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EFFECT OF SELECTED FACTORS ON FINANCIAL INNOVATION IN COMMERCIAL BANKS IN KENYA

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Abstract: **Commercial banks play a vital role in economic development for many developing countries, by providing a wide range of products and services to households, business firms and the government. The study reviewed literature on the selected factors that have influenced financial innovation in commercial banks in Kenya. Data was analyzed using descriptive and inferential statistics aided by statistical package for social scientists (SPSS) and findings were presented on tables and charts. The study found customer needs, competition, economic environment and technology affects financial innovation. Based on the findings it can be concluded that dynamic customer needs, concentrated market, fluctuating interest and inflation rate, easy access to the products and services are the highest factors ranked by respondents that influenced financial innovation in commercial banks in Kenya. It is therefore recommended to the management of commercial banks and the government to explore sustainable businesses linkages and collaboration that will facilitate financial innovation in Kenya.**

Keywords: **Financial Innovation, Commercial Banks, Technology, Competition, Regulatory, Customer.**

I. INTRODUCTION

1.1 Background of the study

Kenya has 43 commercial banks, 35 of the banks most of which are medium sized are locally owned. A few large banks dominate the industry most of which are foreign owned, though some are partially locally owned, six of the major banks are listed on the N.S.E. The banking sector is dominated by six commercial banks namely; Kenya Commercial bank, Barclays Bank of Kenya, Co-operative Bank of Kenya, Equity bank and Standard Chartered Bank; in terms of total assets, customer deposits, net loans and profit before tax. According to Ngugi (2003), eight banks with asset of more than KShs. 10 billion, accounted for 61% of the total assets and 71% of the total deposits by 2001. The same bank accounted for 67.7% of the total assets and 70.7% of the total deposits in June 2000. The dominance in banking industry by these six banks is documented by Mwanga (1999), who shows that these banks held about 60% of total deposits and about the same level of loans and advances. Of these banks, Barclays Bank of Kenya is the market leader with a total asset base of KShs. 105 billion, customer deposits of KShs. 82 billion and net loans to customer of KShs. 61 billion as at December 2005. Nonetheless, analysis of forty one commercial banks and two non-bank financial institution’s using Herfindahl-Hirschman Index (HHI) reveals that the market is moderately concentrated (CBK 2005a).

Access to financial services has been identified as a major problem experienced by many in attempts to start and sustain business in Kenya. Though it is true that credit in formal banking has grown steadily over the years, the same is not available to the people in rural areas. Although there are about 532 branches of financial institution in Kenya, their location is heavily biased towards the urban areas and districts with good infrastructure that can fetch good returns, CBK, (2005b). Porteus, (2006) indicates that the adoption of electronic and mobile banking has increased access to banking products and services. Mwania & Muganda (2011) in Kenya state that effective use of information Technology has better utilization of organization assets and personnel, increased access to financial services, and increased revenue. Ndungu, (2011) concludes over a period of four years (2007-2011) the existence of mobile money transfer services with 15.4 million customers with over 39449 agents. The total number of transaction in 2010 averaged 2.45 billion a day which is equivalent to 76 billion a month. This indicates a productive market for electronic money transfer and increased access to financial products and services (Ndungu 2011).

A suitable banking environment is considered a vital pillar as well as an enabler of economic growth and development. The banking industry in Kenya has inevitably found itself unable to resist technological indulgence due to the continuously emerging wave of information.. The need for convenient ways of accessing financial resources beyond the generally accepted standards has seen the recurrent expansion and modernization of banking patterns. And given the huge demand for finance oriented services, institutions beside the historical banks have joined the fray in an attempt to grab a piece of the perceived cake of opportunity within the banking industry (Koivu 2002).

1.2 Statement of the problem.

Access to financial product and services has been identified as a major problem especially to low income earners and people living in rural areas. Despite the increase in the number of commercial banks in Kenya, 75% of the Kenyan population is still un-banked. This is due to the fact that most individuals are not aware or do not have access to these products. Only 25% of the population operates bank accounts in the various banks CBK, (2008).

A few empirical studies have been done in regards to financial innovation while innovation in the manufacturing industries has attracted thousands of academic studies. Despite the undeniable importance of financial innovation in explaining banking performance, the effect of innovation is still misunderstood for two main reasons, first of all is the inadequate understanding of the sources and drivers of financial innovation , and secondly the effect of innovation on banks performance still remains untested (Mabrouk & Mamoghli, 2010).

Central bank of Kenya (2011) indicated a steady increase in the number of automated teller machine from 166 in 2001 to 2091 in 2010.Debit cards also increased to over 6million at the end of 2010 from 160,000 in 2001. Mobile transactions increased as well from 48,000 per annum in 2007 to slightly above 250,000 in the year 2010. This is an indication that customers are embracing the new innovation in commercial banks. There is a need to study the effect of the factors behind the increased innovations in commercial banks in Kenya.

Commercial banks have therefore resorted to develop products and services with main objective of tapping the unbanked population. These are products that are more convenient and can easily be accessed. Previous studies by Mwania & Muganda (2011), Franscesa & Claeys (2010), and Pooja &Singh (2009) have produced mixed reaction on the effect of financial innovation. Mwania & Muganda (2011) found financial innovation had significant contribution to banks performance while Pooja & Singh (2009) and Franscesa & Claeys (2010) in their study concluded that financial innovation had least effect on bank performance. In these studies none of them identified the key drivers of innovation. It is because of such mixed conclusion that necessitated the need to carry out a study from a Kenya context to assess the effect of selected factors on financial innovation in commercial banks in Kenya.

1.3 Objectives of the study

1.3.1 General objectives of the study.

The general objective of the study was to assess the effect of selected factors on financial innovation in commercial banks in Kenya

1.3.2 Specific objectives of the study

i. To determine the effect of customers’ needs on financial innovation in commercial banks in Kenya.

ii. To evaluate the effect of competition on financial innovation in commercial banks in Kenya

iii. To evaluate the effect of regulatory environment on financial innovation in commercial banks in Kenya.

iv. To establish the effect of economic environment on financial innovation in commercial banks in Kenya.

v. To determine the effect of technology on financial innovation in commercial banks in Kenya

vi. To determine the overall effect of selected factors on financial innovation in commercial banks in Kenya

1.4 Research Hypotheses

H_{01}: Customer needs has no significant effect on financial innovation in commercial banks in Kenya

H_{02}: Competition has no significant effect on financial innovation in commercial banks in Kenya

H_{03}: Regulatory environment has no significant effect on financial innovation in commercial banks in Kenya

H_{04}: Economic environment has no significant effect on financial innovation in commercial banks in Kenya

H_{05}: Technology has no significant effect on financial innovation in commercial banks in Kenya

1.5 Significance of the study

Financial innovation is not only important but critical for any financial systems in an economy. Some of the outright benefits of financial innovation are broadening, deepening and diversification of markets and economy. Financial innovation reduces inefficiencies in the market and also maximizes profit opportunities. The findings of this study will be of critical value to the following stakeholders.

Commercial banks will use the findings of the research to improve service delivery and improve their performance and profitability. The government through the central bank will also benefit in that it will legislate regulations that will guide commercial banks in setting standards that will benefit customers and commercial banks, creating conducive environment that enable institutions to perform their activities. Scholars may wish to read the study to further their knowledge in the area of financial innovation.

Financial innovation in emerging markets differs with that of a developed market, although the principle of how financial innovation occurs is the same in both markets. There are many factors, which hinders and stimulates financial innovation although their magnitude is not the same. Financial innovation and practitioners can learn valuable information on how these factors influence financial innovation, and why fewer studies have been done on financial innovation. This can prompt them in conducting further studies on financial innovation in future, and thereby adding to their existing knowledge on financial innovation.

1.6 Scope of the study

The study mainly focused on commercial banks in Nairobi because most commercial banks have their head quarters in Nairobi. The area of interest was Effect of selected factors on financial innovation among commercial banks in Kenya.

1.7 Limitations of the study

Due to time and resource constraints the study focused on commercial banks and did not include other financial institutions like micro finance, savings and credit cooperatives and pension funds. This however provides an opportunity for a further research to be done. Most managers were not willing to answer and give adequate information in regard to financial innovation as they treated this information as highly confidential especially in a highly competitive environment and the fear that information could be used for competitive advantage The respondents were assured that all information collected was to be confidential and used solely for the study.

II. LITERATURE REVIEW

2.1 Introduction to financial innovation

Financial innovation is the introduction of new products into the market or the introduction of an existing one in a new market. Financial innovation is described by many different authors. Tufano describes financial innovation as "the act of creating and popularizing new financial instruments as well as new financial technologies, institutions and markets (Tufano, 2003). Nofie (2011), defines Innovations as the arrival of new or better process or product that lowers production cost. Akamavi (2005) also notes that innovation in the financial services sector has led to recent fundamental changes including; deregulation, increasing competition, higher cost of developing new products and the rapid pace of technological innovation, more demanding customers and consolidation of corporations (Nofie,2011).

Financial innovation is categorized in to three groups: Process innovation refers to new production process that allows the provision of new or existing financial products and services. Process innovation is usually aimed at increasing the efficiency in the production process and it's associated with technological change. Organizational innovation encompasses new institutions or organizational structure within institutions where the production process is held. Product innovation is the creation of new products or services to meet market needs thus constituting a client-focused kind of financial innovation. This includes internet banking and adjustable rate mortgages. Product innovation follows a "power cycle" that enables banks with varying market power to achieve different goals. Banks must adopt product innovation to drive growth, achieve leadership and extend dominance. Consequently, individual innovation strategies must target different priorities such as creating relevant, value-added, extensible products, incorporating greater transparency, and customer feedback within the offerings or making products more inclusive and replicable. Needless to say, the success of these initiatives depends on the agility and efficiency with which they can be implemented (Miller, 2006).

2.2 Empirical literature review

Empirical literature review includes books and published works that discusses theory and empirical results relevant to the topic of study Zikmund (2010).

The intensity of competition in financial market has caused a massive restructuring of the way financial institutions deal with their customers. There has been a great change in the customer needs and financial institutions have found it demanding to develop products and services that meet the customer needs, otherwise a financial institution will lose the customers to other financial institutions that meet the customer needs.

Greenspan (2005) observed that competition has come in two forms: that between different national financial systems and that between banks and non -banks financial institutions within national financial systems. Both of these tendencies have been supported a global regulatory environment that has become increasingly sympathetic to deregulation and liberalization. Financial innovation is fundamentally market driven. Firms offer new products because it is profitable. This is because the customer will demand them or at least will pay for them.

The Kenyan financial sector has undergone tremendous change in the last two decades, the growth of agency banking, supervisory procedures and monitoring activities that protect customers. Central bank ensured that information is shared across the border with other regulators through a coordinated supervision. The establishment of a consolidated finance sector regulatory which brings together CMA, IRA & RBA that strengthens the supervisory capacity, safeguards stability and performance.

The relationship between innovation and regulation is mostly debated in the literature. It is clear that each can cause the other, but it is not clear how significant such effects have actually been. Regulation and innovation are interlinked together since regulation causes innovation and innovations equally lead to new regulations. Regulations also spur innovation example a regulation that prevents commercial banks from owning insurance companies or vice versa creates a situation whereby commercial banks circumvent such a regulation and develops insurance-like products and service but avoids labeling them as insurance on the other hand insurance companies develop bank-like products. Therefore regulation is viewed as a two-edged sword.(Kane, 1987).

Arora & Nyangosi, (2011) argue that banks adopted different electronic distribution channels to meet customer needs. In their study to examine the adoption of I.T in Kenyan banks they found out ATM technology was the most available technology while SMS banking was found useful. They found out that customers use bank website to know products, after sale service, internet banking, to check balance, transfer funds and print statements. This is an indication that internet banking is gaining popularity and becoming vital even though a slow pace. This explains the increase of ATMS from 1078 in 2007 to 2439 by 2013.

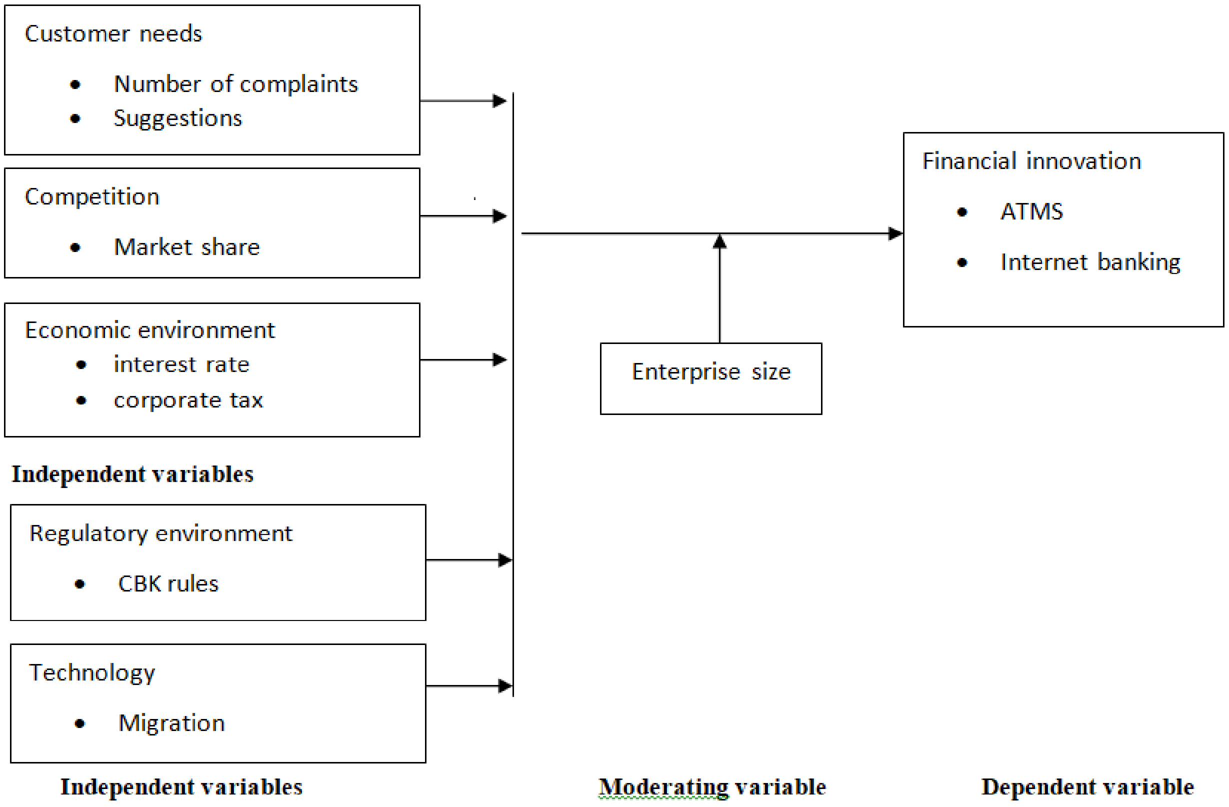
Financial innovation is seen as an engine driving the financial system towards its goal of improving the economy. Merton (1986) identifies that financial innovation has produced enormous social welfare gains the U.S national mortgage market, the growth of mutual funds and the development of international markets for financial derivatives.

The new electronic age has transformed the marketing of banking services as well as increasing the services provided by the institutions. Efforts have been made to survey the various relevant empirical studies. Nyangozi (2009) and Barako and Gatere (2008) attempted to study IT and how it increased services in Kenyan banks. This study was carried out with the following objective to find out from Kenyan customers the various services, product technologies adopted by their bank and to analyze the banking services adopted by Kenyan customers through mobile phones, internet banking and perceived utility of S.M.S banking.

Finally, Lei & Slocum (2005) identified four different environmental strategies and presented the various strengths and challenges posed by each type. For example, they clarified how organizations should respond to changing environments by studying the rate of technological change and keeping track of product life cycle dynamics

From the forgoing review a broader suggestive but not definitive conclusion indicates that regulation spurs financial innovation and this should be considered before the new policies are implemented. The adoption and diffusion of new technologies by banks is related to institution size and new financial technologies are related to age, population and income level.

2.3 Conceptual framework on effect of selected factors' on financial innovation in commercial banks



Source: Researcher (2013)

III. RESEARCH METHODOLOGY

3.1 Research Design

A descriptive design was used in this study. Churchill (1991) notes that descriptive study can be used to describe the characteristics of certain goods make specific predictions or estimate proportions of people who behave in a certain way. According to Bryman (2001), descriptive studies report the way circumstances are; by describing elements such as possible behavior, attitudes, values and characteristics. Descriptive research use description, comparison, classification and measurement describe, determine, or identify what is. The objective of the study was the effect of selected factors on financial innovation in commercial banks in Kenya, which fits in the descriptive framework.

3.2 Population

The population of the study comprised 43 commercial banks licensed by CBK as at 2013. A census survey was conducted involving all commercial banks in Kenya registered and licensed under the banking act as at 31st December 2013 as per the central bank of Kenya. Lavrakas (2008) defines a population as any finite or infinite collection of individual elements. Hyndman (2008) describes a population as the entire collection of "things' in which we are interested. The target respondents were product/development managers from each bank.

3.3 Data Collection

Primary data was collected using semi-structured questionnaire based on a five point likert scale. The close-ended questions are appropriate as they provide a standard set of questions for all respondents as the information set is quantitative in nature. Secondary data was obtained from the CBK annual reports on financial innovation in commercial banks in Kenya such number of ATMS, Credit & Debit cards, mobile banking and internet users. Primary and secondary data was used to address same study objectives as well as meant to improve the interpretive coherence and to improve validity of the study results. The targeted respondents were product/development managers. Drop and Pick later method was used.

3.4 Data Analysis

The data was presented in tables and charts; the tables cater for factors influencing financial innovation, and possible remedies to the constraints facing financial innovation. Closed end questions are coded and summarized. In coding, allocation of points will follow to describe the degree to which a factor influences financial innovation. The coding will facilitate the calculation of percentages, frequencies, mean scores and standard deviation. Data gathered was analyzed using statistical package for social sciences (SPSS). Multiple linear Regression analysis was used to test the statistical significance of the various independent variables on the dependent variable.

IV. DATA ANALYSIS AND PRESENTATION

4.0 Introduction

This section briefly described the demographic characteristics of the respondents who participated in the study. These characteristics included gender, duration, education level and number of branches the institution has.

4.1 Descriptive statistics summary

The summary analysis of collected data on the effect of selected factors on financial innovation in commercial banks in Kenya. This can be seen in the table below where by 1 to 5 represents strongly disagree, Neutral, Agree, and Strongly Agree respectively. A summary of mean score and their rankings, standard deviation, and respective frequencies are also presented. The table below, mean scores, frequencies, and standard deviation were used to gauge the overall opinions of the respondents in general. The statements in the above table are ranked based on the mean scores. A score of 1 represents strongly disagree, 2- disagree, 3 Neutral, 4 – agree, and 5- strongly agree. Therefore factors with an overall mean of 4 to 5 are considered to significant influencers of financial innovation. A factor with the lowest standard deviation is considered to have scores whose value are close to the mean, and is a more reliable factor. The vice versa is true. A higher frequency explains that the respondents believe the factor to be the most important and vice versa.

Customer needs:

Table 4.4: Customer needs

i) Customer needs	Mean score	Standard deviation	Rank based on means	Frequencies %
Customer complaints are handled in a discreet manner	4.65	0.798	4	16.57%
Customer needs are dynamic	4.77	0.425	2	17%
Customers are efficiently and timely served	4.87	0.341	1	17.35%
Adequate protection for customers transactions	4.74	0.455	3	16.89%
Adequate staff motivation	4.48	0.508	6	15.97%
Efficient customer feedback	4.55	0.506	5	16.21%
AVERAGE	**4.677**	**0.505**		

Source: Research Data

Customers are efficiently and timely served was found to be the most important factor influencing financial innovation. The factor had a mean score of 4.87and a standard deviation of 0.341 which is the least in the category and a frequency of 17.35%.Most respondents agreed that customers are served efficiently and on a timely basis. The factor was closely followed by dynamic customer needs which had a mean score of 4.77 and a standard deviation of 0.425 and frequency of 17% who appreciated that customer's needs are dynamic. Adequate protection for customer's transaction was ranked third factor with a frequency of 16.89% and a standard deviation of 0.455 and a mean score of 4.74. Staff motivation was the least factor considered to be influencing financial innovation in that category with the mean score, standard deviation and frequency of 4.48, 0.508 and 15.97% respectively. These findings indicate that customers have different needs and commercial banks have to constantly innovate products to meet their ever changing needs.

Competition:

Table 4.5: Competition

ii) Competition	Mean score	Standard deviation	Rank based on means	Frequencies %
The market is Concentrated	4.77	0.425	1	22.28%
Increased profit margin due to competition	4.16	0.820	4	19.43%
Increased demand for credit	4.35	0.709	2	20.32%
Fair approach by the government on competition	3.87	0.763	5	18.08%
Increased liquidity in commercial banks	4.26	0.361	3	19.90%
AVERAGE	**4.282**	**0.6156**		

Source: Research Data

Under competition market concentration was the most factor considered to influence financial innovation with a mean score of 4.77 and a standard deviation of 0.425 and frequency of 22.28%.It was closely followed with increase demand for credit which had a mean score of 4.35 and a standard deviation of 0.709. The least factor identified by the respondents was fair approach by government on competition which had a mean score of 3.87 and a standard deviation of 0.763 and a frequency of 18.03%. These findings shows that the market is concentrated and commercial banks have to differentiate their products from their competitors. Commercial banks can only differentiate its products through innovating new products and services.

Economic environment:

Table 4.6: Economic environment

iii)Economic Environment	Mean score	Standard deviation	Rank based on means	Frequencies %
High corporate tax and interest rate in Kenya	4.32	0.702	3	33.18%
Fluctuation of interest rate	4.35	0.661	2	33.41%
Unstable inflation rate	4.35	0.608	1	33.41%
AVERAGE	**4.34**	**0.657**		

Source: Research Data

Factors that constituted economic environment almost ranked the same with fluctuating interest rate and unstable inflation rate having both a mean score of 4.35 and standard deviation of 0.661 and 0.608 respectively. High corporate tax and interest rate was the least factor considered to be influencing financial innovation with a mean sore and standard deviation of 4.32 and 0.702 respectively.

Regulatory Environment

Table 4.7: Regulatory environment

iv)Regulatory Environment	Mean scores	Standard deviation	Rank based on means	Frequencies %
Deposit protection fund board protect depositors interest	4.10	0.790	2	28.87%
Restrictive rules and regulations of the central bank concerning licensing and control of banks	4.10	0.700	1	28.87%
Poor implementation of corporate governance principles by central bank	2.94	0.814	4	20.70%
Regulators have requisite skills and experience	3.06	0.629	3	21.55%
AVERAGE	**3.55**	**0.733**		

Source: Research Data

Under regulatory environment restrictive rules and regulations by the CBK concerning licensing and control of commercial banks was considered to be the most factor influencing financial innovation. The factor had a mean score of 4.10 and a standard deviation of 0.700. Poor implementation of corporate governance principles by CBK was the least factor considered to influence financial innovation. The factor had a mean score of 2.94 and a standard deviation of 0.814.

Technology:

Table 4.8: Technology

v) Technology	Mean score	Standard deviation	Rank based on means	Frequencies %
Increased number of customers served by a bank employee	4.68	0.475	4	19.34%
Absence of automated trading systems	1.52	0.570	6	6.28%
Late implementation of central depository system	2.42	0.502	5	10%
Lack of specialized training by IT experts in deployment and management of current technology	1.42	0.502	7	5.87%
Easy access to products and services due to improved technology.	4.74	0.445	1	19.59%
RTGS enables banks to manage their liquidity efficiently	4.74	0.445	2	19.59%
High cost of investing in technology	4.68	0.475	3	19.38%
AVERAGE	**3.457**	**0.488**		

Source: Researcher 2014

Finally easy access to products and services due to improved technology was the most important factor influencing financial innovation. The factor had a mean score of 4.74 and standard deviation of 0.445 and a frequency of 19.59%. The use of POS and mobile banking platforms has made it easier for customers to access their cash as well as transact with ease. This explains the increase in the number of POS terminals and mobile banking users. The ease and speed at which customers transact has made mobile banking popular. Lack of specialized training by IT experts in deployment and management of current technology was the least factor considered to be influencing financial innovation. Most respondents disagreed that IT experts lack specialized training in deployment of current technology. The factor had a mean score of 1.42 and a standard deviation of 0.502 and a frequency of 5.87%.Most respondents agreed that technology is expensive and huge investment is required. The factor had a mean of 4.68 and a frequency of 19.38%.

4.2: Solutions to the constraints facing commercial bank in regards to financial innovation

Table 4.9: Suggestions to the constraints

SUGGESTIONS	Frequency	% of total respondents	Rank based on %
Partnering with relevant institutions and sharing financial information	5	16.12	4
Investing in recent technology	8	25.80	1
Constant staff training	1	3.23	6
Customer Involvement	6	19.36	3
Public enlightenment and campaigns	4	12.90	5
Constant research by commercial banks	7	22.59	2

Source: Research Data

Most respondent suggested that commercial banks should highly invest in recent technology. This factor had a frequency of 8 it was closely followed by constant research by commercial banks that had a frequency of 22.59%.Other factors that had a frequency of above five include partnering with relevant institutions and sharing financial information and customer involvement that had a frequency of 5 and 6 respectively. Factors with a frequency of above five were considered to be the most possible solutions to the constraints facing commercial banks in regards to financial innovation. Other factors include public enlightenment and campaigns, constant staff training that had a frequency of 4 and 1 respectively.

4.3 Regression Analysis

In order to establish the relationship between the dependent and independent variables, multiple linear regression analysis was used. Multiple regression analysis was employed and the results obtain

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.888[a]	.788	.748	.0177

A Predictors: (Constant), Technology, Regulatory Environment., Competition, Customer needs, Economic Environment.

Source: Research Data

In Table 4.9 above, the table displays the R squared value of 0.788. As indicated, 78.8% of the variance in financial innovation is explained by the selected independent variables while the remainder (21.2%) can be explained by other factors not included in this model. The values of R range from -1 to 1. The sign of R indicates the direction of the relationship (positive or negative). The absolute value of R=0.888 indicates that there is a stronger relationship between the dependent and independent variables, hence the model fits the data well hence the researcher accepted the model.

Table 4.11: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.018	5	.604	19.37	.000(a)
	Residual	.810	26	.031		
	Total	3.829	31			

a. Predictors: (Constant), Customer needs, Competition, Economic Environment, Regulatory Environment, Technology.

b. Dependent variable: FINANCIAL INNOVATION

Source: Research Data

Table 4.10 above shows the analysis of variance on the effect of selected factors on financial innovation in commercial banks in Kenya. The p- value is 0.00 which is less than 0.01; overall this model is a good fit for the data. Besides R-squared as presented above, ANOVA (Analysis of variance) was used to check how well the model fits the data.

Coefficients (a)

Table 4.12 Regression coefficients results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.940	.640		1.470	.154
	Customer needs	.274	.058	.458	4.734	.000
	Competition	.239	.042	.532	5.720	.000
	Economic Environment.	.243	.043	.524	5.622	.000
	Regulatory Environment.	.209	.078	.262	2.676	.013
	Technology	.254	.071	.330	3.550	.001

a. Dependent Variable: Financial innovation

Source: research Data

From Table 4.11 above, the unstandardized (B) coefficients are the coefficients of the estimated regression model. In this result the regression model obtained was as follows:

Commercial banks financial innovation= -0.940 + 0.274 Customer needs + 0.239 Competition + 0.243 Economic environment + 0.209 Regulatory environment + 0.254 Technology

From the regression equation above, 27.4% change in customer needs significantly leads to a unit increase in financial innovation in commercial banks, ($P=0.00<0.01$). A 23.9 % change in competition leads to a unit increase in financial innovation in commercial banks, ($P=0.00<0.01$), a 24.3% change in Economic environment leads to a unit increase in financial innovation in commercial banks, a 20.9% increase in regulatory environment leads to a unit increase in financial innovation in commercial banks and a 25.4% change in technology leads to a unit increase in financial innovation in commercial banks ($P=0.00<0.01$). All of the above five factors have a significant influence on financial innovation in commercial banks in Kenya with a 99% confidence level as shown with sig. ($P=0.00$; $P<0.01$).

4.4. Hypothesis Testing

The T-test was used to test the hypothesis because of the small sample size and the unknown standard deviation for the population.

$H_0$1: Customer needs has no significant effect on financial innovation in commercial banks

For customer needs, table 4.11 {t=4.734, P=0.000}, the P-value is less than 0.01, hence the null hypothesis was rejected at 1% significant level. With a 99% confidence level, it was then accepted that customer needs has a significant effect on financial innovation in commercial banks. Similarly to these findings, Mantel (2000) found out in his study that customers prefer using debit cards and other electronic payments which has made banks come up with innovations and improved products and services to meet their needs. This explains the increase in the use of debit cards in Kenya from 971449 in 2007 to 9,126,946 users (CBK, 2013).

$H_0$2: Competition has no significant influence on financial innovation in commercial banks

For competition, table 4.11{t=5.720, P=0.000}, the the P-value is less than 0.01, hence the null hypothesis was rejected at 1% significant level. With a 99% confidence level, it was then accepted that competition has a significant effect on financial innovation in commercial banks. This agrees with Greenspan (2005) who observed that financial innovation is market fundamentally market driven and that firms would offer new products because it's profitable and customers will demand them or at least pay for them.

$H_0$3: Economic environment has no significant influence on financial innovation in commercial banks

For Economic environment, table 4.11 {t=5.622, P=0.000}, the P-value is less than 0.01, hence the null hypothesis was rejected at 1% significant level. With a 99% confidence level, it was then accepted that economic environment has a significant effect on financial innovation in commercial banks. This concurs with the CBK report on increased innovations that have been copied across industries as witnessed in the insurance market, pension fund markets, emergence of unit trust funds among other developments (CBK, 2010).

$H_0$4: Regulatory environment has no significant influence on financial innovation in commercial banks

Finally, for regulatory environment, table 4.11 {t=2.676, P=0.013}, the P-value is more than 0.01, hence I fail to reject the null hypothesis at 1% significant level. With a 99% confidence level, it was then accepted that Regulatory environment has no significant effect on financial innovation in commercial banks. This is contrary to Kane (1982) who had described the process of avoiding regulation as "loophole mining" and further suggested that when regulatory constraints are so burdensome avoiding them results to firms making profits and innovation is more likely to occur.

$H_0$5: Technology has no significant influence on financial innovation in commercial banks

For technology, table 4.11{t=3.550, P=0.001}, the P-value is less than 0.01, hence the null hypothesis was rejected at 1% significant level. With a 99% confidence level, it was then accepted that technology has a significant effect on financial innovation in commercial banks. Similarly to these findings, Cooper (2002), had observed that technology innovation have made it possible to extend financial services to millions of poor people at a relatively low cost. Customers have embraced mobile banking which has increased mobile transactions from 14.25 million in 2007 to 643.01 million in 2013 (CBK, 2013).

V. FINDINGS, CONCLUSSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of the findings of the study. Based on the findings, recommendations are made as regards to the effect of selected factors on financial innovation in commercial banks in Kenya.

5.1 Summary of findings

The objective of the study was to evaluate the effect of selected factors on financial innovation in commercial banks in Kenya. This was achieved by collecting primary data from commercial banks licensed by the CBK.The first objective sought to assess the effect of customer needs on financial innovation. Under customer needs most respondents agreed that customers are efficiently and timely served and it's because of that most commercial banks would develop products and services that will ensure customers are served in a timely manner. The second objective sought to evaluate the effect of competition on financial innovation in commercial banks in Kenya. Most respondents agreed that the market is concentrated and that other financial institutions would provide stiff competition to commercial banks. The third objective was to evaluate the effect of economic environment on financial innovation in commercial banks in Kenya. Most respondents agreed that high corporate tax and interest rates influence financial innovation. Most respondent agreed that easy access to products and services due to improved technology was the most factors that influenced financial innovation. Most respondents agreed that customers can easily access different product with ease .This explains the increase in the use of Mobile banking by most customers. This allows customers to access their bank accounts and even transact with ease.

5.2 Conclusion

This study evaluated the effect of selected factors on financial innovation in commercial banks in Kenya. Out of the five factors evaluated namely customer needs, competition, economic environment, regulatory environment and technology, four factors significantly affected financial innovation in commercial banks in Kenya. These factors included Customer needs, Competition, Economic environment and Technology. Under customer needs customer feedback, staff motivation, customer protection, dynamic customer needs and customer service had an effect on financial innovation in commercial banks. All the factors under competition affected financial innovation as well as economic environment. Under technology four factors had an effect on financial innovation in commercial banks in Kenya. A conclusion can be drawn that customer needs, competition, economic environment, and technology significantly affect financial innovation in commercial banks in Kenya. Dynamic customer needs, concentrated market and easy access to products and services were most ranked factors affecting financial innovation in commercial banks in Kenya. A further research should be done on whether Profitability, Globalization, Outsourcing and untapped markets affect financial innovation in commercial banks in Kenya.

5.3 Recommendations

It is evident from the research that customer needs influence financial innovation but very few commercial banks in Kenya involve customers before developing new products and services. Commercial banks involve customers at the tail end when they are testing the products, it would be a huge success if customers are involved from the start. Commercial banks should have open forums where they meet customers and discuss issues affecting customers by so doing they will be able to fully understand the ever changing needs of customers. Commercial banks face stiff competition not just among themselves but also from other financial institutions, they should therefore strive to expand their markets by reaching the unbanked population as well going global and this can be achieved by constantly innovating products and services that improve service delivery as well as overall performance. The Central bank of Kenya should consider ranking commercial banks in terms of innovations this would prompt commercial banks to innovate products and services that would improve service delivery. Investing in the most recent and current technology will not only reduce costs but also expand customer base by reaching millions of customers. Policy makers should allow innovations to proceed and strive to regulate their side effect once they become evident. The regulatory environment should encourage rather than discourage such constructive innovations.

5.4 Suggestions for Further Research

Financial innovation is critical for any financial systems in an economy. The study provided insight on factors influencing financial innovation in commercial banks in Kenya. It is important for a further research to be done on other financial institutions in Kenya and its impact on Economic growth. A further research should be done on other factors namely: Profitability, Globalization, Outsourcing, Untapped markets to establish whether the above factors affect financial innovation on commercial banks in Kenya.

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