

EFFECT OF ELECTRONIC BANKING ON FINANCIAL PERFORMANCE IN KENYAN COMMERCIAL BANKS: CASE OF EQUITY BANK IN ITS NAIROBI CENTRAL BUSINESS DISTRICT BRANCHES, KENYA

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ABSTRACT

This study investigated the effect of electronic-banking on financial performance in Kenya commercial banks using a case study of Equity Bank Limited in its Nairobi Central Business District branches. To achieve the objective of the study, a descriptive survey design was used. A sample size of 100 respondents (staffs) of Equity Bank Limited branches in Nairobi central district was selected. The study used primary data, which was collected by a semi-structured questionnaire. Data was analyzed using descriptive statistics and regression analysis. The study found that mobile banking make basic financial services more accessible, reduces the bank's own overheads and transaction- related costs and presents an opportunity for financial institutions to extend banking services to new customers thereby increasing their market. Further, the study established that customers in Equity bank prefer mobile banking because of its convenience, cheap charges on mobile transaction and its lack of geographical limitation to customers. The study revealed that most users of ATM

machines have encountered the problem of Scam and also faceless crooks steal from the accounts of hundreds of bank customers via the ATM technology. It was revealed that taking all other independent variables at zero, a unit increase in debit cards leads to an increase in the Bank performance in Kenya. Further the study established that Increase in debit card usage enhances the profitability of banking industry in form of ROA and increased usage of debit cards has significantly reduced transaction costs and enhanced convenience among credit and debit card users. Moreover, the results revealed that an increase in Internet banking products increases the financial performance of the commercial banks. The study recommended that the banking industry should adjust to full and effective deployment of information technology due to its sophistication since the technology is irreversible with relative perceived advantage.

Key Words: *automated teller machine, debit card, financial performance, internet banking, mobile banking, electronic banking*

INTRODUCTION

The application of Internet technologies to businesses for improvements in their performances is not something new. According to Saffu, Walker and Hinson (2008), there is an increase in applications of e-commerce in businesses in the past ten years. The benefits of e-commerce include reduction in cost, increasing business opportunities, reducing lead time and providing a more personalized service to the consumers (Turban, King, Lee & Chung, 2008). One e-commerce tool that is being adopted by the banking industry is online banking or e-banking. Online banking is the performance of banking activities via the Internet. Online banking is also known as "Internet banking" or "Web banking." A good online bank will offer customers just about every service traditionally available through a local branch, including accepting deposits

(which is done online or through the mail), paying interest on savings and providing an online bill payment system.

According to Olivia (2011), online banking differs with electronic banking. She argues that online banking narrows to only use of internet while electronic banking allows an individual to access the account using electronic teller machines. Daniel (2009), found that online banking is a new phase in retail banking services. With the help of online banking several types of services through which customers can request information and carry out their banking transaction such as balance inquiry, inter account transfers, utility bills payment, request check book etc., via a telecommunication network or internet without physically visit the branches. E-commerce is still very much at the beginning stage in Kenya (Huy & Filiatrault, 2006). Although Kenya is currently attracting foreign investors due to its low cost advantage when compared to other countries, a low cost strategy will not guarantee businesses to compete effectively in the long run (Chong & Ooi, 2008). In order for the companies to stay competitive, they can implement e-commerce to enable them to be more productive and efficient.

Electronic banking system and method in which a network service provider directly to a host computer system of a bank connects a personal computer such that customer service requests can be processed automatically without need for intervention by customer service representatives (Kaplan & Norton, 2002). The system is capable of distinguishing between those customer service requests, which are capable of automated fulfillment, and those requests which require handling by a customer service representative. Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labour intensive methods with automated processes thus leading to higher productivity and profitability. However, to date researchers have produced little evidence regarding these potential changes (Karen, 2010). Nonetheless, recent empirical studies indicate that Internet banking is having an independent effect on banking profitability, although these findings may change as the use of the Internet becomes more widespread.

Equity Bank is the largest bank in the region in terms of customer base and operates in Uganda, Tanzania, South Sudan and Rwanda. By 2012, Equity Bank had more than 7.8 million customers. The company's vision is "to be the champion of the socio-economic prosperity of the people of Africa" (Okuthe, 2010). While resounding for profit, Equity retains a passionate commitment to empowering Africa's poor to improve their livelihoods and prospects for self-sufficiency. Undoubtedly, the business model has been a huge success prompting the development of a regional diversification strategy. The model has already been replicated in Uganda, South Sudan, Rwanda and Tanzania by establishment of wholly owned subsidiaries. Agency model was very successful in Kenya and the bank decided to replicate in other countries like Rwanda and Tanzania. The bank has 152 branches in Kenya 8 in Rwanda and 5 in Tanzania the bank has over 7,720 agents in Kenya and thousands of ATMs around the regions (Wafula, 2011).

STATEMENT OF THE PROBLEM

According to Olivia (2012), electronic banking provides enormous benefits to consumers in terms of the ease and cost of transactions but it also poses new challenges for country authorities in regulating and supervising the financial system and in designing and implementing macroeconomic policy. Electronic banking also makes it easier for customers to compare banks' services and products, can increase competition among banks, and allows banks to penetrate new markets and thus expand their geographical reach. Most commercial banks and financial institutions in Kenya are dedicated in investing sophisticated and high performance e-banking tools to enable them improve efficiency, service delivery and also have a competitive advantage over its competitors. Their aim is to drive their clients to use these modern banking channels with an aim of earning commissions. Since the inception of E-banking, Kenyan financial institutions have witnessed many changes. Customers now have access too fast, efficient and convenient banking services. Most financial institutions in Kenya are investing large sums on money in information and communication technology (ICT). However, while the rapid development of ICT has made some banking tasks more efficient and cheaper, technological advancements have their fair share of problems; for example, they take a large share of bank resources, plastic card fraud particularly on lost and stolen cards and counterfeit card fraud (Sullivan, 2000). Thus there is a need to manage costs and risks associated with internet banking. This study therefore sought to establish the effects of E-banking on the financial performance of Equity Bank Limited in Nairobi Central Business District branches.

GENERAL OBJECTIVE

To investigate the effect of electronic-banking on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.

SPECIFIC OBJECTIVES

1. To evaluate the effect of mobile banking on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.
2. To evaluate the effect of Automated Teller Machine on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.
3. To determine the effect of debit cards on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.
4. To determine the effect of Internet Banking on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.

LITERATURE REVIEW

Mobile Banking

Mobile banking is a term used for performing balance checks, account transactions, payments, credit applications and other banking transactions through a mobile device such as a mobile phone or Personal Digital Assistant (PDA). Mobile banking offers millions of people a potential solution in emerging markets that have access to a cell phone, yet remain excluded from the financial mainstream. It can make basic financial services more accessible by minimizing time and distance to the nearest retail bank branches (CGAP, 2006) as well as reducing the bank's own overheads and transaction-related costs. Mobile banking presents an opportunity for financial institutions to extend banking services to new customers thereby increasing their market (Lee, Lee and Kim, 2007).

The perceived low level of demand, low levels of bank of income, high bank fees, untailed products and services and limited geographical reach ensured only a small percentage of Kenyan population had access to banking services (Chogi, 2006). Banking was driven by income generated from fees for services rendered, interest earned deposits and interest received from loans. The move from traditional banking to agency banking and currently mobile banking has been beneficial to both the banks and customers as it reduces operating cost of the institution and its convenient and cheap as lesser fees are charged on mobile transaction.

Mobile banking is the provision or ailment of banking services with the help of mobile devices. The advent of M-banking was fostered by competition from telecommunication industry mainly Safaricom with their Mpesa services to their customers and Airtel (formerly Zain) with Airtel Money services. These services facilitated the customers to deposit money into their account, transfer money to other user for instance sellers of goods and services, relatives and friend; this brought convenience. The banking sector has had to adopt technological change to remain competitive. In search of competitive advantages in the technological financial service industry, banks have acknowledged value of differentiate themselves from others financial institution through new service distribution channels. Banks bureaucratic process of account opening cut out many rural poor, as they could not qualify to own accounts. With competition, banks had to simplify the process and had to come up with innovative ways of doing so. Mobile banking provides a number of advantages for both banks and customers. Mobile banking removes geographical limitation to customers and therefore bringing convenience. There is no time limitation i.e. banking maybe performed throughout the day and in any place. Mobile banking also provides efficient cash management and security of cash.

Automated Teller Machine

The basic form of non-branch bank is the ATM (Automated teller machine) is a type of banking where customers can access with their card and pin and check their balances, withdraw money,

and make payment. This type of banking is a small machine that can be found in banks, and all around the city depending from the usage rate. Kaplan and Norton (2002), postulate that ATM allows a bank customer to conduct his/her banking transactions from almost every other ATM machine in the world. However, the spread of the machines has been generating a lot of heat, as customers face a splurge of frustration in using it; either the machines will not dispense cash, or debit transactions when cash is not dispensed or cards get stuck in them. The proliferation of the machines is giving more concern. As with every other technological breakthrough the ATMs have generated astronomical challenges and problems for the beneficiaries of financial services in most countries. Most users of ATM have encountered the problem of scam. Apart from epileptic services rendered by the machines, faceless crooks steal from the accounts of hundreds of bank customers via the ATM technology. The fraudsters perpetrate this financial crime by stealing the personal identification number, PIN, a special secret code that grants access to the usage of the cards, and consequently, getting hold of the funds of the susceptible ATM users.

The relationship between banking efficiency and the use of ATM (Automated Teller Machine) is a complex one. This is because the overall levels of efficiency and productivity do influence the organization overall success. This explains why most modern banking sectors develop ways of increasing organization and workers' efficiency. Some of these ways include goal setting, job enrichment, adoption information technology, globalization, training and development (Karen, 2010). All these represent several practical ways of increasing banking sector's performance, which could also be a reflection of institutions efficiency.

Debit Cards

Debit cards have surpassed credit cards to become the most common form of Visa point-of-sale ("POS") transaction in most parts of the world. Overall, debit cards were used for over 15.5 billion POS transactions totaling \$700 billion in the year 2002 in the United States. This represented about 35% of electronic payment transaction volume and 12% of POS noncash payments (Gerdes & Walton, 2002). Debit's ascension has been sudden, with 47% of households using it by 2001, up from 18% in 1995. Industry observers predict continued strong growth for debit, while forecasting relatively weak growth in credit card charge volume.

Despite debit's growth and prominence, the determinants of debit use have largely escaped academic scrutiny. The introductory quotes belie that fact that there are actually potentially important, pecuniary cost-based reasons for using debit. Principally, the 53% of credit card users who revolve balances incur interest costs to charge purchases on the margin (i.e., they don't get the float), and hence might rationally choose to use debit rather than credit in order to minimize transaction costs (Karen, 2010). This motive holds even for the "small" fraction of consumers who simultaneously hold nontrivial stocks of low-yielding liquid assets and expensive credit card debt. Debit use might also be rational for consumers lacking access to a credit card or facing a binding credit limit.

Internet Banking

Internet banking by its nature offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking. Service delivery is informational (informing customers on bank's products, etc) and transactional (conducting retail banking services). As an alternative delivery conduit for retail banking, it has all the impact on productivity imputed to Telebanking and PC-Banking.

A number of empirical studies have been conducted to assess the impact of Internet banking on the performance of commercial banks. For instance, Young et al. (2006) observed the change in financial performance of Internet community banks in U.S. during 1999-2001. The results found that Internet adoption improved community banks' profitability, particularly through increased revenues from deposit service charges. Internet adoption was also associated with movements of deposits from checking accounts to money market deposit accounts, increased use of brokered deposits and higher average wage rates for bank employees. It found little evidence of changes in loan portfolio mix. The findings suggested that Internet adoption was associated with an economically and statistically significant improvement in bank profitability. In another studies, Ciciretti et al. (2008) evaluate the performance of Italian banks, which employ multichannel commercial strategy versus those that do not. They found that offering Internet banking services influenced the performance of the banks, measured by return on average assets (ROAA) and return on average equity (ROAE). Similarly, Hernando and Nieto (2007) analyzed the impact of Internet banking on the performance of Spanish banks. These authors found that Internet banking services, as an alternative distribution channel, reduced overhead expenses and improved both ROA and ROAE over time. However, Onay and Ozsoz (2013) underline, in the case of Turkish banks, that after a period of two years since the introduction of Internet banking services, their overall profitability has decreased as a result of increased competition and a diminishing of the interest income.

Financial Performance

Financial performance is a subjective measure of how well an organization can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales (Jayawardhera and Foley, 2000).

Profit is the ultimate goal of firm. To measure the profitability, there is variety of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones (Murthy and Sree, 2003). ROA is a major ratio that indicates the profitability of a bank. It is a ratio of Income to its total asset. It measures the ability of an organization's management to generate

income by utilizing company assets. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution. Wong (2004) stated that a higher ROA shows that the company is more efficient in using its resources.

THEORETICAL FRAMEWORK

The study will be based on agency theory, stakeholder's theory and contingency theory. Agency theory was developed by Michael Jensen and management theorist William Meckling (1976), and specifically designed to capture the essence of the principal-agent relationship. Agency Theory deals with the frequent situation when one person (the agent) acts on behalf of another person (the principal), for example between managers and their subordinates, between shareholders and management, and between management and the wider public (Schaltegger & Wagner, 2006). Stakeholder's theory was originally detailed by Edward Freeman (1984), in the book Strategic Management. The stakeholder theory is a theory of organizational management and business ethics that addresses morals and values in managing an organization. A stakeholder approach identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups. It attempts to address the "principle of who or what really counts. Stakeholder's theory was originally detailed by Edward Freeman (1984), in the book Strategic Management. The stakeholder theory is a theory of organizational management and business ethics that addresses morals and values in managing an organization. A stakeholder approach identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups. It attempts to address the "principle of who or what really counts. The theory is important to the study because it shows that every legitimate person or group participating in performance improvement of a firm or organization, do so to obtain benefits, and that the priority of the interests of all legitimate stakeholders is not self-evident (Mansell 2013). Although stakeholder theory is descriptive and instrumental, it is more fundamentally normative. Stakeholders in banking industry are defined by their interests and all stakeholder interests are considered to be intrinsically valuable. Stakeholder theory is managerial and can be used to recommend attitudes, structures, and practices in commercial banks in Kenya and requires that simultaneous attention be given to the interests of all legitimate stakeholders.

RESEARCH METHODOLOGY

Research Design

This study adopted a descriptive research design. According to Kothari (2000), descriptive study is where information is collected without changing the environment. The reason for using descriptive study in this research is because it is widely used to demonstrate associations between variables and especially in studies involving collection of data using existing record. A

descriptive survey (Cooper & Schindler, 2006) enabled the researcher to describe the characteristics of the variables of interest due to its suitability in data collection to answer the research questions. This study is about the effect of E-banking on the financial performance of Equity Bank Limited in its Central Business District branches. It is therefore justified that descriptive design is most suited and justifiably adopted in this study. Surveys are useful in describing the characteristics of a large population. Additionally, high reliability is easy to obtain by presenting all subjects with a standardized stimulus, which ensures that observer subjectivity is greatly eliminated.

Target Population

Population refers to the entire group of people, events or things of interest that the researcher wishes to investigate (Creswell, 2003). A study population can be defined as the entire collection of cases or units about which the researcher wishes to draw conclusions. The target population for this study was 500 employees of Equity Bank Limited in Central Business District from 10 branches in Nairobi as at December 2015. Equity bank has 10 branches in Nairobi, thus, the population targeted 50 employees from each Equity bank branch.

Sample Design and Sample Size

A sample is a finite part of a statistical population whose properties are studied to gain information about the whole. When dealing with people, it can be defined as a set of respondents (people) selected from a larger population for the purpose of a survey (Brotherton, 2008). The sample size for this study was obtained using the Fishers formula as shown below:

$$n = \frac{N}{(1 + Ne^2)}$$

Where: n is the required sample size, N is the target population (50 employees * 10 branches), and e is the significance level (5%)

$$n = \frac{500}{(1 + 500 * 0.05^2)}$$

$$n = \frac{500}{2.25}$$

$$n = 222$$

The required sample size was 222, however, due to logistical and financial limitations, this study settled on a size of 100. Stratified random sampling was used to select the sample units. The target population was divided into four cadres of employees and the using a proportion of 0.3, whereby, total sample size of Branch Managers was 30, Operations Mangers 30, Employees 30 and Middle Bank Officers 10.

Data Collection Instruments

Primary data was collected by means of a semi- structured questionnaire. The questionnaires contained both structured and unstructured questions. The questionnaires were preferred in this study because respondents were assumed to be literate and quite able to answer questions asked adequately. Kothari (2004), terms the questionnaire as the most appropriate instrument due to its ability to collect a large amount of information in a reasonably quick span of time. The questionnaires were self-administered via drop and pick later method to the respective respondents. The structured questions were in form of a five point Likert scale, whereby respondents were required to indicate their views on a scale of 1 to 5.

Data Collection

Permission to collect data from the respective respondents who engage in E-banking of Equity Bank Limited in its Nairobi Central Business District branches was sought from the respective banks branches, after the approval from the university to carry out the research. The researcher attached a transmittal letter in each questionnaire. The researcher visited each branch at different times and sought for permission to collect data as pertains the different ways discussed above.

Data Analysis

The study used Statistical Package for Social Sciences Version 21.0 to aid in data analysis. The paired t-test, a non-parametric test of differences developed by Sir Williams Gosset (Mugenda & Mugenda, 2013) was used in this study as a test of significance. The analysis was at 0.05 level of significance. In order to determine the effect of e-banking on the financial performance of Commercial Banks in Kenya for the period 2012 to 2016, the researcher conducted a multiple regression analysis using the following regression model. The study used Return on Assets as a measure performance and overall operating cost as independent variable. The study applied the following regression model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where: Y = the performance of the bank; X_1 = Mobile Banking; X_2 = ATMs Installed by the Bank; X_3 = Debit Cards; X_4 = Internet Banking; $\beta_1 - \beta_4$ are the regression co-efficient or change introduced in Y by each independent variable; μ is the random error term accounting for all other variables that affect performance but not captured in the model.

The researcher conducted carry out a T-test at 95% confidence level to establish the significance of the independent variable in explaining the changes in the dependent variable.

RESEARCH HYPOTHESIS

In hypothesis testing, two types of hypothesis are involved. The first type is the null hypothesis that is evaluated on the basis of probabilities offered by the sample statistics. The other type is the alternative hypothesis that seeks to evaluate the research prediction. In the event that the null hypothesis fails to be accepted, the alternative or the research hypothesis is accepted. The research hypothesis evaluated included:

1. H_{11} : Mobile banking affects the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.
2. H_{12} : The use of ATMs has an effect on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.
3. H_{13} : The use of debit cards has an effect on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.
4. H_{14} : Internet banking has an effect on the financial performance of Equity Bank Limited in its Nairobi Central Business District branches.

RESEARCH RESULTS

The findings on the demographic information of the respondents greatly enhanced the reliability of the research findings. The study findings indicate that majority of the respondents had worked with the Equity bank for more than five years hence reliability of the information provided. The study established that mobile banking make basic financial services more accessible, reduces the bank's own overheads and transaction- related costs and presents an opportunity for financial institutions to extend banking services to new customers thereby increasing their market. The customers in Equity bank prefer mobile banking because of its convenience, cheap charges on mobile transaction and its lack of geographical limitation to customers. Mobile banking provides efficient cash management and security of cash to customers. The study further revealed that taking all other independent variables at zero, a unit increase in Mobile Banking leads to an increase in the financial bank performances.

The study further established that ATMs are allowing customers to conduct bank transactions from almost every other ATM machine in the world, customers face a splurge of frustration in using ATM machines and that the major setbacks of ATM machines to customers are debit transactions when cash is not dispensed or cards get stuck in them. Further the study revealed that most users of ATM machines have encountered the problem of Scam and also faceless crooks steal from the accounts of hundreds of bank customers via the ATM technology. It was noted that a unit increase in number of ATM installation leads to an increase in the Bank performance in Kenya.

The study revealed that taking all other independent variables at zero, a unit increase in debit cards leads to an increase in the Bank performance in Kenya. It was further noted that a strong

growth for debit card exist and debit cards were also realised to have surpassed credit cards and become the most common form of Visa point-of-sale. The determinants of debit card use have largely escaped academic scrutiny and debit card has improved efficiency and flexibility to customers. Further the study established that Increase in debit card usage enhances the profitability of banking industry in form of ROA and increased usage of debit cards has significantly reduced transaction costs and enhanced convenience among credit and debit card users. In its final finding, this study established that there is a significant association between Internet banking and financial performance of commercial banks in Kenya. The results showed that adopting more Internet banking services and practices results in a better financial performance of the respective banks.

MULTIPLE REGRESSION ANALYSIS

A regression analysis was applied to establish the effect of electronic-banking on the financial performance of Equity Bank Limited in Nairobi Central Business District. Thus Bank performance was regressed on electronic-banking criteria. The study targeted a sample size of 100 respondents from which 77 filled in and returned the questionnaires making a response rate of 77%.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.882 ^a	0.778	0.762	0.021

Results in Table 1 shows that electronic-banking criteria (as measured by four sub-variables or attributes) explained 77.8% variation in financial performance in commercial banks in Kenya ($R^2=0.778$, $p<0.05$). 22.20% of the change in bank performance under this study is due to other factors not included in the study. The results of this study concur with Hasan (2002) who found that the Internet banking institutions were performing significantly better than the non-Internet groups.

Table 2: ANOVA Results

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	150.15	5	30.03	11.21	.012 ^a
Residual	190.30	71	2.68		
Total	340.45	76			

The ANOVA results in table 2 show F-value of 11.21, which is significant at $0.012<0.05$. This signifies a model fit. It also implies a match between the regression model and the data. This means that the use of regression analysis was justified. Regression coefficients are presented in Table 3 All the coefficients of the four attributes of electronic banking are statistically significant at $p<0.05$

Table 3: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.096	.045	.074	2.13	.011
Mobile Banking	.311	.062	.301	5.02	.010
ATMs Installed by the Bank	.242	.056	.211	4.32	.000
Debit Cards	.199	.039	.181	5.10	.003
Internet Banking	.162	.061	.233	2.66	.001

a) Predictors: (Constant), Mobile Banking, ATMs installed by banks, Debit Cards, Internet Banking.

b) Dependent Variable: Financial Performance.

The established regression equation was

$$Y = 0.096 + 0.311X_1 + 0.242X_2 + 0.199X_3 + 0.162X_4 + e$$

The regression equation above has established that holding all the independent variable (Mobile Banking, ATMs installed by banks, debit cards, Internet banking) constant, other factors influencing bank performance will be 0.096 ($p = 0.011 < 0.05$). The findings also show that taking all other independent variables at zero, a unit increase in Mobile Banking leads to a 31.1% increase in the Bank performance in Kenya. A unit increase in the number of ATMs installed by equity bank leads to a 24.2% increase in the in the Bank performance in Kenya. On the other hand, a unit increase in the number of Debit Cards issued leads to a 19.9% increase in the Equity Bank performance in Kenya. Moreover, the results showed that an increase in Internet banking practices by Equity would generate a 16.20% increase in its financial performance. The results also show that Mobile Banking influences the Equity bank performance in Kenya most followed by ATMs installation by banks and Debit Cards. The regression coefficients were tested for significance at $\alpha = 0.05$. Significance occurs at p-values less than 0.05. From the above results, all the predictors are good predictors for the Bank performance in Kenya. These findings were consistent with that of Kaplan and Norton (2002) that ATM has led to better bank performance.

CORRELATION ANALYSIS

In assessing the relationship between financial performance and mobile banking, ATMs, debit cards, and Internet banking correlational analysis conducted using the Pearson correlation coefficient, r . The association between mobile banking and financial performance of Equity bank is shown in Table 4.

Table 4: Mobile Banking versus Financial Performance

	Mobile Banking	Financial Performance (ROA)
Mobile banking		
Pearson Correlation	1	.711
Sig. (2-tailed)		.000
N	77	77

As shown in Table 5, there was a statistically significant and positive relationship between mobile banking and financial performance of Equity bank, $r(77) = .711, p < .05$. In other words, as the usage of mobile banking products increases, the financial performance of the bank increases as well. In regards to the magnitude, the relationship was found to be strong. Table 4.13 shows the correlation results pertaining to ATM installations and financial performance of Equity bank.

Table 5: ATMs versus Financial Performance

	ATMs	Financial Performance (ROA)
ATMs		
Pearson Correlation	1	.68
Sig. (2-tailed)		.000
N	77	77

As displayed in Table 6, a significant positive association was found to exist between ATM installations and the financial performance of Equity bank branches, $r(78) = .61, p < .05$. The implication of this is that as Equity bank installs more ATMs, its overall financial performance also increases. This relationship was found to be moderately strong. Table 4.14 shows the Pearson correlation coefficient between debit cards and financial performance of the Equity bank branches.

Table 6: Debit Cards versus Financial Performance

	Debit Cards	Financial Performance (ROA)
Debit Cards		
Pearson Correlation	1	.62
Sig. (2-tailed)		.000
N	77	77

As shown in Table 7, a moderately strong but significant and positive relationship was found between, debit cards and financial performance of Equity bank, $r(77) = .62, p < .05$. This means that as more customers use debit cards there is a corresponding increase in the financial performance of Equity bank. Lastly, Table 4.14 shows the correlation analysis between Internet banking and financial performance of Equity bank.

Table 7: Internet Banking versus Financial Performance

	Internet Banking	Financial Performance (ROA)
Internet banking		
Pearson Correlation	1	.55
Sig. (2-tailed)		.000
N	77	77

There was a statistically significant and positive relationship between Internet banking and financial performance of Equity bank, $r(55) = .711, p < .05$. Increases in Internet banking products and services results to a corresponding increase in the financial performance of Equity bank. In regards to the magnitude, the relationship was found to be moderately strong.

HYPOTHESIS TESTING

The primary objective of this study was to assess the effects of electronic banking on the financial performance of commercial banks in Kenya by concentrating on the case of Equity bank branches located in Nairobi. In achieving this objective, a series of hypotheses were formulated. The first hypothesis posited that mobile banking influences the financial performance of Equity bank. Based on the regression and correlation analyses, this hypothesis was found to be true. The results showed that there is strong association between mobile banking and financial performance, ($r=0.711$). Additionally, the regression results revealed that a unit increase in mobile banking products causes a 31.10% increase in financial performance of the commercial banks. As such, this research hypothesis was accepted.

The second hypothesis postulated that ATM installations influence the financial performance of Equity bank. From the regression results, it was established that a unit increase in ATM installations by the bank led to a 24.20% increase in the overall financial performance of the Equity bank. This finding was cemented by the correlation analysis that which revealed that there was a moderately strong association between ATM installations and financial performance ($r=0.68$). Consequently, this research hypothesis was accepted.

The third hypothesis claimed that debit cards affect the financial performance of Equity bank. The regression results revealed that unit increase in the usage of debit cards culminated into 19.90% improvement in the financial standpoint of the bank. In addition, the correlation analysis results showed that the two variables had a moderately strong relationship ($r= 0.62$). Based on these regression and correlation analyses, there was enough evidence to accept this hypothesis.

Lastly, the fourth hypothesis suggested that Internet banking has an effect on the financial performance of Equity bank. This hypothesis was investigated through regression and correlation analyses. The regression analysis results indicated that a single increment in Internet banking products would generate a 16.62% boost to the financial performance of Equity bank. Moreover, this finding was supported by the correlational results that showed there was a moderately strong

relationship between the two variables. Therefore, based on the results from the two analyses, there was sufficient evidential support for not rejecting this hypothesis.

DISCUSSION OF FINDINGS

The overarching goal of this study was to assess the effect of electronic banking on the financial performance of commercial banks by focusing on the case of Equity bank. The study established that the mobile banking makes basic financial services more accessible by minimizing time and distance to the nearest retail bank branches. The study also revealed that Mobile banking reduces the bank's own overheads and transaction-related costs and also presents an opportunity for financial institutions to extend banking services to new customers thereby increasing their market. It was further established that customers prefer mobile banking for convenience and cheap charges on mobile transaction and also mobile banking removes geographical limitation to customers and therefore bringing convenience. These finding conforms to that of Ochola (2013) that there is a significant relationship between e-commerce adoption and the technological factors of perceived compatibility, complexity, and observability, trail ability and security confidentiality.

This study also found that that there is a significant relationship between ATMs and he financial performance of firms. In particular, this study established that a unit increase in number of ATM installation leads to an increase in the overall financial performance of Kenyan banks. Further, the study revealed that ATMs help customers simplify the manner in which customers conduct their transactions with the bank. These findings are similar to findings by Kaplan and Norton (2002) who established that ATM allows a bank customer to conduct his/her banking transactions from almost every other ATM machine in the world hundreds of bank customers via the ATM technology. This finding is in line with Karen (2010) that overall levels of productivity influence the organization success.

In relation to the third objective, this study established that a unit increase in debit cards leads to an increase in the financial performance of Kenyan commercial banks These findings was consistent with that of Kaplan and Norton (2002) that Debit Cards has led to better bank performance. Further, the study revealed that there is a strong growth for debit card and debit cards have surpassed credit cards to become the most common form of Visa point-of-sale. The determinants of debit card use have largely escaped academic scrutiny and debit card has improved efficiency and flexibility to customers. Further the study established that Increase in debit card usage enhances the profitability of banking industry in form of ROA and increased usage of debit cards has significantly reduced transaction costs and enhanced convenience among credit and debit card users. This finding is in line with (Karen, 2010), who found that most of credit card users who revolve balances incur interest costs to charge purchases on the margin, and hence might rationally choose to use debit rather than credit in order to minimize transaction costs.

Lastly, the outcome of the data analysis showed that there is a significant relationship between Internet banking and the financial performance of Equity bank. Specifically, the results showed that an increase in Internet banking activities corresponds to a better financial performance of the commercial banks. This finding is congruent with a number of previous studies such as Singh and Malhotra (2015) and Sayar and Wolfe (2007) who found that adoption of Internet banking services culminates into better financial performance of the commercial banks.

CONCLUSIONS

This study has provided a comprehensive review of the effect of electronic-banking on the performance of Equity Bank Limited in its Nairobi Central Business District branches. Based on the findings of this study, a number of conclusions can be drawn. Firstly, this study concludes that mobile banking has made basic financial services more accessible, reduced the bank's own overheads and transaction-related costs and also has presented an opportunity for financial institutions to extend banking services to new customers thereby increasing their market. Secondly, this study concludes that despite the challenges faced with ATM usage among customers, the machines contribute significantly to the betterment of the financial standpoint of the banks. Additionally, this study concludes that due to use of debit cards there have been reduced transaction costs since money transactions are conveyed electronically and there is no need of cash transactions. In regards, to this the debit cards play a significant role in enhancing the financial performance of the banks.

RECOMMENDATIONS

1. The main aim of any banking institution is to act as an intermediary of funding, hence Kenyan commercial banks should ensure in current times they have given their customers ease of access credit facilities by employing credit scoring mechanics to reduce on time spent on decision making on micro loans which can be applied for and disbursed via e-banking channels like phones and ATMs.
2. Due to the current emergence of use of agency banking model currently used by some banking institutions in Kenya, Internet mobile banking and debit cards are common mode of transacting the ability to integrate these channels in the model will increase revenues and minimize cash handling costs and increase transactions.
3. In order to maximize the full effect of these innovations, the Kenyan commercial banks can adopt the cutting-edge technologies being used in modernized countries have come with information chip which carries personal data including bank details. Examples of these technologies are mobile applications. Mobile apps are able to achieve efficient and great user experience where a customer can check balances on face of the app and make payments such as electronic transfers between banks and internal bank customers.

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