



Electronic Banking and Financial Performance of Commercial Banks in Migori County

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ABSTRACT

Devolution in Kenya has brought changes in many sectors of the economy. With the aim to attain the vision 2030 of industrialized nation and technological invention and innovation, many industries have embraced innovation in the field of information communication technology. ICT is seen as the main drive towards attainment of technological goals. Innovation in IT has been the force behind transformation of financial institutions in Migori County. Tremendous development in IT and the struggle to attain the vision's goals has made banking services more effective, accessible and cheaper. The study investigated the effects of E-banking on financial performance of commercial banks in Migori County. There are 4 variables used to investigate the main objective of the study. The study investigated 6 banks in five towns in Migori County. 56 respondents filled the questionnaires and emailed them back. Purposive sampling was used to select banks in the towns whereas stratified random sampling was used to cover the total population. The study adopted descriptive research design where qualitative and quantitative approaches were used. Primary data was collected through questionnaires developed and sent to respondents of commercial banks. The data was augmented with secondary data that was incorporated in the questionnaires and the central bank of Kenya supervisory reports. Regression analysis with aid of Statistical packages for social science and Microsoft Excel played a major role aid in data analysis and presentation. To test for significance, paired t-test and non-parametric test was used at 0.05 level of significance. The analysed data was presented using narrations, tables and line graphs.

Keywords: Electronic Banking and Financial Performance

E-banking is the term used for new age banking system. E-banking is also called online banking and it is an outgrowth of PC banking. E-banking uses the internet as the delivery channel by which to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings

account balances, paying mortgages and purchasing financial instruments and certificates of deposits (Mohammed, *et al.* 2009).

The world is affected with tremendous changes that dictate the operation of individual conducts, firms' behaviors and even the institutions. The economic sector is faced with this rapid changes that brings about high competition for scares opportunities and changes in business strategies. All this occur due to technological changes that are unpredictable making financial forecasting difficult. Hassan H. Sumra (2011) of Management Sciences, COMSATS Institute of Information & Technology, Pakistan says that the proliferation and penetration of internet has opened new horizons and scenarios for the retail banking industry. The retail banks are now providing their products and services through the electronic medium; e-banking. E-banking is considered to have a substantial impact on banks' performance.

Historically, banks have used information systems technology to process checks (item processing), drive ATM machines (transaction processing), and produce reports (management information systems). In the past, the computer systems that made the information systems operate were rarely noticed by customers. Today, Web sites, electronic mail, and electronic bill presentment and payment systems are an important way for banks to reach their customers.

Electronic banking (e-banking) is the use of internet and telecommunication networks to deliver a wide range of value added products and services to bank customers. (Husain, *et al.* 2010) today, banks in Turkey are competing aggressively to introduce new types of products and services that are driven mostly by technology. Internet banking is one of the most innovative technologies offered by the banks in Turkey. E-banking includes importing data into personal accounting software. In Turkey, there are over 18% of banking customers using e-banking actively (Jamaluddin, Osman, Sukru and Kemal, 2008). Since 1997 internet banking has been recognized as a feasible alternative distribution channel by Turkish commercial banks due to the deregulation in the financial sector, escalation of computer literacy, the rapid diffusion of electronic commerce, strong commitments to reduce operating costs, changing customer demands for innovative financial products and services and create customer convenience (Hakan, 2008). Due to the low cost of attracting customer to utilize internet banking and retaining existing innovation-demanding customers during the past two decades, most of Turkish commercial banks found it irresistible to invest large amounts in online banking although the customer take up of internet banking appeared to be very slow. In addition, the actual number of utilizing e-banking users appeared to be between 1 and 1.2 million (30%) in 2003 although 2 million people (50%) were forecasted to utilize e-banking by 2003 (Akinci, 2004; Celik, 2002; Ozkan, 2003). Furthermore, in turkey the numbers of active internet banking accounts are escalating from 150,000 in 2000 to 5.5 million in 2007 and grew annually by 68 per cent (Higgs, 2000).

In comparison, although this illustrates that internet banking has experienced strong and sustained growth since its inception, Turkey has a lower internet banking penetration rate than that of many European countries. The research on internet banking by individual banks in the country has been required to improve management understanding of how their particular product or service affect the profitability of the commercial banks.

Globally, In Africa and other developing countries, e-commerce adoption has been inhibited by the quality, availability and the cost of accessing telecommunication infrastructures (Humphrey et al., 2003). Other issues include lack of skilled staff, low internet penetration, low bank account and lack of timely delivery of physical goods also hinder the growth of e-banking. Commercial banking in Ghana predates colonial times. The literature indicates that BBWA now called Standard Chartered Bank Ghana Limited was the nation's first commercial bank. It was followed by Barclays Bank Ghana Limited, then subsequently the Bank of Ghana and the Ghana Commercial Bank (Woldie *et al.* 2008). Currently there are 28 banks operating in the Ghanaian banking industry has over 856 bank branches (Ghana Banking Survey, 2011). Most of these banks have adopted new and innovative ways to improve service delivery in a bid to combat competition. One significant means of achieving competitive advantage has been the adoption of e-banking services, (Abor, 2004). The first major cash card, called the 'Sika Card' was a product of Social Security Bank, which was introduced in May 1997 (Abor, 2004). As at today, in addition to ATMs, most of the banks have implemented internet banking, telephone banking, SMS alerts among others to deploy banking services to the customers. Anecdotal evidence however, indicates that the adoption of these electronic services is below expectation in Ghana.

The ICT sector holds high promises for small island economies, like Mauritius. From a mono-crop economy, based on sugar production, Mauritius has over the years, diversified its economy to manufacturing and services. To date, the services sector contributes to around 68 per cent of GDP. The ICT Sector has been contributing a 6 per cent of GDP in 2009 and it had been projected that the sector will contribute up to 8 per cent of GDP by 2011. The Information Development Index for Mauritius has improved from 3.30 in 2008 to 3.44 in 2009. This was a direct effect as a result of improvements of ICT infrastructure and access. In 2008, there were nine internet service providers and 67.5 per cent of households with computer had access to Internet. The tariff for internet connection per minute using dial up access (off peak time) was ₹ 0.27 in 2009. In 2009, the number of internet subscribers attained 286,000, which is an increase of 43.4% relative to 199,500 in 2008. The number of Mauritians using internet banking was 131,628 in June 2010, representing a 21 per cent rise relative to December 2009. A number of studies have been carried out relating to issues in the wider context of e-banking (Balachandher *et al.* 2000; Suganthi *et al.* 2001; Padachi *et al.* 2008), particularly in relation to the rationales and benefits of internet banking, customer loyalty and servicequality.

Commercial banks in Kenya are going through massive transformation efforts to cope with the economic downturn, rapid changing market trends and volatile financial markets. The Kenya banking industry has been expanding branches and networking since the introduction of branchless banking system. The annual report of central Bank of Kenya indicate that electronic banking has expanded significantly. CBK 2015 Annual report shows that Kenya's banking sector witnessed reduced activities in respect to their core banking systems compared to 2014. Most players continued to leverage on their existing ICT platforms in the provision of quality banking services that are efficient and have wider scope. Robust ICT platforms have enabled financial institutions respond to the demand of the growing middle class population by offering electronic based banking services such as mobile and internet banking. A few banks use mobile phone platforms to grant short term loans to customers and this has gone

a long way to promote financial inclusion. Further, robust ICT platforms have enabled banks to roll out agency banking services where customers are able to carry out banking services such as deposits and withdrawals from a third party contracted by the bank. Such transactions are seamlessly posted into customers' accounts on a real time basis. On average, in 2014, one employee was serving 770 customers whereas in 2015 an employee was serving 972 customers. This shows increased efficiency in customer service as a result of banks embracing technology. In line with the economic pillars of vision 2030, one of the key development reforms of the vision is science, technology and innovation which has brought with it new possibilities in terms of information access and availability simultaneously, introducing new challenges in protecting sensitive information from intruders while making it available to others. Today's business environment is extremely dynamic and experience rapid changes as a result of technological improvement and increased awareness that demands banks to serve their customers electronically. Banks have traditionally been in the forefront of adapting technology to improve their products and services (Aladwani, 2001).

Kenya has tremendously embraced M-banking and use of ATMS to carry out banking operations. Customers can check current account, saving account, transfer money and make their payments. Online banking usage is becoming very common due to the increase of usage of computers and mobiles which avail the transfers. Despite doubts at its first introduction, customers took time to adjust their activities to this technology. On the other hand, there were some uncertain thoughts whether e-banking is seen more as a supplement rather than a substitute product. In mid-2005, Kenya's banking Industry moved a milestone by introducing Real Time Gross and Settlement system (RTGS) which was renamed Kenya Electronic Payment and Settlement system (KEPSS). This has facilitated the inter-bank financial data transfer. The development of e-banking services is expected to decongest banking halls and reduce the incidences of long queues in banking halls. Digital- based financial services have made a significant contribution in covering the cost of offering financial services.

Nevertheless, the majority of banks in Migori County nowadays are offering E-banking and costumers most importantly find it useful. E-banking was initiated as a different way of banking and less expensive. In the customers' perspective, it meant less time is spent in carrying out transaction. The majority of costumers at the beginning were confronted with some difficulties but after later it was very well comprehended; whereas from the banks point of view they incurred some initial expenses and feared for a big loss. According to some studies, results for adoption of e-banking generally would come after two or three years.

Online banking platforms Kenya support account aggregation to allow the customers to monitor all of their accounts in one place whether they are with their main bank or with other institutions. Banking through internet is considered as a complimentary delivery channel for the services rather than a substitute. Internet has changed the dimensions of competition in the retail banking sector. Following the introduction of PC banking, ATMs and phone banking, western union, credit cards, which are the initial cornerstones of electronic finance, the increased adoption and penetration of Internet has added a new distribution channel to the banking sector: Internet/Online-banking and e-mail banking. Internet banking has gained worldwide acceptance as a new delivery channel for performing various

banking transactions. In Migori county It provides the opportunity to the customers to conduct banking transactions at their convenience. There are two ways to offer Internet banking. First, an existing bank with physical offices can establish a website and offer Internet banking in addition to its traditional delivery channels. Second, a bank may be established as a “branchless,” or “Internet-only,” or “virtual” bank (DeYoung, 2001, Allen *et al.* 2002, Steven, 2002)

The widespread availability of Internet banking is expected to affect the mixture of financial services produced by banks, the manner in which banks produce these services and the resulting financial performances of these banks. This therefore is seen by banks as a better means to serve its wide and ever-growing customer base with quality service, fast, efficient and convenient manner. It is also believed to create a good revenue to banks thus leading to profitability. In addition, industry analysis outlining the potential impact of electronic banking on cost savings and risk profile of the banks have also generated considerable interest and speculation about the impact of the electronic system on the banking industry. (Berger, 2003, Karjaluoto, Mattila and Pento, 2001, Simpson, 2002).

Electronic banking through traditional banks enables customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan applications. Customers can access account information at any time, day or night, and this can be done from anywhere. Internet banking has improved banking efficiency in rendering services to customers.

ICT is at the centre of this global change curve of electronic banking system today. A study of information of e-business (Stevens, 2002) asserted that banks have over the time been using electronic and telecommunication networks for delivering a wide range of value added products and services. Managers in banking industry cannot ignore information systems because they play a critical impact in current banking system, they point out that the entire cash flow of most fortune banks are linked to information system. The application of ICT concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitive banking.

Statement of the problem

Financial performance cannot be underestimated. It is a very paramount objective of every firm. It is for this reason that commercial banks have adopted electronic banking technology so has to be at the competitive side of the economy. Embracing technological changes at times may seem to be lucrative but if their returns on assets and equity is not financially analysed against its initial installation and maintenance cost it may be financially unprofitable at the long run.

In Migori banking sector has witnessed many changes since the beginning e-banking. In line with rendering qualities and acceptable services, most banks in Migori are investing large sum of money in E-Banking. A number of studies have concluded that E-Banking has positive effects on bank services delivery to customers that may lead to bank productivity, banking transaction and banking investment,

(Balachandher, 2001). Service delivery and transaction systems in place contribute and determine customer retention, loyalty and customer base growth. Electronic banking platforms currently used in Migori County include PC banking, ATMs, western union services, credit cards, e-mail banking such as PayPal system, phone and mobile banking: M-pesa, airtel money, orange money, Eazzy24 application, and so many others. Commercial banks put all these in place so as to give different services to customers for client’s satisfaction, quality improvement of services, Facilitating handling official issues and better human resource management. One problem associated with this financial innovation is card fraud, particularly on counterfeit cards. Fraudulently authorized EFTs and RTGSs are the other avenues through which financial losses occur as customers utilize these avenues of service delivery. Frequent system failure especially on ATM machines has also been of concern. The commercial banks invest a lot in ensuring security and customer protection. The question raised is how does the cost of maintenance and management of the e-banking affect financial performance of commercial banks? Currency exchange is another factor that the commercial banks in Migori County have to handle with financial care for profit maximization and mostly require much use of E-banking therefore the return to assets has to be analysed. This led to question, what effect does electronic banking has on the Net profit of commercial banks?

General objective

To determine the effects of electronic banking on financial performance of commercial banks in Migori County

Significance of the study

This research will therefore help in decision making on whether electronic banking has an influence on financial performance of commercial banks and therefore banks should increasingly adopt it or change their strategies on the technological advancement and innovation in the banking sector.

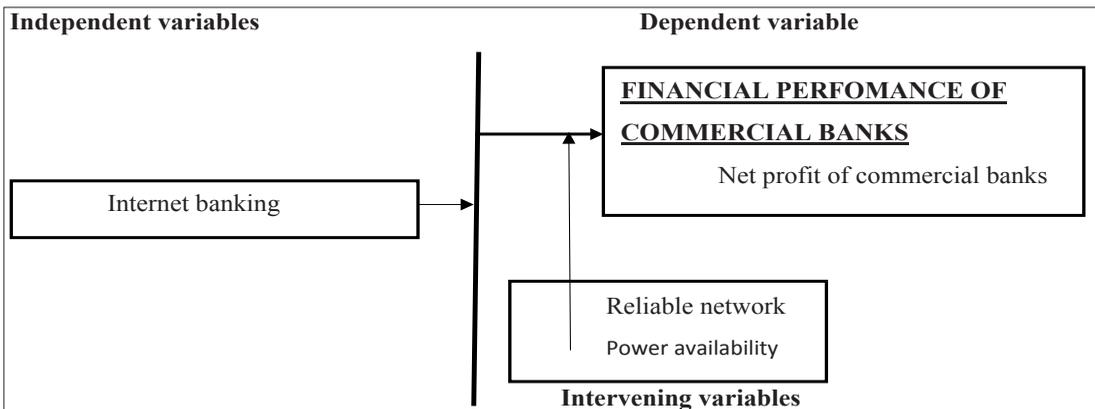


Fig. 1: Conceptual Framework

The above concept implies that E-banking types such as Mobile Banking, Internet Banking and Electronic Card Banking affects banks profitability, liquidity, asset quality, earnings, and risk management especially if other factors remain constant and this factors include network coverage, reliable internet service provider, power supply and many other connections

LITERATURE REVIEW

Delegated Monitoring Theory

Andries (2008) in his theory he based on two premises namely diversity of the investment projects, that explains why it is more advantageous to delegate monitoring towards an intermediary than to have it be performed individually by creditors; and secondly, intermediaries who perform the monitoring of debtors are bigger which allows them to finance a large number of debtors. This theory was important to this study in that it explained the reason why commercial banks exist. It aided in understanding why commercial banks needed to focus on very particular goals given that they are just agents. The banks, like any other business, go to any length to ensure that they lives to fulfil their purpose of being established. In the context of this study, the reason why the commercial banks have to incur exceeding high costs in order to ensure customer satisfaction and enhance their performance is explained by this theory.

Financial Intermediation Theory

Gurley and Shaw 1960 established the financial intermediation theory which they based on the theory of informational asymmetry and the agency theory. In principle, the existence of financial intermediaries is explained by the existence of the following categories of factors: high cost of transaction, lack of complete information in useful time assumptions there is perfect market where no one participant can influence the prices; the placement/borrowing conditions are identical for all participants; there are no discriminatory fees; the lack of competitive advantages at the level of participants; all financial securities are homogeneous, dividable and transactional; there are no transaction costs for obtaining information or of insolvency; all participants have immediate access to the complete information regarding the factors and elements that can influence the current or future value of the financial instruments.

The financial intermediation theory highlights the role of financial intermediaries in economy; most of the studies performed highlight their role in achieving a durable economic growth, and the impact of regulations on financial intermediation, stressing the role of the central bank in the regulation, supervision and control of financial intermediaries. This theory assisted in analysing the transactions behaviour of commercial banks, and how it affected their financial performance.

Technology Acceptance Model

One of the well-known models related to technology acceptance and use is the technology acceptance model (TAM), originally proposed by Davis in 1986. TAM has proven to be a theoretical model in helping

to explain and predict user behaviour of information technology (Legris, Ingham, & Collette, 2003). TAM is considered an influential extension of theory of reasoned action (TRA), according to Ajzen and Fishbein (1980). Davis (1989) and Davis, Bagozzi, and Warshaw (1989) proposed TAM to explain why a user accepts or rejects information technology by adapting TRA. TAM provides a basis with which one traces how external variables influence belief, attitude, and intention to use. Two cognitive beliefs are posited by TAM: perceived usefulness and perceived ease of use. According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioural intentions, attitude, perceived usefulness of the system, and perceived ease of the system.

TAM also proposes that external factors affect intention and actual use through mediated effects on perceived usefulness and perceived ease of use. TAM has evolved over time. TAM2 extended the original model to explain perceived usefulness and usage intentions including social influence (subjective norm, voluntariness, and image), cognitive instrumental processes (job relevance, output quality, and result demonstrability) and experience. The new model was tested in both voluntary and mandatory settings.

Internet banking on financial performance

Siam (2006) investigated the role of electronic banking services on the profits of Jordanian banks. He investigated the reasons behind providing electronic banking services through the internet and their impact on banking services in general and banks profitability. The study was done in 20 commercial banks operating in Jordan. The sample period was between 2003 and 2006 and they interviewed 98 managers. Accounting data was used to measure banks performance using regression analysis. He concluded that the effect of electronic banking services on banks profitability is negative in the short run because of costs and the investments the bank carry in order to have the technical and electronic infrastructure in place, training the employees to be skilled and competent but will be positive on the long run. Jordanian people are conservative as opposed to Kenyans who are widely known to be technology savvy. It was therefore important to investigate whether many of the innovations in e-banking adopted by commercial banks in Migori County has an effect in their financial performance.

Malhotra and Singh (2009) studied the impact of internet banking on bank performance and risk in India. The study was done on 85 commercial banks over the period 1998-2006 which represented nearly 39 per cent of total scheduled commercial banks in India. Using information drawn from the survey of 85 scheduled commercial bank's websites, the results showed that nearly 57 per cent of the Indian commercial banks are providing transactional Internet banking services. The univariate analysis indicated 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 revealed that the profitability and offering of internet banking does not have any significant association, on the other hand, internet banking has a significant and negative association with risk profile of the banks. Since the study was based on only internet banking it was important to extend the study to cover other forms of electronic banking.

Onay (2008) studied the impact of internet-banking on banks profitability in Turkey. The analysis covered 13 banks that had adopted online banking in Turkey between 1996 and 2005. By using bank specific and macroeconomic control variables, they investigated the impact of internet banking on the return on assets(ROA) and equity(ROE), the interest spread, overhead expenses and on commission and fee income controlling for systemic bank crises in the country during the timeframe. The study included time-lagged measures of internet banking adoption to exhibit the changes in effect over time. The results showed that internet banking starts contributing to banks' ROE with a time lag of two years confirming the findings while a negative impact is observed for one year. The results provided some evidence that investment in e-banking is a gradual process. It was important to carry out a similar research in Kenya since Turkey is an advanced economy compared to Kenya.

Use of electronic cards and ATMs convenience, cost reduction, speed, security and accessibility

According to Kuchara Varsha (2012) Convenience, security, easy to maintain banking transaction, curiosity, better rate and low service charges are major factors responsible for internet banking. The study found out that 50 per cent of respondents agreed that internet banking is convenient and is definitely a flexible way of banking and has various transaction related benefits.

Devadevan (2013), in his study identifies the mind set and analyses the security issues in Mobile banking among the banking customers in India. Primary data was collected from 65 respondents using online questionnaire in this study. Secondary data was also used from the website of Telecom Regulatory Authority of India (TRAI). The findings indicate that most of the respondents are using online banking facility from their respective banks. However around 25 per cent of customers are using Mobile banking and remaining 75 per cent are not. The majority of the online banking users are comfortable without using the Mobile banking facility and they are also interested to test the facility. The rapid technology development in Mobile technology like 2G, 3G, and 4G has become major challenges for banks and it was found that customers also feel there are chances of misuse in Mobile banking due to mobile handset theft.

Gikandi and Bloor (2010) investigated adoption and effectiveness of electronic banking in Kenya. The results showed that there was a drastic shift in the importance attached to some e-banking drivers between years 2005 and 2009. In the 2005 survey, the number of other retail banks adopting e-banking was considered as a driver of medium importance by 70% of the banks, however, in the 2009 survey it was ranked among the extremely important drivers by a 100% of the banks. Similar observations were made in the case of competitive forces. Internet security was identified as the most important future challenge in e-banking while customer trust, privacy and awareness were recognized as challenges of great importance. The study concluded that cost reduction and customer related factors have emerged as the main drivers of e-banking adoption in Kenya. Mobile banking growth is expected to continue. Carrying out a similar investigation was good to find out if there has been any change with the increase in competition among commercial banks in Kenya and changes in the regulatory environment.

RESEARCH DESIGN AND METHODOLOGY

Research Design

According to C.R. Kothari (2008, 2nd Ed.), research design is the arrangement of conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economic in procedure. It is in real sense the conceptual structure within which research is conducted, it constitutes the blueprint for the collection, measurement and analysis of data as such the design includes an outline of what the researcher did from writing the hypothesis and its operational implications to the final analysis of data.

The researcher used a descriptive research design, where qualitative and quantitative approach was used. In quantitative approach the researcher employed data in form of effect of e-banking on financial performance of commercial banks, the contribution of e-banking to performance of commercial banks, the return on asset as a result of embracing e-banking, challenges faced by commercial banks of Migori for adopting e-banking system and performance of commercial banks for the last five years. Qualitative was used to describe the activities and effect of e-banking on performance of commercial banks in Migori County. Both qualitative and quantitative data was collected from the heads of electronic banking and their line staff. A descriptive study attempts to describe or define a subject, often by creating a profile of a group of problems, people, or events, through the collection of data and tabulation of the frequencies on research variables or their interaction (Cooper and Schindler, 2011). Cooper and Schindler suggests that descriptive studies is part of a quantitative research design, whose aim is to determine the relationship between an independent variable and another dependent or outcome variable in a population, establishing the associations between variables and the causality. For this study, the design involved determining the causal effect of electronic banking (independent variable) on financial performance of commercial banks in Migori County (dependent variable).

Target Population

Kothari (2004) notes that population is a total collection of elements with apparent characteristics which can be used to make inferences. According to Mugenda (2008), target population is the total population that the researcher specifies in his or her research. The target population for this study comprised of all the heads of electronic banking and their line staff in every commercial banks in Migori County. The research used purposive sampling to select the banks at Kehancha, Ntimaru, Kegonga, Migori, Rongo and Sirari Town. This method was considered appropriate because the population of interest was homogenous.

Sampling technique

The sample size is the number of respondents the researcher selects from the target population to constitute a sample that fulfils the requirements of representativeness of the target population (Kothari, 2008).

To determine the sample size, the Yamane (1967) formula was used thus, $n = N / (1 + Ne^2)$ that gives 95% confidence level.

Where, n = required responses

N = population size

e = sampling error limit (the level of precision at 95% confidence)

$N = 80$

$e = 0.05$

1 = Designates the probability of the event occurring

Sample size

Placing the Yamane (1967) formula for Migori County yielded a sample size of;

$$n = n = N / (1 + Ne^2)$$

$$n = 80 / (1 + 80 * 0.05^2)$$

$$n = 66.6666667$$

$$n \approx 67$$

Table 1: Sample Frame

Population	Frequency	Ratio	Sample Size
KCB	13	0.84	11
EQUITY	13	0.84	10
DTB	13	0.84	11
NBK	13	0.84	11
BARCLAYS	14	0.84	12
COOPERATIVE	14	0.84	12
TOTAL	80	0.84	67

The sample size for Migori County was 67 heads of electronic banking and their line staff. For sampling procedure, proportional sampling was applied to calculate the independent sample size for each bank that ensured equal representation of bank officials from the six commercial banks since each had a different number of staff involved in e-banking operations. This was followed by simple random sampling in selection of the required bank officials according to the sample size. This method of simple random sampling is also called the lottery method and is convenient for the studies involving small samples as it can be tiring when large samples are involved (Mugenda, 2008). A list of bank officials in Migori County was prepared, which gave rise to 67 bank officials who were issued with questionnaires for the study.

Validity and reliability of the data collection instrument

Validity of the research Instruments

Validity is the accuracy and meaningfulness of inferences which are based on the results and the degree to which the results obtained from the analysis of data actually represent the phenomenon under study (Mugenda and Mugenda, 2002). Validity also refers to the extent to which an instrument asks the right questions in terms of accuracy. The researcher consulted supervisor and lecturers who are specialists and experts in the Department of research and projects planning and who are experts in item analysis and research methodology. The relevance of the contents in the questionnaires was assessed and opinions given and suggestions that were incorporated and ensured the validity of the questionnaires.

Data Analysis and presentation

Data presentation

The study used Statistical Package for Social Sciences and Microsoft Excel in data analysis. The paired t-test, a non-parametric test of differences developed by Sir Williams Gosset (Mugenda & Mugenda, 1999) 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 electronic banking on the financial performance of commercial banks in Migori County, the researcher conducted a correlation analysis using the Pearson correlation model. This model was based on Muteteri (2015) in studying the relationship between electronic banking and financial performance of Bank of Kigali by looking at the wider electronic banking.

Data presentation

Analysed data was presented using narrations, tables and line-graphs. This is because tables and line-graphs were and are easy to follow and understand the full information they contain. It also enables the users of such information to have easy time when interpreting the data for decision making. Narration helped in clarifying and supplementing the information obtained in the tables. It further gave the point of view of the respondents concerning the research.

RESEARCH FINDINGS AND DISCUSSION

Electronic Banking Tools used by commercial Banks of Migori

Application of E banking by commercial Banks in Migori County

Table 2 shows respondents views on different ways commercial Banks of Migori applies e-banking.

Table 2: E-banking tools used by the bank

		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	ATM services	15	26.8	26.8	26.8
	Internet banking services	11	19.6	19.6	46.4
	Debit card banking Service	2	3.6	3.6	50.0
	Mobile Banking Services	17	30.4	30.4	80.4
	E-mail Banking Services	11	19.6	19.6	100.0
Total		56	100.0	100.0	

Source: Primary data, 2017

Table 2 shows application of E banking in banks of Migori, 26.8% of the respondents says the bank applied E banking through ATM services, 3.6% slip free banking, 30% mobile banking, 19.6% use E-mail banking services and 19.6% internet banking. This implies that banks of Migori applies electronic banking in different ways ranging from mobile, internet, Debit card and electronic cards. This is a good sign of service delivery to the customers and improves bank performance forthwith especially if well utilized.

Table 3: Types of E banking in Banks of Migori County

Types of e banking tools used in Migori County	Response									
	Strongly agree		Agree		Disagree		Strongly Disagree		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
ATM	15	27.79	41	72.21	—	—	—	—	56	100
Pay direct	17	30.35	39	69.65	—	—	—	—	56	100
Visa or Debit card	20	35.71	36	64.29	—	—	—	—	56	100
Mobile bank	27	48.21	29	51.79	—	—	—	—	56	100
Electronic pay check system	23	41.07	33	58.93	—	—	—	—	56	100

The Table 3 shows the perceptions of respondents on types of E- banking in commercial banks of Migori and their responses were as follows.

Presentation on ATM shows that all the respondents (100%) agreed that ATM is used by clients of banks of Migori. This means that ATM is one of the E banking services commonly used by clients of commercial banks of Migori County as it is unanimously accepted by the respondents. ATMs are electronic terminals that let you bank almost any time. To withdraw cash, make deposits, or transfer funds between accounts, you generally insert an ATM card and enter your PIN. Therefore it provides convenience in banking.

The Pay direct is another type of E banking used commercial banks of Migori County and as seen in the presentation in Table 5, where all the respondents accepted. Direct Deposit lets you authorize specific deposits, (like paychecks and Social Security check and other benefits) to your account on a regular basis. You also may pre-authorize direct withdrawals so that recurring bills (like insurance premiums, mortgages, utility bills, for Consumers) are paid automatically.

The Mobile banking was represented by 100%, meaning that respondents agreed that mobile banking solutions are used by commercial banks of Migori County. Pay by-mobile phone Systems let you call your financial institution with instructions to pay certain bills or to transfer funds between accounts. You must have an agreement with the institution to make such transfers (Simpson 2002). The banks have linked with service providers such as Safaricom where client can easy carry transaction via M-pesa by sending and receiving money within and outside the country. There are many M-pesa agents in the country that allow clients to access liquid cash thus creating convenience to clients. Other mobile transactions via various mobile applications that are linked to the banks and the mobile service providers such as Safaricom, Airtel and Orange.

All the respondents (100%) accepted that commercial banks of Migori County uses Visa or debit card is used for deposit and withdrawals from the bank. Debit Card Purchase or Payment Transaction let you make purchases or payments with a debit card, which also may be your ATM card. This could occur at a store or business, online, or by phone. The process is similar to using a credit card, with some important exceptions (Fox and Beier, 2006).

While the process is fast and easy, a debit card purchase or payment transfer's money – fairly quickly– from your bank account to the company's account. So it's important that you have funds in your account to cover your purchase. This means you need to keep accurate records of the dates and amounts of your debit card purchases, payments, and ATM withdrawals. Also be sure you know the store or business before you provide your debit card information to avoid the possible loss of funds through fraud.

Lastly, the respondents also stated that electronic check payments are used by commercial banks of Migori County client who implies for example it is used in bill payment and e shopping from supermarket. Electronic Check Conversion converts a paper check into an electronic payment or when a company receives your check in the mail. When you give your check to a cashier, the check is run through an electronic system that captures your banking information and the amount of the check. You're asked to sign a receipt and you get a copy for your records (Fox and Beier, 2006). When your check is handed back to you, it should be voided or marked by the client so that it can't be used again. The merchant electronically sends information from the check (but not the check itself) to your bank or other financial institution, and the funds are transferred into the clients account.

In general it can be concluded that commercial banks of Migori County have varieties of e banking services for their clients in order to provide effective and efficient service delivery.

4.2 Performance of commercial banks in Migori County

Ascertaining performance of commercial banks in Migori County for the last 5 years

Table 5 shows how commercial banks in Migori County have been performing for the last five years.

Table 5: Performance measure after the adoption of e-banking

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	4	7.1	7.1	7.1
	Very Good	34	60.7	60.7	67.9
	Good	18	32.1	32.1	100.0
Total		56	100.0	100.0	

Source: Primary Data, 2017

All the respondents (100%) stated that performance of commercial banks in Migori County for the last five years was good. This implies that the bank has been performing well for the last five years.

Return on Asset

Fig. 2 indicates that the mean in return on asset for the year 2012 was sh. 2.5 millions. The trend declined in the year 2013 to 2.370053 and rose in the year 2014 to 3.745783.

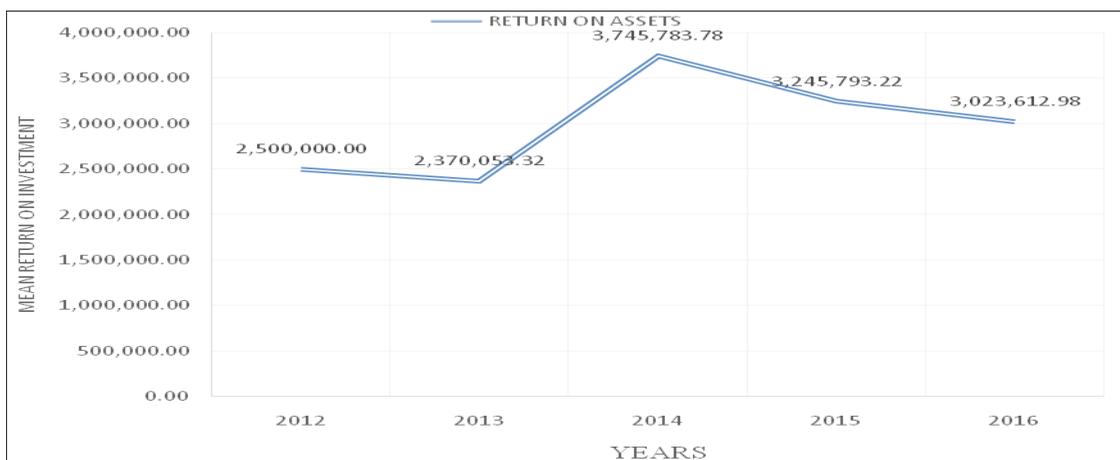


Fig. 2: Return on assets for the last 5 years

The mean return on asset in the year 2015 declined to 3.245793. It shows that the trend went down in the year 2016 to the mean of 3.023612. Overall, the trend in return on asset from the year 2010 has been declining in the banking industry

Relationship between E banking and performance of commercial banks in Migori County

Table 6 shows relationship between E banking and Performance of commercial banks in Migori County.

Table 6: Correlations

	Relationship between E banking Performance for the last 5 years	E-banking	Performance for the last 5 years
E-banking	Pearson Correlation	1	.752
	Sig. (2-tailed)		.001
	N	56	56
Performance for the last 5 years	Pearson Correlation	.752	1
	Sig. (2-tailed)	.001	
	N	56	56

***.* Correlation is significant at the 0.05 level (2-tailed).

The Table 6 is giving the relationship between E banking and Performance of commercial banks in Migori County whereby the respondents N is 56 and the significant level is 0.05, the results indicate that independent variables have positive high correlation to dependent variable equal to .752** and the p-value is .001 which is less than 0.05. When p-value is less than significant level, therefore researchers conclude that variables are correlated. This means that there is a significant relationship between E banking and Performance of commercial banks in Migori County. As conclusion E banking contributes to positive performance of banks as witnessed by commercial banks in Migori County.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Electronic Banking Tools used by commercial banks of Migori

Presentation shows that the banks had different e banking types namely ATM which one of the E banking services commonly used by e banking by the clients of commercial bank of Migori. Others are Internet banking which lets you carry transactions across networks within the country and even outside and other recognized software to your account on a regular basis. The Mobile banking which let you call your financial institution with instructions to pay certain bills or to transfer funds between accounts but you must have an agreement with the institution to make such transfers (Simpson, 2002). It also allow transfer of funds from one account to another, buying good using the cash in the account via the phone, settlement of business payment using the mobile, borrowing from the bank into the phone,

withdrawals via bank agents, direct savings via the phone and even checking bank balance using the mobile phone. The banks have partnered with local service providers to offer such services so as to ensure customers get the utmost service required.

Debit Card Purchase or Payment Transaction let you make purchases or payments with a debit card, which also may be your ATM card. This could occur at a store or business, online, or by phone. The process is similar to using a credit card, with some important exceptions (Fox and Beier, 2006). While the process is fast and easy, a debit card purchase or payment transfer's money – fairly quickly – from your bank account to the company's account. So it's important that you have funds in your account to cover your purchase.

Lastly e-mail banking and electronic check payments that converts a paper check into an electronic payment or when a company receives your check in the mail. When you give your check to a cashier, the check is run through an electronic system that captures your banking information and the amount of the check. E-mail banking uses paypal to transfer funds from accounts world-wide and help clients who deal in international business to carry out business smoothly. Equity Bank has shown to be leading in the use of paypal e-mail fund transfer system as compared to other banks.

In general it can be concluded commercial banks of Migori have varieties of e banking services for their clients in order to provide effective and efficient service delivery. This different electronic banking promotes effectiveness and efficiency in service delivery since clients can be able to withdraw and deposit money, authorizes payment and check account balance at ease.

Performance of commercial banks of Migori

All the respondents (100%) stated that performance of commercial bank of Migori for the last five years was good. The results of study demonstrated that the mean of return on assets for the commercial banks has been declining from the year 2014. The decrease can be attributed to volatile interest rates and liquidity crisis that has been experienced in the banking industry in the last two years. The volatility in interest rates has resulted in commercial banks paying high interest rates for deposits hence lowering the profit margins. Despite the fact that commercial banks assets have been steadily increasing, the return on the assets has been declining. The ratios indicate that management' efficiency in using the assets to generate income has generally been declining over time.

Conclusion

It should be noted that electronic banking plays a great role in financial performance of commercial banks of Migori. Different electronic Banking System tools like ATM, Internet banking, mobile phone banking, debit/visa card payment and E electronic check payment has a great impact on bank performance because they increase profitability, return on invest, improves bank management quality, increase bank asset and promotes bank growth and expansion. For the case of commercial banks of Migori, the great contributions. The relationship between E banking and Performance of commercial

banks in Migori county whereby the respondents N is 56 and the significant level is 0.05, the results indicate that independent variable has positive high correlation to dependent variable equal to .752** and the p-value is .001 which is less than 0.05. When p-value is less than significant level, therefore researchers conclude that variables are correlated and null hypothesis is rejected and remains with alternative hypothesis. This means that there is a significant relationship between E banking and Performance of commercial banks in Migori county. As conclusion E banking contributes to positive performance of banks in spite of few challenges like security concern, inadequate skills and cultural reluctance poses a great threat to the confidentiality and integrity of banks information.

Recommendation

1. The bank should put more measure to curb security threat and provide confidence for effective and efficient service delivery.
2. The bank should employ skilled personnel with more experience on network management in order to ensure the reliability of network quality service. This can be achieved through training and development.
3. The bank management should establish county wide training and awareness for clients on usage of various e business applications for efficient performance of the bank. For example training on ATM and VISA usage, internet banking, and mobile banking and so on.
4. The bank should keep on upgrading their e banking technology in order to have an up to date system for effective service delivery.
5. Constant power back up should be ensured on order to solve the problems of power interruptions and fluctuations.

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