

# Financial Inclusion Innovations and Financial Performance of Commercial Banks in Kenya

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**Abstract:** Financial inclusion is the process of expanding access to financial services to those currently not accessing them which is an important objective in many developing countries. This study represents an investigation into financial inclusion innovations adopted by commercial banks in Kenya. The study majored on use of technology such as Automatic Teller Machines (ATMs), mobile phone banking internet banking and agency banking and its impact on financial performance of commercial banks in Kenya and how these inclusion innovations have moved us closer to branchless banking. The study was based on the fact that there is ground to cover in expanding access to financial services, given that about 25% of the population remains totally excluded and Financial services touch points are located away from areas of high poverty levels, with 69% of all financial access touch points being located in areas with the least likelihood of poverty. The threat posed by cybercrime to individuals, banks and other online financial service providers is real and serious hence the need for the study. The target population of the study was 42 commercial banks licensed in Kenya by 2010. The study used time series data from central bank of Kenya (CBK) and Kenya bankers' association (KBA) annual bank supervisory reports (2010-2016). Through multiple regressions and correlation analysis the study found out that there is a strong positive relationship between financial inclusion strategies and financial performance. Based on these results, the study recommends that financial inclusion innovations should be emphasized in the financial sector through regulatory and advisory bodies since it leads to improved financial efficiency. In addition, the study also recommends that financial institutions to embrace agency, internet banking and ATM banking to include the excluded people in financial services and products throughout the country since they proved significant in influencing financial performance. The study recommends further research on financial inclusion on microfinance institutions in Kenya and their impact on micro and small business organizations.

**Keywords:** Innovation, Performance, Financial Inclusion, Commercial Banks.

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## 1. INTRODUCTION

The banking industry is a key pillar to the achievement of vision 2030 , a strategy adopted by Kenya to achieve sustainable growth by 2030 through mobilization of savings and investments, encouragement of Foreign Direct Investment (FDI), safeguarding the economy from external shocks as well as propelling Kenya to become a leading financial centre in Eastern and Southern Africa(Government of Kenya, 2008). The target areas to achieve this include development of a safe and reliable payments system that will ensure smooth transfer and settlement of funds between customers and banks as well as between banks, the use of innovations such as mobile phone networks and mobile banking, internet connectivity and internet banking, payment cards, operational security order to increase trust, integrity and confidence in the ICT based payment systems and (CBK2016). Financial inclusion is a broad concept which can be defined as the process that ensures the ease of access, availability, and usage of formal financial system for all members in an economy. According to the World Bank (2014) financial exclusion can be categorized into voluntary and involuntary. Voluntary financial exclusion as a condition where the segment of the population or firms choose not to use financial services either because they have no need for them or due to cultural or religious reasons. In contrast, involuntary exclusion arises from insufficient income, high risk profile or due to discrimination by financial institutions. The study will focus on involuntary exclusion as it can be addressed by appropriate financial innovations and policies.

Although financial innovations has become topical on the global policy agenda for sustainable development financial inclusion is still in its infancy. Most studies have looked into the appropriate measures of financial inclusion both at household and country levels, while others focused on the role of financial access in lowering poverty and income inequality. Other papers have dealt with varying levels of financial inclusion both in advanced and emerging economies. Other studies have focused on financial innovations, ICT in banking sector only with none of the reviewed studies looking at financial inclusion innovations targeting the poor and those in rural areas in Kenya. These papers have laid the foundations in this field and provide key policy insights on the importance of financial inclusion innovations on performance of commercial banks in Kenya.

In Asia's financial inclusion has lifted millions out of poverty although there is deteriorating income inequality in recent years. Financial inclusion is critical as it increasing the poor's access to financial services and hence an effective tool to help reduce poverty and lower income inequality through increase asses to credit (loans) and cost effective services. Over decades, financial intermediation has been undergoing a transformation, owing to changes in the global financial system. The banking system has evolved through major financial innovations in the past decade promoting financial inclusion. This has been through globalization of financial systems, deregulation, and great advances in technologies. The financial systems has facing higher volatilities, more competition and wide varieties of risks and therefore financial innovation has become an important tool to provide new products and strategies to better suit different circumstances of time, market and to meet different requirements of participants in financial system. Without expanding inclusion to financial services, there will be a problem on quality access and affordable, appropriate and sustainable financial services and products to majority of the population. This will increase their access and usage of financial markets and hence encourage savings/investments and allow capital/asset accumulation. Safe havens for savings by the poor reduces their vulnerability to periodic economic and social shocks and enhances their infrastructural facilities, technological innovation, institutional developments, natural features, as well as financial system policy and regulatory reforms, increased competition and innovations in the financial market. These developments have set off a dramatic shift away from the traditional delivery of financial services, innovations such as Automatic Teller Machines (ATMs), Point-of-Sale (POS) devices, the internet and mobile phone platforms and its interlinkages with financial institutions platforms have accelerated and moved us closer to branchless banking. However, still have some ground to cover in expanding access to financial services, given that about 25% of the population remains totally excluded.

According to European Commercial Bank (ECB, 2003), financial innovation is primarily a product and organizational innovation which allows cost reduction for banks and/or a service improvement for the industry as a whole and therefore Financial innovations have been used by banks as formidable strategic ways to outdo any form of competition thus becoming an effective means by which banks can improve their performance while simultaneously being able to maintain their effectiveness (Joseph et al, 2006). In Ghana technology has transformed the manner in which banks are able to serve their customers more efficiently while at the same time being able to increase profits and be more competitive with the most revolutionary electronic innovation in the country and the world at large (Joshua, 2010).

The universal banking system was introduced in Nigeria in the early 1990s and rest of the world as an offshoot of globalization. Under this new system banks were allowed to provide banking and other financial services to their customers under the new universal banking license they could provide commercial banking, stock broking, insurance business, asset and trustee management services under the new banking regulation. This prompted a rapid and significant branch office expansion program with its attendant significant increases in the volume of customers' transactions in banking industry for survival and profitability (Johnson, 2005). The increased demand for information and communication technology (ICT) in banking sector became unavoidable in the world at large and Nigeria in particular. Banks have embarked on deployment of ICT based banking products and services such as automated teller machine (ATM), internet banking, mobile banking solutions, point of sale terminals, computerized financial accounting and reporting, human resources solution among others (Mario, 2005).

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. These advances in technology and changing economic conditions have created impetus for this change. 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 in Kenya. 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.

## 2. STATEMENT OF THE PROBLEM

Without expanding inclusion to financial services, there is a case for expanding quality access and affordable, appropriate and sustainable financial services and products to majority of the population. Innovations in the banking sector will encourage savings/investments and allow capital/asset accumulation. Savings by the poor will reduce their vulnerability to periodic economic and social shocks and enhance their productive capacity. Even though Kenya enjoys better financial access compared to other countries in the region, Kenya still has some ground to cover in expanding access to financial services, given that about 25% of the population remains totally excluded and the financial services touch points tend to be located away from areas of high poverty levels, for instance, 69% of all financial access touch points are located in areas with the least likelihood of poverty active regions of the country more in urban than in rural areas where use of portfolio of financial services is more prevalent. Similarly, the threat posed by cybercrime to individuals, banks and other online financial service providers and users is real and serious leading to loss to both the banking clients and the banks themselves.

## 3. LITERATURE REVIEW

The significance of financial innovation is widely recognized with many leading scholars, including Miller (1986) and Merton (1992) who has highlighted the importance of new products and services in the financial arena. Empirically, Tufano (2002) showed that of all public offerings in 2000, 18% (on a dollar-weighted basis) consisted of securities that had not been in existence in 1994. These innovations are not just critical for firms in the financial services industry, but also impact other companies enabling them to raise capital in larger amounts and at a lower cost than they could otherwise.

Nader (2011) analyzed the profit efficiency of the Saudi Arabia Commercial banks during the period 1998- 2007. The results of his study indicated that availability of number of ATMs and number of branches had a positive effect on profit efficiency of Saudi banks. On the contrary he found that the number of point of sale terminals (POSs) and availability of mobile banking did not improve profit efficiency. Innovation in the financial sector is key to financial inclusion according to a review on Kenyan mobile financial services (Kimani 2013). A number of studies show that mobile banking has appreciable positive effects on bank productivity, banking transaction, bank services delivery, customers' services and bank services (Maiyo, j. (2013) Ndii, j (2011) Ngumi m,p. (2013) and have positive effects on the growth of banking.

In Kenya, mobile banking services have been the landmark of financial innovation to create a competitive financial service that ultimately brought 12 million people into formalized financial markets. Nyathira C.N.(2012) in their study on whether internet banking affects the performance of community banks and found that banks that provide extensive online banking services tend to perform better. They further found out that online banking helps community banks improve their earning ability as measured by return on equity and improved asset quality by reducing the proportion of overdue and underperforming assets. Steven (2006) studied the impact of information technology on the banking industry and analyzed both theoretically and empirically how information technology related spending can affect bank profits through competition in financial services that are offered by the banks in US banks for a period of over 20 years to estimate the impact of IT on profitability which they found out that though IT might lead to cost saving, higher IT spending can create network effects lowering bank profits. Kimani (2013) carried out a study on factors influencing innovation of companies listed on the Nairobi Securities Exchange. The findings concluded that the laws protecting investors was the major factor influencing financial innovation. He also observed that the absence of automated trading system as a technical factor was found to have influence on innovation. In addition, he postulated that financial competition and integration had an influence on financial innovation with increased financial competition amongst financial institutions influencing innovation the most.

Muganda(2011) carried out a study on the relationship between financial innovation and profitability of commercial banks in Kenya. The findings concluded that banks conceptualize financial innovation as a means to create impact in the profit performance. In addition, the study revealed that implementation of financial innovation requires more banks to have a great deal of resources and reduce costs of operations, reduce cost per transaction and equally enable banks to satisfy the customer needs. Implementing product, process and institutional innovation makes the commercial banks to become more flexible in their operations and it leads to acquisition of qualified personnel in the bank, quality products and allows bank expansion.

Mwangi (2013) carried out a research on Innovations and financial performance in the financial industry in Kenya. The findings revealed that bank innovations had statistically significant influence on income, return on assets, profitability and customer deposits of commercial banks in Kenya and tests for significance also showed that the influence was statistically significant. The findings also revealed that mobile phones had a higher moderating effect than internet services on the bank innovations when influencing financial performance of commercial banks in Kenya. Based on the findings of the study, the researcher concluded that bank innovations influence financial performance of commercial banks in Kenya positively.

ICT offers various benefits to clients and banks in various countries. The benefits to clients have been identified as access to banking services, more convenient services, and faster loan processing and less time in queues. Benefits to the banks are reduced transaction costs, less fraud, improved quality of financial information, increased outreach, reduction in operational costs, and increase in customer satisfaction and loyalty (musatiR,N,M. 2010). ICT has been used to create branchless banks through mobile banking, automated teller machines (ATM), and point-of-sale networks among others where clients can access various financial services. Rogers, (2007) examined the role of ICT and in particular mobile phones in the delivery of financial services, mwangi (2013) evaluated the ICT strategy adopted by Standard Chartered Bank Kenya Limited on the bank's performance. He concluded that effective exploitation of technology is essential for the bank to increase their efficiency and effectiveness levels and reform agenda and all the firms should be incorporating and taking advantage of the technology to increase their growth through the adoption of the technologies.

According to Agboola (2002) The terms M-banking, M-payments, M-transfer and M-finance refer collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds or even access credit or insurance products. These have enhanced accessibility to financial service in both developed and developing world. The first target for these applications was consumers in the developed world. By complementing services offered by the banking system, such as cheque books, ATMs, Voice mail/landline interfaces, smart cards, point of sale networks and internet resources, the mobile platform offers a convenient additional method for managing money without handling cash. Mobile phone money transfer service usage has continued to grow among the Kenyan public with the number of transactions increasing by 21.59 percent from 824.26 million transactions from, 2014 to 1,002.25 million transactions in the year 2015.

Among the commercial banks that have taken a major step in mobile banking strategy include the commercial bank of Africa which has partnered with Safaricom to launch M-shwari on November 2012, the partnership between KCB and Safaricom to launch KCB- M-PESA service to enable consumers of M-PESA to make savings and access loan products. Similarly by July 2015 Equity bank launched m-banking services through Equitel sim cards (KBA2016). Agency banking model in Kenya has become a critical model of branchless expansion in the Kenya banking industry it has continued to improve access to banking services since its launch in 2010 with 17 commercial banks to offering banking services through third parties (agents). Since then a total of 38,297 agents had been contracted by the 17 banks. The number of Automated Teller Machines (ATMs) in the payment card industry increased by 3.1 percent from 2,618 ATMs 2014 to 2,698 ATMs in 2015. The decline in card usage can be attributed to increased usage of other payment channels like mobile money transfer services (CBK 2015).

#### **4. RESEARCH METHODOLOGY**

The study represents an investigation into financial inclusion innovations adopted by commercial banks in Kenya. The study majored on use of technology such as Automatic Teller Machines (ATMs), mobile phone banking internet banking and agency banking and its impact on financial performance of commercial banks in Kenya and how these inclusion innovations have moved us closer to branchless banking. The study was based on the fact that there is ground to cover in expanding access to financial services, given that about 25% of the population remains totally excluded and Financial services touch points are located away from areas of high poverty levels, with 69% of all financial access touch points being located in areas with the least likelihood of poverty. The threat posed by cybercrime to individuals, banks and other online financial service providers is real and serious hence the need for the study. The target population of the study was 42 commercial banks licensed in Kenya by 2010. The study used time series data from central bank of Kenya (CBK) and Kenya bankers' association (KBA) annual bank supervisory reports (2010-2016).

## 5. FINDINGS

To study the effects of the financial inclusion 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 below. Table 1 gives the regression model summary results. the R value is the measure of association between the dependent and the independent variables, the R Square which is the coefficient of determination measuring the extent at which the independent variables influence the dependent variable and the Adjusted R Square which measures the reliability of the regression results. This explains the extent to which change in the dependent (financial performance) variable can be explained by percentage variation on the change in the independent variables (agency banking, mobile banking, internet banking and Automated Teller Machine (ATM) banking). The four independent variables studied, explain 99.9% of variance in the financial performance of Commercial banks in Kenya as represented by the R<sup>2</sup>.the adjusted R square of 0.995 indicate the model is very reliable in explaining the dependent variable. This is significant at 0.05 as shown on the table 4.1.This means that other factors not studied in this research contribute less than one percent of variance in the dependent variable. This therefore reveals that the regression model developed is statistically significance and the variation in the results is insignificant and therefore the model can be relied upon to explain the effect of financial inclusion innovation on financial performance of commercial banks.

**Table 1: Model Summary**

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999 <sup>a</sup>	.999	.995	.029

a. Predictors: (Constant), ATM (no), BANKING, MOBILE BANKING CUSTOMERS (M), INTERNET BANKING (M)

The results presented in table 2 gives the ANOVA results which shows the reliability of the model developed in explaining the relationship between the study variables. The significance of the model was tested at 5% level. The results in Table 2. Show that the independent variables are statistically significant in predicting the performance of commercial banks in Kenya. The study established a significant value of p=0.048 showing a statistical Significance relationship.

**Table 2: Analysis of Variance**

### ANOVA<sup>a</sup>

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.832	4	.208	246.962	.048 <sup>b</sup>
1 Residual	.001	1	.001		
Total	.833	5			

a. Dependent Variable: ROA

b. Predictors: (Constant), ATM (no), BANKING, MOBILE BANKING CUSTOMERS , INTERNET BANKING

The findings in Table 3 show the coefficients of the regression. According to the findings, agency banking, internet banking and ATM banking were statically significant in explaining the performance of commercial banks in Kenya with their p values less than 0.05. Mobile banking was not statistically significant in explaining the dependent variable with p value greater than 0.05. The resulting regression equation was:

$$y = \Omega + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + e$$

$$y = 2.69 - 0.022x_1 + 0.006x_2 + 0.019x_3 + 0.145X_4 + e$$

X1 – AGENCY BANKING

X2- MOBILE BANKING

X3- INTERNET BANKING

X4- ATM BANKING

From the regression equation above holding the financial inclusion innovations constant financial performance would still be 2.69. A unit percentage increase in banking agents brings about 0.022% decrease change in financial performance, while a unit % increase in mobile banking customers bring about 0.006 change in financial performance. A unit percentage change in internet banking would change financial performance by 0.019 and a unit percentage change in number of ATM would change performance by 0.145.

**Table 3: Regression Coefficient**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.691	.053		50.785	.013
AGENCY BANKING	-.022	.001	-.645	-18.793	.034
MOBILE BANKING	.006	.002	.120	2.759	.221
INTERNET BANKING	.019	.001	.778	16.190	.039
ATM BANKING	.145	.006	.964	22.933	.028

a. Dependent Variable: ROA

## 6. CONCLUSION AND RECOMMENDATIONS

After completing the analysis on financial inclusion innovations this study concludes that Kenya is placed to achieve growth in the financial sector and there is need for the government through policy and regulation to create enabling environment in the sector to attain full financial inclusion. The government, central bank, Kenya bankers association among other bodies should play their role with a goal to attain vision 2030 through financial inclusion innovations. The study concludes that banks in Kenya are characterized by tough competition and competitive banks products and hence the need to invest in financial innovations to reduce cost and increase efficiency in the sector to retain and increase financial inclusion. The study advocates for use of 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. The study concluded that Agent banking percentage changes are inversely related to return on assets and this can be attributed to saturation of the agents in most parts in the country. 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. This study recommends that more studies should be conducted to measure the impact of financial inclusion in Kenya and therefore recommend further research on financial inclusion innovations in the microfinance institutions and how they impact on the economy since its key driver in small and micro businesses in the country.

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