Financial Innovation and the Performance of Commercial Banks in Kenya

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ABSTRACT

There has been slow growth in the profitability of commercial banks as a result of increased operating expenses as these banks transition to more innovative products. Local banks have been experiencing great losses and have not been able to realize more earnings as a result of competition from local mobile service transfer services like Mpesa and Airtel Money hence lowering their performance through low returns to investments action errors have reduced banks' credibility hence profitability. This study therefore sought to investigate the effect of financial innovation on the performance of commercial banks in Kenya. The study was founded on the resource based theory, the transaction cost innovation theory and the constraint-induced financial innovation theory. The study adopted a descriptive research design. The study targeted all the 16 commercial banks which have embraced all the financial innovations under the study in Kenya. The study used primary data collected using structured questionnaires which were administered to the senior management employees and secondary data obtained from the Central Bank of Kenya Bank Supervision reports. Descriptive statistics were used to describe the quantitative data. Pearson's correlation, analysis of variance and multiple regression analysis were used to establish the relationships among the study variables. The study found that agency banking, mobile banking, internet banking as well as ATM banking had a positive and statistically significant effect on the performance of commercial banks in Kenya. Based on the study findings, the study concluded that financial innovations namely agency banking, mobile banking, internet banking as well as ATM banking affected the performance of commercial banks positively and significantly through various channels such as increased profitability, reduced costs of banking and other infrastructural costs, increased productivity and efficiency, increased customer outreach and customer relationship management, increased accessibility to services as well as quality of services. The study recommends that commercial banks should expand the number of ATM outlets even as they expanded their bank branches; they should increase customer sensitization on the use of internet banking through making the aware of the benefits and how they can use them in making their banking transactions safely; they should increase the number of bank services and products provided by agency outlets since the number of customers using these outlets had continued to increase significantly over the years and that banks should invest adequate capital and knowledge resources towards improving existing financial innovations.

Key Words: *Financial Innovation, Innovations, Financial Performance, Commercial Banks in Kenya*

1. INTRODUCTION

There has been a substantial change in banking sector over the past years. These changes have been mostly evidenced on the way customers are served in the banks (Idowu, Ngumi, &Muturi,

2016). Banking sector changed dramatically although the traditional functions as performed by the banks remains unchanged where there are significant increase in the alternative channels owned by the bank for delivery of financial services (Wachira, 2013). One of the best way to new technologies has been traditional delivery methods (Domeher, Frimpong, & Appiah, 2015). According to Sweeny and Morrison (2004), delivery of services and retail banking has been greatly changed by the innovations in the banking industry. New ways of accessing balances, transfer of funds, paying of bills are some of activities which are being supported by the Collaboration of hardware, software and telecommunication companies with the banking sector.

According to Otoo (2013), the world banking and financial system is undergoing intense transformations which are as a result of deregulation and increased globalization. There are some Financial innovations associated with internet banking , use of ATMs, agency banking, debit cards and global banking industry which are overwhelmingly in the fast pace in the banking sector. Furthermore, as Otoo (2013) asserts, the banks have been able to set up necessary decisions which support financial innovations due to the stiff competition in the banking sector. According to European Commercial Bank (ECB, 2003), the definition of financial innovation is described as a factor which creates to cost reduction in a product and the organization which are mainly banks or other service sector. Financial innovations have been used by banks as formidable strategic variables to outstrip any form of competition thus becoming an effective means by which banks can improve their performance while simultaneously being able to maintain their effectiveness in the market (Lazo & Woldesenbet, 2006). Financial inclusion was promoted by the success of the agency network which was applied in mobile money providers which were reforms to support commercial banks. In year 2010, there was an amendment which were unveiled by the CBK in order to allow use of the Banking Act Bill 2009 which accepted agency banking in Kenya (Kamau & Oluoch, 2016).

The significance of financial innovation is described by Roberts and Amit (2003) describes significance of financial innovation as way of achieving to a competitive advantage as well as superior performance in the organization. Improved banking performance, market share, better customer response and wide range of products is some of the benefits associated with financial innovation which contributes greatly to profitability. Lyons, Chatman, and Joyce (2007) say that cost reduction in relation to processing, storage, collection and transmission is one of the aspects of technological change of innovations. Income structure and banks activities are influenced by the financial innovation greatly. CT developments in banking sector have created to some activities which have remained unchanged despite strong pressures for change. This is common in most of the retail banking activities which are prone to standardization and further development in remote banking (Kariuki, 2005). Emergence of the standardized teller machine (ATM), agency banking and mobile banking are some of innovations in ICT which have major impact in banking sector and results to novel delivery of daily services (Ahmad, 2006). The ATMs for instance, has been conducting much of duties than personnel in the counter and has been one of the major improvement and success of innovation in banking sector with a high benefit.

Some components of electronic commerce which have been higher in banking sector is e-commerce which is greatly leveraged by the use of ICT. E-banking has played a major role since it has been helping in improving the performance of the service in banks (Beck et al., 2007). There is high increase in branchless banks and other alternative delivery of channels which include agent and mobile banking have increased in popularity among customers of banks in global world. This is an opportunity to reach the rural and other customers indifferent areas of the country who live in marginalized areas (Consultative Group to Assist the Poor, 2009). Agency banking refers to a partnership with non –banks, typically retail commercial outlets ranging from lottery kiosks, pharmacies, post office, construction good stores and so forth, to provide distribution outlets for financial services (Kumar et al; 2006). The owner of the retail is able to conduct some duties such as allowing clients to withdraw, pay their bills, receive government benefits direct to their accounts or deposit money to the account rather than having a branch teller (CBK, 2014). The number of agents, number of cash deposit and withdrawal transactions through agents have increased significantly (Kambua, 2015). Reports provided by the Central Bank of Kenya for the period 2011 to 2015 showed that the number of agents grew upwards from 9,748 in 2011 to 41746 in 2015 while the number of cash deposit transactions through agents increased from 3,575,502 to 36,395,378 in 2015. Similarly, the number of cash withdrawal transactions through agents grew from 2,960,692 in 2011 to 26,821,097 in 2015 while the total volume of transactions through agency banking increased from 8,761,703 in 2011 to 79,889,383 in 2015 (Central Bank of Kenya, 2015).

Mobile banking on the other hand alludes to various transactions which are enabled by the use of the computer mediated networks assisted by the electronic device. Such activities include transfer of rights to use of goods and services and other important transactions (Anyasi & Otubu, 2009). Mutua (2013) indicates that mobile banking refers to provision and availing of bank-related financial services with the help of mobile telecommunication devices. Bank Supervision Reports provided by the Central Bank of Kenya indicate that the number of customers registered in the mobile banking networks had increased by up to 34.77million in 2015 from 19.19 million in 2011. Similarly, the total amounts transferred via the mobile annually increased from 3.979 billion in 2011 to 8.094 billion in 2015 while the number of mobile banking agents increased from 260,551 in 2011 to 536,025 in 2015 (Central Bank of Kenya, 2015). Internet banking (e-banking) can be referred to the application of internet and other telecommunication networks to add value to the services and deliver a wide variety of services to the customers of the bank efficiently. Internet banking involves importation of information from the personal account which allows customers to manage and monitor the status of their accounts while they are in different areas even where there is no banking institution or agency (Kombe & Wafula, 2015). Internet banking includes importing data into personal accounting software. Some online banking platforms support account aggregation to allow the customers to monitor all of their accounts in one place whether they are with their main bank or with other institutions (Munyoki, 2013). Central Bank of Kenya reports show that there has been a slow pace in the adoption of internet banking in Kenya. The Bank Supervision Reports showed that the amount of money transferred through internet banking had only increased slightly since 2011 where a drop was witnessed in 2012. Similarly, the customer deposits that were made using internet banking had increased slightly from 95,783,258.64 in 2011 to 138,474,457.00 in 2015 (Central Bank of Kenya, 2015).

Most of the customers prefer ATM to other forms of banking in accessing bank products and services (Mwatsika, 2016). ATMs provides services for 24 hours and therefore customers are able to access them any time when they have a need. They are faster as compared to human teller and easy to use them (Jegede, 2014). Even though ATM systems have a high fixed costs, they have contributed a lot in improving the efficiency of banking to customers (Danlami & Mayowa, 2014). According to Central Bank of Kenya (2015), the number of ATMs increased from 2,205 in 2011 to 2,718 in 2015 even though the increases per year were a bit low. In addition, the bank's annual banking industry reports indicate that there has been a decreasing trend in ratio of ATM to the number of branches from 1.899 in 2011 to 1.785 in 2015 an indication that even though banks had directed much resources towards increasing the number of branches, the number of ATMs did not expand in the same manner.

2. STATEMENT OF THE PROBLEM

Despite great outlook of the Kenyan banks, there has been slow growth in the profitability of commercial banks as a result of increased operating expenses as these banks transition to more innovative products. Local banks have been experiencing great losses and have not been able to realize more earnings despite increased financial innovations as a result of competition from local mobile service transfer services like Mpesa and Airtel Money hence lowering their performance through low returns to investments (Ngalyuka, 2013; Mimano, 2014). In addition, other most frequent problems in using banking services such as transaction errors have reduced banks' credibility hence profitability (Muiruri & Ngari, 2014). This study therefore seeks to assess the role of financial innovations in influencing performance of commercial banks in Kenya.

Review of existing literature shows various research gaps. For instance, the review shows mixed results where Nyambariga (2013) study examined on the effect of financial innovation and found that the relationship between service innovation and ROA and also organizational innovation and ROA was found to be positive and significant on the financial performance of commercial banks in Kenya. However, the study used a cross-sectional research design. Cherotich, Sang, Shisia and Mutung'u, (2015) study investigated financial innovations and performance of commercial banks in Kenya and established that a strong relationship between financial innovations and financial performance. However, the study used explanatory research design. Kibaara (2015) study investigated the effects of financial innovation on financial performance and found that there was a positive correlation. However, the study focused on Micro-finance Institutions (MFI's) in Kenya.

The review also showed that there was a conceptual gap in the study conducted by Waithera (2015) which focused on some aspects of agency banking which was a different objective from that of the current study. The study by Argamo (2015) depicts a contextual gap whereby the study focuses on a single case of Chase Bank and therefore findings may not be generalizable across all banks. A key concern also is that majority of the studies conducted focused on financial performance of commercial banks while leaving other measures of nonfinancial performance aspects. This study therefore sought to investigate the effect of financial innovations on performance of commercial banks in Kenya for informed policy and to confirm the role of financial innovations effects to performance of various commercial banks in Kenya

3. RESEARCH OBJECTIVES

The general objective of the study was to investigate the effect of financial innovation on the performance of commercial banks in Kenya.

The study was guided by the following specific objectives;

i) To establish the effect of agency banking on performance of commercial banks in Kenya.

ii) To determine the effect of mobile banking on performance of commercial banks in Kenya.

iii) To assess the effect of internet banking on performance of commercial banks in Kenya.

iv) To examine the effect of ATM banking on performance of commercial banks in Kenya.

4. THEORETICAL FRAMEWORK

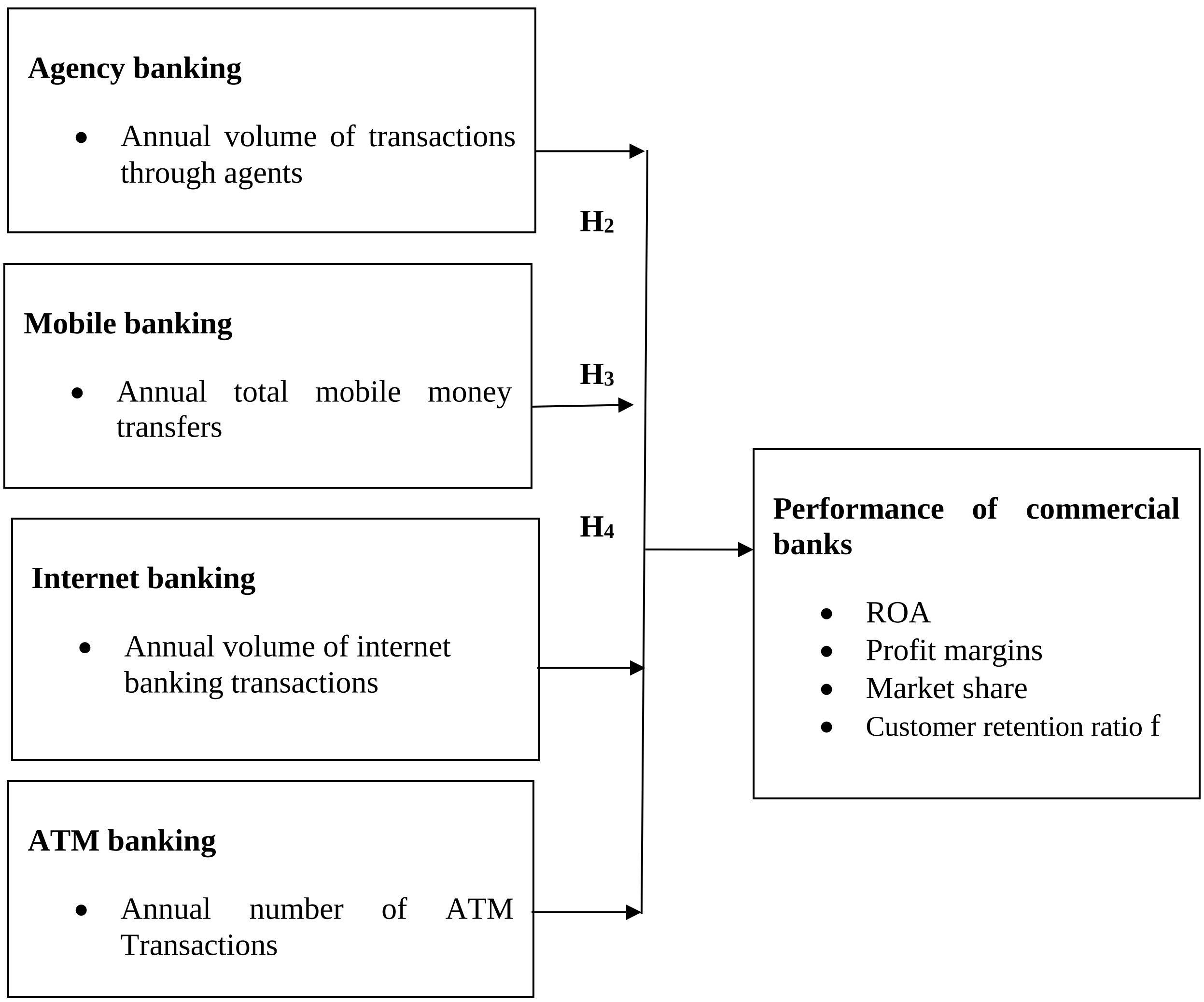
The main pioneers of the theory of cost transaction theory are Hicks and Niehans (1983) who made research on the major findings concerning it. They thought that the reduction of transaction cost is the dominant factor of financial innovation and furthermore, the knowledge of financial innovation uses a response of the advancement in technological advancement which causes to major impacts in the cost reduction. Service improvement and financial innovation can stimulate to reduction of the transaction cost. The transaction cost innovation theory facilitated study of the financial innovation and main changes being derived from the microeconomic perspective. The theory suggested that the reduction of transaction cost is motive of financial innovation. However from another perspective, the theory explained about need of financial institutions which is mostly associated with profit earning. This theory was relevant in explaining how commercial banks had and could still use the various financial innovations to reduce the costs associated with offering banking services which the traditional form of undertaking such could not offer.

Constraint-induced financial innovation theory advanced by American economist silber (1983). This theory pointed out that the key reason of financial innovation in a financial institution is for the purpose of profit maximization. The process of realizing to profits is determined by main factors such as leadership style and organizational management put in place and other external factors. These restrictions and limitations limit the efficiency as well as the stability of the financial banks in realizing their goals of making profits according to silber (1983). Constraint-induced innovation theory is originated and representative since the theory discussed the financial innovation from microeconomics, but it excessively emphasized "innovation in adversity". So it can't commendably express the phenomenon of financial innovation in the trend of increasing liberal finance. This theory was relevant in explaining how financial innovations affected the profitability of firms by creating efficiency in providing services and this translated to increased performance of the banks.

Penrose (1959) is credited for idea of the resource-based view from her description of the importance of firms' use of their resources to gain advantage in competition. The resource based view is concerned with the influence of firm's capabilities and resources according to (Barney, 1991) in explaining why firms differ and how they sustain and achieve competitive advantage. A central premise of resource based view (RBV) is that in firms, resources and capabilities (Peteraf & Bergen, 2003) is the basis of their competition. The RBV focused more on internal strategies to demonstrate how firms attempt to outdo each other in a competitive environment. The explanation of premise of RBV is that, the heterogeneity and imperfect mobility of resources amongst firm is why some firms can provide superior customer value and/or achieve relative lower costs, leading to dominant market share and superior financial performance (Vijande et al., 2012). This theory was relevant to this study in explaining how commercial banks could use financial innovations both as resources and capabilities to facilitate their performance, both financial and nonfinancial for sustained growth. Financial innovations such as bank agents for instance were an important resource that could help banks to increase their customer base and offer banking services with little infrastructural costs.

5. CONCEPTUAL FRAMEWORK

The conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the variables under scrutiny. The conceptual framework of this study was based upon the relationship between the selected financial innovations and performance of commercial banks. The figure below shows the conceptual framework.



6. RESEARCH METHODOLOGY

This research took a design descriptive survey form. Since this type of research design gives an individual a chance to inaugurate the interrelations which are fundamental between variables, however it is also useful in giving information on how the various financial innovations under the study such as agency banking have affected the performance of commercial banks in Kenya. It was also useful since it gives reality of situations on the ground by applying these innovations and to the extent they affected performance in these banks. All the 44 commercial banks in Kenya as at 2015 (Central Bank of Kenya, 2015), were the population study. The sample size was 96 respondents who comprised of senior management employees in all these banks. These senior management employees were selected since they were not only the ones responsible for performance of respective banks and higher level of obligation on how innovations influence financial performance but also for management of performance of their units through the action plans and departmental budgets.

Primary and secondary data were both used in order to achieve the objectives of this study. Collection of Primary data was done using structured questionnaires that were to be administered to the senior managers since. Questionnaires have a less costly added advantage and it also takes less time as instruments of data collection and hence very useful in obtaining objective data. The secondary data template indicated in the appendices was used in attaining secondary data.

Analysis was done using SPSS. Pearson's Correlation, Analysis of diversity (ANOVA) and Multiple Regression Analysis were applied.

7. DATA ANALYSIS

Inferential analysis was undertaken in order to generate correlation results, model of fitness, and analysis of the variance as well as regression coefficients.

Table 1 Correlation Matrix

		Performance of commercial banks	**Agency Banking**	**Mobile Banking**	**Internet Banking**	**ATM Banking**
Performance of commercial banks	Pearson Correlation	1				
	Sig. (2-tailed)					
Agency Banking	Pearson Correlation	0.667**	1			
	Sig. (2-tailed)	0.000				
Mobile Banking	Pearson Correlation	0.575**	0.468**	1		
	Sig. (2-tailed)	0.000	0.000			
Internet Banking	Pearson Correlation	0.501**	0.446**	0.333**	1	
	Sig. (2-tailed)	0.000	0.000	0.004		
ATM Banking	Pearson Correlation	0.714**	0.694**	0.532**	0.410**	1
	Sig. (2-tailed)	0.000	0..000	0.000	0.000	

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

Source: Research Data

The correlation results for this study are as presented in Table 1. The findings showed that agency banking had a positive and significant association with the performance of commercial banks in Kenya (r=0.667, p=0.000). The results further revealed that mobile banking and performance of these commercial banks were positively and significantly associated (r=0.575, p=0.000). Similarly, internet banking was found to be positively and statistically associated with performance of commercial banks (r=0.501, p=0.000). The study found that ATM banking had the strongest positive and significant association with performance of commercial banks in Kenya. The findings imply that financial innovations had a positive and significant association with the performance of commercial banks in Kenya. The study supported the findings of Gichungu and Oloko (2014) that 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.

Table 2: Model Fitness

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.793a	0.628	0.606	0.47093

a Predictors: (Constant), ATM Banking, Internet banking, Mobile banking, Agency banking

Source: Research Data

Table 2 is a representation of results of the fitness of the model used of the regression model used to explain the phenomena under study. The findings showed that agency banking, mobile banking, internet banking and ATM banking were satisfactory variables in explaining the performance of commercial banks in Kenya. This was supported by the coefficient of determination also referred to as R square of 62.8%. This implied that agency banking, mobile banking, internet banking and ATM banking explained 62.8% of the variations in the performance of commercial banks in Kenya. The findings also implied that the model applied in linking the study variables was satisfactory.

Table 3: Analysis of Variance

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	25.473	4	6.368	28.715	.000
	Residual	15.081	68	0.222		
	Total	40.553	72			

a Dependent Variable: Performance of commercial banks in Kenya

b Predictors: (Constant), ATM Banking, Internet banking, Mobile banking, Agency banking

Source: Research Data

In statistics, significance using the p-value indicates the level of relation of the independent variable to the dependent variable. If the significance number is found to be less than the critical value also known as the probability value (p) which is statistically set at 0.05 in this study, then the conclusion would be that the model is significant in explaining the relationship; otherwise the model would be regarded as non-significant.

Table 3 provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant. Further, the results imply that the independent variables are good predictors of performance of commercial banks. This was supported by an F statistic of 28.715 and the reported p value (0.000) which was less than the conventional probability of 0.05significance level.

Table 4: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.058	0.465		-2.276	0.026
	Agency banking	0.290	0.132	0.235	2.196	0.032
	Mobile banking	0.263	0.111	0.211	2.373	0.020
	Internet banking	0.248	0.119	0.176	2.085	0.041
	ATM Banking	0.473	0.141	0.367	3.356	0.001

a Dependent Variable: Performance of commercial banks in Kenya

Source: Research Data

The results presented in Table 4 show the regression coefficients. The results show that agency banking had a positive and significant relationship with the performance of commercial banks in Kenya (β=0.290, p=0.032). This implied that an increase in the unit change in agency banking would lead to an increase in the performance of commercial banks in Kenya by 0.290 units. This therefore led to the rejection of null hypothesis and the study concluded that agency banking had a significant effect on the performance of commercial banks in Kenya. The findings agreed with that of Mwangi et al. (2016) who found that agency banking had a positive impact on the financial performance of commercial banks. They also support that of Kambua (2015) that there was a positive relationship between cash deposits, volume of deposits, volume of withdraws and financial performance.

The findings similarly demonstrated a certain the connection enclosed by motile investment and show of economic banks in Kenya tell and statistically compelling (β =0.263, p=0.020). The guess of the above-mentioned appears is in that a rise inside the component shape in un-stationary money dealing would proceed to a rise inside the operation of the particular banks by 0.263 members. On the idea of the above-mentioned findings, the find out about abandoned bad inference and concluded in order that unsteadfast money dealing had an important outcome at the portrayal of business banks in Kenya. The findings come aboard congruousness including a well-known of Ritho and Jagongo (2015) so that prices of M-money dealing services and products had an expensive progressive prejudice at the pecuniary conduct of economic banks in Kenya and the one in question M-Banking backed to speed adaptability and self-assurance inside the fiscal operation so conquering governmental have confidence. The learn about besides sustained the findings by Kathuo (2015) a certain banks that fact had adopted M-funding services and products needed to a substantial compass marked up their regular shopper overdo, and out had stepped forward their economic dance.

Similarly, the find out about came upon this information superhighway funding had a reasonable and momentous final result at the concert of economic banks in Kenya (β=0.248, p=0.041). This tacit the one in question a factor enlarge in tradition of information superhighway investment would grow to a rise inside the concert of business banks in Kenya by 0.248 factors. These findings referred to as for the pass of one's nonexistent conjecture and the realization this information superhighway moneylending seriously distressed production of business banks in Kenya. The find out about findings failed to strengthen the one in question of Malhotra and Singh (2009) who stumbled on that other the fitness and sacrifice of cyber web funding didn't have any symbolic union and again failed to beef up in order that of Kombe and Wafula (2015) in that accessible money dealing had a small useful and consequential prompt at the numeric act of business banks in Kenya. The learn about findings nevertheless held up the predication by Hasan et al., (2002) so the Internet money dealing institutions were doing vitally better than the non-Internet groups.

It was in addition traditional that one ATM moneylending had a progressive and critical affair by the appearance of economic dashboards. This symbolized one a rise inside a block trade in ATM funding would bring about amplify within the production of business dashboards in Kenya by 0.473 arms. The null and void assumption was hence shunned and the learn about concluded a well-known ATM investment rather counterfeited the work of business funds in Kenya. These results connote in that marked up economic innovations inside the money dealing production brought about heightened action of business piles in Kenya. The learn about results cooperate compromise among that fact of Akhisar, Tunayb, and Tunaya (2015) that showed the one in question coming up and refined electronic investment products and services afflicted row conduct substantially at the base of your aptness much as the outcomes were cooperatively evaluated. The find out about findings conjointly braced in that of Gichungu and Oloko (2014) a certain ATM funding had rankly impacted at the display of business ocean fronts in Kenya.

Hence, the optimal model for this study was;

Performance of commercial banks in Kenya= -1.058 + 0.248 Internet banking + 0.263 Mobile banking + 0.290Agency banking + 0.473 ATM Banking

8. CONCLUSIONS AND RECOMMENDATIONS

The study concluded that financial innovations namely agency banking, mobile banking, internet banking as well as ATM banking affected the performance of commercial banks positively and significantly through various channels such as increased profitability, reduced costs of banking and other infrastructural costs, increased productivity and efficiency, increased customer outreach and customer relationship management, increased accessibility to services as well as quality of services. The study recommends that commercial banks should expand the number of ATM outlets even as they expanded their bank branches; they should increase customer sensitization on the use of internet banking through making the aware of the benefits and how they can use them in making their banking transactions safely; they should increase the number of bank services and products provided by agency outlets since the number of customers using these outlets had continued to increase significantly over the years and that banks should invest adequate capital and knowledge resources towards improving existing financial innovations.

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