

Financial Innovations and Performance of Commercial Banks in Kenya

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ABSTRACT

Commercial banks in Kenya have embraced alternative banking channels which represent a shift in delivery of banking and financial services since the alternative banking have become synonymous with commercial banks in Kenya. While banks have succeeded in leveraging available technology and provide alternative avenues to customers for banking services, the challenge it faces today is optimizing the usage of these channels so as to improve on their performance. The general objective of this study was to investigate the effects of financial innovations on the performance of commercial banks in Kenya. The specific objectives of the study were to examine the influence of internet banking, mobile banking, agency banking and ATM banking on the performance of commercial banks in Kenya. The study was guided by agency theory, balanced score card and diffusion of innovation theory. This study employed a descriptive research design. The study targeted 44 commercial banks in Kenya as at 2017. The 16 banks which embrace all the four financial innovations from 2013 to 2017 were selected using purposive sampling method. The sample size was 80 respondents who comprised of 5 senior management employees in each of the selected banks. This study used questionnaire to collect primary data from the respondents. Content analysis technique was used to analyze qualitative data collected from open ended questions in and reported in narrative form. Descriptive statistics such as mean and standard deviation were used to analyse the quantitative data. Multiple regression analysis was used to show the relationship between independent variables against dependent variable. The study revealed that internet banking, mobile banking, agency banking and ATM banking had a positive and significant effect on the performance of commercial banks. This study concludes that the banking industry has benefited tremendously from the development of the Internet. The Internet fundamentally changed the way in which banking networks are designed to meet the client demands and expectations. Mobile banking provides a good opportunity to commercial banks in Kenya to reach many mobile phone subscribers in Kenya who had remained unbanked and unreached due to limited access to bank branch networks in the country. The access to the large masses through mobile banking of the population gives banks the opportunity to grow by reaching the unbanked population. Agency banking has led to accessibility of financial service to many customer in remote areas and hence an increase in effectiveness and efficiency in service delivery. Customers are satisfied with the automated teller machine services because of ease of use, transaction cost and service security but not satisfy with automated teller machine dispense of cash. The study recommends that the public and businesses must be encouraged to use Internet banking in their daily activities, including deposits, payments and money transfers. Commercial banks in Kenya should ensure convenience and security of mobile banking through written guidelines on convenience and security of mobile banking. Commercial banks in Kenya should increase the number of agents in estates and in the rural areas. This can be done by reducing the requirements of becoming a bank agent. The banks should employ customized software that records relevant information on automated teller machine cards so that banks can establish whether unauthorized transaction has taken place or not.

Key Words: *Financial Innovations, Internet Banking, Mobile Banking, Agency Banking, Automated Teller Machine*

DOI: 10.35942/ijcfa.v2i2.128

Ileri, N., & Kimutai, G. (2020). Financial Innovations and Performance of Commercial Banks in Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting*, 2(2), 21-33. <https://doi.org/10.35942/ijcfa.v2i2.128>

1. Introduction

Innovation is a strategic tool for firms to survive and gain competitive advantages in the global marketplace. Innovative firms can improve their performances, defeat their competitors and provide value to their stakeholders (Zawislak, Alves, Tello-Gamarra, Barbieux & Reicher, 2012). Marques, Gerry, Covelo, Braga and Braga (2011) indicate that encouraging firms to innovate will lead to a better economic performance of firms in terms of market and financial performance. An organizational innovation expands the capabilities and vision of a firm, improves employee satisfaction, leads to organizational transformation. Thus, policy that promotes innovation may help fostering growth and competitiveness among business, specific regions and in the economy at large. Innovations are crucial to organizations because they enable organizations to cope with changes that are presented by the environment (Kumar, 2016). Innovations take different forms in terms of products and processes of service delivery. Innovations are driven by forces within both internal and external environments. Henderson and Pearson (2017) notes that the major causes that lead to innovations is due to the need to reduce costs, enhance compliance to legal requirements and foster efficiency. It is true to suffice that the environment is usually characterized by turbulence and thus, there is a need to seek innovative processes. Innovations foster competitiveness of organizations by ensuring that they have a competitive edge in the market. In Kenya, the commercial banking industry has experienced entry of many players from locally incorporated banks and internationally incorporated commercial banks (multinationals), both from within and without the continent (Aburime, 2009). All the banks are competing for the market that is dominated by both public and private banks. For instance, Chowdhury and Islam (2015) show that the private commercial banks are constantly growing in different branches, creating employment opportunities, increasing deposit, loan disbursement, net income and earnings per share over a period of time.

2. Statement of the Problem

Commercial banks contribute to a sound and profitable banking sector as well as a stronger financial system which is better able to endure negative shocks. Poor performance can lead to bank runs, bank crises and result in a major financial crisis (Ongore & Kusa, 2017). According to Olweny and Shiphoo (2011) increased number of commercial banks in Kenya has increased competition and generally available product options have increased which have made customers to become more open minded and are always looking forward better quality products and services at reasonable prices hence leading to decline in performance in most of the Kenyan commercial banks. Nimalathasan (2017) observe that all Commercial Banks are profit oriented. For that reason, financial innovations are taken to be one of the key ways of optimizing services and minimizing costs. However, these innovations are faced with various challenges which raise concerns on their impact on the profitability of these Commercial Banks. Such challenges include lack of customer confidence, security concerns, system failures, cases of transaction

errors and network failures. Further, despite the existence of financial innovations bank halls continue to be congested which shows customers continue seeking services in bank branches despite presence of alternative banking channels.

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 (Misati, Njoroge, Kamau & Ouma, 2010). In addition, Mugane and Ondigo (2016) observe that other most frequent problems in using banking services such as transaction errors have reduced banks' credibility hence profitability. 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. The current study will use descriptive research design. Cherotich, Sang, Shisia and Mutung'u, (2015) study investigated financial innovations and financial 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. The current study will use descriptive 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 current study will focus on commercial banks in Kenya. This study therefore sought to assess the role of financial innovations in influencing performance of commercial banks in Kenya.

3. Objectives of the Study

The general objective of this study was to investigate the effects of financial innovations on the performance of commercial banks in Kenya.

The study was guided by the following specific objectives:

- i. To examine the effect of internet banking on the performance of commercial banks in Kenya.
- ii. To establish the effect of mobile banking on the performance of commercial banks in Kenya.
- iii. To determine the effect of agency banking on the performance of commercial banks in Kenya.
- iv. To investigate the effect of Automated Teller Machine (ATM) banking on performance of selected Commercial Banks in Nairobi City County, Kenya

4. Theoretical Literature Review

4.1 Agency Theory

Agency Theory was developed primarily by Jensen and Meckling (1992). Agency theory analyzes the relationships between a business and its agents. The key issues in agency theory center upon whether adequate market mechanisms exist that agents to act in ways that maximize the utility of a firms 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 (Eisenhardt, 2012). Shapiro (2015) observes that in the commercial banking industry, ownership is becoming increasingly diversified among individual and institutional shareholders, and the dominance of individual stockholders in the industry appears, on the whole, to be decreasing. These trends may exacerbate agency problems in the banking industry if these problems truly exist. Alternative channels of banking are establishment by the banks and authorized by the central banks to render services for banks. This theory points out the possibility of emergence of problems if the coordination between the banks and alternative channels is not well managed.

4.2 Transaction Cost Innovation Theory

The theory was explained by guidance of transactions cost innovative theory which was introduced by Hicks and Niehans (1983) who championed and stated that the foremost aspect of financial innovation is to be able to reduce cost of transaction which responds to the advancement in technology and which resulted in the reduction of transaction cost. The ability to lower the cost of transaction brings about innovation in financial and upgrading of financial service and the same believes that money related innovations decreases the costs involved in making transactions. Coase (2013) argues that firms exist due to institutional transaction costs, making it gainful to organize and manage business operations within an organizational hierarchy instead of solely utilising the open market. Although the theory suggests that it is generally more efficient to operate through market relations where the price mechanism determines trade rather than through the hierarchy of an organization where managerial power is pre-eminent, according to Coase (2013) there are a range of other costs involved in trading on the market. These can be, for instance, the cost of searching and evaluating information, bargaining, and policing and enforcing counterparts over which one has no direct control. The importance of Transaction Costs Innovation theory in the set-up of Internet-related Information Technology (IT) considerably lessens a company's exchange costs since it delivers effective coordination, administration and utilization of data (Remneland-Wikhamn & Knights, 2012). Cell phones which uses Internet-associated IT brings down exchange costs as it gives both off-site access to the company's internal database and other significant sources of information. The outcome further reduces the cost of operation by the introduction of mobile and agency banking which influences the profitability growth of the bank.

4.3 Diffusion of Innovation Theory

This theory was developed and popularized by Rogers in 1962 after empirically analyzing more than 508 studies on technology diffusion across various fields. According to Rogers (1962) the Diffusion of Innovations (DOI) Theory was as a result of contributions from the pioneering efforts in the implementation of innovations. In line with this theory, the decision to take up innovations is determined by five issues regarding the features of the innovation. These are the perceived usefulness, matching needs, intricacy, testability and visibility with the social system

adopting the technology. According to Kaminski (2011) diffusion of innovation theory holds that the adopters can be clustered into several categories namely innovators, early adopters, early majority, late majority and laggards. Importantly, the theory holds that customers in the innovation adoption phases differ dramatically in their features. Diffusion of innovations theory is a hypothesis outlining how new technological and other advancements spread throughout societies and cultures, from introduction to wider-adoption. The diffusion of innovations theory seeks to explain how and why new ideas and practices are adopted, with timelines potentially spread out over long periods (Dearing, 2015). Dearing (2015) further observe that the way in which innovations are communicated to different parts of society and the subjective opinions associated with the innovations are important factors in how quickly diffusion or spreading occurs. This is important to understand when developing market share. This study was relevant to the study as it shows how the bank managers, employees and customers perceive the five salient features identified to indicate reliable determinants of adoption and use of e-banking in local banks. Further, within the banks in Kenya not all banks adopt the e-banking technology and those that adopt do not adopt at the same time as per the theory. The categorization of the adopters as per the theory are the innovators, fast adopters, earlier mainstream, late mainstream and the laggards and that would be used to prove or explain why some banks adopt internet banking before others.

4.4 Static Trade-off Theory

The static trade-off theory is a financial theory based on the work of economists Modigliani and Miller in the 1950s, two professors who studied capital structure theory and collaborated to develop the capital-structure irrelevance proposition. This proposition states that in perfect markets, the capital structure a company uses does not matter because the market value of a firm is determined by its earning power and the risk of its underlying assets. According to Modigliani and Miller (1950), value is independent of the method of financing used and a company's investments. De-Jong, Verbeek and Verwijmeren (2011) state that the capital structure is irrelevant to the value of a firm. The value of two identical firms would remain the same, and value would not be affected by the choice of finance adopted to finance the assets. The value of a firm is dependent on the expected future earnings. It is when there are no taxes. De-Jong, Verbeek and Verwijmeren (2011) further observe that financial leverage boosts the value of a firm and reduces weighted average cost of capital (WACC). It is when tax information is available. With a static trade-off theory, since a company's debt payments are tax-deductible and there is less risk involved in taking out debt over equity, debt financing is initially cheaper than equity financing (Butt, Khan, & Nafees, 2013). This means a company can lower its weighted average cost of capital through a capital structure with debt over equity. However, increasing the amount of debt also increases the risk to a company, somewhat offsetting the decrease in the WACC. Therefore, static trade-off theory identifies a mix of debt and equity where the decreasing WACC offsets the increasing financial risk to a company.

5. Conceptual Framework

Independent Variables

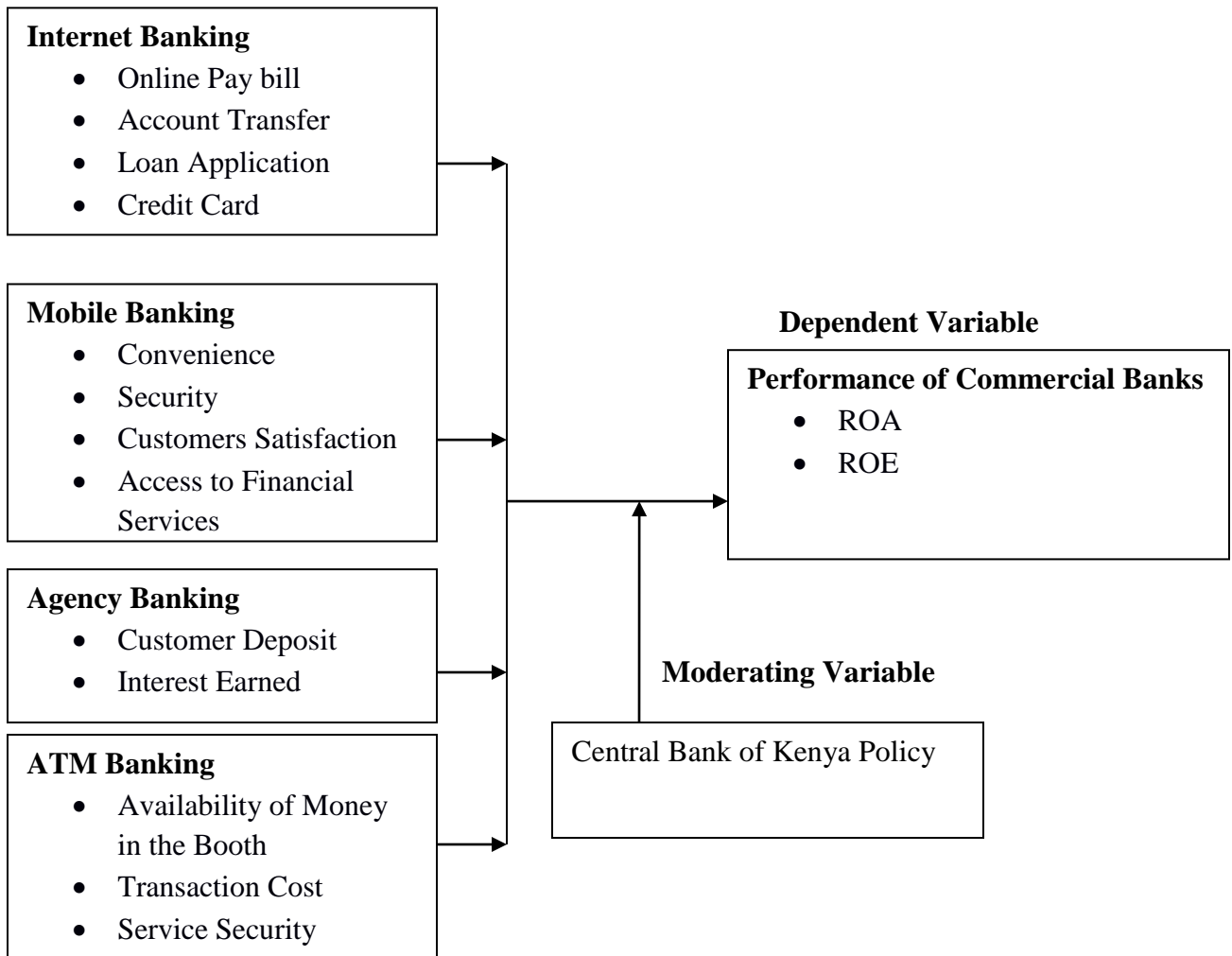


Figure 1: Conceptual Framework

6. Research Methodology

This study employed a descriptive research design. Descriptive research design enabled the researcher to describe the influence of alternative channels of banking on banks performance relating to various independent variables, identified as; internet banking, mobile banking, agency banking and ATM banking. This restricted and guided the researcher in remaining focused on to the specific objectives of the study. The study targeted 44 commercial banks in Kenya as at 2017 (Central Bank of Kenya, 2017). The targeted respondents were 80 who comprised of 5 senior management employees in each of the selected banks. A census of 44 banks was carried out and the sample size was 80 respondents who comprised of 5 senior management employees in each of the selected 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.

This study used questionnaire to collect primary data from the respondents and secondary data from organizational financial statements. The questionnaire were used because its economical, also to ensure anonymity, permit use of the standardized questions and has uniform procedures, provide time for subjects to think about responses and it is easy to score (Singh, 2006). The researcher used both the quantitative and the qualitative analysis of the data obtained from the study. Content analysis technique was used to analyze qualitative data collected from open ended questions in and reported in narrative form. Descriptive statistics such as mean and standard deviation was used to analyse the quantitative data and for this reason Statistical Package for Social Sciences (SPSS) version 20.0 was used. The results of data analysis were presented using frequency distribution tables, pie charts and bar graphs for effective communication to the users. Analysis of Variance (ANOVA) was used to test the level of significant of the variables on the dependent variable at 95% confidence level. Multiple regression analysis was used to show the relationship between independent variables against dependent variable.

7. Data Analysis Results

Regression analysis was used to model, examine, and explore the relationships between the dependent variable (performance of Commercial Banks) against the four independent variables (Internet Banking, Mobile Banking, Agency Banking and ATM Banking) used for the study.

Table 1: Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.593 ^a	.752	.714	1.239	.352	9.354	4	69	.000

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

Source: Survey Data (2019)

The four independent variables that were studied, explain 75.2% of the performance of Commercial banks as represented by the adjusted R square. This therefore means that other factors not studied in this research contribute 24.8% of the performance of Commercial Banks.

Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables under investigation. Using this method, the sum of squares, degrees of freedom (df), mean square, value of F(calculated) and its significance level was obtained. The results are shown in Table 2.

Table 2: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.434	4	14.358	19.354	.000 ^a
	Residual	105.918	69	1.535		
	Total	163.351	73			

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

b. Dependent Variable: Performance of Commercial Banks

Source: Survey Data (2019)

From the ANOVA statistics in Table 2, the processed data which is the population parameters, had a significance level of 0.000^a which shows that the data is ideal for making a conclusion on the population’s parameter as the value of significance (p-value) is less than 5%. The calculated value was greater than the critical value (19.354 > 14.358) this shows that the overall model was significant.

Table 3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.587	1.338		4.738	.000
Internet banking	.756	.229	4.245	1.990	.001
Mobile banking	.646	.631	2.791	3.244	.002
Agency banking	.693	.413	1.279	1.680	.000
ATM banking	.705	.788	3.246	2.895	.001

a. Dependent Variable: Performance of Commercial Banks

Source: Survey Data (2019)

The established regression equation was $Y = 0.587 + 0.756X_1 + 0.646X_2 + 0.693X_3 + 0.705X_4$. From the above regression model, holding internet banking, mobile banking, agency banking and ATM to a constant zero, banks performance in Kenya would be 0.587(58.7%). It was established that a unit increase in internet baking would cause an increase in banks performance in Kenya by a factor of 0.756, a unit increase in mobile banking would cause an increase in banks performance in Kenya by a factor of 0.646, a unit increase in agency banking would lead to an increase in banks performance in Kenya by a factor of 0.693, a unit increase in ATM would lead to an increase in banks performance in Kenya by a factor of 0.705. This clearly shows that there is a positive relationship between banks performance in Kenya and internet banking, mobile banking, agency banking and ATM. The study further revealed that the P-value were less than 0.05 in all the variables, which shows that all the independent variable were statistically significant and thus in position to make conclusion for the study. The null hypothesis was thus rejected because t statistics 1.990 has a p value of 0.00 less than 0.05. Yakhlef (2017) indicate that internet banking gives greater economies of scale to process transactions, as compared to branches or ATMs since internet banking is often a constant-cost generation.

The null hypothesis was thus rejected because t statistics 3.244 has a p value of 0.00 less than 0.05. Mutua (2013) observe that there exist a strong positive relationship between mobile

banking and the financial performance of commercial banks in Kenya. The null hypothesis was thus rejected because t statistics 1.680 has a p value of 0.00 less than 0.05. Kanyore *et al.* (2016) established that agency banking has positive effect on financial effect on financial performance of listed banks. The null hypothesis was thus rejected because t statistics 2.895 has a p value of 0.00 less than 0.05. Mwangi (2017) argues that, channels like the Automated Teller Machine (ATM) and internet banking facilitate Commercial Banks to reach an extensive customer base across geographies with small effort.

8. Conclusions

On internet banking, this study concludes that the banking industry has benefited tremendously from the development of the Internet. The Internet fundamentally changed the way in which banking networks are designed to meet the client demands and expectations. The adoption of internet banking has enhanced performance of the banking industry due to increased efficiency, effectiveness and productivity. On mobile banking, this study concludes that mobile banking provides a good opportunity to commercial banks in Kenya to reach many mobile phone subscribers in Kenya who had remained unbanked and unreached due to limited access to bank branch networks in the country. The access to the large masses through mobile banking of the population gives banks the opportunity to grow by reaching the unbanked population. Mobile banking applications are continuously being developed and have now become banks' favourite channels for offering banking services. On agency banking, this study concludes that agency banking has led to accessibility of financial service to many customer in remote areas and hence an increase in effectiveness and efficiency in service delivery. Agency banking is accessible in terms of agency locations and general national footprint has led to an increase in profitability of commercial banks. On Automated Teller Machine, this study concludes that ATM is important and very effective as an alternative channel of banking. The study also concludes that customers are satisfied with the ATM services because of ease of use, transaction cost and service security but not satisfy with ATM dispense of cash.

9. Recommendations

On internet banking, this study recommends that the public and businesses must be encouraged to use Internet banking in their daily activities, including deposits, payments and money transfers. This would cause a surge in the number of Internet banking users, and make these services more viable to be employed by banks in exercising efficiency enhancement strategies hence improve banks performance. On mobile banking, the study also recommends commercial banks in Kenya should ensure convenience and security of mobile banking through written guidelines on convenience and security of mobile banking. Commercial banks in Kenya should reduce duration of mobile banking service delivery and increase convenience. Also raise finances through deposit mobilization. There should be a regular maintenance of mobile money transfer systems which will help in managing the systems' capacity and in turn address the problem of transaction delays and improve customer service through speedy support and lower user charges. On agency banking, the study recommends that commercial banks in Kenya should increase the number of agents in estates and in the rural areas. This can be done by reducing the requirements of becoming a bank agent. The study also recommends that the government of Kenya should improve security in towns, estates and in the rural areas. Commercial banks should also lower the charges of making transactions in agency banks. This will help to increase the number of transactions made my customers through agency banking. To improve the adoption of

agency banking, commercial banks in Kenya should improve customers' perception by making more advertisements and increase promotion activities. On Automated Teller Machine, this study recommends that the banks should employ customized software that records relevant information on ATM cards so that banks can establish whether unauthorized transaction has taken place or not. Bank should improve on mechanism that will ensure service security i.e. that will guarantee safety of information on individual accounts. The management of bank should ensure that officers in charge of ATMs should always made enough cash available so as to enable the machine dispense cash to customers whenever need arises.

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