 38.7 percent, 48.1 percent, 59.4 percent and 40.6 percent lowly rated the branding (M=2.11, SD=1.24),

customer needs are specific (M=2.72, SD=1.27), price/fees (M=2.28, SD=2.27), expansion products strategy (M=1.82, SD=1.13 and communication (M=2.16, SD=1.24) respectively.

#### 4.4 Financial Performance Measures

Descriptive statistics of the bank performance indicators are presented in Table 4.5 below.

**Table 4.5 - Descriptive Statistic of Bank Performance Indicators**

<b>INDICATORS</b>	<b>Minimum (%)</b>	<b>Maximum (%)</b>	<b>Mean (%)</b>	<b>Std. Deviation</b>
Return On Asset (RoA)	0.9	4.0	2.749	0.9475
Return On Equity (RoE)	8.2	25.7	19.916	6.5123

**Source: Research Data 2014**

The result shows that the bank that had the lowest value for the return on asset had a value of 0.9 percent while the bank that had highest value of the return on asset had a value of was 4.0 percent. The mean for the return on asset for all banks was 2.749 percent with a standard deviation of 0.9475. Regarding the return on equity, the bank that had the lowest value of return on equity had a value of 8.2 percent while the highest value was 25.7 percent. The return on equity for all nine banks in Kenya had a mean of 19.916 percent with a standard deviation of 6.5123.

#### 4.5 Correlation Analysis

Before running the model the researcher conducted some diagnostic tests in order to see whether there is any violation of the classical linear regression assumptions. The researcher conducted a test of Multicollinearity using the Pearson Correlation test and the results are presented in table 4.6.

**Table 4.6 - Correlation Analysis**

		Rank Core Products	Rank Formal Products	Rank Augmented Product
Rank Core Products	Pearson Correlation	1		
Rank Formal Products	Pearson Correlation	-0.299**	1	
Rank Augmented Product	Pearson Correlation	-0.297**	0.207*	1

\*: Correlation is significant at the 0.05 level (2-tailed)

\*\* : Correlation is significant at the 0.01 level (2-tailed)

**Source:** Research data 2014

The result shows that there is a negative correlation between core product and formal product (N=106,  $r = -0.299$ ,  $p = 0.002$ ) and a negative correlation between core products and augmented product (N= 106,  $r = -0.297$ ,  $p = 0.002$ ). However, results show a positive correlation between formal product and augmented product (N=106,  $r = 0.207$ ,  $p = 0.034$ ). It is evident that all the independents variables did not have the correlation coefficient of more than 0.8 implying that there is no severe Multicollinearity. Severe Multicollinearity occurs if the correlation coefficient is greater than 0.8 and that violates the assumptions of classical linear regression.

The researcher also used the Cronbach's alpha which is the most common measure of internal consistency, that is, reliability. It is most commonly used when you have multiple Likert questions in a survey/questionnaire that form a scale and you wish to determine if the scale is reliable. The value of Cronbach's Alpha test is 0.764, 0.892 and 0.797 for core product innovations, formal product innovations and augmented products innovations



respectively. These imply a high level of internal consistency for our scale with this specific sample.

#### **4.6 Results on Regression Analysis**

To estimate the impact of Core Product Innovation, Formal Product Innovation and Augmented Product Innovation on Financial Performance of the commercial banks in Kenya, Ordinary Least Square method was used. The results of the multiple regression analysis are shown in the Tables 4.8, 4.9 and 4.10

##### **4.6.1 The Multiple Coefficient of Determination $R^2$**

The coefficient of determination is a measure of linear relationship.  $R^2$  is a statistical term saying how good one term is at predicting another. If  $R^2$  is 1.0 then given the value of one term, you can perfectly predict the value of another term. If  $R^2$  is 0.0, then knowing one term does not help to know the other term at all. More generally, a higher value of R-Square means that you can better predict one term from another.

The rule of thumb is that, usually an R square of more than 50% is considered as better but in this study it is small (0.065) implying that there are other factors that influence the dependent variable that are not included in the model while in this study, the researcher was focusing on the bank product innovations specifically on core product innovations, formal product innovations and augmented product innovations not on determinants of return on equity. The results are shown in table 4.8 below.

**Table 4.7 - Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sign. F change
1	0.254	0.065	0.037	6.390	0.065	2.348	3	102	0.077

Predictors: (Constant), Rank Core Product Innovations, Rank Formal Product innovations, Rank Augmented Product Innovations

Source: Research Data 2014

#### 4.6.2 ANOVA Interpretation

ANOVA table shows that the sum of squares of the regression is 287.629 at 3 degrees of freedom and a mean square of 95.876. The residual sum of squares is 4165.374 with 102 degrees of freedom and mean square value of 40.837. The Total sum of squares is 4453.003 with 105 degrees of freedom. The test for the joint significant which is given by the F statistic is 2.348 and as observed in a table above, it is statistically significant at 10 percent level of significance. This implies that the independent variables, that is, Core Product Innovation, Formal Product Innovations and the Augmented Product Innovations jointly explain the Financial Performance of commercial banks in Kenya.

**Table 4.8 - ANOVA Table**

Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	287.629	3	95.876	2.348	0.077*
Residual	4165.374	102	40.837		
Total	4453.003	105			

Dependent Variable is Return on Equity (ROE)

Source: Research data 2014

### 4.6.3 Regression Coefficients

Regression coefficients for model 1 are shown in table 4.9 where the dependent variable is the ROE. The regressed model where the dependent variable was the ROA generated insignificant results. The column headed 'B' shows unstandardized regression coefficients for the equation.

**Table 4.9 - Coefficients Table**  
**Dependent Variable is the Return on Equity (ROE)**

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	36.854	15.302		2.408	0.018*
Core Products	1.020	1.752	0.060	0.582	0.562
Formal Products	-4.758	2.353	-0.205	-2.022	0.046*
Augmented Product	-3.029	4.818	-0.064	-0.629	0.531

(\*) denotes significance at 5 percent level.

**Source: Research Data 2012**

Then the equation may now be constructed as follows:

$$ROE_i = 36.854 + 1.020CP_i - 4.758FP_i - 3.029AP_i \dots\dots\dots (2)$$

From the table 4.9, the researcher regressed the Return on Equity on Core Products, Formal Products and Augmented Products. The researcher used the ranks of Core, Formal and Augmented Products to estimate the impact they have on the dependent variable (see in Table 4.9).

The coefficient for the Formal Product Innovations is -4.758 with a t value of -2.022 implying that it is statistically significant at 5 percent level of significance. This means that one unit increase in the Formal Product Innovation will lead to about a 4.758 units decrease in the financial performance of commercial banks in Kenya. This also could be explained by

the fact that innovating formal product incur costs and require efforts for marketing and timeframe to generate enough income and hence positively affect the ROE.

From this study, Core products and augmented products innovations were statistically insignificant. This could be explained by the fact that financial performance of Kenya commercial banks is explained by other factors other than the Core and Augmented Product innovations. The findings of this study corroborate the studies done by Capon et al., (1990) and Chandler and Hanks (1994). They found in their studies a negative link or no link at all between product innovation and firm performance. However, Subramanian and Nilakanta (1996), Han *et al.*, (1998) and Li and Atuagene-Gima (2001) in their researches embrace more or less a positive association between product innovations and firm performance.

#### **4.7 Discussion of Research Findings**

This study investigated the effect of product innovations on financial performance of commercial banks in Kenya. The product innovations that were studied are; core products (Savings Bank Account, Current Account, Term deposit, Recurring deposit, Cash credit, Term loan, overdraft and the like). Formal products; these are usually a combination of two or more core products and they have strong marketing content as they cater to some specific customer needs. While augmented product is a further modification of formal product that is, edge of value addition. Financial performance indicators that were studied are; income, return on assets, profitability and customer deposits.

Evidence from previous studies (Saundres, Lewis and Thornbill (2007), Sekaran (2003)) on whether bank innovations influence bank performance showed that there were mixed results

based on the operating environment and the level of adoption. In Kenya there is a high level of adoption of innovations in the banking sector. However, the degree at which it influences the profitability of the bank is uncertain. In this study a theoretical framework has been empirically tested identifying the relationship between core product innovation, formal product innovation and augmented product innovation and bank financial performance. Findings revealed that there is a negative relationship between financial performance of commercial banks and formal product innovation while core product innovation and augmented product innovation do not have any relationship with financial performance of commercial banks in Kenya.

This has concurred with Capon *et al.*, (1990); Chandler and Hanks (1994) in their studies that found that there is a negative link or no link at all between product innovation and firm performance. However, this is contrary to the findings of Zahra and Sidhartha, (1993) that concluded that both product and process innovations contributes to performance of an organization. It showed that efficiency in the process reduces cost while investment idea as a product, increases revenue thus the profit figure would be impacted on both ways. However, a study by Ngumi (2013) revealed that the combined effect of bank innovations influenced bank performance positively.

These findings were both supported by the frequencies of the responses from the respondents which were presented in the form of percentages and mean scores. Among the bank financial performance indicators; bank innovations had the highest positive influence on mobilization of customer deposits. The results of the analysis of the moderating variables

revealed that mobile phones had a higher moderating influence on bank innovations than internet service.

According to Ngumi (2013), the coefficient of determination which shows that the variations in bank incomes are explained by bank innovations. The influence of bank innovations on income is also statistically significant and hence the alternate hypothesis was accepted. This means that the influence is not by chance. Commercial Banks in Kenya have been using innovations to grow their businesses and subsequently their incomes. Banks are also at an early stage of some innovations and due to such short time, incomes may not have been influenced by innovations to a great extent.

It was clear that sustained competitive advantage depends heavily on the ability of organizations to internalize the benefits of innovative activities. While the vital importance of innovation in today's competitive climate has been widely proclaimed, the banking sector's understanding of innovative behaviour in service organizations is not yet fully developed. In Kenya, the adoption of innovations by commercial banks seemed to have evolved since recent years. This is evident by the findings that indicated that innovation is associated with radical technological change that is experienced in the country. However, there was no consensus as to the effect of product and process innovation on banks' profitability levels.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This section of the study summarizes the findings, draws conclusions and also gives recommendations based on the findings of the study.

#### 5.2 Summary of Findings

Based on each objective of the study, it was possible to draw a summary of the findings from the data obtained accordingly. The study managed to establish core product innovation as a factor in financial performance of the bank. It was evident that 62.3 percent of the respondents highly rated the aspect of customer segments, 48.1 percent of the respondents moderately rated the aspect of branding, 36.8 percent highly rated the aspect of customer needs, 37.7 percent moderately rated additional value to customer satisfaction while 46.2 percent of the respondent lowly rate the aspect of prices and fees as the Core products of their bank. However, the regression analysis result has shown that Core Product Innovations have no effects on financial performance of commercial banks since its coefficient parameter is statistically insignificant ( $\beta = 1.020$  and  $t = 0.582$ ).

In the evaluation of the aspects of formal products innovation, majority of the respondents, 65.1 percent, 40.6 percent, 42.5 percent, 39.6 percent and 37.7 percent highly rated the aspects of customer segments, branding, customer needs, additional value to customer satisfaction and communication respectively. However, the regression analysis shown a negative relationship between Formal Product Innovation and Financial performance of

commercial banks where its coefficient value is -4.758 with a t value of -2.022 implying that it is statistically significant at 5 percent level of significance ( $\beta = -4.758$  and  $t = -2.022$ ).

The study managed also to evaluate augmented products and the results revealed that out of the 98.1 percent of the respondents who confirmed the existence of augmented products in their bank, 42.5 percent, 39.6 percent, 38.7 percent, 46.2 percent and 44.3 percent moderately rated customer segments, additional value to customer satisfaction, security and access respectively. In the same way, the regression analysis revealed that there is no relationship between augmented products innovation and financial performance of commercial banks since its parameter is not statistically significant ( $\beta = -3.029$  and  $t = -0.629$ ).

### **5.3 Conclusion**

This study reported on effects of product innovation of financial performance of commercial banks in Kenya, drawing on all commercial banks being licensed as at 31 December 2013. From the findings of the study, it is evident that all commercial banks innovated and implemented core products, formal products and augmented products over the year under study. Moreover and because of their nature, core products do not need strong marketing content to be accepted by the market and are crucial to banks since they serve a large range of their customer segments. These findings offer several managerial implications. Firstly, managers of commercial banks should put additional emphasis on innovation and continually slash costs and improve customer service with new products and competitive advantages by pioneering core products and customized software solutions. A successful



product innovation should be marked by moderate newness to market, tried and tested technology, saved money, met customers' needs and existing practices.

Even though formal product innovation affects negatively financial performance, managers should continue to invest more on innovative products and support new attempts of introducing innovations of each type. However, a certain amount of time might be necessary in order to observe the reflection of positive effects of innovative products on financial performance. The study concludes that banks in Kenya use highly financial innovations to survive in the current environment characterized by tough competition and competitive banks products. The study also indicated that banks have been motivated by the different interests to pursue different financial innovations. However, there no clear indicator that shows its influence on profit margins of the commercial banks.

As has been seen above, it is very critical to note that the impacts of product innovation are more negative than positive, and hence for sustainability, banks do not need a lot of sophistication in financial innovations. To deal with this level of complexity, financial institutions have to respond by efficiently monitoring the impacts of such initiatives. This has to be done by closely following and monitoring the contributions of product innovations and predicting the consequences that may appear very marginal.

#### **5.4 Policy Recommendations**

The following are the recommendations emanating from the findings of this study: Since technological innovation is aggressively and continuously adopted in Kenya, the government should provide incentives for research and development to researchers who would continue to invest their time and skills in discovering more bank innovations. It is

recommended that the government also pursues a strategy to provide incentives for technology transfer from more developed economies in order to promote the adoption of world class innovations - this will boost prosperity in the banking industry in Kenya

Professionals in the banking industry should invest their time, effort and resources towards innovations that are relevant and compatible to their products and services. This will mean more income for the professionals if the innovations become successful. In Kenya there are some citizens who are still unbanked due to poor access to financial services. Bank managers should explore ways of providing innovative solutions for reaching the unbanked. This can result to more financial deepening and better financial development for the country and hence better profitability for the banks.

Innovation has its set of challenges especially related to security threat which can lead to reputation risk among banks and loss of confidence by the customers. The main users of bank innovations are depositors. Without deposits and depositors the sustainability of banks would be at risk. This therefore calls for better management of innovations in a manner that boosts depositors' confidence. The initiators therefore need to create enhanced and effective security systems which can detect, control, prevent and manage fraud incidents on the various innovation channels. This recommendation is derived from the growing cybercrimes, threat of system intrusion by hackers which can erode the desired gains of bank innovations.

Mobile phones and internet have been found to have a major influence in delivering technology driven banking services. It is recommended that commercial banks continue to create sustainable business linkages and collaborations with mobile phone service providers as well as the internet service providers. Banks should leverage on mobile phones in order to grow their business and customer base. The Government should continue to offer more incentives for technologies that use mobile phones as their delivery platforms.

### **5.5 Limitations of the Study**

While conducting this research, the respondents especially employees of the sampled banks could give responses which are biased due to fear of higher authorities. Specifically, there was lack of response on some specific areas forcing to resort to secondary data whose authenticity may be questioned, as it may have been reported out of context. Resources were more challenging in undertaking this study as well as time. Secondary data, which included publications and financial reports, may have been incomplete and long overdue. The answer from some questionnaires lacked explanation and therefore to arrive at the conclusions made in the study reference had to be made to the background events and the literature reviewed.

Many innovation projects failed to generate an economic return because it took a long time to research and develop the innovation. Once this product comes out to the market, it has already become obsolete because a new technology is already being researched as technology is constantly changing. Also, clear strategies were not developed by a firm hence poor management of the innovation occurred.

The product innovations that have been adopted by various banks were so diverse that the research had to limit the scope due to limitations of resources. Despite these challenges, the researcher had to devise solutions and made adequate provisions to reduce these challenges.

### **5.6 Suggestions for Further Research**

Since product innovation is still a relatively new phenomenon with few studies on its effects on financial performance of commercial banks, the researcher recommends that further and extended research be carried out in order to come up with more findings that this study may not have been able to reveal.

More so, this study did not include all bank innovations and a further study is recommended to include innovations like agency banking, securitization and credit guarantees and their influence on the financial performance of commercial banks. A more detailed study can be conducted to establish whether the adoption of financial innovations contributed to financial deepening in Kenya.

More specifically on bank innovations, further research should be conducted on IT enabled products e.g. Internet banking and its underlying variables, to show its impact on the profitability of commercial banks in Kenya. This is due to the fact that mobile technology has attained high penetration in Kenya, ICT literacy levels have improved and this has influence on needs and seeking behaviors of the people.

Lastly, a comparative study can be carried out on impact of innovation on financial performance of both banks and other financial institutions like SACCOs. This will provide a comprehensive conclusion and recommendation on policies that need to be put in place to ensure that financial institutions benefit from innovative ideas in their businesses.

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## **APPENDICES**

### **APPENDIX I – INTRODUCTION LETTER**

Dear Respondent,

#### **RE: RESEARCH PROPOSAL**

I am a postgraduate student of University of Nairobi pursuing Master of Science in Finance.

I am currently collecting data on product innovation and its effects on financial performance of commercial banks in Kenya. The success of this study will substantially depend on your willingness and co-operation to provide the information required.

I kindly request you to respond to the questionnaire attached herewith as honestly as possible and to the best of your knowledge. The attached questionnaire is specifically designed for the purpose of this study only; and all responses will be treated in absolute confidence and anonymity. Kindly, note that no name will be appended on any of the questionnaires.

Thank you

Yours Faithfully,

Adhiambo Jacinta Antonnet

D63/68710/2013

**APPENDIX II – QUESTIONNAIRE**

**SECTION A: Profile of Respondents**

Please tick (√) the most appropriate information about yourself

1. Your gender: Male [ ] Female [ ]
2. Age : 21-30 years [ ] 31-40 years [ ] 41-50years [ ] Above 50 [ ]
3. Position: Head of Department [ ] Department Manager [ ] Section Manager [ ]
4. Your highest level of education: A1 [ ] Bachelor’s degree [ ] Masters [ ]
5. Years of service at the bank: 0-5 years [ ] 6-10 years [ ] Over 10 years [ ]
6. Years of service in this department/Branch: 0-5 years [ ] 6-10 years [ ] Over 10 years [ ]

**SECTION B: PRODUCTS AND SERVICES INNOVATION MEASUREMENTS**

7. Are you involved in products innovation at your bank in any way?  
Yes [ ] No [ ]
8. Has your bank introduced new products in 2014?  
Yes [ ] No [ ]
9. If yes, please list them:  
.....
10. Please evaluate how important are the following aspects when the bank undertakes innovations (5: Very important 4 : Important 3 : Moderate 2 : Less important 1 : Not Important)

Kindly answer the questions below by indicating the corresponding grade

	Indicator	Corresponding grade
1	Number of new products and services	
2	Number of new facilities	
3	Research and development expenses	
4	Provision in time service	
5	Improvement in response time to customer queries	

6	Reduction in interruptions	
7	Reduction in waiting time	
8	Number of new technology gained	
9	Improvement in space utilization	

**SECTION C: CORE PRODUCTS INNOVATION**

11. Is your bank offering core products to its customers?

Yes [ ]

No [ ]

12. If yes please list them:

.....

13. The following are the assumed attributes of core products pursued by the bank. On a scale of 1-5, please rate the level of core products in your bank.

Key: 1= Very low; 2= Low; 3= Moderate; 4= High; 5= Very High

	ATTRIBUTES	Corresponding grade
1	Customer segments	
2	Branding	
3	Customer needs are specific	
4	Additional value to customer satisfaction	
5	Price/fees	
6	Expansion products strategy	
7	Security	
8	Communication	
9	Access	
10	Income generating	

**SECTION D: FORMAL PRODUCTS INNOVATIONS**

14. Has your bank introduced Formal products?

Yes [ ]

No [ ]

15. If yes, please list them:

.....

16. The following are the assumed attributes of Formal products pursued by the bank. On a scale of 1-5, please rate the level of Formal products in your bank.

Key: 1= Very low; 2= Low; 3= Moderate; 4= High; 5= Very High

	ATTRIBUTES	Corresponding grade
1	Customer segments	
2	Branding	
3	Customer needs are specific	
4	Additional value to customer satisfaction	
5	Price/fees	
6	Expansion products strategy	
7	Security	
8	Communication	
9	Access	
10	Income generating	

**SECTION E: AUGEMENTED PRODUCTS INNOVATION**

17. Has your bank introduced augmented products?

Yes [ ] No [ ]

18. If yes please list them:

.....

19. The following are the assumed attributes of augmented products pursued by the bank. On a scale of 1-5, please rate the level of augmented products in your bank.

Key: 1= Very low; 2= Low; 3= Moderate; 4= High; 5= Very High

	ATTRIBUTES	Corresponding code
1	Customer segments	
2	Branding	
3	Customer needs are specific	
4	Additional value to customer satisfaction	
5	Price/fees	
6	Expansion products strategy	
7	Security	
8	Communication	
9	Access	
10	Income generating	

20. In order, please rank from the main to least the source of annual income made from core products, formal products and augmented products innovations

Key: 1= Main; 2= Moderate; 3= Least

	Main (1)	Moderate (2)	Least (3)
Core products innovation			
Formal products innovation			
Augmented products innovation			

## SECTION F: FINANCIAL PERFORMANCE INDICATORS

21. The following are Financial Performance indicators; please provide figures for the year 2013

	INDICATOR	2013
1	Annual income from operations	
2	Profit per employee	
3	Profit per account	
4	Return on Assets (RoA)	
5	Return on Equity (RoE)	
6	Share price	
7	Percentage growth in revenue	

22. What are some of the milestone that your bank has accomplished since you started implementing core, formal and augmented products?

23. What are some of the challenges your organization has faced in implementing these products?

24. Any other comments/suggestions?

**Thank you for your time..**



### **APPENDIX III - LIST OF COMMERCIAL BANKS IN KENYA**

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank
6. CFC Stanbic Bank
7. Chase Bank (Kenya)
8. Citibank
9. Commercial Bank of Africa
10. Consolidated Bank of Kenya
11. Cooperative Bank of Kenya
12. Credit Bank
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Dubai Bank Kenya
16. Ecobank
17. Equatorial Commercial Bank
18. Equity Bank
19. Family Bank
20. Fidelity Commercial Bank Limited
21. Fina Bank
22. First Community Bank

23. Giro Commercial Bank
24. Guardian Bank
25. Gulf African Bank
26. Habib Bank
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. Standard Chartered Kenya
40. Trans National Bank Kenya
41. United Bank for Africa
42. Victoria Commercial Bank
43. HDFC Bank Limited
44. FirstRand Bank