Relationship between Bank Innovations and Financial Performance of Commercial Banks in Kenya

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ABSTRACT
The relationship between the growing investment in technology based bank innovations and bank financial performance in Kenya needs to be studied. There is need to establish whether bank innovations have contributed to the financial performance of commercial banks in Kenya. Using descriptive research design, the study sought to establish the relationship between bank innovations and financial performance of Commercial Banks in Kenya between 2009 and 2013. The study specifically sought to establish the effect of mobile phone banking, ATM banking, online banking and agency banking on the financial performance of commercial banks in Kenya. The target population of this study was all the 43 commercial banks in Kenya. The study was based on secondary data which was collected from the published annual reports for commercial banks spanning five years (2009-2013) during which technological innovations have been intensely invested in by banks. In analysing the quantitative data, the study used descriptive statistics using Statistical Package for Social Sciences (SPSS V 18.0). Multiple regression analysis was used to test the relationship between bank innovations and financial performance among commercial banks in Kenya. In addition, the Pearson Product Moment Correlation Coefficient was used to test the direction and magnitude of the relationship between the dependent and independent variables at 95% confidence level and 5% level of significance. The study established that the identified bank innovations, precisely, mobile phone banking, online banking, agency banking and ATM banking had positively impacted on the financial performance of commercial banks in Kenya over the 5 year period between 2009 and 2013. The study recommended that the management of the commercial banks in Kenya should partner with the Government of Kenya and telecommunication players to achieve synergy in broadening and accelerating the adoption of mobile, agency and online banking in Kenya for enhanced financial performance.
Key words: Banking Innovations, Mobile Phone Banking, ATM banking, Online Banking, Agency banking, Firm Performance.

1.1 Background to the Study

Innovations in Information Communication and Technology (ICT) have revolutionalised the financial sector resulting in novel delivery channels for financial products and services such as Automated Teller Machines (ATMs), mobile phone banking, , online banking, and Agency banking (Ahmad, 2006). These developments leveraged on ICT are termed as electronic banking (e-banking) which is a sub-component of electronic commerce (E-commerce). E-banking has been very instrumental in improving the quality of service and financial performance of banks (Beck *et al.,* 2007).

Branchless banking, the use of alternative delivery channels such as mobile phone banking and agent banking, is becoming increasingly popular among commercial banks in Kenya and in other developing countries. It is believed to reach the low-income and rural individuals as well as making these individuals better off (Consultative Group to Assist the Poor, 2009). The bank innovations that will be studied includes; mobile phone banking, Automated Teller Machine (ATM) banking, online banking and agency banking.

1.2 Financial Performance

The International financial landscape is changing rapidly; economies and financial systems are undergoing traumatic years. Globalization and technology have changed with continuing speed, financial arenas are becoming more open with new products and services being invented and regulators everywhere are scrambling to assess the changes and master the turbulence (Sandeep *et al*, 2002).

According to Al-Hussein *et al* (2009), financial performance is explained as the degree to which financial objectives are being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

The profitability of commercial banks depends heavily on the net of income generating activities and the related activities expense. Due to the problem of profitability and stiff competition in the industry, commercial banks have changed their behavior of income sources, by increasingly diversifying into non-intermediation income generating activities as opposed to the traditional inter-mediation income generating activities. For a commercial bank to remain competitive there is need to develop and adopt new products and technology. Such products include adoption of Islamic products, use of technology i.e. internet banking and mobile phone banking (McKay and Pickens, 2010).

1.3 Bank Innovations and Performance

Onay, Ozsoz and Helvacıoğlu (2008) studied the impact of internet banking on bank profitability in Turkey. The researchers estimated the effect of online banking activities on the three common determinants of bank performance, namely the return on assets, return on equity and return on the financial intermediation margin. They found out that besides investment in e-banking being a gradual process, internet banking variable had a positive effect on the performance of the banking system in Turkey in terms of returns to equity only with a lag of two years.

Arnaboldi and Claeys (2008) while comparing the performance of different online banking models over the period 1995-2004 in Finland, Spain, Italy and the UK, found out that internet banks were

performing better in terms of average returns to assets (or equity), and did not seem to run higher operational costs for the little income they generate. They further contend that online banking as a process innovation is largely driven by factors external to the banking industry which include percentage of households with access to internet at home, a higher broadband penetration rate, and higher outlay on research and development (R&D) employment. All factors positively influence internet bank performance.

Hasan, Schmiedel and Song (2010) analyzed the performance of multi-channel commercial banks *vis à vis* traditional banks in Italy. They concluded that the adoption of internet influence positively bank performance, measured in terms of ROA and ROE. On the other hand, Hernando and Nieto (2006) examined the impact of setting up a transactional website on bank financial performance in the Spanish banking market. The authors conclude that the adoption of the internet as a delivery channel gradually reduces overhead expenses. This cost reduction boosts the performance of banks about one year and a half after the adoption in terms of ROA, and after three years in terms of ROE. In line with DeYoung *et al*., (2005) this study proves that the internet had been used more as a complement than as a substitute for physical branches, suggesting the dominance of a multi-channel banking model.

DeYoung *et al*., (2007) analyzed systematically the financial performance of pure-play Internet banks in U.S. The study found relatively lower profits at the Internet-only institutions than the branching banks, caused in part by high labour costs, low fee based revenues and difficulty in generating deposit funding. However, consistent with the standard Internet banking model, the results indicated that Internet-only banks tended to grow faster than traditional branching banks. Internet-only banks have access to deeper scale economies than branching banks and because of this; they are likely to become more financially competitive over time as they grow larger. Delgado *et al*. (2004 and 2006) found similar results for Internet-only banks in the EU. Nevertheless, the magnitude of technology based scale economies found in these studies was substantially larger than that estimated by DeYoung studies.

Kithuka (2012) sought to establish the factors influencing growth of agency banking in Kenya. The study sampled 100 Equity Bank agencies doing bank focused, bank led and non-bank led transactions in Kwale County. The study established that convenience of the money transfer technology plus its accessibility, cost, support and security influence the use of agency banking. Waithanji (2012) sought to establish effect of agent banking as a financial deepening initiative in Kenya. Descriptive statistics were used for the analysis. The findings revealed lack of connection between agent banking and financial deepening. The researcher noted that the relationship could not be conclusively determined due to the low number of banks that have implemented it and impact may become clearer once all banks adopt agency banking. Kirimi (2011) studied the extent of implementation of agency banking among commercial banks in Kenya. The study established that there is difficulty in enforcing appropriate oversight by the agent and customer interaction was inconsistent with the overall banking regulatory framework. The findings revealed a need for regular training of agents on changes in operational processes and policies in order to eradicate occurrence of error and mistakes that obstruct penetration of agency banking in Kenya thus enhancing banks' financial performance.

1.4 Problem Statement

Despite the undeniable importance of bank innovations in explaining banking performance, the impact of bank innovations on financial performance is still misunderstood because of two main

reasons, first, there is inadequate understanding about the drivers of adoption of bank innovations and secondly bank innovations' impact on bank's financial performance remains lowly untested (Mabrouk and Mamoghli, 2010). Kenyan commercial banks have continued to deploy huge investments in technology based innovations and training of manpower to handle the new technologies. Data from Central Bank of Kenya (2013) indicate that, the number of automated teller machines grew from 166 in 2001 to 2091 in 2010, while mobile phone banking transactions increased from 48,000 per annum in 2007 to over 250,000 transactions per annum in 2010. Financial Performance of commercial banks in Kenya also grew impressively between years 2001 to 2010 where profit before tax grew from Kshs 2.7 billion in 2001 to Kshs 74 billion in 2010. During the same period, total income grew from Kshs 61 billion to Kshs 178 billion while total assets grew from Kshs 425 billion to Kshs 1.7 trillion (CBK, 2011). During this period there were also massive investments by banks in technology based banking. A number of local studies have been carried out on the use of bank innovations in the Kenyan banking sector. Mwangi (2013) focused on the effects of bank innovations on financial performance of commercial banks in Kenya. The study focused on effects of bank innovations on income of banks, return of assets, bank profitability and customer deposits. In addition, the study only focused on mobile phone banking, ATM banking and online banking but failed to look at agency banking which is a key component of the bank innovations today. Nyangosi and Arora (2011) examine the adoption of information technology in Kenyan banks focusing on services provided through internet and mobile phone banking. Nyangosi and Arora argue that financial institutions adopted different electronic distribution channels to meet the demands of customers but they never investigated the due effect on commercial banks performance.

1.5 Objectives
This study aimed to establish the relationship between bank innovations and financial performance of commercial banks in Kenya between 2009 and 2013. Specifically the study seeks to:
  i. Establish the extent to which mobile phone banking has influenced financial performance of commercial banks in Kenya.
 ii. Analyze the influence of ATM banking on financial performance of commercial banks in Kenya.
iii. Establish the influence of online banking on financial performance of commercial banks in Kenya.
 iv. Investigate the extent to which agency banking has influenced financial performance of commercial banks in Kenya.

1.6 Hypotheses
The study was based on the following null hypotheses;

$H_{01.}$ There is no significant relationship between mobile phone banking and financial performance of commercial banks in Kenya.

$H_{02.}$ There is no significant relationship between ATM banking and financial performance of commercial banks in Kenya.

$H_{03.}$ There is no significant relationship between online banking and financial performance of commercial banks in Kenya.

$H_{04.}$ There is no significant relationship between agency banking and financial performance of commercial banks in Kenya.

II: Theoretical Review
a).Agency Theory

Agency theory analyzes the relationships between a business firm's owners and its managers who, under law, are agents for the owners. The key issues in agency theory center upon whether adequate market mechanisms exist that compel managers to act in ways that maximize the utility of a firm's owners where ownership and control are separated. Under the terms of agency theory, a principal (P) passes on authority to an agent (A) to conduct transactions and make decisions on behalf of the principal in an effort to maximize P's utility preferences. Agency problems can arise if: P and A have different goals; P and A have disparate skills in evaluating A's performance; P and A possess different sets of information relevant to the managerial decisions A must make as a representative of P; or P and A have different degrees of risk aversion. At the core of agency problems is the fact that principals may not be able to monitor agents, either perfectly or costless, as to the agent's actions or the information behind those actions.

In commercial banking, agency problems may arise from three principal sources: partial ownership of a banking firm by individuals who are both owners and managers and who, therefore, may behave differently than utility-maximizing owners alone; the presence of government-sponsored deposit insurance programs that do not differentially price insurance coverage to reflect the risk exposure of each banking firm and that can elect to delay recognition of a bankruptcy, creating a moral hazard because management and stockholders can pursue high-risk investments in an attempt to transfer wealth from depositors to shareholders; and, the existence of informational asymmetry where owners and managers do not share the same information.

b).Innovation Diffusion Theory

According to Dillon and Morris (1996); Rogers (1983 & 2003), the factors which influence the diffusion of an innovation include; relative advantage (the extent to which a technology offers improvements over currently available tools), compatibility (its consistency with social practices and norms among its users), complexity (its ease of use or learning), trialability (the opportunity to try an innovation before committing to use it), and observability (the extent to which the technology's outputs and its gains are clear to see). These elements are not mutually exclusive thus unable to predict either the extent or the rate of innovation diffusion.

Moore and Benbasat (1991) built on the work of Roger (1983), amongst others Tornatsky and Klein (1982) and Brancheau and Wetherbe (1990) and expanded the array of innovation characteristics to seven. Three of the seven innovation characteristics are directly borrowed from Rogers: relative advantage, compatibility, and trialability. Specifically, the theory begins to describe the innovation-decision process within organizations, but not to the level of addressing whether and how the characteristics of an innovation interact to affect its adoption within organizations, or whether organizational type, size, or industry affect adoption. In addition, while there is an innovation-decision process described for individuals and within organizations, there is no description of how the variables interact when innovations are diffused across organizations.

2.2 Conceptual Framework

A conceptual framework is the diagrammatic presentation of variables, showing the relationship between the independent variable and dependent variables. In this study, the independent variables were; mobile banking services, investment in ATM machines, investment in agency banking and investment in online banking. The study sought to investigate how the independent variables influence financial performance of commercial banks in Kenya. Financial performance was measured using return on assets. The relationship between the independent variables and dependent variable is presented schematically in the conceptual framework in Figure 2.1.

Independent variables   **Dependent Variable**
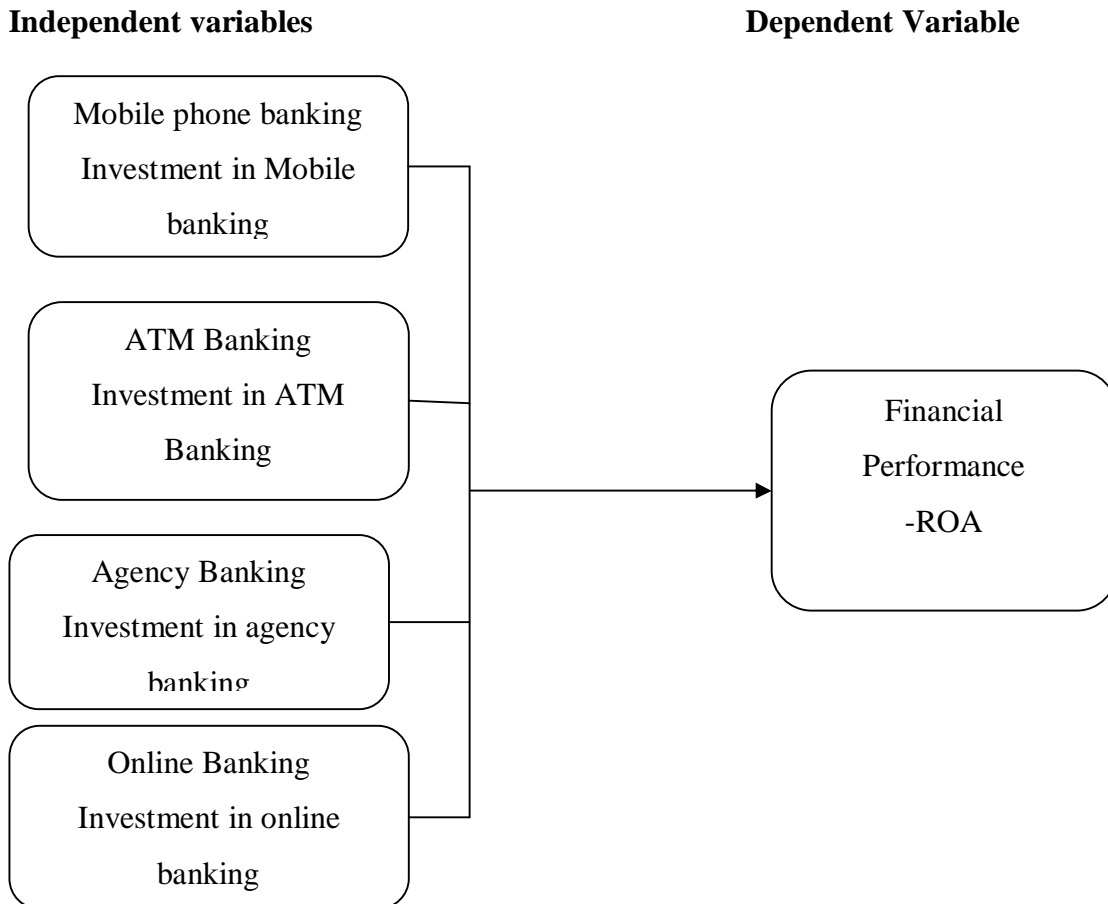
Figure 2.1: Conceptual Framework

III: Methodology

This study sought to investigate the relationship between bank innovations and financial performance among commercial banks in Kenya. The study adopted descriptive survey design. The target population was all commercial banks licensed and operating in Kenya. Since the sample size was small all commercial banks were considered to form part of study sample. For the purpose of

this study, the researcher used secondary data. The secondary data was obtained from the published annual reports spanning five years (2009-2013) for the commercial banks in Kenya. It is during this period that agency banking was rolled out by commercial banks in Kenya while mobile banking registered the highest investment by the banks.

IV: Data Analysis

Data was analysed using SPSS version 19. Descriptive statistics, regression analysis were used. Statistical significance was based upon 5% level of significance. The model tested was as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon.$$

Table 3.1 Study Variables

	Variables	Measure
Y	Financial performance	ROA (Return on Assets) = [net income / total assets]
X_1	mobile phone banking	[total investment in mobile phone banking /operating profit]
X_2	online banking	[total investment in online banking /operating profit]
X_3	agency banking	[total investment in agency banking /operating profit]
X_4	Automated Teller Machine (ATM) banking	[total investment in ATM banking /operating profit]
ε	error term	
β	coefficient of independent variable	
α	constant	

Financial performance

The findings as shown in Table 4.1 indicate the trend of return on assets values over the 5 year period between 2009 and 2013. The lowest value for ROA was a mean of 2.53 in year 2009 while the highest value was a mean of 4.54 in year 2013. This represented a positive change in the ROA mean values of 2.01 over the 5 year period. The steady rise in ROA values over the 5 year period indicates that the financial performance of the commercial banks has been on the increase over the last 5 years. On the other hand the standard deviation indicates variation in the financial performance between various commercial banks.

Table 4.1 Financial performance (ROA)

Year	N	Mean	Std. Deviation
2009	43	2.53	1.082
2010	43	2.75	0.923
2011	43	3.48	0.692
2012	43	4.02	0.042
2013	43	4.54	0.016

Mobile Phone Banking

The findings as shown in Table 4.3 indicate the trend of investment in mobile banking by commercial banks in Kenya over the 5 year period. The highest value of mobile banking was a

mean of 0.100 in year 2013 while the lowest value of mobile banking was a mean of 0.089 in year 2009. This shows a steady increase in investment in mobile banking by the commercial banks in Kenya between year 2009 and year 2013. This implies that the usage of mobile banking by commercial banks in Kenya steadily increased over the 5 year period. Thus, mobile phone banking positively influenced the financial performance of commercial banks in Kenya over the 5 year period.

Table 4.2 Mobile Phone Banking

Year	N	Mean	Std. Deviation
2009	43	0.089	0.076
2010	43	0.092	0.074
2011	43	0.094	0.067
2012	43	0.097	0.066
2013	43	0.100	0.065

Online Banking

The findings as shown in Table 4.4 above indicate the trend of investment in online banking by commercial banks in Kenya over the 5 year period.The highest value of online banking was a mean of 0.087 in year 2013 while the lowest value of online banking was a mean of 0.080 in year 2009. This shows a steady slight increase in investment in online banking by the commercial banks in Kenya between year 2009 and year 2013. This implies that the usage of online banking among the commercial banks in Kenya slightly increased over the 5 year period. Thus, online banking has had a positive impact on the financial performance of commercial banks in Kenya over the 5 year period.

Table 4.3 Online Banking

Year	N	Mean	Std. Deviation
2009	43	0.080	0.073
2010	43	0.081	0.065
2011	43	0.084	0.060
2012	43	0.085	0.055
2013	43	0.087	0.054

Agency Banking

The findings as shown in Table 4.4 above indicate the trend of investment in agency banking by commercial banks in Kenya over the 5 year period. The highest value of agency banking was a mean of 0.087 in year 2013 while the lowest value of agency banking was a mean of 0.074 in year 2009. This shows a steady increase in investment in agency banking by the commercial banks in Kenya between year 2009 and year 2013. This implies that the adoption of agency banking by

commercial banks in Kenya steadily increased over the 5 year period. Therefore, agency banking had a positive influence on the financial performance of commercial banks in Kenya over the 5 year period.

Table 4.4 Agency banking

Year	N	Mean	Std. Deviation
2009	43	0.074	0.066
2010	43	0.077	0.056
2011	43	0.080	0.057
2012	43	0.086	0.059
2013	43	0.087	0.058

Automated Teller Machine (ATM) banking

The findings as presented in Table 4.5 above indicate the trend of investment in Automated Teller Machine (ATM) banking over the 5 year period. From the findings, the highest value of Automated Teller Machine (ATM) banking was a mean of 0.107 in year 2013 while the lowest value of Automated Teller Machine (ATM) banking was a mean of 0.094 in year 2009. This shows a steady increase in the level of investment in Automated Teller Machine (ATM) banking by commercial banks in Kenya between year 2009 and year 2013. This depicts that the application of Automated Teller Machine (ATM) banking in Kenya steadily increased over the 5 year period. Thus, Automated Teller Machine (ATM) banking had a positive impact on the financial performance of commercial banks in Kenya over the 5 year period.

Table 4.5 Automated Teller Machine (ATM) Banking

Year	N	Mean	Std. Deviation
2009	43	0.094	0.074
2010	43	0.098	0.074
2011	43	0.099	0.067
2012	43	0.104	0.075
2013	43	0.107	0.074

4.3 Inferential Statistics

In determining the impact of bank innovations on the financial performance of commercial banks in Kenya between 2009 and 2013, the researcher conducted a multiple regression analysis to determine the nature of relationship between the variables. The regression model specification was as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon.$$

Where; Y= Financial performance, X_1= Mobile phone banking, X_2= Online banking, X_3= Agency banking, X_4= Automated Teller Machine (ATM) banking, α=constant, ε= error term, β=coefficient of the independent variables.

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4.3.1 Model Summary

Coefficient of determination explains the extent to which change in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (financial performance) that is explained by the four independent variables (mobile phone banking, online banking, agency banking and Automated Teller Machine (ATM) banking). The four independent variables studied, explain 80.82% of variance in the financial performance of commercial banks in Kenya as represented by the R^2. This means that other factors not studied in this research contribute 19.18% of variance in the dependent variable. Future, studies should investigate the role of other innovations in regard to commercial banks financial performance.

Table 4.6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	. 899[a]	.8082	.796	0.0014

a. Predictors: (Constant), mobile phone banking, online banking, agency banking and Automated Teller Machine (ATM) banking
b. Dependent Variable: financial performance

ANOVA (Analysis of Variance)

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all $\beta = 0$ against the null hypothesis that $\beta \neq 0$ (Weisberg, 2005). From the findings the significance value is .004 which is less that 0.05, thus the model is statistically significance in predicting how mobile phone banking, online banking, agency banking and Automated Teller Machine (ATM) banking impact on the financial performance of commercial banks in Kenya. The F critical at 5% level of significance was 3.23. Since F calculated (value = 8.66) is greater than the F critical (3.23), this shows that the overall model was significant.

Table 4.7 ANOVA (Analysis of Variance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.323	2	.202	8.66	.004[a]
	Residual	5.408	3	.246		
	Total	6.898	5			

a. Predictors: (Constant), mobile phone banking, online banking, agency banking and Automated Teller Machine (ATM) banking
b. Dependent Variable: financial performance

Regression Coefficients

The regression results were used to test the study hypothesis as follows: The first hypothesis H_{01}. There is no significant relationship between mobile phone banking and financial performance of

commercial banks in Kenya. The study findings showed that there is a significant positive relationship between mobile phone banking and commercial banks performance (β=0.788 and P value < 0.05). Therefore, a unit increase in mobile phone banking leads to an increase in commercial bank financial performance by 0.788.

The second hypothesis stated that there is no significant relationship between ATM banking and financial performance of commercial banks in Kenya. Results of the study showed that there is a positive significant positive relationship between ATM banking and commercial banks financial performance (β=0.725 and P value < 0.05). Therefore, a unit increases in ATM banking and financial performance of commercial banks in Kenya by 0.725.

The third hypothesis hypothesized that there is no significant relationship between online banking and financial performance of commercial banks in Kenya. Results of the study showed that there is a positive significant positive relationship between online banking and commercial banks financial performance (β=0.522 and P value < 0.05). Therefore, a unit increases in online banking and financial performance of commercial banks in Kenya by 0.522.

The fourth hypothesis hypothesized that there is relationship between agency banking and financial performance of commercial banks in Kenya. Results of the study showed that there is a positive significant positive relationship between agency banking and commercial banks financial performance (β=0.674 and P value < 0.05). Therefore, a unit increases in agency banking and financial performance of commercial banks in Kenya by 0.674.

Table 4.8 Regression Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients		t	Sig.
	B	Std. Error	Beta		
(Constant)	4.432	0.826		5.37	0.00
Mobile phone banking	0.788	0.312	0.218	2.53	0.00
Online banking	0.522	0.244	0.359	2.13	0.00
Agency banking	0.674	0.253	0.146	2.66	0.00
ATM banking	0.725	0.238	0.044	3.04	0.00

From the regression findings, the substitution of the equation
($Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$) becomes:
$Y = 4.432 + 0.788 X_1 + 0.522 X_2 + 0.674 X_3 + 0.725 X_4 + \varepsilon$

V: Discussion

The objective of the study was to determine the impact of bank innovations on financial performance of commercial banks in Kenya between 2009 and 2013. The objective was assessed by use of secondary data and the subsequent analysis based on the variables of the study. From the findings, financial performance of commercial banks in Kenya increased over the 5 year period as shown by the ROA mean values. The lowest value for ROA was a mean of 2.53 in year 2009 while the highest value was a mean of 4.54 in year 2013. Thus, bank innovations enhanced the financial performance of commercial banks in Kenya over the 5 year period. These findings are consistent with Onay, Ozsoz and Helvacıoğlu (2008) who found out that besides investment in e-banking being a gradual process, internet banking variable has had a positive effect on the performance of

the banking system in Turkey in terms of returns to equity only with a lag of two years. The findings are also supported by Hasan, Schmiedel and Song (2010) who observed that the adoption of ICT based innovations such as internet banking influenced positively bank performance.

The study findings revealed that mobile phone banking steadily increased from a mean of 0.089 in year 2009 to a mean of 0.100 in year 2013. This implies that the usage of mobile phone banking by commercial banks in Kenya steadily increased over the 5 year period. Thus, mobile phone banking positively impacted on financial performance of commercial banks in Kenya over the 5 year period. These findings are in line with Central Bank of Kenya (2009) report that observed that most large banks have made substantial investments in mobile phone banking capabilities, and smaller financial institutions are not far behind, with a view to enhance their financial performance. The CBK report continues to note that the mobile phone channel allows banks to offer customers features they cannot find online, such as remote check deposit, person-to-person payments, and real-time fraud notification. Such features make mobile phone banking a richer experience and will drive adoption over the next few years.

The study findings revealed that online banking slightly increased from a mean of 0.080 in year 2009 to a mean of 0.087 in year 2013. This implies that the usage of online banking among the commercial banks in Kenya slightly increased over the 5 year period. However, the low mean values of online banking indicate the low level of adoption of the online banking concept in Kenya. Thus, online banking as a bank innovation have not had the expected level of positive impact on financial performance of commercial banks in Kenya over the 5 year period. These findings are in agreement with Furst *et al*. (2000) who found that banks in all size categories offering Internet banking were generally more profitable than those that tended to rely more heavily on traditional banking activities. However, they noted that an exception to the superior performance of Internet banks was the de novo (new start-ups) Internet banks, which were less profitable and less efficient than non-Internet de novos. The authors concluded that Internet banking was too small a factor to have affected banks' profitability

The study findings further showed that agency banking steadily increased from a mean of 0.074 in year 2009 to a mean of 0.087 in year 2013. This implies that the adoption of agency banking by commercial banks in Kenya steadily increased over the 5 year period. Therefore, agency banking as a bank innovation positively influenced the financial performance of commercial banks in Kenya over the 5 year period. These findings are in line with Tarazi (2010) who points out that, when agents provide a range of services, that is, account opening, deposits, withdrawals and bill payments, they are able to generate transaction volume and balance liquidity leading to better bank performance. On his part, Kithuka (2012) noted that the convenience of the money transfer technology through agency banking plus its accessibility, reduced cost, support and security make agency banking to have a huge potential of enhancing the performance of financial institutions.

The study findings indicated that ATM banking steadily increased from a mean of 0.094 in year 2009 to a mean of 0.107 in year 2013. This implies that the application of ATM banking by commercial banks in Kenya steadily increased over the 5 year period. Therefore, ATM banking as a bank innovation positively impacted on the financial performance of commercial banks in Kenya over the 5 year period. These findings are consistent with Dabholkar (1994) who noted that the introduction of new automated channels of service delivery has made customer participation more widely possible. He further noted that ATM banking can create cost-cutting and cross-selling

opportunities for the banks. It can enhance profitability by reducing traffic at branches, so staffing can be reduced.

VI: Conclusion

Given the steady increase in mobile phone banking over the 5 year period and the corresponding increase in financial performance of commercial banks in Kenya over the same period, the study concludes that mobile phone banking as a banking innovation positively impacted on the financial performance of commercial banks in Kenya over the 5 year period.

Given the slight increase in online banking over the 5 year period and the corresponding increase in financial performance of commercial banks in Kenya over the same period, the study concludes that online banking as a bank innovation has not had the expected level of positive impact on the financial performance of commercial banks in Kenya over the 5 year period.

Given the steady increase in agency banking over the 5 year period and the corresponding increase in performance of commercial banks in Kenya over the same period, the study concludes that agency banking as a bank innovation positively influenced the financial performance of commercial banks in Kenya over the 5 year period.

Given the steady increase in ATM banking over the 5 year period and the corresponding increase in financial performance of commercial banks in Kenya over the same period, the study concludes that ATM banking as a bank innovation positively impacted on the financial performance of commercial banks in Kenya over the 5 year period.

VII: Recommendation

From the findings, the study established that mobile phone banking as a bank innovation positively impacted on the financial performance of commercial banks in Kenya over the 5 year period. Therefore the study recommends that the management of the commercial banks in Kenya should partner with the telecommunication players to achieve synergy in broadening and accelerating the adoption of mobile phone banking in Kenya for enhanced financial performance.

From the findings, the study established that online banking as a bank innovation has not had the expected level of positive impact on the financial performance of commercial banks in Kenya over the 5 year period. Therefore the study recommends that the government of Kenya and all other stakeholders should join efforts to increase the internet connectivity infrastructure in Kenya and formulate the necessary laws to guide the adoption and use of online banking by commercial banks in Kenya.

From the findings, the study established that agency banking as a bank innovation positively impacted on the financial performance of commercial banks in Kenya over the 5 year period. Therefore the study recommends that for the commercial banks to further enhance their financial performance, the management of the commercial banks in Kenya should increase the agency banking network in the country, mores so, to the remote areas lacking their banks' branch network, to tap on the unbanked populations.

From the findings, the study revealed that ATM banking as a bank innovation has had a positive impact on the financial performance of commercial banks in Kenya over the 5 year period. Therefore the study recommends that the commercial banks should increase the number of ATM stations operating country wide so as to increase their reach to more potential clients as well as reduce the human traffic and wasted man hours experienced within the banking halls, as banks' customers seek various financial services.

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