Influence of Banking Innovations on Financial Performance of Kenya Commercial Bank

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ABSTRACT

Given the importance of financial innovation in describing banking performance, the impact of innovation on performance remains unclear for two reasons: first, there is a lack of understanding of the sources of innovation; and second, the impact of innovation on bank performance has yet to be tested. The researcher aim was to ascertain what exactly affects the financial performance of Kenya Commercial Bank (KCB) in Nairobi County in Kenya. There are numerous elements that affect performance, this study will focus on banking innovations that are thought to drive financial performance. The study was divided into three main common areas that have recently caught the attention of the banking industry namely internet banking agency banking and mobile banking that affect the financial performance of KCB bank Nairobi County. Nairobi County has been chosen since it is the capital City and an epicenter of numerous commercial activities. The study's specific objectives were to determine the influence of agency banking, mobile banking, Automated Teller Machines and debit and credit cards on financial performance of commercial banks in Kenya. This study was guided by Agency theory and Schumpeter theory of innovation. The study employed a descriptive research design. The study had a target population of 294 respondents. The sample size was 169 staff of KCB bank spread across the branches in Nairobi County. Respondents were selected using purposive random sampling. Structured questionnaires was used to collect primary data from respondents while secondary data was obtained from KCB, Central Bank of Kenya (CBK), Nairobi Stock Exchange (NSE) and annual financial reports from the KCB bank. Measures of central tendencies was used to describe the results and data presented using graphs charts and tables.The effect and influence of in dependent and independent variable was depicted by use of multiple regression. From the findings, agency banking was found to be the most significant factor influencing financial performance with a p-value of 0.00. It can be concluded from the findings that agency banking has a positively relationship with commissions fee based income and positively relates to interest fee based income. Internet banking positively relates to commissions fee based income and positive relate to interest based income. Internet service has contributed to expansion of the income generating potential of commercial banks. Automated Teller Machine (ATM) system compensates for wrongful deductions and the ATM problems are settled to clients' satisfaction. Debit & credit cards have had a positive effect of increasing commission fee based income and have influenced positively the increase of interest based income. Further study ought to be conducted on effectiveness of banking innovations on financial performance of other commercial banks since this was a case of KCB bank. This may provide more understanding on how the different banking innovations affect financial performance of the banks. The study recommends that agency banking should be enhanced by increasing the number of agency banking points across the country. The management of the bank should also enhance mobile banking by developing customer friendly mobile applications to enhance transactions by the clients. Therefore the bank management should make sure they increase the ATMs and enhance their innovation that

touches on transactions through ATMs. The bank should also enhance the debit and credit cards by liasing with the cutomers to get their suggestions on how to improve the debit and credit cards.

Key Words: *Banking innovation, agency banking, Mobile banking, Automated Teller Machines, Debit and credit cards, Financial performance*

DOI 10.35942/ ijcfa.v4i2.251

Cite this Article:

M'mata, H., & Weda, C. (2022). Influence of Banking Innovations on Financial Performance of Kenya Commercial Bank. *International Journal of Current Aspects in Finance, Banking and Accounting*, 4(2), 11-21. https://doi.org/10.35942/ijcfa.v4i2.251

1.0 Introduction

Innovations and technological changes have come with great benefits to modern commerce. In order to get financial stability in firm's maneuvers and greater competitive advantages, businesses from last few decades have diverted their focus on making information technology an integral part of their operations (Oliveira, Faria, Thomas & Popovic, 2014). Globally banking industry has been the focal point of research and study by researchers and decision makers in the banking sector. It remains the centre of interest due to its being the foundation of many business and commerce transactions and a pillar to economies. The quest to have efficient and profitable banking businesses is very key especially for the banking sector that is full of competition and the ever changing economic environment. This is particularly true for developing countries. It applies specifically for emerging economies (Khatik & Nag, 2014) and in particular Kenya where commercial banks are the dominant players in the financial sector. It showcases the Kenyan economy where the banks are key players in the financial sectors being followed closely by insurance companies. While, Agwu (2018) investigate the effect of electronic banking growth of deposit money banks in Nigeria using a time series data in the period from 2006 to 2012. The result reveals that there are a positive and significant relationship between mobile banking and total deposit.Purpose of their study was to evaluate the financial innovation like internet banking and mobile banking for banks to attract more deposit Kashmari, Nejad and Nayebyazdi (2016). The study was conducted in Iran using data from 23 Iranian banks in the year of 2007 until 2013. The result based on Granger causality test shows that every variable used including mobile banking has causal relation in affecting the increases banks share to attract deposit.

According to Central bank of Kenya Banking sector survey innovation survey 2020 (ref) One of the key pillars of the Kenya Banking Sector Charter issued in 2019 by the Central Bank of Kenya (CBK) was a keen focus on customer centricity the Kenyan banking sector is renowned for its uptake of technology to meet customer expectations for "anytime anywhere" financial services, and to drive efficiency gains. As part of aligning to the Charter, the sector has witnessed the diversification of products tailor made to meet the ever-changing customer needs while improving the competitive edge of the institutions. While institutions have been successful in leveraging technology to achieve their objectives, primarily as a cost reduction strategy, there is a change in focus towards an alternative strategic coin, where technology is no longer perceived as a cost saver but as a revenue generator. Furthermore, with the onset of the coronavirus pandemic (COVID-19) in 2020 and the resultant disruptions to the lives and livelihoods of individuals in the economy, and the impact to businesses, including banks, it is evident that innovation will be a critical point in adapting to the new "business as usual".

Susanto (2017) and Farah, Hasni and Abbas (2018) are among the studies which provide empirical supports on the mobile banking application based on the service quality. For instance, Susanto (2017) analyses the Indonesian data and find that mobile banking is significantly and positively have effect on the level of service at commercial banks with the value of significance at level 0.05. The impact from implementation of mobile banking led to the increasing of the banking transaction to Rp. 6447 Trillion or RM 1.74 trillion. While Farah, Hasni and Abbas (2018) studies the mobile banking adoption in banking sector of Pakistan. This study shows that the variables used which are performance expectancy, perceived risk and trust for the bank are highly significant to the usage of the mobile banking.

Some internal and external elements Soylu and Durmaz, (2013), have contributed to the growth of the commercial banks in Turkey. The internal factors are things like turnaround, time up time on the banks platform customer care and general organisational efficiency. However, the effects of bank-specific variables tend to be more significant in Kenya than the macro-economic variables. Specific configuration of the internal configuration of the bank contributes greatly to the performance of the bank more as compared to the microenvironment in the Kenyan Contest . These factors are as follows; capital components, liquidity client base management technology innovation and corporate governance. No researcher was able to give specific attention and measurable statistic to banking innovations as one of the many factors that has a big impact on the performance commercial banks in Nairobi County Kenya to be precise however in this study there is broken down to innovations in to 3 areas agency banking mobile banking and Automatic Teller machine banking. KCB bank has adopted a strategy to meet the new financial needs that are associated with emerging economies, this has pushed the bank to leverage on technology and innovation to structure products that will not only guarantee extra income but also lower the cost of availing the products and services. This has made it possible for the bank to partner with SMEs who act as agents, rolling out mobile banking systems and adopting latest internet banking platforms for service delivery.

1.1 Research Problem

Despite the value of financial innovation in describing banking performance, the effect of innovation on performance is still not clear for two major reasons: first, lack of awareness of the generators of innovation; and second, the influence of innovation on bank performance remains untested (Mabrouk & Mamoghli, 2017). A research by De Young et al. (2017) adopts an approach to innovation performance relations that does not take into consideration the antecedents of innovation inside and outside banking institutions, both of which may affect this relationship. Previous studies such as Franscesa and Claeys (2017), Batiz-Lazo and Woldesenbet (2016) and Mwania and Muganda (2018) have provided mixed findings on the effect of financial innovations on bank performance. In their report, Franscesa and Claeys (2017) concluded that financial innovation had the least impact on bank performance, while Batiz-Lazo and Woldesenbet (2016) and Mwania and Muganda (2018) concluded that financial innovation had a substantial contribution on bank results. It is at the core of such mixed results that it has generated and necessitated the need to carry out an analysis from the Kenyan perspective in order to determine the influence of bank developments on the efficiency of commercial banks. Kenyan commercial banks have started to spend extensively in technology-based creativity and staff preparation in the handling of emerging innovations. Data from Central Bank of Kenya (2021) Number of ATMs in Kenya 2019-2021. As of June 2021, Kenya had **2,401** Automated Teller Machines in operation. The number of ATMs available in the country has been fluctuating in the period examined, with

an overall decreasing tendency. In June 2019, 2,522 cash points were active. There being no study on banking innovation previously done in the study area, this study aimed at determining the influences of banking innovations on financial performance of Kenya Commercial Bank in Kenya.

1.2 Objectives of the Study

The general objective of the study was to determine the influences of banking innovations on financial performance of Kenya Commercial Bank in Kenya.

The specific objectives of this study will be:

i. To determine how agency banking influence financial performance of Kenya Commercial Bank in Nairobi County, Kenya.

ii. To determine how mobile banking influence financial performance of Kenya Commercial Bank in Nairobi County, Kenya.

iii. To determine how Automated Teller Machines influence financial performance of Kenya Commercial Bank in Nairobi County, Kenya.

iv. To determine how debit and credit cards influence financial performance of Kenya Commercial Bank in Nairobi County, Kenya.

2.0 Literature Review

2.1 Theoretical Review

The following theories have been employed to review the literature they are namely agency theory and Schumpeter of innovation

2.1.1 Agency Theory

According to (Kala Kamdjoug et al., 2020) an agency relationship is one in which “one or more persons; the principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent”. The most popular and most recognised theory is the Employee and employer relation. The other example is the country (principal) and the high commissioner (agent); the constituency members (principal) and the elected members of parliament (agent); the company (principal) and lobbyist (agent); or shareholders (principal) and the board or the chief Executive Officer. Agency theory examines the special relationship between the principal and the agent with the view of checking the challenges merits or demerits of the same, particularly the dilemma that the agent and the principal, while looking forward to achieve the same objectives sometimes it is not always the case. The paper focuses on the methodologies and systems that enforce the existing relationship between the principal and the agent. While the agent/principal dilemma in a corporate context had been pondered as early as the 18th century by Adam Smith and many of its key concepts were developed in literature on the firm, organizations, and on incentives and information a separate theory of agency did not emerge until the early 1970s.

Ross submitted the paper Economic agency of theory: The Principal’s Problem at the annual meeting of the American Economic Association in December 1972. This paper denoted the agency theory as a global phenomenon not only limited to the firm. Even so, the rather brief paper limited its scope to the problem of incentive and laid out a model for inducing the agent to produce maximum gains for the principal. By contrast, Mitnik’s paper 6, entitled Fiduciary Rationality and Public Policy: The Theory of Agency and Some Consequences and presented at the annual meeting

American Political Science Association in 1973, laid out a much more general theory of agency with possible application to numerous societal contexts.

Mitnick identified the problems of agency as the principal's problem, the agent’s problem, and policing mechanisms and incentives. The principal’s problem is to motivate the agent to act in a manner that will achieve the principal’s goals. Examples of motivational tools are financial incentives, prospect of sanctions, and supplying information to activate norms and preferences that coincide with the principal’s goals. The agent's problem is that he may be faced with decisions to act either in the principal's interest, his own interest, or some compromise between the two when they do not coincide. Policing mechanisms are mechanisms and incentives intended to limit the agent's discretion, such as surveillance or specifically directed tasks. Incentive systems are mechanisms that offer rewards to the agent for acting in accordance with the principal’s wishes, such as bonuses and increased pay (positive incentives) or fear of reprisals (negative incentives). The problem with policing and incentives is that they create costs for the principal; this creates a potential paradox in that it is only rational to implement policing and incentive mechanisms if the increased return to the principal's objective outweighs the cost of policing and incentives. Mitnick concluded by noting that he had created only a basic framework around which to further develop agency theory.

Managerial Behavior, Agency Costs and Ownership Structure. As part of a broader theory of the firm, this paper further explored agency costs and its sources. Like Mitnick, Jensen and Meckling identify monitoring the agent's actions as a source of agency cost, but they also identify at least two other sources: bonding costs borne by the agent (such as bonding against malfeasance, contractual limitations on his power, which limits his ability to take full advantage of profitable opportunities, foregoing certain nonpecuniary benefits, etc.), and the wealth loss borne by the principal when the agent's actions do not maximize his welfare (referred to as “residual loss”). While the previous agency theory literature had focused on how to structure incentives and the principal/agent relationship to maximize the principal's welfare, Jensen and Meckling presume the parties largely resolve these issues. Instead Jensen and Meckling “investigate the incentives faced by each of the parties and the elements entering into the determination of the equilibrium contractual form characterizing the relationship between the manager (i.e., agent) of the firm and the outside equity and debt holders (i.e., principals).” To that end, they compared the management behaviors found in two different firm structures: one where the manager owns 100% of the firm versus when the manager sells an equity share to outsiders. In the former structure, the owner/manager will act to maximize the firm's welfare because the full benefit of this maximization will accrue to him. Maximization occurs when the marginal. This theory is relevant to this study since the researcher will be able to discover and understand why many organisations are embracing agency as a business a model, the researcher will be informed of the advantages and disadvantages of agency and its impact to financial performance of KCB bank.

2.1.2 Schumpeter Theory of Innovation

YuSheng and Ibrahim, (2020) Innovation is considered a key driver for long-term success of firms in today’s competitive markets. This study explored the effect of innovation adoption on performance of banks in Ghana. Data for the study were obtained from 450 respondents comprising bank employees and customers in the Kumasi metropolitan area in Ghana.Groups of investors endeared by super-profits would start a series of investment that would eat back into the profit margin for the innovation.

However, before the economy could come to an equilibrium a cluster of innovations, would emerge to commence the business cycle over again. He emphasized the role of entrepreneurship and the pursuing of opportunities that would spur the generating activities which would increase the flow of income, but it did so with reference to a distinction between invention or discovery on the one hand and innovation, commercialization and entrepreneurship on the other. This separation of invention and innovation highlighted the typical nineteenth century institutional model of innovation, in which independent inventors typically fed discoveries as potential inputs to entrepreneurial firms. The author further looked innovations as creative destruction that were essential forces driving growth rates in a capitalist system. Schumpeter's thinking evolved over his lifetime to the extent that some scholars have differentiated his early thinking where innovation was largely dependent on exceptional individuals/ entrepreneurs willing to take on exceptional hazards as an act of will.

Financial innovation is the act of creating and then popularizing new financial instruments as well as new financial technologies, institutions, and markets. It involves the design, the development, and the implementation of innovative financial instruments and processes, and the formulation of creative solutions to problems in finance.It is beleived that innovation is an essential element for economic progress of a country and competitiveness of an industry. innovation is one of the most important competitive weapons and generally seen as a firm's core value capability. Innovation is also considered as an effective way to improve firm's productivity due to the resource constraint issue facing a firm

Globalization and increasing market competitiveness have driven financial institutions toward innovativeness in their operation to gain sustainable competitive advantage and improve their financial performance. Financial institutions are not only competing on. Financial innovation has not only opened up new opportunities for the sector participants, but also increased new market players arising from new products in the financial market. The developments in the financial sector have not only led to the increase in the number of financial institutions, but also the development in level of sophistication with new payment systems and asset alternatives to holding money. Associated with this rapid expansion in the banking sector is a range of financial innovations: the ATMs and debit cards introduced in the late 1990s; the electronic money introduced in early 2007; Value capping in 2009: the agent banking model introduced in mid-2010; Cheque Truncation System (CTS) in 2012 and more recently T+1 (cheques clearing in one day) Other innovations in banking and financial sector are RTGS, EFT, ACH, MICR, Retail Banking, free advisory services, implementation of standing instructions of customers, payments of utility bills, fund transfers, internet banking, telephone banking, mobile banking, selling insurance products, issue of free cheque books, travellers cheques and many more value-added service.This theory is relevant to our study because the researcher will get to understand what drives innovations and how it is able to impact and bring the corresponding change in a business environment and by what extent.

2.2 Conceptual Framework

A conceptual framework provides the connection between the research topic, the objectives, the study methodology and the literature review gives link between title dependable variables independent variables how they connect and relate to each other. In this study, the dependent variable is financial performance measured by Return on Assets (ROA) and Return on Investment (ROI) while the independent variables was agency banking, mobile banking, Automated Teller Machine and debit and credit cards as shown in Figure 1.1.

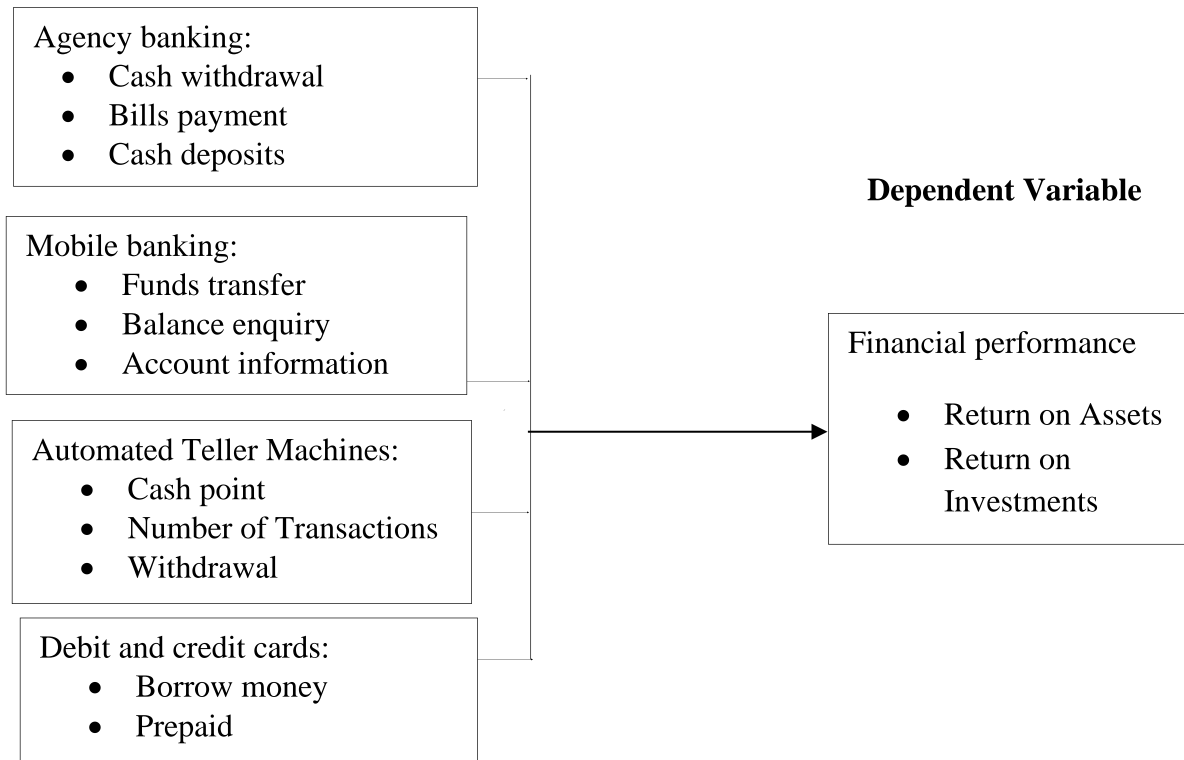

Figure 1 Conceptual framework

Source: Author (2022)

3.0 Research Methodology

The study adopted a descriptive research design so as to achieve the study objectives. This study targeted the 31 senior management, 54 supervisors and 209 middle level employees in the 27 KCB group branches in Nairobi County. The target was 294 respondents made up of managers of ICT department, finance of these banks, MIS analysts and card centre and operations at the head office.

Table 1. Target Population

Target population	Size
Senior management	31
Supervisors	54
Middle level employees	209
Total	**294**

This research used non-probability sampling because this was a social research and the main objective was not to give an equal opportunity to the entire population but to select the population that had the ability to address the issues under study. Purposive sampling which falls under non-probability sampling methods was used in this research. The researcher obtained organizational structures of KCB with their membership to committees, staff levels and departmental structures from the HR departments for use in getting information for purposive sampling. The researcher

used a sample size of 169 respondents representing 57.48% from a target population that totaled to 169 respondents. This was obtained from the different departments in the Bank. This number represents the target population for purpose of reliability, flexibility and efficiency (Mugenda, 2008, Dillman, et al., 2011). Hence, 169 respondents made the sample size. Additionally, in every stratum, the participants was as shown in Table 2.

Table 2. Sample Size

Study population Categories	Target Population	Sample size
Managers	31	18
Supervisors	54	31
Middle level employees	209	120
Total	**294**	**169**

Source: Author (2022)

This study collected data by use of questionnaires. Collected data was organized systematically in an appropriate manner to simplify the analysis. Data analysis included preparation of the gathered data, coding, editing and cleaning before processing using the SPSS package version 23.

4.0 Data Analysis Results

Regression was used to obtain an equation which describes the dependent variable (financial performance) in terms of the independent variables (agency banking, mobile banking, Automated Teller Machines and debit and credit cards) based on the regression model. Regression analysis of agency banking, mobile banking, Automated Teller Machines and debit and credit cards against financial performance index.

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779[a]	.608	.76	.441

a. Predictors: (Constant), Agency banking, mobile banking, Automated Teller Machines and debit and credit cards

The regression had a correlation coefficient (R^2) of about 0.608 and an adjusted R^2 of 0.76. This means that agency banking, mobile banking, Automated Teller Machines and debit and credit cards explain 60.8 percent of the variations in financial performance. F test is used to test the significance of R^2, which is the same as testing the significance of the model as a whole with a probability of 0.00 at 5% significance level indicated that the joint contribution of the independent variables was significant in predicting the dependent variable (Jwan, 2010).

Table 4. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.364	4	1.841	9.465	.000[b]
	Residual	29.178	150	.195		
	Total	36.542	154			

a. Dependent Variable: Fianncial Performance

b. Predictors: (Constant), Agency banking, mobile banking, Automated Teller Machines and debit and credit cards

Testing the significance of the model as a whole with a probability of 0.00 at 5% significance level indicated that the joint contribution of the independent variables was significant in predicting the dependent variable (Jwan, 2010).

Table 5. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.664	.621		4.289	.000
	Agency banking	.333	.073	.337	4.536	.000
	Mobile banking	.271	.457	.123	2.781	.004
	Automated Teller Machines	.264	.087	.264	3.032	.003
	Debit and credit cards	.291	.471	.411	2.720	0.01

a. Dependent Variable: Financial performance

Hence the resultant regression model is:

FP = 2.664 + .333AB + .271MB + .264ATM + .291DC

Table 4.12 shows the summary of the regression analysis that seeks to establish the relationship between financial performance, agency banking, mobile banking, Automated Teller Machines and debit and credit cards. Agency banking was found to be the most significant factor influencing financial performance with a p-value of 0.00. This is according to Jwan (2010) who indicated that a p-value of less than 0.05 shows that the variable positively influences the dependable variable.

5.0 Conclusions and Recommendations

5.1 Conclusions

From the findings, the study made the following conclusions;

Agency banking was found to be the most significant factor influencing financial performance with a p-value of 0.00. It can be concluded from the findings that agency banking positively impacts (increase) commissions fee based income and positively impacts (increase) interest fee based income. Agency has contributed to expansion of the income generating of commercial banks. Bank agents always ensures security of data and information that is operated on the agency banking platform. From the findings, it can be concluded that internet banking positively impacts (increase) commissions fee based income and positive impact on interest based income. Internet service has contributed to expansion of the income generating potential of commercial banks. KCB bank always ensured security of data and information that is operated on the internet banking platform. Mobile banking positively impacts (increase) commissions fee based income and it positively impacts (increase) interest based income. Mobile banking had contributed to expansion of the income generating potential of commercial banks.

ATM system compensates for wrongful deductions and the ATM problems are settled to my satisfaction. ATM contact person is available for redress of problems and ATMs were easy to use for transactions. ATM provides graphics and adverts of bank services and provides education and direction of usage. ATMs had expanded the income generating potential of the bank and had influenced positively the increase of interest based income. ATMs have had a positive effect of increasing commission fee based income and had positive impact on bank income margins. Debit & credit cards have had a positive effect of increasing commission fee based income and have influenced positively the increase of interest based income. Debit & credit cards have expanded the income generating potential of the bank. Debit & credit cards was found to influence reduction of operational costs and hence better return on assets for the bank. Debit & credit cards investments have payback period of less than 3 years and hence good return on assets. Incomes from debit & credit cards have had positive impact on bank income margins.

5.2 Recommendations

The study make the following recommendations;

i. The study recommends that agency banking should be enhanced by increasing the number of agency banking points across the country.

ii. The management of the bank should also enhance mobile banking by developing customer friendly mobile applications to enhance transactions by the clients.

iii. Therefore the bank management should make sure they increase the ATMs and enhance their innovation that touches on transactions through ATMs.

iv. The bank should also enhance the debit and credit cards by liasing with the cutomers to get their suggestions on how to improve the debit and credit cards.

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