# Effect of on-line Banking adoption on Performance of Commercial Banks of Kenya in Eldoret Town

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*Abstract*

*The study sought to ascertain the effect of online banking adoption on the performance of commercial banks in Kenya in Eldoret Town, Kenya. Both primary and secondary data were used in the analysis. Secondary data was derived from annual audited financial reports of these banks and through document analysis. Primary data, on the other hand, was collected through questionnaire administration. The target population of the study was 364 employees drawn from 25 banks within Eldoret town . Stratified and simple random sampling was used to select a sample of 224 respondents that participated in the study. The explanatory research design was adopted in this study. The findings of the study indicated that internet banking had a significant positive effect on bank performance. The study concludes that internet banking and the adoption of ATM (Automated Teller Machines) by banks in Eldoret town were key contributors to their high performance. The study, therefore, recommends that if commercial banks in Eldoret are to sustain this improved performance it is critical that they should focus on technological enhancements that  are secure, flexible, reliable and convenient to their clientele on the same note; commercial banks should embrace mobile bank options that will provide customers with information    on    available    products    and    charges    to    enable    the    client    make    a    choice.*
*Keywords: internet banking, ATM, online banking adoption, performance, commercial bank*

## 1.1     Introduction

Bank performance is a much sought after phenomenon in today's highly competitive and globalized marketplace (Yasser, Entebang & Mansor, 2011). Today's consumers seek more than price bargains. However, they seek for useful, dependable and reliable technologies that enhance value for their time and money. A company's failure to fulfill these expectations can breed dissatisfaction and apathy among its customers unless the business helps resolve resulting consumer complaints fairly and promptly (Ireland & Hitt, 2007).  That is why in the competitive market environment, financial institutions seek to improve their performance not solely by relying on quality, technology too.

On-line banking is considered as a new revolution of the traditional banking services  which  offer  customers the  greatest  expediency  for  performing  banking transactions  via  electronic (Polatoglu & Ekin, 2011). On-line banking is to facilitate and implement business processes through the use of telecommunications network means, i.e., Internet. (Delone & Mclean, 2004). The evolution of online banking started in the 1980s when the definition and the practice of internet banking were far different than what exists today. New York City was the first place in the United States of America to test out the innovative way of doing business by providing remote services by four of its major banks; Citibank, Chase Manhattan, Chemical Bank and Manufacturers Hanover that made home-banking access available to their customers (McLean, 2004). Throughout online banking history, customers have been slow to adopt this new method of banking. However, following technological advancements many businesses are capable of performing their functions on-line basis more easily and efficiently that has made them more competitive notwithstanding on-line banking. Many businesses have adopted different types of models based on their nature and operations. The different types of electronic commerce includes Business to business, Business to consumer and Consumer to consumer (Zwaas, 2003)

In the bid to catch up with global developments and improve the quality of service delivery, Kenyan commercial banks have no doubt invested much on technology; and have widely adopted electronic and telecommunication networks for delivering a wide range of value-added products and services (GoK, 2010). They have in the last few years transformed from manual to automated systems. Unlike before when ledger-cards were used, today banking has been connected to computer networks, thereby facilitating the practice of inter-bank/inter-branch banking transactions (CBK, 2011). Developments at home, such as the introduction of the mobile telephone in 2001 and improved access to personal computers and Internet service facilities have also added to the growth of electronic banking in the country. In Kenya, most of the bank customers have raised complaints on improving service delivery, an issues banks have overlooked, especially when using modern technologies (Chepkwony *et al.,* 2012). Despite the adoption of technology in Kenya's financial sector having been examined in some studies such as Chepkwony *et al.,* (2012) little focus has been given on how these technologies contribute to bank performance. The knowledge gap this study intends to fill.

This study hypothesized that:

**H$_1$:**    There is a relationship between internet banking and bank performance in Eldoret
       town; Kenya
**H$_2$:**    There is a relationship between automated teller machines and bank performance
       in Eldoret town; Kenya

**Theoretical framework**

Innovation Diffusion Theory (IDT)was postulated by Roger in 1983.It explains individuals' intention to adopt technology as a modality to perform a traditional activity. The critical factors that determine the adoption of innovation at the general level are the relative advantage, compatibility, complexity, trialability, and observability. Innovation diffusion theory is concerned with the manner in which a new technological idea, artifact or technique, or a new use of an old one, migrates from creation to use. According to (IDT) theory, technological innovation is communicated through particular channels, over time, among the members of a social system. The stages through which a technological innovation passes are: knowledge (exposure to its existence, and understanding of its functions); persuasion (the forming of a favorable attitude to it); decision (commitment to its adoption); implementation (putting it to use); and confirmation (reinforcement based on positive outcomes from it).The change agent functions are: to develop a need for change on the part of the client; to establish an information-exchange relationship; to diagnose the client problems; to create intent to change in the client; to translate this intent into action; to stabilize adoption and prevent discontinuance; and to shift the client from reliance on the change agent to self-reliance.

**Empirical Review**

**Effect of Internet Banking On Bank performance**

Callaway (2011) conducted a study on adopting the services of online banking in Australia for the period between. The study attempted to identify the factors averting customers in the adoption of internet banking services. The sample size of the research consists of 500 respondents, which include both the individual and business customers of the bank. The variables considered in this research are ease of use, security, awareness of online banking and its advantages, availability of infrastructure and resistance to change. Data were analyzed using multiple regression models.  The findings indicate that customers do not adopt internet banking services because of the lack of awareness about the advantages of online banking and they are wary of security issues inherent in online bank accounts. From these findings, the study recommends that the management of banks should consider enlightening their customers on the factors that they consider to elicit negative effects by

creating awareness and spelling out the advantages that accrue to them when they adopt internet banking services. On the same note banks should target educated and wealthy people by migrating them to online banking for the society at large copy from the moves made by this category of individuals in most of the decisions they make.

Polatoglu and Ekin (2011) scrutinize the acceptance of online banking services by the customers of Turkey between the year……..and…….. The study considered the customers of Garanti Bank as their sample size which comprises of 150 respondents. The variables considered in the study include reliability, accessibility, saving of costs, perceived risk, security, and privacy. The study was based on both qualitative and quantitative approaches. Questionnaires were administered to selected Internet banking customers and staff members of the banks using purposive and simple random sampling techniques. Data were analyzed using Person correlation and multiple regression models. The results of the study indicate that customers are more satisfied with reliability, security, privacy, accessibility and perceived risk variables of online banking. Customers also reported that they were using online banking services due to ease to access and convenience. However, the study found that variable of saving of costs was considered as the reason for acceptance of online banking among perspective of customers. The study recommends that since customers are satisfied with all variables of online banking provided by Garanti Bank, the management of Garanti Bank should focus on making enhancements in its services with the advancement of technology and that the management of the bank should effectively deal with customer complaints related to the subject matter in order to retain the existing customers as well as to attract new customers.

Onay and Ozsoz (2013) empirically investigate the essential factors which are helpful in determining the service quality of internet banking. Panel data was collected from 14 commercial and savings banks in Turkey that have adopted internet banking between 1996 and 2005. Data were analyzed using GLS with Common Intercept. The results of the study reveal that customers are satisfied with the dimensions of reliability, tangibles, and assurance and that due to technological advancement, the customers have started to focus on the design and content of online banking websites. The study estimated the effect of online banking activities on the three common determinants of bank performance, namely the return on assets, return on equity and return on the financial intermediation margin. The study recommended that the management of banks should design programs for improvement of the service quality in order to pay attention to the requirements of customers as well as to solve their issues if online banking has to be embraced by its customers and that the management should also ensure that their systems more efficient and effective so as to provide satisfaction to the customers in usage of internet banking services.

Pikkarainen *et al*., (2014) undertook a study on how to measure customer satisfaction of those who used internet banking in Finland. The study was undertaken on the basis of End-User Computing Satisfaction (EUCS) Model. Data were collected from non-internet banking users via a survey questionnaire. Overall, 362 in- non-internet users" questionnaires were usable, and 37 were considered invalid. The results of the respondents were analyzed using Structured Equation Modeling (SEM) from which the hypotheses were tested, and conclusions were drawn. The results of the survey indicated that customers find it difficult to use internet banking services, which leads to a decrease in the adoption of internet banking. According to responses of customers, it has been analyzed that the information provided by online banking websites is very limited and it is not in accordance with their requirements. It has been proposed by the researchers that managers should focus on the methods which are helpful in the enhancement of bank performance by improving the content factor regarding online banking services. It is also recommended that the services of internet banking can be enhanced by establishing personalization and user interfaces, which usually consider the diverse needs of distinct user segments.

Rod *et al*., (2009) examined the association between the service quality of internet banking and bank performance in New Zealand by using SERVQUAL instrument. The sample comprised of 300 people who were

regular users of internet banking. Internet banking service customers of a national bank in New Zealand completed a self-administered questionnaire. Data obtained from the customers were analyzed using the SEM-based partial least squares (PLS) methodology. The results of the study show that the dimensions of service quality of internet banking have a positive as well as an indicative relationship with the bank performance. It has been recommended by the researchers that the management of online service providers of banks be compelled to constantly analyze the level of fulfillment of the requirements and demands of the customer with the site of the company if they desire to endure the customers loyal to their online services.

Cheruiyot (2010), in his study on the Impact of internet banking on Financial Performance of Commercial Banks in Kenya and found that internet banks are larger banks and have better operating efficiency ratios and profitability as compared to non-internet banks. Internet banks rely more heavily on core deposits for funding than non-internet banks do. However, the multiple regression results reveal that profitability and offering internet banking does have a small significant association (less than 5%), larger significant and negative association with the risk profile of the banks ( more than 10%) meaning that internet-based banks become better off from risks such as non-performing loans. However, the advantage expected of internet banking is yet to show some significant positive financial gains but begs for future investigation beyond financial measures used in the study as technology continues to penetrate the market.

**Effect of Automated Teller Machines on Customer's Satisfaction**

Al-Hawari and Ward (2006) examined the effect of automated service quality on bank financial performance and the mediating role of customer retention in UAE for .The survey was designed and data collected through mall intercept method. AMOS6 was used to test for the hypothesized relationships. The survey instrument consisted of 24 items which were identified through a comprehensive literature review of automated services quality and Customer trust. Measuring automated service quality – they identified five factors (dimensions) of automated service quality that were: Convenience, Queue management, customization, responsiveness, and security.  Most of the automated factors have a direct relationship with customer trust. Queue management and convenience were the only factors that did not have any relationship with the dependent variable customer trust. The study compiled a list of five major items about ATM service quality that include convenient and secured locations, functions of ATM, an adequate number of machines and user-friendliness of the systems and procedures. These items constitute important aspects of ATM service quality.

Shamsuddoha *et al*. (2005) investigated significant dimensions of ATM (automated teller machine) service quality and its effect on customer satisfaction . Convenience sampling technique was used to collect the data from a sample of 500 customers who hold ATM cards from multinational and national banks. A questionnaire was used to collect the data. The questionnaires were administered by courier, e-mail, and personal delivery. SPSS (Statistical Package for Social Sciences) version 16.0 was used to compute and analyze the data. The statistical tests used in the analysis of data included descriptive statistics, testing of multicollinearity and normality of data, reliability analysis, correlation analysis, factor analysis, and regression analysis. Regression results indicate that convenience, efficient operation, security, and privacy, reliability, and responsiveness are significant dimensions of ATM service quality and that ATM service quality positively and significantly contributes toward customer satisfaction

Patrício*et al*. (2003) undertook a qualitative study of a Portuguese bank regarding customers' use of multi-channel offerings between the year…………and……in Portuguese banks the results of a qualitative study of regarding customer use of Internet banking integrated into a multi-channel offering that includes high street branches, telephone banking, and automatic teller machines were used. Using the bank's data, up to five branches were selected in each city, according to the criteria of size and geographical dispersion. For the larger customer segments (non-users and IB regular users), a random sample of 200customers was selected – spread

across the different branches. For the smaller segments (stock users and ex-users of IB), the overall population was used. The study identified accessibility and speed of operation as strong predictors of customers' satisfaction, whereas security dimension and technical failures were main causes of dissatisfaction. The results show that performance evaluation is a key factor influencing channel use. Customers tend to use the different service delivery systems in a complementary way, taking into account their assessment of the advantages and disadvantages of each one. Customer characteristics and the type of financial operation are also identified as important factors influencing this process. These results indicate that, in a multi-channel context, customer satisfaction with Internet services depends not only on the performance of this channel in isolation but also on how it contributes to satisfaction with the overall service offering.

Kumbhar (2011) investigated the experiences of Bank Muscat (BM) and Bank Dhofar (BD) (hereafter BM and BD) customers with automatic teller machines (ATMs) in the Dhofar region of Oman. Primary data was collected from by a random sample of 200 ATM users by means of a semi-structured questionnaire. The data were analyzed using descriptive statistics and t-test. The study found that most of the users were male in the age group of 36-45 having a government job or doing their own business. The study also revealed that the main problems faced by the ATM users are a machine out of order, long queue and poor visibility of statement. As regards to the differences between the two banks, the study found that significant difference in the mean customer satisfaction among customers of BM and BD for the factor "Machine out of order." Management of these banks must take into account these factors while designing and implementing ATM based policy reforms. They identified that bank performance is one of the major factors measuring the performance of the banks.

Khan (2010) in his study of Pakistani bank has stated that there is a positive and strong relationship between ATM service quality and bank performance. The study has identified that convenience, efficient operation, security, and privacy, reliability, and responsiveness positively and significantly affect customers' perception of ATM service quality. ATM service quality also relates to the ability of the bank staff to provide the agreed services timely, accurately, dependable and prompt. Customers prefer to resolve their complaints expeditiously (Karjaluoto *et al*., 2002). Gerrard and Cunningham (2003) found that staff response to customers' ATM-related needs influences their perception of service quality. The responsiveness is crucial to sustaining service quality and facilitates building long-term relationship between service provider and the customers (Long & McMellon, 2004; Bauer *et al*., 2006)

Kariuki, (2005), in his research paper titled, "Six Puzzles in Electronic Money and Banking," showed the positive impacts of ATMs on their banking performance using bank turnover and profits as a measure of performance. He established that banks with high-profit growth are more likely to be using greater numbers of advanced ICTs. He concluded that e-banking leads to higher profits though in long-term but not in short-term due to high ATMs investment cost. Further, he provides evidence that the use of e-banking can contribute to improved bank performance, in terms of increased market share, expanded product range, customized products and better response to client demand.

Mutinda, (2012) examined the effect of the effects of ATMs on customer retention in banks in Meru town. The study addressed five aspects of ATMs which included the location of ATMs, Number of ATMs; Services offered by ATMs, Uptime of ATMs and customers' knowledge of the use of these ATMs. The researcher used descriptive survey design which was cross-sectional in nature. Research instruments included questionnaires, interview schedule and documentary analysis. The study was confined to commercial banks in Meru town only. The researcher used a sample size of 400 respondents. In addition, 5 bank branch managers and 5 CBK officials were involved. This research was as a result of despite the continued use of ATMs by commercial banks, little is known about effects of ATMs on customer retention in commercial banks in Meru town Location of ATMs in Meru town was found to have an impact on customer retention. If customers did not have the locations they preferred, the majority said that they could easily look for alternatives in most cases moving away from such

banks by various ways. Number of ATMs likewise influenced customer retention. Customers required that ATMs should be enough to meet their day to day requirements. Services offered by these ATMs did not have greater negative effects on customer retention, but for maximum customer retention, services provided by these ATMs should correspond to customers' requirements. In fact, customers should be taught that there are other services offered by ATM apart from withdrawal. ATMs breakdown especially end months was high and lead to customers' dissatisfaction. Finally, some customers did not have the knowledge of carrying out some transactions, and this limited there use of these ATMs, and they were not happy with it.

**Research Gap**

The above literature has given little attention towards internet banking in relation to bank performance. The results of above studies have not revealed that the most important constructs of internet banking that enhance bank performance, followed by a corporate image and switching barriers. There was also less evidence in the study on how internet banking through Perceived usefulness, trust, Security, personalization, and Convenience influence bank performances.  Recent literature has a narrow focus and ignores internet banking almost entirely; it equates internet money with the substitution of currency with internet money. For instance, Freedman (2000) suggests that internet banking and internet money consists of three devices; access devices, stored value cards, and network money. Internet banking is simply the access to new devices and is therefore ignored. Internet money is the sum of stored value (smart cards) and network money ( the value stored on computer hard drives).

Review of the literature has attempted to address the aspects of adoption of mobile phone financial services. It has, however, not adequately linked the adoption of mobile phone financial services on bank performance. In addition, most of the previous studies (Viehland and Leong 2007), (Laukkanen 2007), (Vatanparast and Qadim 2009), (Dass and Pal, 2011), (Riquelme and Rios 2010), (Awuondo 2006), (Shin 2010), (Akturan and Tezcan 2010) and (Alam et al 2009) are emanating from developed countries creating a dearth gap in the literature that address the effect of mobile money transfer transaction on bank performance. Moreover, few Kenyan scholars (Kimenyi and Ndung'u 2009) and (Ng'weno 2010) investigated the adoption of M-Pesa without linking their findings to bank performance. As such this study will attempt to analyze the effects of Mobile Money Transfer services on bank performance within Eldoret town

A lot of literature surrounded the area of electronic banking; much of what has been discussed is about answering the question of how electronic banking is adopted? In other words, what is a level of adoption of electronic banking and factors that influence the adoption of electronic banking? However, few studies have demonstrated the relationship between electronic banking constructs and bank performance. This will study focus on exploring the gap within the current literature on electronic banking and bank performance.

**Material and methods**

The explanatory research design was used in this study. The target population was364 employees are drawn from25 banks within Eldoret town.The study employed simple random sampling technique. The sample size was chosen to represent 50% (182) of the target population as recognized by Mugenda and Mugenda (2003) as an adequate representative sample. The researcher used questionnaires as tools for data collection. The split-half method was used to determine a reliability index through Pearson's Product Moment Correlation coefficients formula. The split-half reliability assisted in getting high correlation indicating the accuracy of the two parts compared.Data were analyzed quantitatively. The multiple regression models used in this study was given as;

$y_{it} = \alpha_{it} + \beta_1 x_1 + \beta_2 x_2 + \varepsilon_i$

Where,

$y$ =Bank performance

$\alpha$ = constant.

$\beta_1\ldots \beta_4=$ the slope which represents the degree in which bank performance changes as the independent variable change by one unit variable.

$x_1$       = Internet banking
$x_2$       = automated teller machine
$\varepsilon$ = error term

**Findings**

**Sample characteristics**

The study put into account the gender of the respondents. From the results, 27.6% (56) of the respondents were female, and 72.4% (147) of them were male. These findings suggest that the study was dominated by people aged between 26 to 35 years old, as this class appears to be the model class of the age groups.The findings were Primary 9.4%; Secondary was 9.9%, Diploma were 40.9%, Graduate 28.1% and those with Masters and above were 11.8%.This composition of the respondents was deemed to give relevant and first-hand information as far as the study was concerned.Furthermore, most 31.5% (64) of the respondents noted that customers had been served by the bank for 5-8 years, 30.5% (62) for between 1-4 years, 25.6% (52) had been served for a period ranging from 9 to 10 years,5.9% (12) for over 12 years while the least being those who had been served by the bank for less than a year as evidenced by 6.4% (13) of the respondents. Since the majority of the customers have been served by the bank for over 5 years, it implies that they are an informed group of customers hence likely to be reliable and valid.Finally,30% (61) of the respondents stated that customers make use of the bank's services daily,43.3% (88) once a week,18.2% (37) several times per month and 8.4% (17) once a month.

**Internet Banking**

This section focused on internet banking. The findings are as presented in table 1. The results from the study revealed that The mean value was 3.78 and standard deviation 0.935 implying that there is flexibility in the use of internet banking.In determining whether the use of internet banking is secure,thestudyrevealeda mean of 3.75 and standard deviation of 0. 851.It can, therefore, be said that bank customers are assured that internet banking is secure.To find out if the use of internet banking is very reliable, results from the study revealed that, the question had a mean of 3.97 and standard deviation of 0.798. Tofindoutwhether, internet banking speed makes its usage more frequently;The results summed up to a mean of 3.86 and standard deviation of 0.784 meaning that the speed of internet banking has made its usage more frequent.The study further enquired from the respondents whether all their banking needs are included in the internet banking menu option, The results summed up to a mean of 4.19and standard deviation of 0.859 meaning that internet banking menu options cater for customers banking needs.Inabidtoestablish if internet services are easily accessible,The item realized a mean of 3.9 and standard deviation of 0.699 revealing that the internet services are easily accessible.To establish whether internet services have a user-friendly system,respondentswererequestedfortheiropinionandtheresultswerea mean of 4.03 and standard deviation of 0.703 an indication that the internet services are user-friendly.Theresultsrevealedthat, a mean of 3.87 and standard deviation of 0.977. Overall, internet banking services are available 24 hours and 7 days a week**.**Generally, internet banking is convenient to use for the customers.In addition, the availability of internet banking infrastructure all over has enhanced its usage.

**Table 1 Internet Banking**

|  | Mean | Std. Deviation |
|---|---|---|
| Use of internet banking is flexible | 3.78 | 0.935 |
| Use the internet banking is secure | 3.75 | 0.851 |
| Use of internet banking is very reliable | 3.97 | 0.798 |
| Internet banking speed make it used more frequently | 3.86 | 0.784 |
| All my banking needs are included in the internet banking menu options. | 4.19 | 0.859 |
| Internet services are easy accessible | 3.9 | 0.699 |
| Internet services have a user-friendly system | 4.03 | 0.703 |
| Internet banking services available 24 hours and 7 days a week | 3.87 | 0.948 |
| We find internet banking convenient to use for our customers | 3.52 | 0.977 |
| Our customers use internet Banking because of availability of infrastructure all over. | 3.87 | 1.026 |
| INTERNETBANKING | 3.87 | 0.669 |

## Automated Teller Machines

This section of the analysis highlights the results on Automated Teller Machines. The findings are presented in table 2.Regarding whether the banks have many ATMs which are convenient for the customers, The results summed up to a mean of 3.53 and standard deviation of 0.919 meaning that the ATMs are convenient to the customers. Further, indicated that the ATM could be used to deposit cash in the bank account.Also, results summed up to a mean of 3.82 and standard deviation of 0.996 indicating that the ATM cards can be used to purchase goods and services from the supermarket. Moreover, item reported a mean of 3.91 meaning that the ATMs in the bank are reliable.Further, the study sought to establish if the ATM cards are easy to carry and portable, the item reported a mean of 3.91 and standard deviation of 0.854 meaning that the ATM cards are portable and easy to carry around. Results showed that ATM acknowledges customers by name during the transaction. This position was further confirmed by the 3.82 mean and standard deviation of 0.907. Generally, the results on ATM summed up to a mean of 3.8138 and standard deviation of 0.63309 meaning that the employees agreed with most of the items and there is less variation in the responses.

**Table 2        ATM**

|  | Mean | Std. Deviation |
|---|---|---|
| The bank has many ATMs which is convenient for our customers | 3.53 | 0.919 |
| our ATM card can be used to deposit cash in a bank account | 3.63 | 1.106 |
| Our ATMs cards can be used to purchase any goods and services from supermarket | 3.82 | 0.996 |
| ATMs in my bank are reliable | 3.91 | 1.133 |
| Our ATMs are easy to carry and portable | 3.91 | 0.854 |
| Our ATM can acknowledge customers by name during the transaction | 3.82 | 0.907 |
| My bank automated services offer Real-time communication option | 3.81 | 0.941 |
| Elements of security are incorporated, and the customer is made aware of these | 4.06 | 0.675 |
| bank automated services are trustworthy | 3.69 | 0.781 |
| Our ATMs are secure that and private information will not go to another third party. | 3.96 | 0.804 |
| ATM | 3.8138 | 0.63309 |

**Bank Performance**

Generally, results on bank performance summed up to a mean of 3.96 and standard deviation of 0.73. From the foregoing, it can be deduced that the banks have realized improved performance. There are also fewer variations on the responses as evidenced by the standard deviation.

**Table 3          Bank Performance**

|  | Mean | Std. Deviation |
|---|---|---|
| Growth in sales in relation to your expectations | 3.71 | 0.819 |
| Growth in sales in relation to your competitors | 3.89 | 0.989 |
| Growth in profits in relation to your expectations | 3.69 | 1.004 |
| Growth in profit level in relation to your Competitors | 3.81 | 0.911 |
| Increased market size in new markets in relation to your | 4.05 | 0.872 |
| Increased market size in new markets in relation to your Competitors | 3.96 | 0.73 |
| **Bank Performance** | 3.852 | 0.7454 |

**Test of hypothesis**

There was a strong relationship between ATM and bank performance ($r = 0.859$, *p*-value < .01). Also, the study exhibited a strong relationship between internet banking with bank performance ($r = 0.665$, *p*-value < .01).Bank performance is positively correlated with all the independent variable in the equation. The correlation strength is largely positive on all the variables. (See Table 4).Table 4 illustrates the model summary of multiple regression models; the results showed that all the four predictors (internet banking and ATM) explained 83.1 percent variation of bank performance (R squared =0.831). Study findings in table 4indicated that the above-discussed coefficient of determination was significant as evidence of F ratio of 243.314 with p-value 0.000 <0.05 (level of significance). Thus, the model was fit to predict bank performance using internet banking and ATM.

Research findings showed that internet banking had coefficients of the estimate which was significant basing on $\beta_1= 0.21$(p-value = 0.00 which is less than $\alpha = 0.05$) implying internet banking has a significant effect on bank performance..internet banking services, which leads to a decrease in the adoption of internet banking. Further support for the study findings is by Rod et al., (2009) who noted that the dimensions of service quality of internet banking have a positive as well as an indicative relationship with the bank performance. The results also corroborate findings by Cheruiyot (2010) which found out that that internet banks are larger banks and have better-operating efficiency ratios and profitability as compared to non-internet banks.

Also, findings showed that ATM had coefficients of the estimate which was significant basing on $\beta_2= 0.931$ (p-value = 0.00 which is less than $\alpha = 0.05$) thus we conclude that ATM has a significant effect on bank performance. This suggests that there is up to 0.931unit increase in bank performance for each unit increase in the use of ATMs. Cognate to the results, Al-Hawari and Ward (2006) examination of the effect of automated service quality on bank financial performance revealed that ATM services quality items such as convenient and secure locations, functions of ATM, an adequate number of machines and user-friendliness of the systems and procedures results to improved bank performance. The findings are also in line with findings by Shamsuddoha et al. (2005) which found out that ATM service quality positively and significantly contributes toward bank performance. As well, Kariuki (2005) posits that ATMs have a positive impact on the bank performance.

**Table 4  Regression Analysis**

|  | Unstandardized Coefficients | | Standardized Coefficients | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | B | Std. Error | Beta | t | Sig. | |
| (Constant) | -0.127 | 0.154 |  | -0.825 | 0.41 | |
| Internet banking | 0.234 | 0.044 | 0.21 | 5.271 | 0.000 | .665** |
| ATM | 1.096 | 0.081 | 0.931 | 13.579 | 0.000 | .659** |
| R Square | 0.831 |  |  |  |  | |
| Adjusted R Square | 0.828 |  |  |  |  | |
| F | 243.314 |  |  |  |  | |
| Sig. | .000b |  |  |  |  | |

a Dependent Variable: Bank Performance

**Conclusion And Recommendations**

The study has established that internet banking has a positive influence on the bank performance. Based on the findings, the accessibility and convenience brought about by internet banking have increased the number of bank customers resulting in improved performance. Furthermore, since internet banking services are available 24 hours and 7 days a week as well as are user-friendly, it has encouraged most of the customers to make use of it. This is especially because of availability of internet banking infrastructure all over the country. The eventual outcome is improved bank performance since the banks can cater for customers within different market segments and offer them secure and reliable internet banking services.

The study has established that automated teller machines positively impact on the bank performance. The ATMs provide the banking services timely, accurately, dependable and prompt. As a result, bank customers are induced to get ATM card to enjoy benefits such as depositing cash into the bank account and using the card to purchase goods and services. Eventually, the ATMs service quality results to improved bank performance.

The findings of the study have revealed that internet banking has a positive and significant effect on the bank performance. As such, it is crucial for the banks to focus on making enhancements with the advancement of technology to ensure that there are secure, flexible, reliable and convenient internet banking services. Moreover, there is a need for the management of banks to deal with complaints regarding internet banking services to retain existing customers and attract new ones. In addition, banks need to focus on personalization of the internet banking services to cater to the specific needs of customers. In so doing, improved bank performance will be realized.

Furthermore, there is a need for banks to have sufficient ATMs to meet the daily requirements of bank customers. The services provided by the ATMs need to correspond with the customers' requirements. Specifically, the ATMs should provide timely, accurate, dependable and prompt bank services. Most important, banks need to incorporate elements of security in the automated teller machines.

The sample was drawn from only commercial banks in Eldoret town, Kenya. Thus this study may be limited in its generalizability of the findings. So, future research should have to draw a sample of respondents from a larger sample for the sake of generalizing the results of the study.This can be done by focusing on microfinance institutions and SACCOs.

*References*

  i.    *Akturan, U., Tezcan, N., 2010. Mobile banking adoption of the youth market: Perceptions and Intentions. Marketing Intelligence & Planning 30(4), 444 – 459*

 ii.    *Al-Hawari, M., & Ward, T. (2006).The impact of automated service quality on financial performance and the mediating role of customer retention.Journal of Financial Service Market ing 10(3), 228-43.*

iii.    *AwuondoI.(2006) E-Banking in Kenya. Practical lessons to be drawn.*

 iv.    *Bauer, H.H., Falk, T., &Hammerschmidt, M. (2006).A transaction process-based approach for capturing service quality in online shopping.Journal of Business Research, 59, 866-75*

  v.    *Callaway, S., 2011. Internet banking and performance: The relationship of web site traffic rank and bank performance, American Journal of Business, 26, 1, pp. 12-25.*

 vi.    *CBK (2011).Payment Systems in Kenya. Central Bank of Kenya annual financial report for the year 2008, Kenya*

vii.    *Chepkwony EC, Gitao GC and Muchemi GM (2012).Seroprevalence of Foot-and-Mouth Disease in the Somali Eco-System in Kenya. Intl. J. Anim. Vet. Adv., 4(3):198-203*

viii.   *Dass, R. & Pal, S. (2011). Exploring The Factors Affecting The Adoption Of Mobile Financial Services Among The Rural Under-Banked. European Conference on Information Systems, ECIS 2011 Proceedings, paper 246.*

 ix.    *Freedman C., (2000), Monetary Policy Implementation: Past, Present, and Future –Will Electronic Money Lead to the Eventual Demise of Central banking?,International Finance, 3(2), 211-227*

  x.    *Gerrard, P. and Cunningham, J.B. (2003) 'The diffusion of internet banking among Singapore consumers', International Journal of Bank Marketing*

 xi.    *Ireland R. D., and Hitt, M. A. (2007). Achieving and maintaining strategic competitiveness in the 21st century: The role of strategic leadership. 13: 43-57.*

xii.    *Karjaluoto, H., Mattila, M. and Pento, T. (2002) 'Electronic banking in Finland: consumer beliefs and reactions to a new delivery channel', Journal of Financial Service Marketing*

xiii.   *Khan, M.A. (2010) 'An empirical study of automated teller machine service quality and bank performance in Pakistani banks', European Journal of Social Sciences*

xiv.    *Kimenyi, Mwangi and NjugunaNdung'u (2009)."Expanding the Financial Services Frontier: Lessons from Mobile Phone Banking in Kenya."(Washington, DC: Brookings Institution), October.*

 xv.    *Kumbhar Vijay M (2011), Structural Equation Modeling of eBankQual Scale: A Study of E-Banking in India, in International Journal of Business Economics and Management Research, Volume 2, Issue 5, May, 2011, pp-8-32; http://mpra.ub.uni-muenchen.de/32714/1/MPRA_paper_32714.pdf*

xvi.    *Kumbhar Vijay M. (2011), E-Banking and Its Impact on Customers " Satisfaction: A Case Study of Public and Private Sector Banks in Satara City in ETHOS, KBPIMSR, Satara", June 2011,pp-72-79; ISSN-0974-6706*

xvii.   *Kumbhar Vijay M. (2011), Reliability and validity of „eBankQual" Scale in ATM Service Settings: A Study, in VINIMAYA, Vol. XXXI No. 4 January – March 2011, pp-15-26; Published by National Institute of Bank Management, Pune, ISSN:0970-8456*

xviii.  *Laukkanen, T., Sinkkonen, S., Kivijarvi, M., Laukkanen, P., 2007.Innovation resistance among mature consumers. Journal of Consumer Marketing 24(7), 419 – 427*

xix.    *Long, M., &McMellon, C. (2004).Exploring The determinants of retail service quality on the internet. Journalof Services Marketing, 18(1), 78-90.*

 xx.    *McLean, W. H. (2004). Measuring online banking Success: Applying the DeLone& McLean Information Systems Success Model. International Journal of Electronic Commerce, 9 (1), 31-47*

xxi.    *Mugenda, O.M. and Mugenda, A.G. (2003). Research Methods: Quantitative and Qualitative Research: Nairobi ; Acts Press*

xxii.   *Ng'wenoA, Ignacio Mas , and, Bill & Melinda Gates Foundation 2010. Three keys to M-PESA success: Branding, channel management and pricing, Central Bank of Kenya, KPSB, Safaricom websites.*

xxiii.   *Onay C., and Ozsoz E. (2013) The impact of Internet-Banking on Brick and Mortar Branches: The Case of TurkeyJournal of Financial Services Research, 44 (2) (2013), pp. 187–204*

xxiv.   *Pikkarainen, T., Pikkarainen, K., Karijaluoto, H., and Pahnila, S. (2014). Customer acceptance of on-line banking: an extension of the technology acceptance model. Internet Research, 14(3), 224-235.doi:10.1108/10662240410542652, http://dx.doi.org/10.1108/10662240410542652*

xxv.   *Polatoglu, V. N., &Ekin, S. (2011).An empirical investigation of the Turkish consumers' acceptance of internet banking services.International Journal of BankMarketing,19(4), 156-165.*

xxvi.   *Riquelme, H. E., and Rios, R. E., 2010.The moderating effect of gender in the adoption of mobile banking. International Journal of Bank Marketing 28(5), 328 – 341*

xxvii.   *Rod, M., Ashill, N. J., Shao, J., & Carruthers, J. (2009). An Examination of the Relationship Between Service Quality Dimensions, Overall Internet Banking Service Quality and Customer Satisfaction: A New Zealand Study. Marketing Intelligence &Planning , Vol. 27 (1), 103-126*

xxviii.   *Shamsuddoha, M., Chowdhury, M.T., & Ahsan, A.B.M.J. (2005). Automated Teller Machine: A New Dimension in the Bank Services of Bangladesh. Retrieved October 13, 2016, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1302301*

xxix.   *Shin, D. H. (2010).Modeling the interaction of users and mobile payment system: conceptual framework.International Journal of Human Computer Interaction, 26(10), 917-940*

xxx.   *Vatanparast R, Hamed Z. Qadim, winter 2009 A cross-cultural study on mobile Internet usage,  vol. 4 no. 2, International Journal of Mobile Marketing*

xxxi.   *Viehland, D and Leong, R S Y (2007)."Acceptance and Use of Mobile Payments".Proceedings of the 18th Australasian Conference on Information Systems.Toowoomba.*

xxxii.   *Yasser, Q. R., Entebang, H., & Abu Mansor, S. A. (2011). Corporate Governance and Firm Performance in Pakistan: The case of Karachi Stock Exchange (KSE)-30, Journal of Economics and International Finance, 3(8), 482-491*