Effects of Financial Innovations on the Financial Performance of Commercial Banks in Kenya

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Abstract

The commercial banking industry in Kenya has in the last ten years involved itself in financial innovations, moving from the traditional banking to better meet the growing complex needs of their customer and globalization challenges. Despite the recognized importance of financial innovation and an extensive descriptive literature, there have been surprisingly few empirical studies. This situation has denied the banks the much needed information regarding this important area of financial innovations sometimes leading to reverse causality in the innovation-financial performance relationship. The study was guided by the following specific objectives; establish whether credit cards affect the financial performance of commercial banks in Kenya; examine the effects of mobile banking on the financial performance of commercial banks in Kenya; determine the influence of internet banking in financial performance of banks in Kenya; determine the influence of agency banking on profitability in financial performance of banks. The population of the study consisted of forty four commercial banks that are currently operating in Kenya, The target population was Sixteen banks and at least four members of the management team with representations in the following dimensions; locally incorporated banks, banks incorporated elsewhere but operating in Kenya, banks in which the government has some shareholding and also based on size. Thus sixty questionnaires were dispatched. Secondary data was collected from the bank's for the periods 2008-2012. Analyzed data was summarized and presented in the form of simple frequency tables of the ratio counts and graphs. The study found that some banks in Kenya had adopted some financial innovations such as credit cards, mobile, internet and agency banking. The financial innovations had great impact on the financial performance of the banks.

Keywords: Financial Innovation, Financial Performance, Commercial Banks

1. Introduction

The world banking and financial system is in the throes of a transformation caused by increasing globalization and deregulation. Financial innovations such as those available in ATMs, phone banking, Internet banking, debit cards, credit cards, agency banking and smartcard applications are taking place at an overwhelmingly fast pace in the global banking industry. Banking can be traced back to the year 1694 with the establishment of the bank of England. The bank was started by a few individuals who were actually money lenders with an aim of lending money at interest. The history of financial innovations is the history of the invention of tools and techniques.

In Kenya context, the significant reforms initiatives undertaken, such as operationalization of credit reference bureaus, agency banking, payments system improvements by use of e-commerce, operationalization of Microfinance Act and activation of horizontal repos presents opportunities for enhanced banking sector financial performance.

These reforms are hinged on three key pillars of the Kenyan financial sector as espoused in the Vision 2030 (the Government Economic Blue Print) - Efficiency, Stability and Access.

Thus, for Kenya to realize Vision 2030, the banking sector‘s efficiency is a critical element that remains the cornerstone of the targeted economic growth trajectory. Furthermore, the stiff competition and the compression of the interest rates, has forced banks to set up and put into effect all necessary decision support financial innovations. This enables them to dynamically plan new locations, evaluate their financial performance, forecast customers' attitude to new offered products and services, estimate clients' switching behavior, and finally provide marketing support to their geographically separate branches. The commercial banking sector has been the backbone of every country Kenya not being an exception. It implements and brings about economic reforms. Any change in this sector through technology has a sweeping impact on any country. The developments in information collection, storage, processing and transmission technologies have influenced all aspects of the banking activities in Kenya.

1.1 Background of the Study

The Kenyan financial sector has undergone tremendous changes in the last two decades. A lot of reforms have been undertaken in the sector that have led to proliferation of financial products, activities and organizational forms that have improved and increased the efficiency of the financial system. Advances in technology and changing economic conditions have created impetus for this change. All these developments coupled with changes in the international financial environment and the increasing integration of domestic and international financial markets have led to rapid financial innovation. The rising importance of the financial sector in modern economies, as well as the rapid rate of innovation in that sector, has generated a research interest in financial innovation.

The rising importance of the financial sector in modern economies, as well as the rapid rate of innovation in that sector, has generated a research interest in financial innovation. Indeed, a broad descriptive literature that discusses recent financial innovations and that advances various hypotheses about them has arisen (Mishra and Pradhah, 2008; Weber, 2008; Mario, 2007; Mohan, 2007: Noyer, 2007; Roldos, 2006; Resina, 2004). A striking feature of this literature, however, is the relative dearth of empirical studies that provide a quantitative analysis of financial innovation. This is surprising given the relative abundance of similar papers for other sectors of the economy, especially manufacturing and agriculture. Although this evolution in form of new financial instruments and new and more efficient methods of offering financial services constituting the now widely accepted definition of financial innovation has affected the entire global financial system, relatively little research concerning this subject is documented. Only scanty attempts dwelling on its definition, effects on money demand and effects on financial institutions exist in the literature (Hasan, 2009; Sukudhew, et al 2007); Scott and White (2002). No systematic qualitative and quantitative analysis of the effects of financial innovation on banks performance variables exist in the literature especially in Kenya.

1.2 Financial Innovation and Financial Performance

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 (Roberts and Amit, 2003). This can only be maintained by ceaseless innovation and improvement of the product and the process (Porter, 2004).

However, despite the undeniable importance of financial innovation in explaining banking performance, the impact of innovation on financial performance, is still misunderstood for two main reasons. It seems that there is a lack of understanding about the drivers of innovation and innovation's impact on financial performance. In fact, most of the existing studies adopt a simplistic approach to the innovation performance relationship which does not take into account the antecedents to innovation inside and outside the banking organization, all of which could influence this relationship.

On the other hand, most previous studies have neglected the possibility of reverse causality between innovation and financial performance. De Young et al.'s study (2007) is the only exception that tries to tackle this issue.

The authors took into account the endogeneity of innovation as a financial performance explaining variable. Furthermore, in spite of an extensive descriptive literature on financial innovation, there is a paucity of empirical studies on financial innovation. Most of the existing empirical works have focused on the same handful of financial innovations (Frame and White, 2004). A deeper understanding of the determinants of each type of financial innovation allowed the researcher to better assess the impact of financial innovation on commercial bank's performance in Kenya.

2. Statement of the Problem

Banks and other financial intermediaries are at the heart of the world's recent financial crisis. The deterioration of their asset portfolios, largely due to distorted credit management, was one of the main structural sources of the crisis (Steven, F., Damien, N. and Paul, S., 2002). The fast-changing competitive environment, globalization, economic changes, regulation, privatization and the like demands that commercial banks are run efficiently and effectively by continuously engaging in financial innovations. In Kenya emergence of new technologies, products, processes, markets and competitor banks places demand on any commercial bank to apply any skills necessary to remain competitive and achieve competitive advantage. The banking industry has already been depicted (Parasuman et al., 2001) as exhibiting little market orientation and fulfilling services with little regard to customer needs as well as including branches dissimilar in efficiency which have contributed to low financial performance. In Kenya Long lines, transaction errors, queuing, insecurity and network failures have been said to be the most frequent problems using banking services (Smith, 1999). This highly lower customer's perception on the quality of service offered and hence reduces the bank's credibility hence profitability (Joseph et al., 2003).
The questions relates to whether mobile banking and Internet banking, credit cards, and agency banking represented positive change and are affecting the financial performance of the banks. As the importance of financial innovation in developing countries including Kenya increases, so does the need for research on the subject. (Joseph et al. 2003).Despite the recognized importance of financial innovations and an extensive descriptive literature, there have been surprisingly few empirical studies. This situation has denied the banks the much needed information regarding this important area of financial innovations sometimes leading to reverse causality in the innovation-performance relationship. Mugambi (2006) attest that researches have been done on areas of service excellence and customer satisfaction in the banking industry. However, there was no study in Kenya that had looked at the impact of financial innovation on commercial banks with reference to financial performance. This study therefore, sought to investigate the relationship between financial innovations and financial performance of commercial banks in Kenya.

The study used the following specific objectives; Establish whether credit cards, mobile banking, internet banking and agency banking affects the financial performance of commercial banks in Kenya.

3. Methodology

The research utilized descriptive research design. Descriptive research involves gathering data that describes events and organize, tabulates, depicts and describes the data. It involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data (Babbie, 2002). Descriptive studies portray the variables by answering who, what and how questions. According to Cooper and Schindler (2000) descriptive statistics discover and measure cause and effect relationships among variables.

The population of the study consisted of 44 commercial banks that are currently operating in Kenya Of the 44 banks 16 banks were used in the study that is, 3 each of foreign owned bank, foreign owned but locally incorporated, banks with government participation, and 7 locally owned banks. This represents 36.4% of the total population. According to Mugenda and Mugenda (2003), a sample size of more than 10% is a good representation of the population. Therefore a representation of 36.4% was considered adequate for the study. The study used Slovin's formula to get the sample size. The banking industry currently consists of 44 commercial banks. The data utilized in this study was compiled from the annual reports from the banks over the period of 2008-2012. Questionnaires were used for garnering primary data while audited financial reports were used to garner secondary data. Financial Performance measurement in which the study described the impact of the following Profitability Ratio :(Net Profit Margin, Gross Profit). Efficiency ratios were also calculated. An efficiency ratio is a measure of a bank's overheads as a percentage of its revenue.

Multiple linear regression models were used to assess whether financial performance is a function of the variables indicated on the specific objectives. It provides information on impact of an independent variable while simultaneously controlling the effects of other independent variables. It used the following model:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ Where;

$Y =$ Financial performance

$\beta_0 =$ Constant(Y-Intercept-The predicted value of Y when all of the X values equal to Zero)

$\beta_1 - \beta_4 =$ Intercept of independent variables

$X_1 - X_4 =$ Independent Variables

$\varepsilon =$ Error term

4. Results and Findings

The study collected a total of 43 questionnaires out of the 60 questionnaires distributed to the banks. This represents a response rate of 71.6%. According to Mugenda & Mugenda (2003) a response rate of 50% is adequate for the study, 60% is good and above 70% is excellent response for data analysis. To ascertain the reliability of the questionnaire a reliability test was run. The reliability test used Cronbach alpha Nunnaly (1978). From the findings, the independent variables had the following alpha values. Credit cards=0.938, Internet banking=0.899, mobile banking =0.860 and agent banking= 0.980. The depend variable of the study which was financial performance had a Alpha value of 0.889. In overall the Alpha value of the study was 0.863.

Table 1: Financial Performances of the Banks

Banks	Profits in '000, 000'
KCB	10981
Equity	9773.9
Credit bank	9009.4
Development bank	8741.0
Giro	8069.5
Fina bank	3109.4
Family	2984.4
National bank	914.4
Prime bank	834.4
Chase bank	729.8
NIC	540.7
CFC	466.7
Standard chartered	226.4
Barclays	144.3
Cooperative bank	47.1
Bank of India	1.0

The data contained in Table 1 shows the levels of profits of different banks in the year 2012. According to the findings, the highest profits were realized by KCB, Equity bank, co-operative bank, Barclays bank and standard chartered banks. The least profits were realized by the Bank of India, Giro bank and Credit bank. In general all the banks were seen to have made profits in the year. This agrees with Jurgen, (2008) that the Kenyan financial sector has undergone tremendous changes in the last two decades. Which have led to proliferation of financial products, activities and organizational forms that have improved and increased the efficiency of the financial system. Also advances in technology and changing economic conditions have created impetus for this change.

4.1 Relationship between Financial Innovations and Financial Performance

The study sought to test the relationship between financial innovations and the financial performance. This was done through Correlation and regression analysis. A Pearson correlation was run to establish how the variables were related to each other.

Table 2 Correlation Analysis

	Performance	Credit cards	Internet banking	Mobile banking	Agent banking
Performance	1	.446	.060	.236	.282
Credit cards	.446	1	.320	.096	.030
Internet banking	.060	.320	1	.491	.242
Mobile banking	.236	.096	.491	1	.682
Agent banking	.282	.030	.242	.682	1

Table 2 shows the correlation results of the study on the variables. According to the correlation, the range of the output is between -1 to 1. A positive value indicates that the variables are positively related while a negative value indicates that the variables are negatively related.

From the findings shown credit cards and bank financial performance are positively related (0.446), mobile banking is positively related with the bank performance (0.236) and internet banking (0.060). Agent banking was positively related with bank performance (0.282).

The use of credit cards by the banks was positively related with internet banking (0.320), mobile banking (0.096) and agent banking (0.030). The use of internet banking was positively related with mobile banking (0.491) and agent banking (0.242). Lastly the adoption of agent banking had a positive relation with mobile banking (0.682). This indicates any of the financial innovation had a positive correlation with the performance of the banks and the financial innovations had positive correlations among themselves. This indicates that banks increased the use of the innovations simultaneously.

4.2 Regression Analysis

To study the effects of the financial innovations on the performance of the banks, the study run a linear multiple regression test to establish the effects of each of the innovations. The findings are discussed in the following sections.

Table 3 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.786[a]	.618	.480	.42097

The findings shown in Table 3 indicate the extent of variations on the profits which are explained by the independent variables. The R square value is 0.618. This means that the independent variables explain 61.8% of the variations in dependent variable. The rest 38.2% are explained by other factors.

Table 4: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.160	4	.790	4.458	.022
Residual	1.949	11	.177		
Total	5.109	15			

The results in Table 4. Show that the independent variables are statistically significant in predicting the profits or affecting the profits of the banks. The study established a significant value of p=0.022 showing a statistical significance relationship.

Table 5 Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.485	.694		7.906	.000
Use of credit cards	.630	.127	.098	.498	.029
Mobile banking use	.770	.237	.094	.326	.041
Internet banking use	.656	.191	.781	3.437	.006
Agent banking adoption	.175	.095	.475	1.845	.047

The findings in Table 5 show the coefficients of the regression. According to the findings, credit cards (P=0.029), mobile banking (p=0.041), internet banking (p=0.006) and agent banking (p=0.042) were all significant in predicting the profits of the banks since all the p values were less than 0.05. However, as it can be seen agent banking had a p=value of 0.047which that it was not as significant as the rest of the factors which had lower values of p. Since a low value indicates high significance of the variable on the dependent variable and vice versa. This is because agent banking was not practiced in many banks in Kenya and therefore the number of the banks which had agent banking was few. The aggregate of the values were therefore not coming out as strongly as the rest of the factors which were almost in all the banks.

The resulting regression equation was:

$$Y = 5.485 + 0.630CC + 0.771MB + 0.656IB + 0.175AB$$

Where $Y = \Pr ofits$, $CC = CreditCard$, $MB = MobileBanking$, $IB = InternetBanking$,

$AG = AgencyBanking$ The findings indicate that when all the factors are held constant the profits will increase by 5.485 units. When all the factors are held constant one unit use of credit card increases the profits by 0.630 units. When all the factors are held constant a unit increase in the use of mobile banking increases the profits by 0.770 units. Similarly, a unit increase in the use of internet banking holding other factors constant increases the profits by 0.656 units. A single agent bank holding the rest factors constant increases the profits by 0.175 units. This shows that the use of financial innovations have had a great impact on the financial performance of the commercial banks in terms of profitability. All the innovative features such as credit cards, mobile banking, internet banking and the agent banks have been found to increase the profitability of the banks.

5. Summary and Concluding Remarks

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 uses various innovative products to remain competitive in the market. The study note that banks in Kenya have adopted the new technologies and modern ways of operating which is safer and superior compared to the old ones. This include use of EFT electronic payment transfer, automation in clearing through EFT, truncation or cheque imaging transmission use electronic banks transfer.

The study also indicated that banks have been motivated by the different interests to pursue different financial innovations. Credit cards are being adopted by the banks so as increase income, profits, and to reduce credit and liquidity risks. The study concludes that banks use internet banking to improve accuracy and efficiency and to increase speed and reliability of the banking system. This is because the process is automated and is less prone to human errors.

Agent banking have had the effect of increasing the number of transactions which the banks conduct in a day hence transaction charges. The agent banks outlets have also increased competition among the banks and have been within the reach of the customers especially those at rural areas. The study concludes that the use of financial innovations which include the use of credit cards, mobile banking, internet banking and agent banking in Kenya has had great impacts on the financial performance of commercial banks in Kenya.

The study sought several recommendations which include; It is recommended that management of those banks which have not instituted and adopted the electronic banking adopt an electronic way of doing things in their operations. The study found that those banks which use of financial innovations have had very positive impacts on the financial performance of the banks. It is therefore recommended that management of other bank adopt financial innovations such as credit cards, mobile, internet and agency banking.

The study found that most of the banks were localized in Nairobi only: this reduced the number of clients which can access their services leading to low profits in the market. It is recommended that management of the banks work to ensure that they expand and increase the number of their bank branches across the country to increase their clientage.

The study established that the use of internet banking increased accuracy and efficiency, reliability and speed which give them competitive advantage over the rest of the banks. It is recommended that banks adopt internet banking to increase their competitiveness and service quality. The use of agent banking is mainly clustered among the banks in Nairobi. Those banks which are in the rural areas do not have enough agent banks.

It is recommended that banks increase the agent banks across the country to make available the banking services to the people.

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