ELECTRONIC BANKING AND BANK PERFORMANCE

CASE STUDY: CENTENARY BANK

Mbarara Branch

NALUNKUMA BRIDGET

2013-B021-10151

UGANDA MARTYRS UNIVERSITY

JUNE, 2016

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An undergraduate dissertation presented

To the Faculty of Business Administration and Management

In partial fulfillment of the requirements for the award of the Bachelors

Degree in business administration and management

Uganda Martyrs University

NALUNKUMA BRIDGET

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JUNE, 2016

DEDICATION

I dedicate this research to my late parents Mr. and Mrs. Kibuuka Christopher, Mr. Kalema Peter and as well as my relative and friends who contributed to the completion as well as compilation of this research in any way. I would further like to thank them for each and every thing they have done for me through their reliable moral, knowledge and financial support which has enabled me complete this course. God bless you all.

ACKNOWLEDGEMENTS

I express my sincere gratitude to all the persons who contributed to the completion of this research paper.

As I complete this research paper, it is in order to express my sincere gratitude. First, I would wish to acknowledge my supervisor Mr. Kalema Peter for his tireless work done because it was not easy. His input and guidance has highly been commendable in this research.

Special thanks to ma friends who really put in a lot of effort to see that I accomplish my academic research that is spiritually, physically and materially thank you very much for always being there for me.

Many thanks go to ma guardians Mr. and Mrs. Regina Mukiibi Mugongo for the financial support rendered to me and the inspirations in my life may God blesses you abundantly.

I would also to give my thanks to the management of centenary bank Mbarara branch who accepted me to conduct research in their bank.

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LIST OF ABBREVIATIONS

E-banking Electronic banking

PC-banking Personal Computer banking

EFT Electronic Fund Transfer

ICT Information Communication Technology

ATM Automated Teller Machine

IT Information Technology

SPSS Statistical Package for Social Sciences

PIN Personal Identification Number

WAP Wireless Application Protocol

KEPPS Kenya Electronic Payment and Settlement

EG Example

UCC Uganda Communications Commission

E World Electronic World

M banking Mobile banking

SMS Short Message Service

ABRSTRACT

The study was about E-banking and Bank Performance and the case study was Centenary Bank Mbarara branch and data was collected by the researcher with the aim of finding out the extent to which E-banking has affected the performance of the bank.

The study comprised of variables which included E-Banking as the independent variable and bank performance being the dependent variable. The independent variable had measures such as ATM, Mobile banking, PC banking and internet banking while the dependent variable had measures such as turnaround time, number of customers, profitability. The specific objectives for the study were: to determine the profits earned by bank through the ATM, Mobile banking, and PC banking, to determine the turnaround time for customers while accessing services when using ATM, PC banking and Mobile banking, to determine the number of customers who access banking services using ATM, Mobile banking, PC banking, to determine the factors that affect the delivery of banking services using ATM, Mobile banking, PC banking.

The data was collected from the staff of Centenary bank Mbarara branches well as the customers/clients. The methods that were used for the survey were primary and secondary techniques while some of the data representation was by IBM SPSS Statistics version 20

The findings identified centenary bank provides the E-banking services such as Automated Teller Machine, Mobile banking and PC banking. The findings also revealed the bank has improve on some of its challenges such as network failure, cards getting stuck in the machines, training the clients on how to use the system.

In conclusion, the study concluded that E-banking has a positive impact on the bank performance through the profitability, increased number of customers, and the turnaround time since the clients can access the banking services 24hours.

CHAPTER ONE
INTRODUCTION

1.0 Introduction

Explosive growth in Information and Communication Technology (ICT) has narrowed the digital divide and turned business sphere into an electronic world (e-World). Internet technology has brought about a paradigm shift in banking operations to the extent that banks embrace internet technology to enhance effective and extensive delivery of wide range of value added products and services.

Information technology has influenced almost every fact of life and among them is the banking sector. The introduction of electronic banking has improved the ways banks were operating. As technology is now considered as the main contribution for the organizations' success, the banks are investing more on providing on the customers with the new technologies that is through e-banking. PC banking, mobile banking, ATM, online banking is some of the services provided by banks. Also the feature which is commonly unique to internet banking includes importing data into personal accounting software. Some online banking platforms 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 for the brick and mortar banking branches

1.1 Background of the study

Banking has never been more important to our society than it is today. The advance of communication and computer technology and the availability of the Internet have made it possible that one can do most banking transactions from a remote location even without stepping into a physical financial structure - that is, the emerging of e-banking (Bruene, 2002). The way Bill Gates (2008) announced that banking is essential, banks are not. This quotation means that the traditional bank branch is going to vanish in order to be surrogated by electronic banking which continues to attract new users. The banking industry believes that by adopting new technology, the banks will be able to improve customer service level and tie their customers closer to the bank. Meanwhile, the banking industry has been also looking for new methods to

expand its customer base and to counteract the aggressive marketing effort of those non-traditional banking entities (Graven, 2000).

Larger banks that maintain expensive branch networks tend to have the greatest incentive to adopt e-bank performance. In comparison, smaller banks have higher start up costs and tend to have a high initial technological cost in developing e-bank performance (Treadwell, 2001). Many banks quickly realized that there are a momentous number of customers who like to do banking electronically. The application of e-banking has been proven as an effective way to reduce the costs of operation for the financial institutions. For instance, e-bank performance will allow banks to reduce expenditures on physical structures. It is believed that the e-banking will help banks to cut costs, increase revenue, and become more convenient for customers (Halperin, 2001).

Another important benefit from e-banking is a more effective information collection and management. A combination of a low percentage of customers using e-bank performance on a consistent basis and a relatively low start-up cost in developing e-bank performance in the banking industry will make the impact of e-banking (positive or negative) quite limited on financial institutions (Marenzi et al., 2001). On another hand, e-bank performance could be highly demanded and desirable to accommodate the sudden, rapid growth that has occurred in other information-intensive industries such as travel and securities brokerage. Finally, the development of e-banking has encouraged the adoption of a decentralize approach to give banks more needed flexibility to distribute Internet access to a much larger number of employees and potential customers.

In the last few years, Nigerian banks have been witnessing tremendous success in the delivery of a wide range of value added products and services through e-banking and there have been evidences on increasingly acceptance of e-banking (Agboola, 2006; Ayo, 2010). Idowu, Alu and Adagunodo (2002) also observed that Nigerian banks have realized that the way in which they can gain competitive advantage over their competitors is through the use of technology (e-banking). Thus, there is growing rate of technology adoption in the Nigerian banking operations (Salawu & Salawu, 2007).

Kenyan banks have exponentially embraced the use of e-banking in their service provision. 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 consequently facilitated the inter-bank financial data transfer. The development of e-bank performance 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 (Daniel 1999).

In Uganda, electronic banking is becoming increasingly popular among retail banking customers. E-Banking helps in cutting costs by providing cheaper and faster ways of delivering products to customers. It also helps the customer to choose the time, place and method by which one wants to use the services and gives effect to multichannel delivery of service by the bank (Kolachi, 2006). This E-Banking is driven by twin engine of "customer-pull and Bank-push. Technology has been one of the most important factors for the development of mankind. Information and communication technology is the major advent in the field of technology which is used for access, process, storage and dissemination of information electronically. Banking industry is fast growing with the use of technology in the form of ATMs, on-line banking, Telephone banking, Mobile banking etc

One wonders whether all people are IT savvy to manipulate the technologies therein; failure of which such banks may lose money and clients at the same time. Most banks transact in English and involve a lot of bureaucracy together with common technologies like biometric scans. Such technologies have been manipulated at the expense of client's ignorance to perform dubious acts in the bank, which has been by both insiders and outsiders. Cases of such nature may also imply legal intervention because someone's privacy may be jeopardized unknowingly or even faked to release vital information that will otherwise pin him/her (Malhorta & Singh, 2004). If these indicators are not checked in time, the cardinal role of banks, keep and safe guard people's funds and avail them whenever required will cease to be because people will lose trust and consequently banks will lose business, causing more fatal cases e.g. attacks and robberies for which banks were designed to mitigate.

In Mbarara Municipality, such challenges have also been witnessed in Centenary bank. 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 and affects quality service delivery especially during end of month and during festive seasons when the service is most needed by customers. In addition, complaints have also been raised on failures at Point of Sale terminals in stores whenever access to the host bank fails, thus causing inconveniences to customers, sometimes leading to litigations (Luarn and Lin, 2005). This is an indication that the current e-banking has had both positive and negative effecting on the bank performance. Yet limited studies have been conducted in Uganda to ascertain the relationship between e-banking and bank performance. This research gap is being addressed in this study to find out the impact of e-banking on bank performance, taking Centenary Bank Mbarara branch as the case study.

1.2 Statement of the problem

In Uganda, the banking sector has witnessed many changes as a result of e-banking. In line with rendering quality and acceptable services, most banks in Uganda are investing large sums of money in information and communication. In the quest to improve their services, retain and attract customers, commercial banks have introduced innovative e-banking measures such as ATMs, internet banking, Mobile phone banking, electronic funds transfer among others to enhance customers' comfort (Daily Monitor 25th, February, 2010).

Despite of the many advantages of E-banking, the bank has faced challenges such as poor performance in the banking institutions and there are many doubts as to whether E-banking meets the bank needs and its satisfaction .this could be caused by complications in the banking process which makes it hard for customers and some bank officials to carry out the transactions and the daily operations of the bank. (Cybercitizen Finance study by the Cyber Dialogue).

Chunks of empirical studies exist in the literature on the performance of banks adopting e-banking in developed countries but no such studies have been carried out in Uganda. E-banking has cost and revenue implications for banks adopting it (Guru & Staunton, 2002; Berger, 2003). This research therefore aims at studying the effect of e-banking on the performance of banks in Uganda using Centenary bank Mbarara branch as the case study.

1.3 Main objective

To determine the contribution of E-banking to the performance of Centenary Bank Mbarara branch.

1.3.1 Specific objectives

- To determine the profits earned by bank through ATM machines, Mobile banking and PC banking.
- To determine the turnaround time for customers while assessing services when using ATM machines, Mobile phones and Personal Computers.
- To determine the number of customers who access banking services using ATM machines, Mobile Phones and Personal Computers.
- To identify the factors which affect the delivery of banking services using ATM machines, Mobile phones and Personal Computers.

1.3.2 Research questions

- What are the profits earned by centenary bank through e banking?
- What is the e-banking turnaround time for customers while accessing services?
- What is the percentage of bank customers who access banking services through ATM machines, mobile phones and Personal computers?
- Which factors affect the performance of e-banking in Uganda?

1.4 Scope of the study

The study was mainly intended to investigate the effect of e-banking on bank performance.

In terms of geographical scope, the study was limited to Centenary Bank, Mbarara branch as a case study. This was selected because it is one of the commercial banks in Uganda that has adopted e-banking with most of the related products in a bid to improve bank performance.

In terms of time scope, the study was limited to the period between 2014 and 2016. This period was thought to be adequate enough in establishing the effect of e-banking on the performance of Centenary bank Mbarara Branch.

The study will concentrate on the use of ATM machines, Mobile Phones and Personal Computers in provision and accessing of banking services. The study will investigate how these technologies contribute to the performance of the bank basing on profits, number of customers using these technologies and customer satisfaction by measuring the turnaround time.

1. 5 Significance of the study

The findings of this research will assist bank managers in making e-banking investment decisions.

The study will contribute to the existing knowledge on e-banking and bank performance in Uganda commercial banks. This will enable policy makers in the area of finance and banking to scrutinize the current e-banking and modify it to suit Uganda's financial market.

Future Researchers will also gain from the study by borrowing a leaf in form of related literature.

It will help in improving e-banking related operations of Centenary Bank.

This research is also a requirement for the award of a bachelor's degree in Business Administration and Management of Uganda Martyrs University to the researcher

1.6 Definition of the key terms

E-banking this is an electronic payment system that enables customers conduct financial transactions through the financial institutional website.

In this research, E-banking meant the delivery of the bank's information and services by the bank to the customers via the different platforms or the system.

ATM this is a computerized machine that permits the bank customers to gain access to their accounts with a magnetically encoded plastic card and a PIN number.

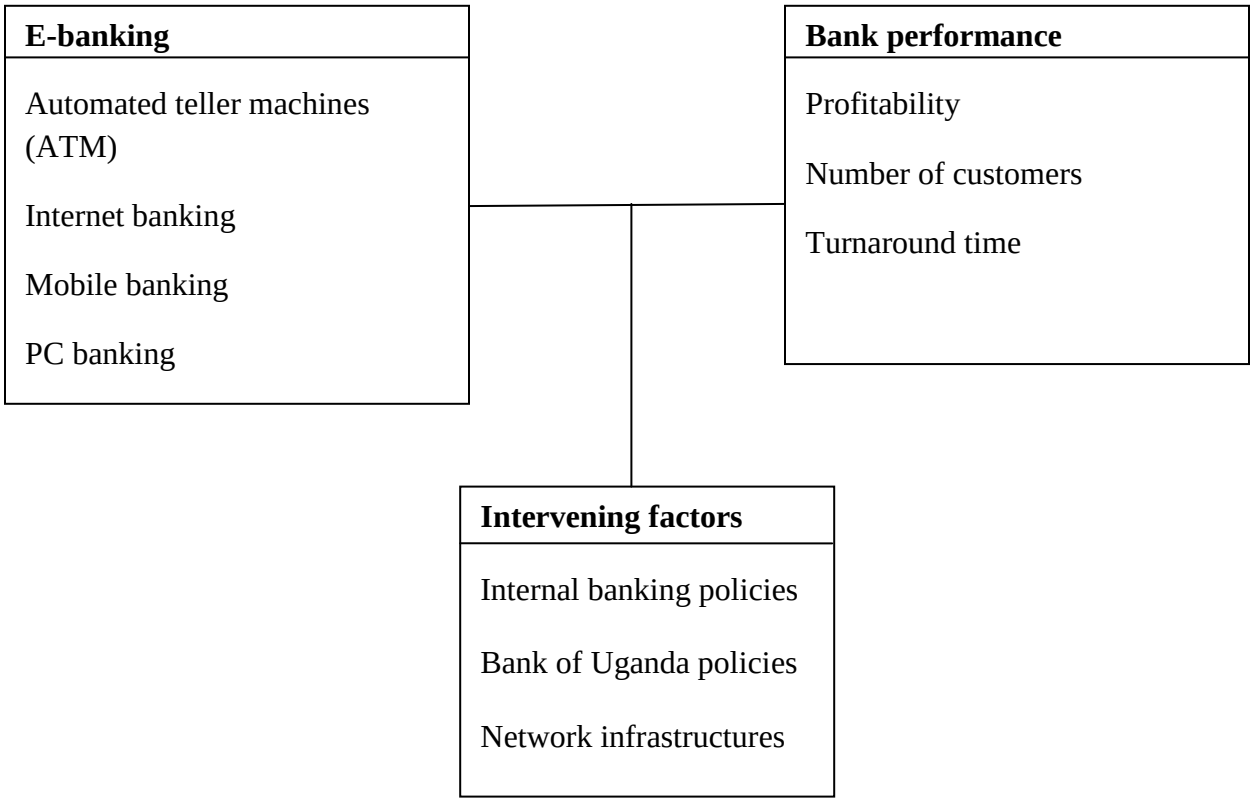
It enables customers to perform several banking operations without the help of the teller such as withdraw of cash, make deposits, and balance inquiry.

Mobile banking this allows the customer to review transactions, transfer funds, pay bills and check on account balances via the mobile device .Mbanking also offers enhanced security with SMS transaction notifications.

Profitability this is the ability of a company to use its resources to generate revenues in the excess of its expenses. In other words it is the company's capability of generating from its operations.

1.7 Conceptual framework

Independent variable **Dependent variable**



Source: Researcher's Innovation, 2016

According to the figure above e-banking is reflected in products such as Automated teller machines (ATM), internet banking, mobile banking and PC banking. This is later intended to improve bank performance through profitability, number of customers and turnaround time.

These variables are intervened by factors such Bank of Uganda policies, internal banking policies and network infrastructures. Government policy through Bank of Uganda policies affects electronic banking through UCC by influencing the availability of electronic networks which sometimes inconveniences the customers that are using e-banking. If the banks of Uganda policies are supportive, it will enable electronic banking to positively influence bank performance.

Internal banking policies, This affects both variables in if the internal policy encourages increased use of e-banking by promoting related products, then electronic banking is well promoted and this will lead to improved bank performance.

Network infrastructures, Network has been a challenge in the implementation of e-banking services and hence needs regular attention and use of highly efficient infrastructure to keep network stable. If this is done, the customers will enjoy e-banking and their confidence in the system will grow hence leading bank performance. The reverse will however be true once network infrastructures are rarely attended to deal quickly with related problems.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

In this chapter, attempts have been made to present and review information as presented by different scholars regarding e-banking and bank performance. The presentation of literature is thematically done following the study objectives. The researcher also identifies the gaps from the presented literature which the study intends to fulfill.

2.1 Overview of electronic banking

E-banking has been defined differently by researchers partly because e-banking services vary (Daniel, 1999; Sathye, 1999). For instance, Salehi and Zhila, (2008) indicated that e-banking involves an electronic connection between bank and customer in order to prepare, manage and control financial transactions of the customer by the bank. This type of banking has been found to be driven through the following channels: Internet banking, Telephone banking, and Mobile phone banking

Daniel (1999) defines electronic banking as the distribution of information and services by banks to customers via different delivery platforms that can be used with a personal computer or other intelligent devices. According to Karjaluto (2002) defines electronic banking as a construct that has several distribution channels. Keivani et al. (2012) describes electronic banking as most specialists agree that e-banking ensures 24-hour-a-day, 7-day-a-week accessibility through a type of advanced information system.

A common definition for electronic banking comes from the Basel Committee on Banking Supervision: “e-banking includes the provision of retail and small value banking products and services through electronic channels as well as large vale electronic payments and other wholesale banking services delivered electronically” (BCBS, 1998).

E-banking, a term used for new age banking system, represents an automated delivery of new and traditional banking services directly to customers through electronic, interactive

communication channels. It is a service that provides customers the opportunity to gain access to their accounts, execute transactions, and obtain information on financial services through a public or private network, including the Internet. There are several terms used in the literature all referring to one form or another of electronic banking: personal computer (PC) banking, mobile banking and the use of automated teller machines but they are often used interchangeably.

The term e-banking became popular in the early 1980's referring to using a computer to access banking service via a phone line. E-banking first appeared in New York in 1981, where it was offered by major banks in that city, such as Citibank, Chase Manhattan, Chemical and Manufactured Hanover. Banks from the United Kingdom started to adopt the concept in 1983 where the Bank of Scotland was the first to introduce it. The early electronic banking services were basic, covering services like viewing bank statements and paying bills online without being a full transaction banking service (Shannak, 2013). Electronic banking services have actually started to develop only since 1995, when the Maryland Presidential Bank, an American bank, allowed bank accounts to be opened online. In mid-2004, over 17% of Americans were already using electronic banking services.

With the electronic banking, the bankers can use the information technology to provide efficient and better services to their esteemed customers. E- Banking takes different forms for example phone banking, PC banking, automated teller banking and the internet banking.

E-banking also has channels where by the customers use them to get access to their accounts, transact businesses and also obtain the information concerning the financial services through the network which is the internet. Clients get e-banking services through using an intelligent device such as personal computers (PC), Automated Teller Machines (ATM), Mobile phones.

2.2 PC Banking

This is a form of banking that enables customers to perform bank transactions from a PC by providing a proprietary financial software program that allows the customer to perform financial transactions from his/her home computer using the internet. The advent of the Internet and the popularity of personal computers presented both an opportunity and a challenge for the banking industry (Abor, 2005). For years, financial institutions have used powerful computer networks to automate millions of daily transactions; today, often the only paper record is the customer's receipt at the point of sale. Now that customers can connect to the internet via personal

computers, banks envision similar economic advantages by adapting those same internal electronic processes to home use. Banks view online banking as a powerful value added tool to attract (Agboola, 2004) and retain new customers while helping to eliminate costly paper handling and teller interactions in an increasingly competitive banking environment.

To access a financial institution's online banking facility, a customer having personal Internet access should register with the institution for the service, and set up a password (under various names) for customer verification. Financial institutions now routinely allocate customer numbers (also under various names), whether or not customers intend to access their online banking facility. Customer numbers are normally not the same as account numbers, because a number of accounts can be linked to the one customer number. The customer will link to the customer number any of those accounts which the customer controls, which may be cheque, savings, loan, credit card and other accounts (Agboola, 2004). To access online banking, the customer would go to the financial institution's website, and enter the online banking facility using the customer number and password. Some financial institutions have set up additional security steps for access, but there is no consistency to the approach adopted.

Today, most large national banks, many regional banks and even smaller banks and credit unions offer some form of online banking, variously known as PC banking, home banking, electronic banking or Internet banking (Sathye, 1999). Those that do are sometimes referred to as "brick-to-click" banks, both to distinguish them from brick-and-mortar banks that have yet to offer online banking, as well as from online or "virtual" banks that have no physical branches or tellers whatsoever. The challenge for the banking industry has been to design this new service channel in such a way that its customers will readily learn to use and trust it. After all, banks have spent generations earning our trust; they aren't about to risk that on a Web site that is frustrating, confusing or less than secure. Most of the large banks now offer fully secure, fully functional online banking for free or for a small fee (Kolachi, 2006). Some smaller banks offer limited access or functionality; for instance, you may be able to view your account balance and history but not initiate transactions online. As more banks succeed online and more customers use their sites, fully functional online banking likely will become as commonplace as automated teller machines.

PC banking is also associated with Electronic funds transfer (EFT). This is the electronic exchange or transfer of money from one account to another, either within a single financial institution across multiple institutions, through computer-based systems. The term covers a number of different concepts which include Cardholder-initiated transactions, where a cardholder makes use of a card Direct, Payroll payment for a business to its employees, possibly via a bureau Direct, Payments, sometimes called electronic checks, for which a business debits the consumer's account for payment for goods or service. In the use of offline electronic money, the merchant does not need to interact with the bank before accepting money from the user. Instead merchants can collect monies spent by users and deposit them later with the bank. In principle this could be done offline, i.e. the merchant could go to the bank with his storage media to exchange e-money for cash (Malhorta & Singh, 2004). Nevertheless the merchant is guaranteed that the user's e-money will either be accepted by the bank, or the bank will be able to identify and punish the cheating user. In this way a user is prevented from spending the same funds twice. Offline e-money schemes also need to protect against cheating merchants, i.e. merchants that want to deposit money twice (and then blame the user). Blind signatures were used to achieve unlink ability between withdrawal and spend transactions in cryptography, e-cash usually refers to anonymous e-cash. Depending on the properties of the payment transactions, one distinguishes between online and offline e-cash. A hard electronic currency is one that does not have services to dispute or reverse charges (Alzaidanin, 2003). These PC related technologies have registered various successes and the challenges that come therein are counter balanced with other emerging technologies like mobile banking. Nonetheless, as technology proliferates, banks have to be vigilant in putting them to optimal use with keen consideration of cyber fraud and cyber laws.

2.3 Mobile banking

This is a system that allows bank customers to conduct different financial transactions through a mobile device, being the newest service in electronic banking; mobile banking relies on WAP technologies since a mobile device requires a WAP browser installed in order to allow access to information.

According to Bc.Rrezarta (2014), mobile banking is categorized in to two different types that is phone banking and mobile banking which belong to classic and modern developments of the

phone. Phone banking was the first type of banking where customers used to call the banks and with some preliminary question making sure that the caller was the owner of the account. They could ask for current balance, make payments and transfer. While today the mobile phone is more effective since the customer himself makes the operations. Customers even feel more secure while using the mobile banking. The mobile phone further operates 24hours through which the customer can pay, transfer and check balances everywhere and any time.

Electronic banking in an offshoot of ICT, and it provides the classic and current means of banking. In other words, it is ICT that brought about electronic banking services that are conducted on the platform of mobile devices and wireless networks; also provision of banking and financial services with the help of mobile telecommunication devices (Fenuga and Oladejo, 2010). According to Anwana, (2010) and Alabar, (2012) it has brought changes into the banking industry and is having major effects on banking relationships. He further observed that, almost all the 25 banks that survived the consolidation exercise of 2005 in Nigeria have adopted electronic banking in one form or another, although the adoption level was mostly at low at basic interactivity and functionality level.

Evidences from works of Garcia, Hahn, and Farrar (2006) Waite and T. T. Harrison, (2002) and Zhu and Chen (2003) revealed that electronic banking system is expected to serve the purpose of decongesting banking hall, reducing waiting time, making customers more liquid and above all, ensuring a cashless society. The advent of electronic banking in Nigeria also brought in some products to make bank transaction easy and efficient, these products include amongst others Telephone Banking (TeB) Automated Teller Machine (ATM), and Personal computer (PC) (Alabar, 2011). Fenuga and Oladejo (2010), however opined that, to ensure effective customer satisfaction; Nigerian banks must be willing to adopt latest technologies occasioned by advancement in ICT.

Banks will aggressively target the poor as a market only if they find ways to serve these customers profitably. Because poor people haven't much money, often live in sparsely populated areas, and rarely have documented credit histories, banks have found these potential clients of little interest and too costly (Ivatury, 2006). To reach such markets, it is necessary to focus on inexpensive delivery channels and to develop low-cost means of handling transactions. Even

ICT-based innovations that have allowed commercial banks to set up low-cost "electronic banking" channels, such as Internet banking and automated teller machines (ATMs), may not be largely available to the poor. Only part of the population has Internet access, and the distribution of ATMs is mostly concentrated in urban and relatively affluent areas, particularly in developing countries. However, other technologies have been more promising in helping banks to expand their operations to the poor in developing countries. This is the case of mobile phones and POS terminals. Thanks to the spread speed of mobile phones in developing countries, the estimated number of mobile phone users has already surpassed that of banked people (Porteous, 2006). In fact, in developing countries, mobiles may be the only means of accessing communications services (Donner, 2008). In certain African and Asian countries, mobile banking is taking off and has already become one of the "new and fast-developing spaces at the convergence of technology and financial services" (Lyman, 2008).

Mobile banking offers banks several opportunities for increasing revenues. These include monetizing the value of customer analytics, delivering greater real-time access to products and services, and conducting targeted marketing campaigns based upon the knowledge of consumer preferences that banks collect. Mobile banking gives banks the potential to expand beyond their geographical footprint as well as ability to cross-sell and up-sell products to existing customers. Banks that harness these additional mobile financial services capabilities can see a profound impact on the nature of the banking relationship (Fiserv, 2010).

New technology-based financial services, such as mobile phone banking and the use of smartcards, have the potential to substantially increase people's access to finance. In South Africa, the DRC, Zambia and Kenya for instance, mobile phone banking is taking services to remote areas where conventional banks have been physically absent. Subscribers can now open accounts, check their balances, pay their bills, transfer money, and cater for their daily basic needs. Mobile phones are also being used now for other public services such as monitoring elections and delivering public health messages.

South Africa is by far the country where mobile banking is most widely used on the continent. By end of March 2009, the total mobile customer base in South Africa increased by 3.8% from

2008 to over 51.9 million with the mobile penetration rate rising to 107%. About half of South Africa citizens don't have bank accounts. Nearly 40% are either unemployed or work informal jobs paid in cash. Bank charges are high and banking regulations are so strict – such as proof of regular income – that they prevent many poor people from having formal bank accounts. Moreover, most South Africans live in rural or semi-urban areas where access to a bank is very limited or non-existent. Compared to other middle or high income countries in other continents, South Africa has low branch and ATM penetration. In contrast, South Africa is the most important emerging market in terms of mobile banking potential (AFD, 2010).

2.4 Automated Teller Machines

An Automated Teller Machine is an electronic banking outlet which allows customers to complete basic transactions without the aid of a branch representative or a teller.

Automated Teller Machine (ATM) has become a fundamental part of banking world-wide as it is the easiest way for monetary transaction(s). There is a wide range of banks providing services of ATM by installation of ATM machines not only in their premises but off-premises-public locations.

The ATM machines are user friendly, conveniently located, 24 hour service, correct and clear guidance machine, interbank transfer, technologically updated, quick operation machine, sufficient number of ATMs machines, waiting time, per day limit of cash withdrawal, awareness of fee charges, availability of different facilities (payment of bills), all time availability of cash, flexibility, machines breakdown and safe and secure machine etc.

Different researchers set up experimental studies for service quality of ATM's taking some of the above mentioned service quality criterions. For instance, Al-Hawari et al. (2006) studied five aspects of ATM i.e. user friendliness of the systems, procedures, secured, convenient locations and adequate number of ATM's. Shamsdouha et al. (2005) analyzed three service quality factors of ATM which are convenient locations, 24 hour service and accuracy. Joseph and Stone (2003) studied the factors: user friendly, easy access to location and security that influenced the perception of customers towards the Service Quality of ATMs. Islam et al. (2005) examined level of satisfaction of ATM card holders of a top Bangladeshi bank (HBSC) by fuzzy TOPSIS.

According to Adeleke D. (2011), Automated Teller Machines (ATMs) is a combination of a computer terminal, record-keeping system and cash vault in one unit, permitting customers to enter the bank's book keeping system with a plastic card containing a Personal Identification Number (PIN) or by punching a special code number into the computer terminal linked to the bank's computerized records 24 hours a day. The combined services of both the Automated and human tellers imply more productivity for the bank during banking hours. Also, as it saves customers time in service delivery as alternative to queuing in bank halls, customers can invest such time saved into other productive activities. ATMs are a cost-efficient way of yielding higher productivity as they achieve higher productivity per period of time than human tellers.

Automated Teller Machine (ATM) has become a major indicator of ICT investment by banks. Globally, Automatic Teller Machines (ATMs) have been adopted and are still being adopted by banks. They offer considerable benefits to both banks and their depositors. The machines can enable depositors to withdraw cash at more convenient times and places than during banking hours at branches (Olatokun and Igbinedion, 2009). These potential benefits are multiplied when banks share their ATMs, allowing depositors of other banks to access their accounts through a bank's ATM (McAndrews, 2003). Banks have become the principal deplorers of ATMs because the cost of a single transaction performed at an ATM is potentially less than the cost of a transaction conducted from a teller, as ATMs are capable of handling more transactions per unit of time than Tellers (Laderman, 1990).

In Nigeria the adoption of ATM by banks and its use by bank customers is just gaining ground and has burgeoned in recent times. This has happened especially after the recent consolidation of banks, which has in all probability, made it possible for more banks to afford to deploy ATMs or at least become part of shared networks (Fasan, 2007). There has been growing investment in ICT devices by banks without any definite study on the impact of these investments especially in terms of ATM deployment and cost efficiency. This study is expected to fill this gap by analyzing the effect of the deployment of ATMs on the cost efficiency of Nigerian banks in order to justify its level of investment.

2.5 Profitability

According to Sumra (2011) the penetration of internet banking has opened a new horizon for the banking industry. Banks are now providing their services through the electronic banking. It is considered to have a substantial impact on the bank performance.

The banking industry in general has experienced some profound changes in recent decades, as innovations in technology and the inexorable forces driving globalization continue to create both opportunities for growth and challenges for banking managers to remain profitable in this increasingly competitive environment. Most of the studies concerning bank profitability to date, including Short (1979), Bourke (1989), Molyneux and Thornton (1992), Demirguc-Kunt and Huizinga (2000) and Goddard, Molyneux, and Wilson (2004), have employed different linear models to estimate the impact of various factors that could be significant in terms of explaining profits.

According to Athanasoglou and his colleagues (2005), these studies were seminal in demonstrating the feasibility of conducting a meaningful analysis of the determinants of bank profitability, but some of the methods used by these studies failed to take into account the robust and dynamic nature of the economic environment in which they competed.

On the one hand, the banking industry today enjoys a number of advantages compared to past years that would appear to contribute to their ability to generate profits. According to Berger and Deyoung (2006), the banking industry in the United States has been in a constant process of geographic expansion in recent years, both within nations and across nations. These authors report that, "At one time, nearly all customers were served by locally based institutions. In contrast, it is now much more likely that the bank or branch providing services is owned by an organization headquartered a substantial distance away, perhaps in another state, region, or nation".

In the modern banking industry, technologies such as ATM networks and transactional Internet websites allow banks to interact more efficiently with their customers regardless of geographic proximity; furthermore, recent innovations in financial technologies provide the capacity to provide these services using long-distance interfaces with customers. According to Berger and Deyoung, "Greater use of quantitative methods in applied finance, such as credit scoring, may

allow banks to extend credit without geographic proximity to the borrower by 'hardening' their credit information". Likewise, new product mixes of financial engineering, such as derivative contracts, may provide banks of all sizes to unbundle, repackage, or hedge risks at lower costs without regard to the geographic proximity to the other party (Berger and Deyoung, 2006). These financial innovations may also provide senior banking managers with the ability monitor the decisions made by loan officers and managers at distant affiliate banks more easily, and to evaluate and manage the contributions of individual affiliate banks to the organization's overall returns and risk more efficiently as well (Berger & Deyoung, 2006).

2.6 Number of customers

Dogarawa, (2006) opines that electronic banking improves bank's efficiency and competitiveness, so that existing and potential customers can benefit from a greater degree of convenience in effecting transactions. This increase level of conveniences offered by the bank, when combined with new services, can expand the bank's target customers beyond those in traditional markets. Consequently, financial institutions are therefore becoming more aggressive in adopting electronic banking capabilities, and stored value programs. Such technological advances have brought greater sophistication to all users.

According to Suleiman et al.(2010), the impact of electronic banking sector is that out of 53.9%, who used electronic banking 85% used electronic banking for saving bank facility, 55.8% for current account facility, 37% for bill payments, 35.3 % for master card and 30.8% used for third party transfer. The result that shows that there is a fair indication of what services of electronic banking users find useful and to show which group of customers were likely to use the services the more.

In Uganda, the adoption of electronic banking is still low since few people are aware

2.7 Effect of e-banking on bank performance

By bank performance, generally it implies whether a bank has faired well within a trading period to realize its objectives. The only document that explains this is presumably the published financial statements. According to Rose (2001), a fair evaluation of any bank's performance

should start by evaluating whether it has been able to achieve the objectives set by management and stockholders. Certainly, many banks have their own unique objectives. Some wish to grow faster and achieve some long-range growth objective, others seem to prefer quiet life, minimizing risk and conveying the image of a sound bank, but with modest rewards to their shareholders Rose (2001). Ordinarily, stock prices and its behavior are deemed to reflect the performance of a firm. This is a market indicator and may not be reliable always. However, the size of the bank, the volume of deposit and its profitability could be deemed as more reliable performance indicators. For the purpose of this study, profitability indicators, precisely the Return on Equity.

Studies over the years have identified the benefits of applying Information and Communication Technology (ICT) to customer's satisfaction in banking activities (Alabar, 2011). Given the role technology plays in the modernization of the banking sector, there is no doubt that the future of Nigerian banking industry lies heavily on its quick and fast adoption of ICT. Experiences from other countries revealed greater attention on the application of ICT to the activities of commercial banks and other financial institutions to facilitate their operations and bring about greater business advantages (Abbasi, 2007).

Moutinho and Phillips (2002) found that Scottish bank managers considered efficiency and enhancement of customer service to be two perceived advantages of Internet banking. Similarly, Aladwani (2001) highlighted faster, easier, and more reliable service for customers, and improvement of the bank's competitive position to be the most important drivers of online banking among bank and IT managers in Kuwait.

Howcroft (2002) in a study, found that the most important factors encouraging consumers to use online banking are lower fees followed by reducing paper work and human error, which subsequently minimize disputes (Kiang, 2000). Byers and Lederer, (2001) concluded that it was changing consumer attitudes rather than bank cost structures that determines the changes in distribution channels; they added that virtual banks can only be profitable when the segment that prefers electronic media is approximately twice the size of the segment preferring street banks.

Convenience of conducting banking outside the branch official opening hours has been found significant in cases of adoption of e-banking. Banks provide customers convenient, inexpensive access to the bank 24 hours a day and seven days a week. Moutinho (1997) pointed out that each ATM could carry out the same, essentially routine, transactions as do human tellers in branch offices, but at half the cost and with a four-to-one advantage in productivity.

A reduction in the percentage of customers visiting banks with an increase in alternative channels of distribution will also minimize the queues in the branches (Thornton and White, 2001). Increased availability and accessibility of more self-service distribution channels help bank administration in reducing the expensive branch network and its associate staff overheads. Bank employees and office space that are released in this way may be used for some other profitable ventures (Birch & Young, 1997).

The development of the magnetic strip card allowed much more information to be held and increases the range of services which could be offered. Credit card for example introduced in 1982, used the same technology, and the use of Electronic Funds Transfer Point of Sale (EFTPOS) has become wide spread since Midland, National West Minister and Royal Bank of Scotland introduced the Switch network in 1988 (Oladejo and Adereti, 2010). Kozak and Kowalski (2005) observed that all banking service such as electronic payments, loans deposits or securities have become heavily dependable on information and communication technology (ICT), and this has greatly enhanced banks' performance in developed societies.

2.8 Profitability and performance

According to Sullivan (2000), the most important goals for-profit entity managers are to maximize shareholders' wealth and company profits and the increasing number of private banks and privatization of governmental banks is due to consideration of increasing private banks income and increasing share profit. Besides, giving different services makes the banks famous and attracts more clients and more profit. The revolution of information technology is influences almost every facet of life, and among them is the banking sector. The introduction of electronic banking has revolutionized and redefined the ways banks are operating. As technology is now considered as the main contribution for the organizations' success and as their core

competencies. So the banks, be it domestic or foreign are investing more on providing on the customers with the new technologies through e banking. PC banking, mobile banking, ATM, electronic funds transfer, account to account transfer, paying bills online, online statements and credit cards etc. are the services provided by banks.

It is expected that banks offering Internet banking have some profitability edge over their competitors. Furst, Lang, and Nolle (2000) found that banks incorporating Internet banking are more profitable than their non-Internet counterparts since they tend to generate greater amounts of non-interest (fee-based) revenue. The increase in profit gained by banks that adopted the Internet as a part of their delivery channel is mainly attributed to reduction on overhead cost. Although, the reductions in staff costs, IT, marketing expenditures and etc. are gradual, however, on the long they may make a significant impact on a banks profit. Ciciretti, et al (2009) suggested that there is a substantial fact of significant connection that exists between the adoption of Internet banking by traditional banks and their profitability.

Hernando and Nieto (2005) examined the performance of multichannel banks in Spain between 1994 and 2002. The study found higher profitability for multichannel banks through increased commission income, increased brokerage fees and (eventual) reductions in staffing levels and concluded that the Internet channel was a complement to physical banking channels. In contrast to earlier studies, the multichannel banks in Spain relied more on typical banking business (lending, deposit taking and securities trading). The adoption of the Internet as a delivery channel had a positive impact on banks' profitability after one and a half years of adoption. It was explained by the lower overhead expenses and in particular, staff and IT costs after the same period.

De Young et al (2007) analyzed the effect of e-banking on the performance of banks by studying US community banks markets and compared the performance of virtual click and mortar banks with brick and mortar banks. Their findings concluded that e-banking improved the profitability of banks hence increasing their revenues. Also, E-banking is largely driven by the factors of minimizing the operating costs and maximizing operating profit, suggests Simpson (2002)

According to Centeno (2004), the e-banking adoption factors are divided into two categories: Factors relating to the infrastructure and accessing technology, and the Factors that are related to retail banking factors. The prior factors include skills on the part of consumers in using internet and other related technologies, attitudes towards technologies, internet penetration rate, privacy and security concerns. Later involves factors like banking culture, e-banking culture, trust in banking institutions and internet banking push. However, lack of PC and internet penetrations serves as barriers for development of e-banking. Also, in their study conducted in Turkish retail banking sector Polatoglu and ekin (2001) concluded that e-banking decreases operational costs and it amplifies customers' satisfaction and retention.

Claessens et al (2001) mentioned that the leapfrogging opportunities e-finance provides to emerging countries. Despite weak financial systems and structures, these countries may benefit from their access to the latest technology when building up their financial intermediation infrastructure. "E-finance can allow countries to establish a financial system without first building a fully functioning financial infrastructure. Because e-finance is much cheaper, since it lowers processing costs for providers and search and switching costs for consumers, providers can market financial services involving smaller transactions to lower-income borrowers, even in remote areas. To further this, government's main role will be to enhance the enabling environment."

Simpson (2002) suggests that e-banking is driven largely by the prospects of operating costs minimization and operating revenues maximization. A comparison of online banking in developed and emerging markets reveal that in developed markets lower costs and higher revenues are more noticeable. While Sullivan (2000) finds no systematic evidence of a benefit of internet banking in US click and mortar banks, Furst et al. (2002) find that federally chartered US banks had higher ROE by using the click-and-mortar business model. Furst et al (2002) also examine the determinants of internet banking adoption and observe that more profitable banks adopt internet banking after 1998 but yet they are not the first movers. Jayawardhena and Foley (2000) show that internet banking results in cost and efficiency gains for banks yet very few banks are using it and only a little more than half a million customers are online in U.K.

It is stated that the most pressing policy issues will involve the enabling environment for e-finance; setting regulatory and other frameworks for contract enforcement, for information and privacy, and for telecommunications, security, and public infrastructure for electronic transactions. Claessens et al (2002) further contributes to leapfrogging advantage of emerging markets by suggesting that e-finance can benefit financial sector development of emerging countries by lowering costs, increasing the breadth and quality and widening access to financial services.

DeYoung (2005) analyze the performance of Internet-only banks versus the brick and mortars in the US market and found strong evidence of general experience effects available to all start-ups. Yet there is little evidence that technology-based learning accelerates the financial performance of Internet-only start-ups. He finds that bank profitability is lower for pure-play (internet-only) banks in the US market. However in a later study DeYoung et al (2007) analyzes the US community banks market to investigate the effect of internet banking on bank performance. They compare the brick and mortar banks performance to click and mortar banks which do have transactional websites over a three year period. Their findings suggest that internet banking improved bank profitability, via increase in revenues from deposit service charges. Movements of deposits from checking accounts to money market deposit accounts, increased use of brokered deposits, and higher average wage rates for bank employees were also observed for click and mortar banks. While no change in loan portfolio mix was found, their findings confirm Hernando and Nieto (2007) that internet banking is seen as a complementary channel.

In 2006, the percentage of Internet users who use online banking or brokerage services has reached to the European average of 25.36 % (Deutsche Bank Research, 2006). According the Deutsche Bank Research Report "Online banking: What we learn from the differences in Europe" (2006) online banking grows in Europe. Bank customers in Europe strongly increase their use of online banking whereas adoption rates decrease from north to south and rich to poor. Europeans with higher formal education are more likely to use the Internet and do financial transactions online.

DeYoung (2001a, 2001b, 2001c and 2005) analyzed systematically the financial performance of pure-play Internet banks in U.S. The study found relatively lower profits at the Internet-only institutions than the branching banks, caused in part by high labour costs, low fee based revenues

and difficulty in generating deposit funding. However, consistent with the standard Internet banking model, the results indicated that Internet-only banks tended to grow faster than traditional branching banks. Internet-only banks have access to deeper scale economies than branching banks and because of this, they are likely to become more financially competitive over time as they grow larger. Delgado et al. (2004 and 2006) found similar results for Internet-only banks in the EU. Nevertheless, the magnitude of technology based scale economies found in Delgado et al. (2004 and 2006) was substantially larger than that estimated by DeYoung studies.

Nevertheless, some banks that tried Internet-only banking struggled for profitability and many of them had to close business. This observation about Internet-only banks was re-enforced by the statement by DeYoung (2001) that the average Internet-only bank was less profitable than the average branching bank of similar age and circumstance. Moreover, certain services like loan procurement by customers require physical interaction at bank branches, hence, reduced revenue for Internet-only banks.

2.9 Turnaround time for customers and E-banking

According to Sharma (2006), the reasons for most companies adopting E-Banking especially by different commercial banks has been adapted through the new technology of E-banking. The number of times a customer visits a bank to use an ATM machine, use the phone or any other E-Banking service depends on a number of reasons in most commercial banks in developing countries including Uganda today. Some of which have been identified by other authors as will be detailed below.

Technology has created the ability to provide service even after working hours and therefore often customers access these services after working hours. Sweeney (1988), states that ATMs are often few and so cannot be enough for all customers during working hours. So banks educate their customers about ATMs as simple as operating hours or as drastic as company closes working hours. ATMs keep the channels of customer communication updated. In reality, customers arrive at random interval rather than at evenly spaced intervals. The system at times becomes temporary overloaded; giving rise to waiting lines at other times, the system is idle because there are no customers. And when customers arrive with high rate and service is as

scheduled, and then the long queue will be seen and in return could cost the bank. However customers mostly turn up in large numbers in the evening hours and on weekends.

Because customers turn up time is not predictable t some banks, most banks are concentrating on opening new branches as well as many automatic teller machines countrywide for customer easy access into banking facilities at their convenient times, however successive network failure has been a major hindrance towards achieving efficient service and so many of the customers will turn up in large numbers to access the E-Banking services whenever the network has been good. It has been seen within cities that customers have been spending a lot of time to get banking services like depositing and withdrawing. The time wasted at the waiting line could be utilized somewhere else in making certain amount of money. These views are supported by Sharma (2006) who argues that customers waiting for a service for long time can earn more money since they waited for more than the scheduled time.

According to Lewis et al, (2004), banks with many customers tend to make more counters so as to fulfill the needs of the customers and help them in easing their turn up periods to access E-Banking services. If counters are less then long queues, then this results in customers experiencing long waiting hours yet they may have other programmes. On the contrary if counters are many, they remain unoccupied for quite some time this is because customers often arrive randomly as they are governed by hours, season and day. Therefore, bank managers must open extra counters if there are long queue which implicates increase in costs. This will bring a balance in the cost of service facility and cost of waiting. Because of the customers turn up time, use of self operating machines like ATMs are to be implemented and in large numbers to enable customers have a wide choice of concern service at their convenient turn up time.

Lumpkins, (2003) argues that the number of bank customers tuning up at the bank is increasingly reducing since the introduction of E-Banking which enables them make any transaction on their computer, Phone or ATM machines anywhere the banks are situated. He further states that there is an increment in automation whereby the contact centers are increasingly using voice recognition and call-routing technologies. The customer can speak to a computer or press keys that will route him or her to the appropriate department to handle the

request. Call routing improves customer service by allowing the customer to go straight to the person that can handle his or her needs. This saves the customer from turning up physically at the bank and repeating the request to numerous representatives and ultimately saves time for the customer and saves money for the organization.

Sharma, (2006) adds that the internet, telephone and even social media have helped provide customers with increased, more efficient ways of getting a service. Customers can have a service when it is convenient for them. If the customer cannot get the service by telephone anytime, other channels of getting service can be provided such as the bank's website, blog or even through social media. This will ensure that the customer payment information is secure via the internet and telephone. If the customer gets service via mail or fax, it will ensure that the organization keeps customer payment information secure.

Lastly, E-Banking empowers the customer with technology which empowers the customer to get what is needed from the company at any time. There are also self-checkout lines that have become popular in retail outlets. The customer goes to the ATM machine to get what is needed and can check out without interacting with the bank's associates therefore, in this case, the customer turn up may be unpredictable. The customer is satisfied because he or she can quickly get exactly what is needed, procure and pay for the item without a long wait. The customer may also choose not to self-checkout and prefer to use a cashier line. This, again, increases customer service because he or she has an option. The customer has control over how he or she interacts with the bank (Doob, 1960).

2.10 Customer number and E-banking

The technological innovation among banks has brought about several gains to the banking industry. Some of these can be identified as convenience to banking, enhanced customer access, increase customer numbers and awareness, speedy or faster process and transmission of information, reduction of fraud levels and improved risk management. Other benefits are global compliance that is, adopting trends to provide seamless and standardized services worldwide and easier marketing of banking services among others.

According to Howcroft et al., (2002), most important factors encouraging consumers to use online banking are lower fees followed by reducing paper work and human error, which subsequently minimize disputes (Kiang et al., 2000). In support, Byers and Lederer, (2001) concluded that it was changing consumer attitudes rather than bank cost a structure that determines the changes in distribution channels; they added that virtual banks can only be profitable when the segment that prefers electronic media is approximately twice the size of the segment preferring street bank.

Convenience of conducting banking outside the branch official opening hours has been found significant in cases of adoption of e-banking. Banks that provide customers with convenient, inexpensive access to the bank 24 hours a day and seven days a week have a big number of customers compared o their rivals that do not. Moutinho et al., (1997) pointed out that each ATM could carry out the same, essentially routine, transactions as do human tellers in branch offices, but at half the cost and with a four-to-one advantage in productivity. Given that the ICT is now creeping into the banking industry in developing countries, Uganda inclusive, its functions could not be completely regarded as substitute for tellers in the banking hall. There are a number of times where the ATMs fail to function thus making the customer unable to access the service and even run away from hat bank.

In the same view, a reduction in the number of customers visiting banks with an increase in alternative channels of distribution will also minimize the queues in the branches as stated by Thornton and white, (2001). Increased availability and accessibility of more self-service distribution channels help bank administration in reducing the expensive branch network and its associate staff overheads. Bank employees and office space that are released in this way may be used for some other profitable ventures and this ultimately leads towards improved customer satisfaction and the institutions bottom line, which in return increase customer numbers.

According to Devlin, (1995), Internet banking also increases competition within the banking system and also from non-bank financial institution (ECB, 1999). The Internet increases the power of the customer to make price comparisons across suppliers quickly and easily. As a

consequence, this pushes prices and margins downward. Therefore if a bank is found to have the lowest prices, it will have more and more customers and vice versa.

Yakhlef (2001) also pointed out that banks are responding to the Internet differently, and that those which see the Internet as a complement and substitute to traditional channels achieved better communication and interactivity with customers. Robinson (2000) argued that the online banking extends the relationship with the customers through providing financial services right into the home or office of customers. The banks may also enjoy the benefits in terms of increased customers loyalty and satisfaction.

The advancement in Technology has played an important role in improving service delivery standards in the Banking industry and also increasing customer numbers in banks today. In its simplest form, Automated Teller Machines (ATMs) and deposit machines now allow consumers carry out banking transactions beyond banking hours. With online banking, individuals can check their account balances and make payments without having to go to the banking hall. This is gradually creating a cashless society where consumers no longer have to pay for all their purchases with hard cash. For example: bank customers can pay for airline tickets and subscribe to initial public offerings by transferring the money directly from their accounts, or pay for various goods and services by electronic transfers of credit to the sellers account. As most people now own mobile phones, banks have also introduced mobile banking to cater for customers who are always on the move and this has attracted majority of customers to particular banks today as cited in (Williams, 2000).

According to Oghenerukevbe (2008), internet banking provides alternatives for faster delivery of banking services to a wider range of customers. The increasing popularity of internet banking has attracted the attention of both legitimate and illegitimate online banking practices. Criminals focus on stealing user's online banking credentials because the username and password combination is relatively easy to acquire and then relatively easy to use to fraudulently access an internet banking account and commit financial fraud. To alert users, many banking sites are now including Security Indicators (SI) to their sites, this has greatly played a big role in increasing the number of customers for banks today.

2.11 Factors which affect the delivery of banking services using E-Banking

Internet banking is a new age banking concept. It uses technology and brings the bank closer to the customer. Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations (Thulani et al, 2009).

Banking organizations have been delivering electronic services to consumers and businesses remotely for years. Electronic funds transfer, including small payments and corporate cash management systems, as well as publicly accessible automated machines for currency withdrawal and retail account management, are global fixtures. However, the increased world-wide acceptance of the Internet as a delivery channel for banking products and services provides new business opportunities for banks as well as service benefits for their customers (BCBS, 2001).

According to BCBS, (2001), notwithstanding the significant benefits of E-banking and its capabilities, it carries risks and challenges as which are recognized and need to be managed by banking institutions in a prudent manner. The speed of change relating to technological and customer service innovation in -banking is unprecedented. Historically, new banking applications were implemented relatively long periods of time and only after in-depth testing. Today, however, banks are experiencing competitive pressure to roll out new business applications in very compressed time frames, often only a few months from concept to production. This competition intensifies the management challenge to ensure that adequate strategic assessment, risk analysis and security reviews are conducted prior to implementing new e-banking applications.

E-banking increases banks dependence on information technology, thereby increasing the technical complexity of many operational and security issues and furthering a trend towards more partnerships, alliances and outsourcing arrangements with third parties, many of whom are unregulated. This development has been leading to the creation of new business models

involving banks and non bank entities, such as Internet service providers, telecommunication companies and other technology firms (BCBS, 2001).

The Internet is ubiquitous and global by nature. It is an open network accessible from anywhere in the world by unknown parties, with routing of messages through unknown locations and via fast evolving wireless devices. Therefore, it significantly magnifies the importance of security controls, customer authentication techniques, data protection, audit trail procedures, and customer privacy standards (BCBS, 2001) Other E-banking related problems are user error, bad internet connections, access problems and security issues. Most of these problems happen less to outweigh its benefits.

2.12 Conclusion

The above literature gives a basis of what has transpired in e-banking and its relationship with bank performance. It has been able to give a general overview of current e – banking products the impact e-banking on bank performance and the current constraints to e-banking. However little information has been obtained regarding the effect of e-banking on bank performance with examples from Uganda which necessitated the researcher to carry out this study.

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CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

This chapter details the methodology and procedure that was employed in the study. The chapter covers the research design, study population, sample size and selection, sampling techniques and procedure, data collection methods, data collection instruments, validity and reliability, data analysis, constraints that were encountered in the study.

3.1 Research design

The research design used was a case study due to the fact that it helped to describe and explain things as they unfold rather than predicting a situation just. It also helped to study the whole bank in depth in order to get an insight into the larger cases the case study consisted only one bank which was centenary bank. In this design, both quantitative and qualitative methods were used as data collection tools. This further included the administering of questionnaires, interviews and observations. The tools were used as bases of bringing out the data validity while the interview method gave me ample time to respondents and the researcher to seek for all the relevant data that would deem necessary from the field hence the researcher deeply understood the people that were understood.

3.2 Study area

The study was carried out in Centenary Bank, Mbarara branch. The study covered all the departments of the bank as it was assumed that every department was either using or affected by e-banking services.

3.3 Study population

The study population comprised of the staff of centenary bank Mbarara branch and the number of clients present at the time of the interview. A population of 40 members were used.

3.4 Sample selection and size

According to Sekaran, (2003) a sample size is the actual number of subjects chosen as a sample to protect the population characteristics. The sample size of the respondents was 40 respondents selected basing on the table for determining sample size by Krejcie and Morgan, (1970). Mc Call

(1994) supports this by stating that a researcher needs to get the appropriate sample size in terms of accuracy and cost putting into consideration the subject matter of investigation.

Table 1: the illustration of the estimated number of the respondents.

Category	**Target population**	**Sample**
Clients	32	30
Loan officers	1	1
Investment officers	7	6
Operations officers	2	1
Managers	2	1
Legal counselor	1	1
Total	**45**	**40**

Source: Krejcie and Morgan (1970)

The sample size included 40 (forty) respondents that included 30 clients, 6 investment officers ,1 loan officers,1 operation officer, 1 manager, 1 legal officer.

Statistically, it is easy to define a smaller sample than the whole which can be taken as a representative. This therefore means that the responses were gathered in a cross-section which was used to give a good indicator on the e-banking and bank performance.

3.5 Sampling techniques

The researcher used mainly three types of sampling techniques which include random sampling, stratified sampling and cluster sampling.

Random sampling, this involved taking the number of independent observations from the same probability distribution and here 40 respondents were chosen.

Stratified sampling, this involved selecting independent samples from a number of strata within a population. Here the researcher used the staff that were present at the time of interviews and they were the ones that were present.

Cluster sampling, this involved dividing the respondents into two groups and the researcher selected mainly the bank staff and clients samples. From the two groups different information was collected from each group. In order to get information from the clients, the researcher used simple random sampling where by the clients were picked randomly as they entered the bank.

3.6 Data collection methods

Using qualitative and quantitative methods, data was collected from both primary and secondary sources.

Primary Data

Sekaran, (2003) stated that data should be collected as first-hand information for subsequent analysis to find solutions to the problem. Primary data was collected from the respondents using questionnaires and interview methods. Sekaran, (2003) stated that data should be collected as first-hand information for subsequent analysis to find solutions to the problem. Primary data was collected using questionnaire and interviews.

Questionnaire method

A questionnaire survey is one of the methods that were used to collect primary information from the respondents. The researcher employed closed-ended structured questionnaires to collect data. The questionnaire therefore was convenient to collect data from respondents. Questionnaire instrument was administered to clients, loan officers, investment officers, operations officers, mangers and legal counselors.

The respondents were able to give frank answers to sensitive questions since they were not required to give their names. All respondents were briefed before administering the questionnaires so as to establish relationship with them while introducing the survey. This gave chance to the researcher to provide clarification that would be required by respondents and to collect the questionnaires immediately after completion. This was facilitated at a high response rate.

Interview method

This is a face to face interaction where the interviewer asks questions to the interviewee (Amin, 2005). The researcher carried out personal interviews and direct verbal discussion and interaction with respondents in order to collect data. The objective of the interview guide was to bring some preliminary issues to the surface so that the researcher can determine what variables need further in-depth investigation. The open ended questions were planned in advance and the researcher used them to guide the interview with a lot of probing. This enabled the researcher to obtain information that could not be captured using the questionnaires. The instrument was administered to managers and board members.

Observation

The observations were made by the researcher regarding the handling of finances in the bank. The observations were made on the procedures in centenary to ensure that proper finance management as regards to electronic banking. This enabled the researcher to observe the procedures followed when carrying out the transactions as per electronic banking.

Secondary methods

The researcher used the information that already exists like from the news papers, journals, textbooks, company records. This was useful in the development of the back ground knowledge of the topic, interpretation of the existing data. The information from the text books laid a very foundation in the literature review.

3.7 Data management and analysis

Validity

According to Amin (2005) validity refers to the ability of findings that are in agreement to theoretical or conceptual values. In order to ensure validity of data collected, ten experts rated each item on the scale: relevant (1) and not relevant (2). Validity was determined using Content Validity Index (CVI)

The Content Validity Index (CVI) was then calculated using the formula below;

$$CVI = \frac{n}{N}$$

Where n = the number of items rated as relevant

N= Total number of items in the questionnaire (Oso and Onen, 2008). The items in both the questionnaire and the interviews were taken to be valid. (Amin, 2005).

Reliability

The reliability of the instruments was computed using SPSS to determine the Cronbach Alpha Coefficient. The researcher gave out questionnaires which were collected after two weeks. The researcher reshuffled the same questions and through this she ensured accuracy in the research topic.

3.8 Data analysis

Quantitative analysis of data collected from the questionnaire was done using Statistical Package for Social Scientists (SPSS). Descriptive statistics and correlation analyses were used in this study. Descriptive analysis of frequencies and percentages was conducted to describe the characteristics of respondents. Data collected using face to face interviews was analyzed qualitatively using descriptive method based on themes to be able to distinguish the responses by the use of codes and then establish the relationship among these themes and come up with in-depth explanation and interpretation.

3.9 Ethical considerations

The researcher obtained a letter of introduction from the faculty of Business Administration and Management Uganda Martyrs University to carry out the research. The letter was then presented to the authorities of Centenary Bank who allowed the researcher to carry out the research in the Bank.

Upon interviewing each respondent, the researcher presented the introductory letter and explained the purpose of the study. The researcher then informed the respondents about the purpose of the study.

Confidentiality was observed during data collection, presentation and dissemination of study findings. In this case the names of the respondents were not indicated anywhere unless allowed by the respondent.

3.10 Limitations of the study

Time, this was one of the biggest limitation in the study. This was because carrying out the field study a lot of time was required and yet very short time was given to the researcher to carry it out therefore the time ended up being not enough for the researcher.

Data inaccessibility, on several occasions, the respondents were shy from giving out the appropriate information and yet it was highly needed .some of the respondents expected a pay for providing the appropriate information which in the long run was hard for the researcher. Others deliberately refused to answer the questionnaire which was really bad in providing the accurate information.

3.11 Conclusion

This chapter provided the description of how the study was conducted in terms of research design, sample selection, data collection methods, validity and reliability of data collection instruments as well and data analysis. It also presented the ethical issues in the study and the anticipated limitations and the means and ways how to overcome them.

CHAPTER FOUR
DATA PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents the interpretation and discussion of the findings obtained from the field. This chapter covers the research findings and data analysis of the study. It comprises of presentation of data collected using questionnaires that were prepared by the researcher of the study as described in Chapter three. The various findings were analyzed using SPSS and they are as follows.

4.2 Response Rate

According to my sample size, 40 questionnaires were distributed to the respondents but unfortunately 30 questionnaires were filled and returned by the respondents. This illustrated that 75% of the respondents responded positively to the research that was being carried out. Therefore the high response percentage is an indicator that the results that were acquired are valid. Percentage of responses = (30/40)*100 = 75%).

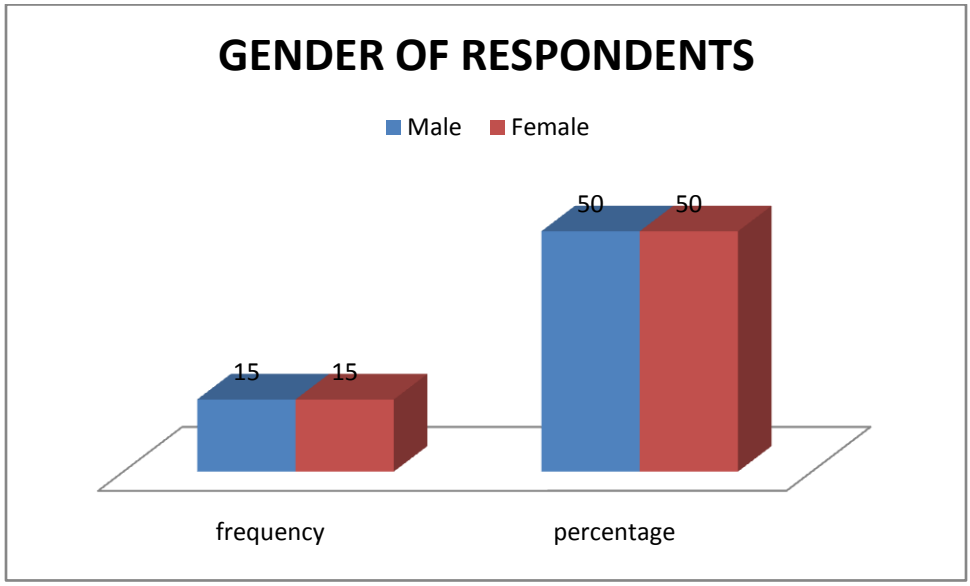
4.2.1 Demographic characteristics of the respondents

This section presents the gender distribution and Age distribution of respondents, education level of respondents, employee level, the time employees have spent working with centenary and the time the customers have spent banking with centenary.

4.2.2 Gender of Respondents

In respect to gender distribution, the findings are illustrated below

Figure 1: showing Gender distribution of respondents

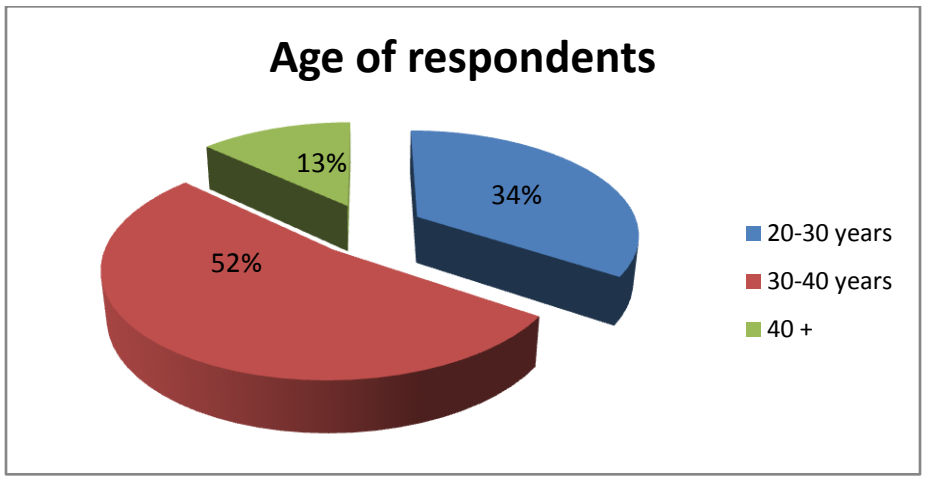


Source: Primary data, 2016

From the figure above, both male and female respondents were equal with 50% and 50% respectively. The researcher realized that both female and male were equal in the Centenary bank Mbarara branch and this is because they are both involved in the business activities. The statics shows that both male and female are involved in the business activities and they are not behind in the adoption of E-banking facilities. On the other hand, the findings also reveal a gender balanced staff.

Considering the age brackets the bank employees also provided theirs and the findings were shown in the figure below

Figure 2: Age distribution of the respondents

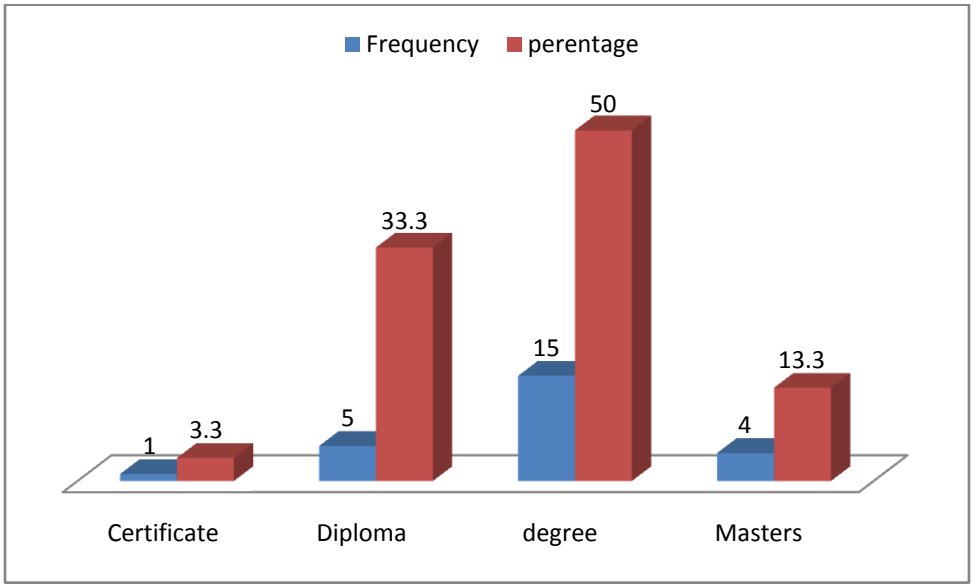


Source: Primary data, 2016

From the above , it was revealed that majority of the respondents with 52% were between the age of 30-40 years, followed by those who were between the age of 20-30 years with 34%, while the least number was 40 years and above with 13% as illustrated by the pie chart above. This implies that data was got form mature and responsible people whose views were relevant to the research study.

The respondents were asked to indicate their level of education in order to ascertain on how conversant the respondents use electronic banking. The findings are as follows;

Figure 3: Respondents' level of education



Source: Primary data, 2016

From the figure above, it was found that majority of the respondents had a degree with 50%, 33.3% with a diploma, then 13.3% with Masters and lastly 3.3% with a certificate. This implied that the respondents had a high level of education and thus their views on the research topic were very relevant. Therefore, this means that the bank employs educated staff.

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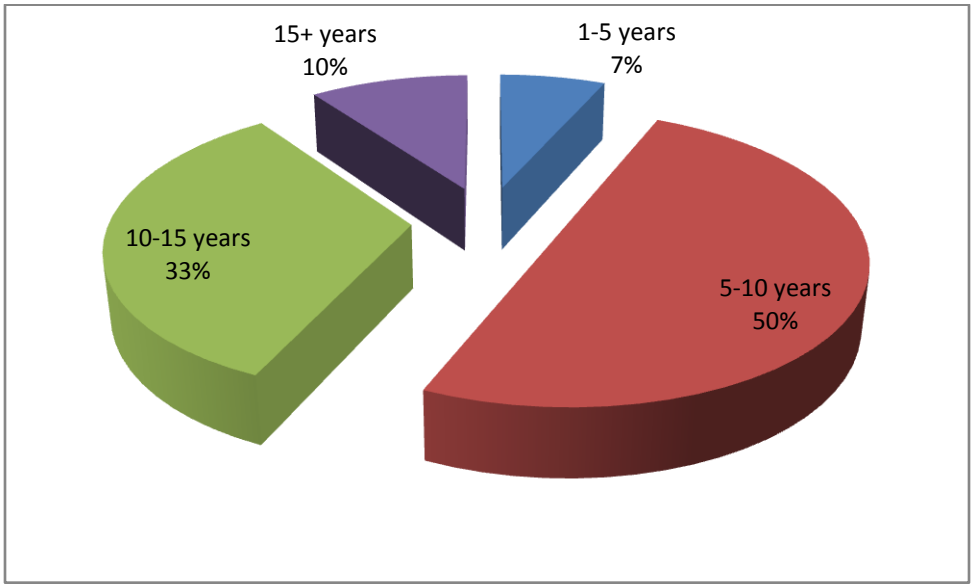
In order to know the employees experience with e- banking services at the Bank, the employees were asked to state how long they worked with the bank as illustrated below.

Figure 4: Respondents duration with the bank (Employees)

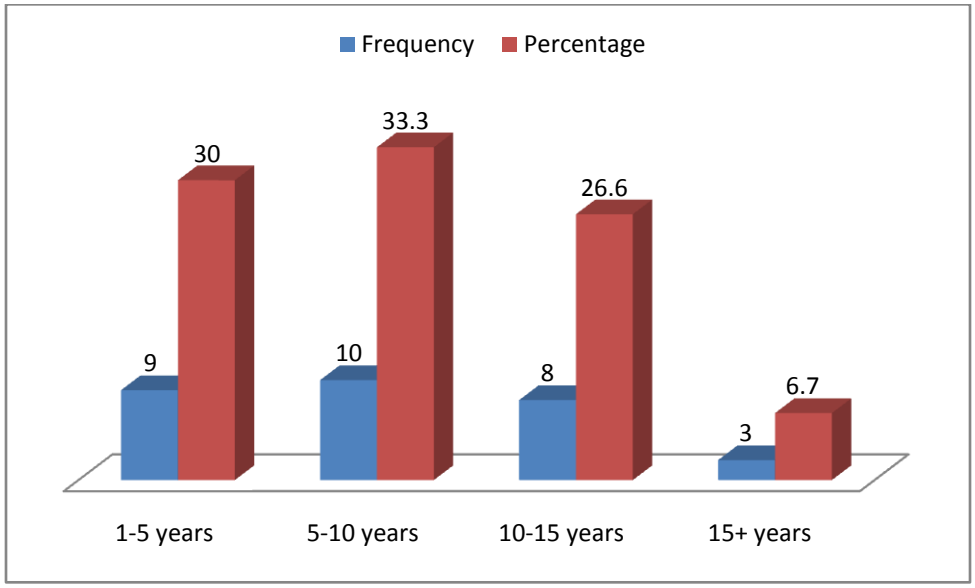


Source: Primary data, 2016

From the pie chart above, majority number with 50% had worked with centenary bank for almost 10 years , followed by those who had spent almost 15 years with the bank (33%), then those who had spent about 5 years and lastly those that had spent 15 years and above. This implies that many of the staff had worked with the bank for quite a long time (5-10 years) and so gave relevant data to the study.

The researcher requested the clients of the bank to give the duration they have spent with centenary bank and the findings are represented in the graph below;

Figure 5: Duration customers have spent with Centenary Bank



Source: Primary data, 2016

From the figure above, it was revealed that majority of the clients had spent about 5-10 years seeking its services, followed by 33.3% number of respondents who had spent about 10-15 years, then 16.6% who had spent 1-5 years and lastly those that had spent 15+ years with 6.7%. This means that most of the clients had been seeking its services for a long time and they are aware of its operations and services, plus products offered. It also illustrates that its services are of good quality.

Respondents' position held

In order to know the positions held by respondents, they were asked to state how long they worked with the bank and they are as follows.

Tellers-3

Credit officer-1

Branch manager-1

Loan officer-1

Branch supervisor-1

Customer care-1

Source: Primary data, 2016

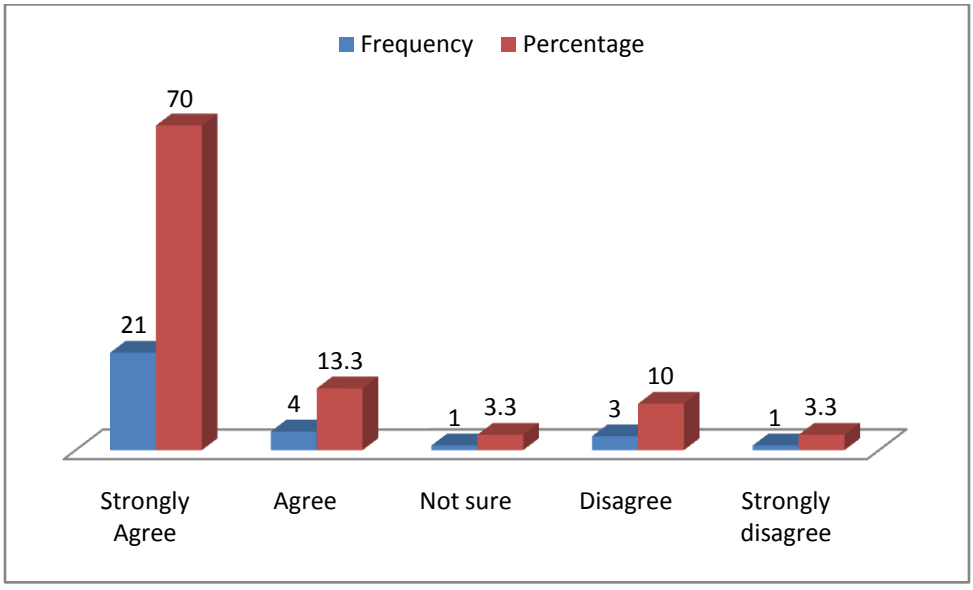
According to the table below, 30 questionnaires were distributed among the 30 respondents (staff) and the response was shown;

Table 2: Centenary bank makes profits through the use of ATMs

Response	Frequency	Percentage
Strongly Agree	21	70
Agree	4	13.3
Not sure	1	3.3
Disagree	3	10
Strongly disagree	1	3.3
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 6: Centenary bank makes profits through the use of ATMs



Source: Primary data. 2016

From the above Table and figure, when respondents were asked to state their level of agreement with the statement that Centenary bank makes profits through the use of ATMs, it was found that majority number (21) with 70% strongly Agreed, then 4 others with 13.3% also agreed, with 1(3.3%) Not sure while 3 respondents with 10% disagreed and lastly 1 with a percentage of 3.3

also strongly disagreeing. Therefore basing on the majority number 21(70%), the results imply that indeed the bank makes profits through the customers using the ATM machines in Mbarara.

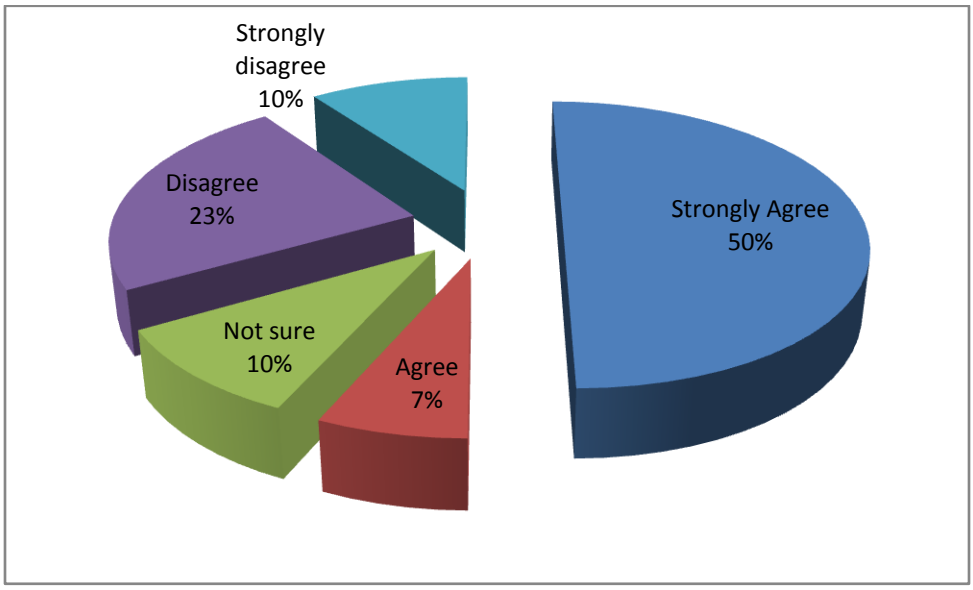
According to the table below, 30 questionnaires were distributed among the 30 respondents (staff) and the response was shown;

Table 3: Centenary bank makes profits through the use of Mobile banking

Response	**Frequency**	**Percentage**
Strongly Agree	15	50
Agree	2	6.6
Not sure	3	10
Disagree	7	23.3
Strongly disagree	3	10
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 7: Centenary bank makes profits through the use of Mobile banking



Source: Primary data. 2016

From the above Table and figure, when respondents were asked to state their level of agreement with the statement that Centenary bank makes profits through the use of Mobile banking, it was found that majority number (15) with 50% strongly Agreed, then 2 others with 6.6% also agreed, 3(10%) Not sure while 7 respondents with 23.3% disagreed and lastly 3 with a percentage of 10 also strongly disagreed. Therefore basing on the majority number 15 (50%), this implies that indeed the bank makes profits through the customers using the mobile banking in Mbarara and hence improving greatly on the financial status of the bank and the profits.

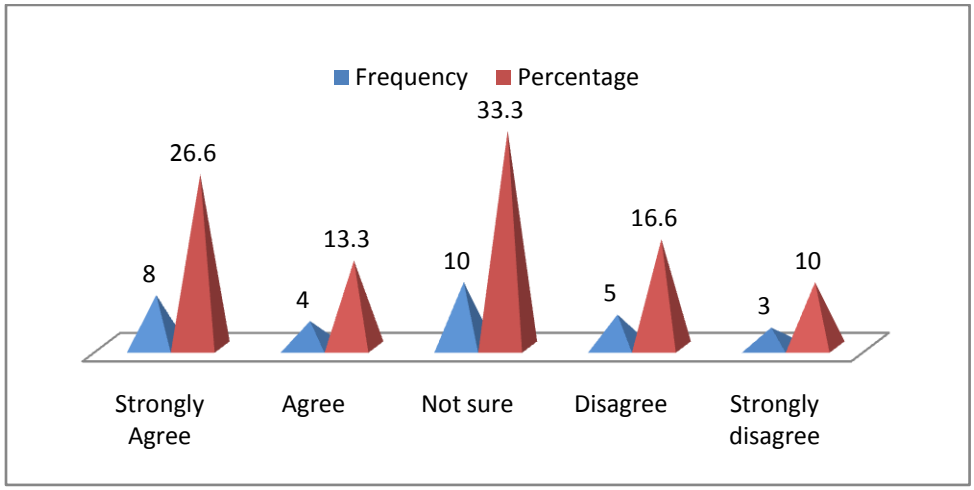
According to the table below, 30 questionnaires were distributed among the 30 respondents (staff) and the response was shown;

Table 4: Centenary bank makes profits through the use of Internet banking

Response	**Frequency**	**Percentage**
Strongly Agree	8	26.6
Agree	4	13.3
Not sure	10	33.3
Disagree	5	16.6
Strongly disagree	3	10
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 8: Centenary bank makes profits through the use of Internet banking



Source: Primary data. 2016

According to the above table and figure, when respondents were asked to state their level of agreement with the statement that Centenary bank makes profits through internet banking, it was revealed that majority number 10 with 33.3% were not sure, followed by 8 (26.6%) who strongly agreed, then 5(16.6%) who also disagreed, then 4(13.3%) agreeing and lastly 3 respondents with 10% who strongly disagreed. The above findings mean that to some extent Centenary bank makes profits through the use of internet banking though it still has to sensitize the public that is its clients on how to use the service for more profits to be realized as shown by the above table and figure.

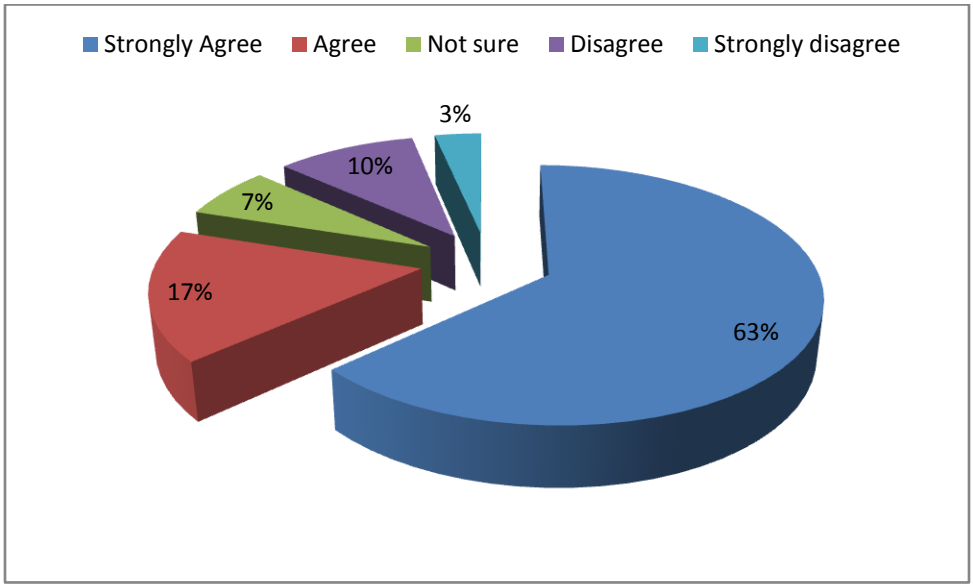
According to the table below, 30 questionnaires were distributed among the 30 respondents (staff) and the response was shown;

TTable 5: Most bank customers use ATMs

Response	**Frequency**	**Percentage**
Strongly Agree	19	63.3
Agree	5	16.6
Not sure	2	6.6
Disagree	3	10
Strongly disagree	1	3.3
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 9: Most bank customers use ATMs



Source: Primary data. 2016

From the table and figure above, 63.3% strongly agreed, 16.6% agreed, 6.6% were not sure, while 10% disagreed and lastly 3.3% strongly disagreed that most centenary bank customers use ATMS. Going by the majority number 19(63.3%), the above findings imply that indeed most of the bank customers access and use the ATM machines in Mbarara as illustrated above.

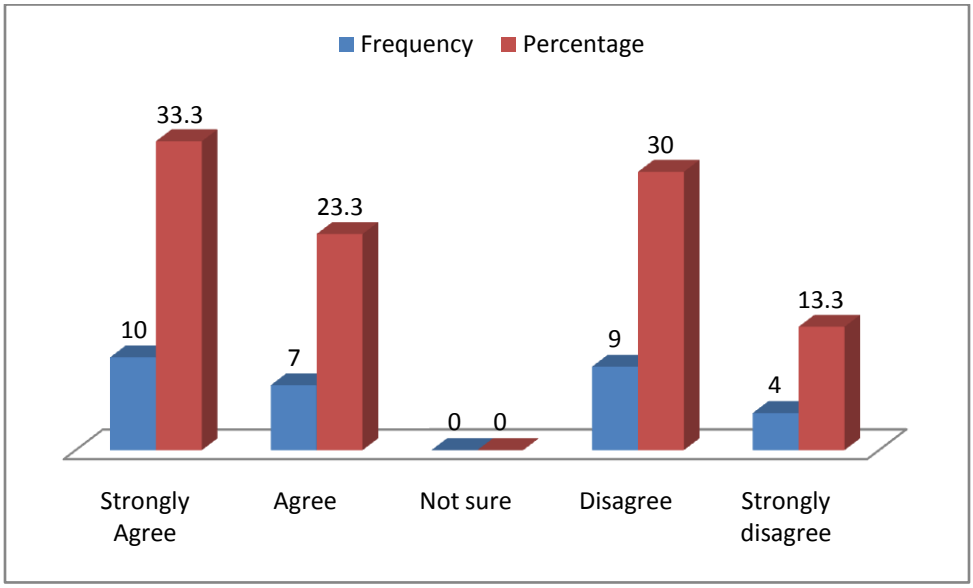
According to the table below, 30 questionnaires were distributed among the 30 respondents (staff) and the response was shown;

Table 6: Most bank customers use Mobile Banking

Response	**Frequency**	**Percentage**
Strongly Agree	10	33.3
Agree	7	23.3
Not sure	0	0
Disagree	9	30
Strongly disagree	4	13.3
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 10: Most bank customers use Mobile Banking



Source: Primary data. 2016

According to the above table and figure, when respondents were asked to state their level of agreement with the statement that most bank customers use Mobile Banking, it was revealed that majority number 10 with 33.3% strongly agreed, followed by 9 (30%) who disagreed, then 7(23.3%) who also agreed, and lastly 4 respondents with 13.3% who strongly disagreed. The above findings mean that to a great extent Centenary bank customers use mobile banking though a few still need to understand more of its use. Therefore, the bank still has to sensitize the public on how to use the service for more profits to be realized and also to increase on its customer base as shown by the above table and figure.

According to the table below, 30 questionnaires were distributed among the 30 respondents (clients) and the response was shown;

Table 7: How often do you use the following mechanisms to access the banking services

	Less than 1 time	**1-5 times**	**5-10 times**	**More than 1 times**	**Never**	**Total frequency**	**Total percentage**
Mobile phones	3	10	5	8	4	30	100
ATM machines	1	4	3	21	0	30	100
Internet or personal computer	7	4	4	9	0	30	100

Source: Primary data. 2016

From the above Table, when respondents were asked to indicate how many times they accessed the mechanisms in accessing the bank services, it was revealed that majority of the respondents, 21 use the ATM machine more than one time, followed by the respondents who used internet or personal computers who were 9 in number and lastly 8 respondents who used mobile phones to access the bank services more than one time as indicated above. The findings above clearly state that the customers of centenary bank access and use all the mechanisms including; use of mobile phones, use of ATM machines and also internet or personal computers to access bank services, though majority use the ATM machines as expressed by the majority number of respondents as show above.

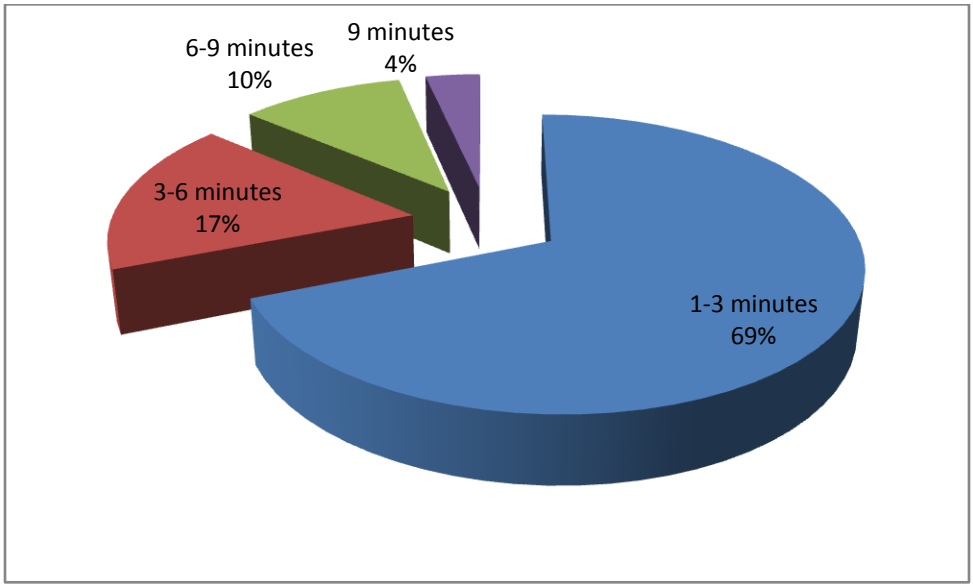
According to the table below, 30 questionnaires were distributed among the 30 respondents (clients) and the response was shown;

Table 8: Time spent accessing services while using the ATM

Response	Frequency	Percentage
1-3 minutes	20	66.6
3-6 minutes	5	16.6
6-9 minutes	3	10
9 minutes	1	3.3
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 11: spent on accessing services while using the ATM



Source: Primary data. 2016

From the above illustrations, when the respondents were asked to state the time they spent accessing the ATM machines, it was revealed that majority number 20(66.6%) spent 1-3 minutes, 5 (16.6%) spent between 3-6 minutes, while 3 (10%) spent 6-9 minutes while 1 respondent with a percentage of 3.3 spent 9 minutes. This implies that many of the respondents knew how to use the ATM machine as indicated by the fewer minutes (1-3) that were being spent in using the machine to withdraw and deposit money or check for statements.

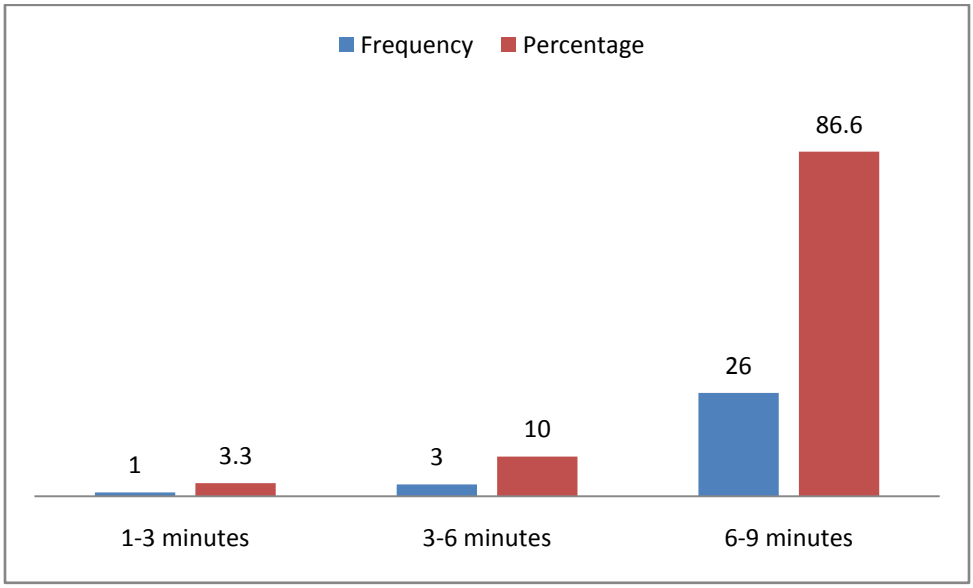
According to the table below, 30 questionnaires were distributed among the 30 respondents (clients) and the response was shown;

Table 9: Time spent on accessing services while using mobile phones

Response	Frequency	Percentage
1-3 minutes	1	3.3
3-6 minutes	3	10
6-9 minutes	26	86.6
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 12: spent on accessing services while using mobile phones



Source: Primary data. 2016

From the above illustrations, when the respondents were asked to state the time they spent accessing the mobile phones while accessing the bank's services, it was revealed that majority number 26(86.6%) spent 6-9 minutes, 3 (10%) spent between 3-6 minutes, and lastly 1(3.3%) spent 1-3 minutes. This implies that many of the respondents take more minutes in using the mobile phones to access bank services compared to the ATM machine which takes fewer minutes. Therefore there is still a gap in the method of using mobile phones due to network

failures, airtime and speed, where by the bank has to improve on the processes used by phone users in accessing their services.

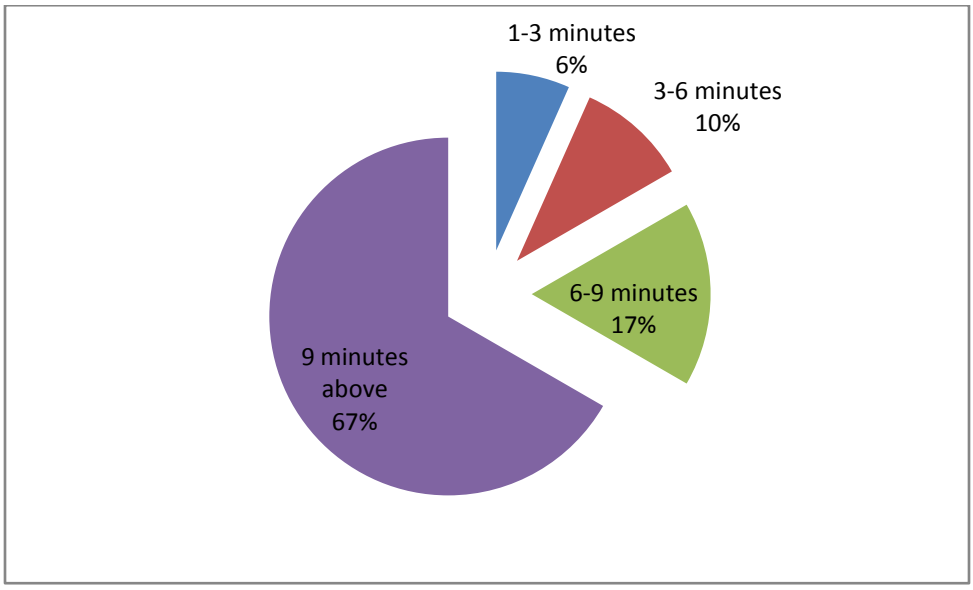
According to the table below, 30 questionnaires were distributed among the 30 respondents (clients) and the response was shown;

Table 10: spent on accessing services while using personal computers or internet banking

Response	**Frequency**	**Percentage**
1-3 minutes	2	6.6
3-6 minutes	3	10
6-9 minutes	5	16.6
9 minutes above	20	66.6
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 13: Time spent on accessing services while using personal computers or internet banking



Source: Primary data. 2016

From the above illustrations, when the respondents were asked to state the time they spent accessing the services of centenary bank using personal computers and internet banking, it was revealed that majority number 20(66.6%) spent 9 minutes and above, then 5 (16.6%) spent

between 6-9 minutes, while 3 (10%) spent 3-6 minutes, and lastly 1 respondent with a percentage of 6.6 spent between 1-3 minutes. This implies that many of the respondents got a problem in trying o use this service such as network failure, low speed, and computer literacy among others. Therefore the bank has to find an easier way of improving the speed of access to their services if one is to use internet banking by seeking the best network provider to improve their customers speed.

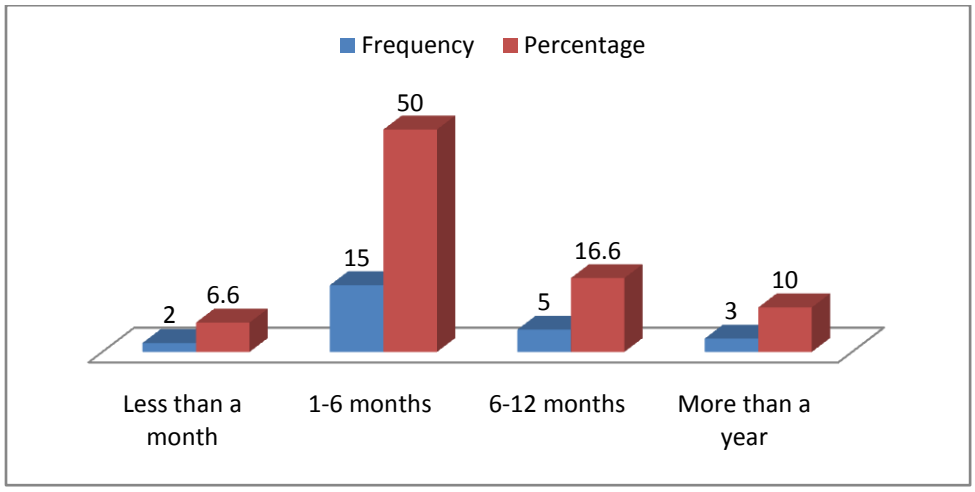
According to the table below, 30 questionnaires were distributed among the 30 respondents (clients) and the response was shown;

Table 11: How long have you used cente mobile banking?

Response	**Frequency**	**Percentage**
Less than a month	2	6.6
1-6 months	15	50
6-12 months	5	16.6
More than a year	3	10
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 14: How long have you used cente mobile banking



Source: Primary data. 2016

From the above Table and figure, when respondents were asked to state the period they had spent using cente mobile banking, it was found that majority number (15) with 50% had spent between 1-6 months, then 5 (16.6%) had also taken 6-12 months using it, while 3 (10%) had spent more than a year using cente mobile wit a percentage of 10% and lastly, 2 96.6%) had spent less than month using the service. The findings above show that majority of the clients had taken averagely 6 months using cente mobile banking though there are few of them that have used it for a year. This also means that the service is still new to the clients in Mbarara and more emphasis has to be put on it to ensure that more clients embrace it and see it to ensure a good and better bank service delivery.

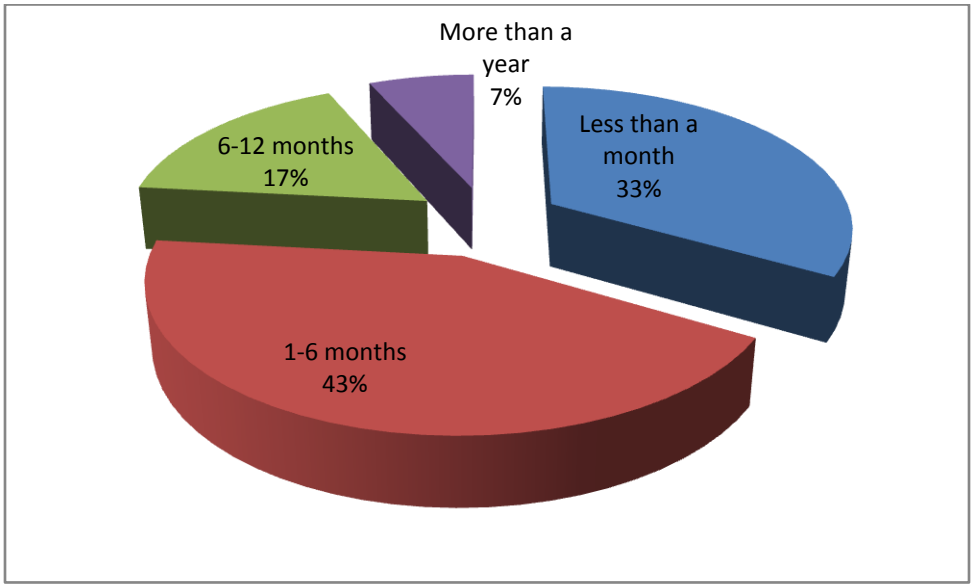
According to the table below, 30 questionnaires were distributed among the 30 respondents (clients) and the response was shown;

Table 12: How long have you used the cente points?

Response	**Frequency**	**Percentage**
Less than a month	10	33.3
1-6 months	13	43.3
6-12 months	5	16.6
More than a year	2	6.6
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 15: How long have you used the cente points?



Source: Primary data. 2016

From the above Table and figure, when respondents were asked to state the period they had spent using cente points, it was found that majority number (13) with 43.3% had spent between 1-6 months, followed by 10 (33.3%) who had spent less than a month accessing the cente points, then 5 (16.6%) who had had also taken 6-12 months accessing it, and lastly 2(6.6%) who had spent more than a year using the cente points. This implies that not many clients had accessed the cente points for a long time and so there was still a gap of encouraging more and more clients to continue its use.

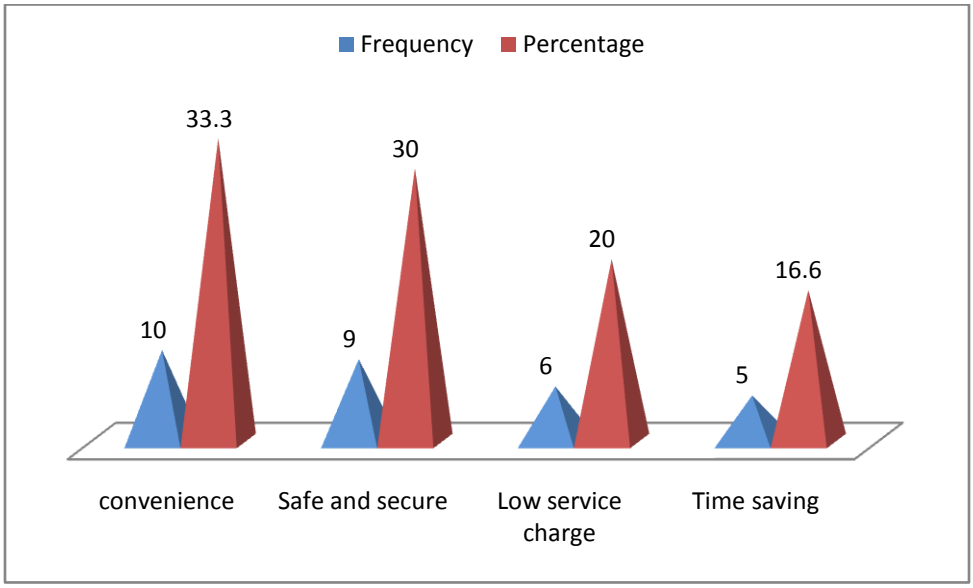
Table 13: Why did you open up an online banking account?

According to the table below, 30 questionnaires were distributed among the 30 respondents and the response was shown;

Response	**Frequency**	**Percentage**
convenience	10	33.3
Safe and secure	9	30
Low service charge	6	20
Time saving	5	16.6
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 16: Why did you open up an online banking account?



Source: Primary data. 2016

From the above Table and figure, when respondents were asked to state the reason as to why they had opened up an online bank account, it was found that majority of the respondents 10(33.3%) stated that it was convenient, 9(30%) stated that it was safe and secure, then 6(20%) had stated that it was due to the own service charges and lastly 5(16.6%) stated that it was time saving. This means that many of the respondents were interested in opening up an online account because of its continence, followed by its being safe and secure. In the same view, a client can make transactions any time anywhere without travelling physically to the bank, has attracted more and more customers to the bank.

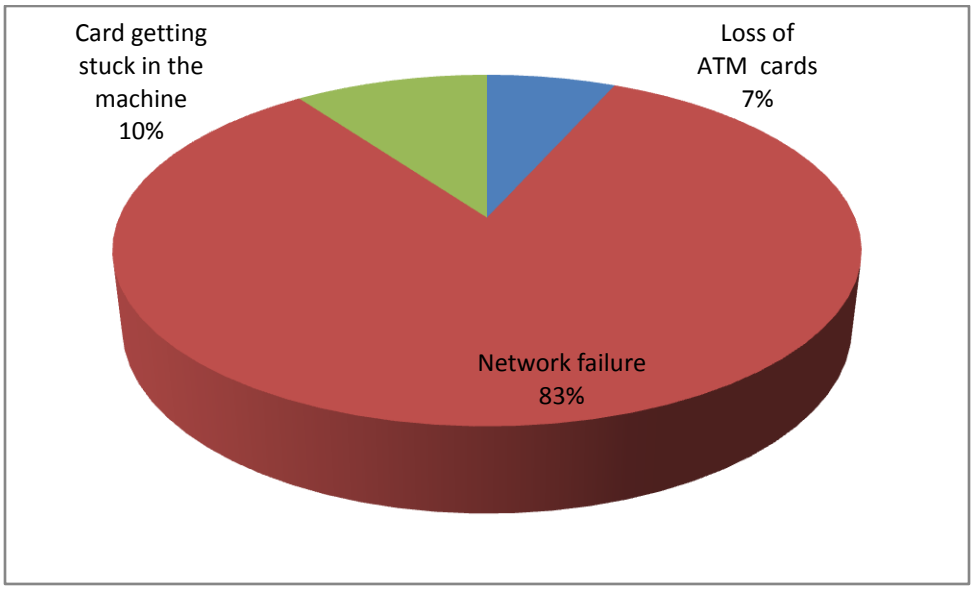
According to the table below, 30 questionnaires were distributed among the 30 respondents and the response was shown;

Table 13: Challenges associated with ATM machines

Response	Frequency	Percentage
Loss of ATM cards	2	6.6
Network failure	25	83.3
Card getting stuck in the machine	3	10
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 17: Challenges associated with ATM machines



Source: Primary data. 2016

From the above illustrations, when the respondents were asked to state the challenges faced in using ATM machines, it was revealed that majority number 25(83.3%) identified network failure, followed by 3 (10%) who identified card getting stuck in the machines and lastly 2 (6.6%) who identified loss of cards as the problem. Therefore, basing on the majority number of 25(83.3%), network problem is the biggest challenge face by many ATM machine users and so Centenary bank Mbarara has to work on that this means that the bank can have a problem with its financial level when there is a problem with the network failure.

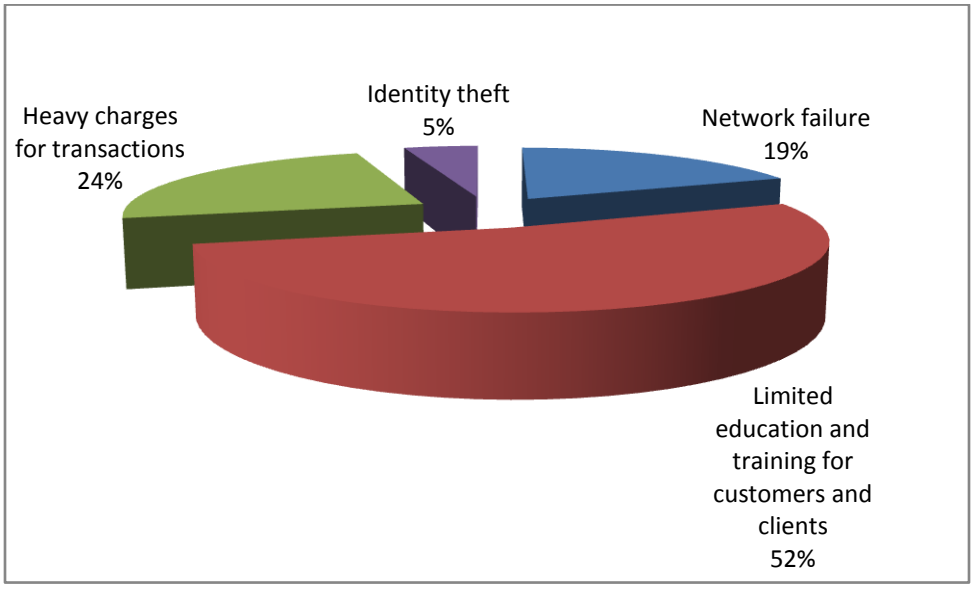
According to the table below, 30 questionnaires were distributed among the 30 respondents and the response was shown;

Table 14: Challenges associated with Mobile Banking

Response	Frequency	Percentage
Network failure	4	13.3
Limited education and training for customers and clients	11	36.6
Heavy charges for transactions	5	16.6
Identity theft	1	3.3
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 18: Challenges associated with Mobile Banking



Source: Primary data. 2016

From the above illustrations, when the respondents were asked to state the challenges faced in using mobile banking, it was revealed that majority number 11(36.6%) identified Limited education and training for customers and clients, followed by 5 (16.6%) who identified Heavy charges for transactions, then 4 (13.3%) who said that Network failure and lastly 1 (3.3%) who identified Identity theft as the problem. Therefore, basing on the majority number of 11(36.6%),

Limited education and training for customers and clients is the biggest challenge face by many clients who use mobile banking. So the bank has to plan for the training of its clients if it wants them to adopt the culture of mobile banking.

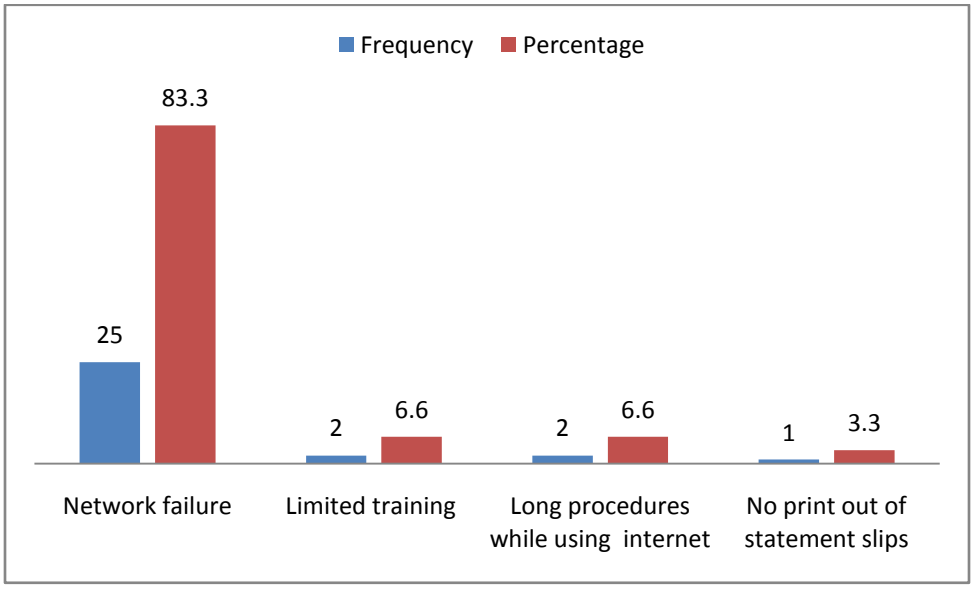
According to the table below, 30 questionnaires were distributed among the 30 respondents and the response was shown;

Table 15: Challenges associated with Internet banking

Response	**Frequency**	**Percentage**
Network failure	25	83.3
Limited training	2	6.6
Long procedures while using internet	2	6.6
No print out of statement slips	1	3.3
TOTAL	**3O**	**100**

Source: Primary data. 2016

Figure 19: Challenges associated with Internet banking



Source: Primary data. 2016

From the above illustrations, when the respondents were asked to state the challenges faced in using internet banking, it was revealed that majority number 25(83.3%) identified Network failure, followed by 2 (6.6%) and 2 (6.6%) who identified Limited training and Long procedures while using internet and lastly No print out of statement slips which was identified No print out of statement slips 1(3.3%) of the respondents. Therefore this means that under the internet use, network failure poses a big challenge which the bank needs to improve.

4.3 Analysis of the variables

In order to determine the contribution of E-banking to the performance of Centenary Bank Mbarara branch, the respondents were asked to indicate the extent of which E-banking affects the performance of Centenary Bank Mbarara branch, using a five point Likert scale. The range was 'Strongly Agree' (5) to 'strongly disagree' (1). The scores of strongly disagree and Disagree have been taken to present a variable which had an impact to a small extent of contribution (S.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq S.E < 2.4$).

The scores of 'Not sure' have been taken to represent a variable that had an impact to a moderate extent of usage (M.E.) (equivalent to a mean score of 2.5 to 3.4 pm the continuous Likert scale: $2.5 \leq M.E. < 3.4$). The score of both 'Agree' and 'Strongly Agree" have been taken to represent a variable which had an impact to a large extent of usage (L.E.) (equivalent to a mean score of 3.5 to 5.0 on a continuous Likert scale; $3.5 \leq L.E. < 5.0$). A standard deviation of >1.5 implies a significant difference on the impact of the variable among respondents.

Table 16: Rating of level of profitability accessed through use of Electronic devices in the bank

Electronic devices used	Mean	Std. Deviation
More through use of ATMs	3.2857	.90238
More through Personal computers	3.0952	1.75798
More through use of mobile phones	2.4545	1.26217

Source: Primary data, 2016

The respondents rated the levels of profitability accessed from use of electronic devices as follows; to a large extent: ATMs (mean of 3.2857), Personal computers (mean of 3.0952), and lastly through mobile phones (mean of 2.4545). There was no variation in the respondents rating as indicated by low values of the standard deviations. This means that more of the respondents in Mbarara revealed that Centenary bank made more profits from customers using ATM machines compared to the other electronics as expressed above.

The respondents were also asked the extent of Time spent on using electronic devices in the bank. The results were given in table

Table 17: Extent of Time spent on using electronic devices

	Mean	**Std. Deviation**
How much time do you spend on accessing services while using the ATM machine?	1.3182	.56790
How much time do you spend on accessing banking services while using mobile phones?	2.0909	.81118
How much time do you spend on accessing banking services while using personal computers or internet banking?	3.8333	.51450

Source: Primary data. 2016

As indicated in Table 3 above, it was revealed that more time was being spent on accessing banking services while using personal computers or internet banking (Mean of 3.8333), followed by those who spent much time on accessing banking services while using mobile phones (Mean of 2.0909) of 4.4615) and lastly by those who spent much time accessing services while using the ATM machine payment system. This implies that majority number of the clients of centenary

bank go to the bank and line up in queues to be offered services through the use of computers while others do it personally on their computers to access bank services. However this is quite disturbing because as revealed earlier in table 5, majority o the bank clients use more ATMs than computers.

The respondents were asked to state how long they had spent using the ATMs of centenary bank Mbarara included; 1-3 minutes, 3-6 minutes, 6-9 minutes, 9 minutes and above. The results were given in table 8.

Table 18: Time spent in accessing the bank's ATM machine mobile

Period spent	**Mean**	**Std. Dev**
1-3 minutes	3.7409	.7776
3-6 minutes	3.7308	.7675
6-9 minutes	3.1538	1.0005
9 minutes	3.5001	.8054

Source: Primary data. 2016

In terms of time taken in using an ATM machine, majority number stated that they could take 1.3 minutes (Mean of 3.7409), followed by those who spent 3-6 minutes (Mean of 3.7308), followed by those that spend 9 minutes using the machine (Mean of 3.5001) and lastly those that took 6-9 minutes (Mean of 3.1538). This clearly means that many of the respondents spent 1-3 minutes using the ATM machine, which implies that many of them know how to use the machine well as indicated by the little time taken.

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The respondents were asked to rate the extent to which e-banking has enabled them to use Cente mobile of the banks in terms of, how long and relevance. The results were given in table 10 below

Table 19: The extent to which e-banking has enabled them to use Cente mobile

		Mean	Std. Dev
How long	Less than a month	4.0769	.8449
	1-6 months	4.0000	.8000
	6-12 months	4.1538	.8806
	More than a year	3.6154	.75243
For what relevance	Convenience	3.0385	.77360
	Safe and secure	3.0769	.79614
	Low service charge	3.4231	.80861
	Time saving	4.5769	.80861

Source: Primary data. 2016

In terms of How long the respondents used cente mobile, many had spent between 6-12 months (Mean of 4.1538), followed by those who had taken less than a month with (mean of 4.0769), then those who had spent1-6 months (mean of 4.000) and lastly those who had take more than a year with (Mean of 3.6154). This means that since majority had spent 6-12 months that many of the respondents had an idea about cente mobile. In terms of relevance; Time saving (Mean of 4.5769), Low service charge with (Mean of 3.4231), Safe and secure with (Mean of 3.0769) and Convenience with (Mean of 3.0385) had influenced performance of cente mobile to a large extent.

The respondents were asked to rate the extent to which challenges of E-banking influenced performance of the bank in terms of challenges on ATM use, Mobile banking and Internet banking. The results were given in table 6 below

Table 20: Challenges of E-banking on performance of the bank

Electronic device	Challenge	Mean	Std. Dev
Challenges associated with ATM machines	Loss of ATM cards	3.5238	.87287
	Net work failure	3.6364	.78954
	Card getting stuck in the machine.	3.4286	.92582
Challenges associated with mobile banking	Network failure	3.6364	.78954
	Limited education and training for customers and clients	3.0500	.82558
		3.1500	.74516
	Heavy charges for transactions	3.6000	.75394
	Identity theft	3.5238	.87287
Challenges associated with internet banking	Network failure	3.7500	1.06992
	Limited training	3.4500	1.23438
	Long procedure while using the internet	3.5500	1.14593
	No print out of the statements slips	3.4286	1.43427

Source: Primary data. 2016

In line with the challenges associated with ATM use; Loss of ATM cards (Mean of 3.5238), Network failure (Mean of 3.6364), and lastly Card getting stuck in the machine (Mean of 3.4286). This implies that the major challenge that was being faced by clients of centenary bank in Mbarara was network failure with a mean of 3.6364, followed by the problem of losing ATM cards and lastly the problem of ATM cards getting stuck in the machine.

In terms of Challenges associated with mobile banking, it was revealed that the problem of network failure with (Mean of 3.6364), Limited education and training for customers and clients (Mean of 3.0500), Heavy charges for transactions (Mean of 3.6000), and lastly Identity theft

(Mean of 3.5238). This means that the major challenge in dealing with the issue of mobile banking is network failure that delays the process followed by heavy charges for transactions, which the bank has to improve.

As per the problem of internet banking, Network failure (Mean of 3.7500), Limited training (Mean of 3.4500), Long procedure while using the internet (Mean of 3.5500), and lastly No print out of the statements slips (Mean of 3.4286). Meaning that the greatest challenge associated with internet banking at Centenary bank Mbarara is Network failure, followed by the issue of long procedures in using the internet. Therefore the issue of network failure had influenced the performance of Centenary bank Mbarara to a large extent.

4.4 Conclusion

From the data findings above, it was indeed found that the three independent variable under E-Banking which included use of ATM machines, use of mobile phones and lastly the use of internet banking or personal computers significantly affected the performance of centenary bank Mbarara branch as expressed above in the data findings. In the same view still, ATM machine use was found to be popular among the respondents and they indeed knew how to use it. Never the less many of the respondents had a few challenges in accessing and using the other two mechanisms of mobile phone banking and personal computers due to network failure n therefore this is a gap that needs attention.

CHAPTER FIVE

SUMARRY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

In this chapter, the researcher made conclusions from the research and made recommendations for future use, conclusions were made from the finding of the study which was carried out from the bank and the customer. The chapter summarizes the findings from the study, conclusions and the recommendations.

5.1 Summary and conclusions

The findings from the study show that Centenary bank has a functioning E-banking system and it has managed to integrate the performance of the bank. The researcher found out that different services can also be used when using the E-banking system and these include withdrawing money and financial statement inquiry and these can be done through the Automated Teller Machines, internet banking and mobile banking.

From the findings, the researcher found out that there are different challenges encountered by centenary bank while adopting the E-banking system and they include network failure, identity theft, and ignorance of the customers on how the system operates the long procedure on how the system operates.

The findings also show that the information communication technology has a positive impact on the performance of the bank through making profits through the ATM, mobile phones, internet banking, time saving , convince .the system also enhanced the security on the accounts hence a positive impact on the bank performance while using the E-banking system as Centenary bank.

Through the introduction of E-banking in Centenary bank Mbarara branch was to improve on the performance of the bank and this was impacted positively to the bank since more people have resorted to the system. Though the system is positively impacted, there are some challenges with E-banking which the bank faces and it needs to be worked upon and these include:

Loss of the ATM, network failure, identity theft, heavy charges for the transactions, limited education and training for customers and clients.

The study showed that the bank had complied with the use of e banking which was evidenced through the benefits of the system which include the profitability of the system, customers accessing the transactions 24hours and also the number of customers have greatly increased in centenary bank and not only in Mbarara but also country wide in bank as a whole. Therefore through such benefits, the bank has gained greatly in its performance through the E-banking system since customers have gained trust, commitment in the banking system of centenary bank Mbarara branch.

In conclusion, there has been a great and effective improvement in the bank performance with the use of E-banking facilities and this has led to the increase in the productivity with the banking institution.

5.2 Recommendations

For E-banking to improve on the bank performance, the following recommendations should be done.

Maintenance and repair of e-banking facilities and any facilities that are related to e-banking that is to say the ATM in order to avoid system disruptions when customers are accessing the banking facilities.

The banking industry and Uganda as a whole should take good advantage of the benefits of E-banking and make optimum use of its capabilities. The technology in general helps the bank to achieve its goals and objectives in order to achieve better services to the customers.

Banks should employ the use of systems that can help them handle customers without any congestion which happens at times in the bank as the system slows down.

The bank should educate its customers on how to use the banking systems since some do not really know how to use them due to ignorance on the technology is used in the bank therefore they should educate the clients on how they operate and how they use it.

5.3 Areas for further research

The future researchers should take time to look deeper into the issues and determine the attributes of E-banking and Bank Performance since this was a trial and fail test study.

Future research should also be done on the strategies that can be done to solve all the challenges affected by E-banking in order to enhance the market acceptance in the banking industry.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

Dear Respondent,

I am Nalunkuma Bridget conducting research on E-banking and Bank Performance in Uganda as part of my academic endeavour at Uganda Martyrs University for the award of a bachelor's degree in Business Administration and Management.

As a staff of Centenary Bank in a position of responsibility, I kindly request that you complete this questionnaire by giving appropriate responses. I very much appreciate your contribution towards my academic success.

Part 1: Background of the respondent

Tick where appropriate

1. Gender

   Male ☐

   Female ☐

2. Please indicate your age bracket

   20 years and below ☐ 30-40 years ☐

   20-30 years ☐ 40 and above ☐

3. As a staff of centenary bank, what position do you hold?

   .....

4. Working experience in terms of years in centenary Bank

   1-5 years ☐ 10-15 years ☐

5-10 years ☐ 15 years and above ☐

5. Level of education

Certificate ☐

Diploma ☐

Degree ☐

Masters ☐

Others please specify.....

Part 2 Observed variables

With the following statements please rate your perspective ranging from 1-5

Strongly Disagree	Disagree	Agree	Strongly Agree	Not sure
1	2	3	4	5

		1	2	3	4	5
1.	Centenary bank makes profits through the use of ATMs					
2.	Centenary bank makes profits through mobile banking					
3.	Centenary bank makes profits through internet banking and PC banking					

		1	2	3	4	5
1	Most of the bank customers use ATMs					
2	Most of bank customers use mobile banking					
3	Most bank customers use internet or PC banking					

APPENDIX II: QUESTIONNAIRE

Dear Respondent,

I am Nalunkuma Bridget conducting research on E-banking and Bank Performance in Uganda as part of my academic endeavour at Uganda Martyrs University for the award of a bachelor's degree in Business Administration and Management.

As a Client of Centenary Bank in a position of responsibility, I kindly request that you complete this questionnaire by giving appropriate responses. I very much appreciate your contribution towards my academic success.

Part 1: Background of the respondent

Tick where appropriate

1. Gender

   Male ☐

   Female ☐

2. Please indicate your age bracket

   20 years and below ☐ 30-40 years ☐

   20-30 years ☐ 40 and above ☐

3. For how long have you banked with centenary bank?

   s

   1-5 years ☐ 10-15 years ☐

   5-10 years ☐ 15 years and above ☐

4. Level of education

   Certificate ☐

   Diploma ☐

   Degree ☐

   Masters ☐

   Others please specify.....

Part 2 Observed variables

With the following statements please tick where appropriate

1. How often do you use the following mechanisms to access the banking services?

		Less than1 time	1-5 times	5-10 times	More than 10 times	Never
1	Mobile phones					
2	ATM machines					
3	Internet or personal computer					

2. How much time do you spend on accessing services while using the ATM machine?

   1-3 minutes

   3-6 minutes

   6-9 minutes

   9 minutes and above

3. How much time do you spend on accessing banking services while using mobile phones?

1-3 minutes

3-6 minutes

6-9 minutes

9minutes and above

4. How much time do you spend on accessing banking services while using personal computers or internet banking?

1-3 minutes

3-6 minutes

6-9 minutes

9 minutes and above

5. For how long have you used cente mobile banking?
    1. Less than a month
    2. 1-6 months
    3. 6-12 months
    4. More than a year

6. For how long have you used the cente points?

1. Less than a month
2. 1-6 months
3. 6-12 months
4. More than a year

7. Why did you open up an online banking account?

1. Convenience
2. Safe and secure

3. Low service charge

4. Time saving`

If others please specify ,

.....

.....

.....

.....

Part 3 observed variables

With the following statements, please rate your perspective ranging from 1-5

Strongly disagree	Disagree	Agree	Strongly agree	Not sure
1	2	3	4	5

The following are some of the challenges associated with ATM machines

1	Loss of ATM cards	1	2	3	4	5
2						
3	Net work failure					
4	Card getting stuck in the machine					

If others please specify,

.....

.....

.....

.....

The following are some of the challenges associated with mobile banking

		1	2	3	4	5
1	Network failure					
2	Limited education and training for customers and clients					
3	Heavy charges for transactions					
4	Identity theft					

If others please specify ,

.....

.....

.....

.....

The following are some of the challenges associated with internet banking

1	Network failure	1	2	3	4	5
2	Limited training					
3	Long procedure while using the internet					
4	No print out of the statements slips					

If others please specify,

.....

.....

.....

.....

THANK YOU.

APPENDIX III: INTRODUCTORY LETTER

Uganda Martyrs University

making a difference

Office of the Dean
Faculty of Business Administration and Management

Your ref.:
Our ref.:

Nkozi, 16th March, 2016

To Whom it may Concern

Dear Sir/Madam,

Re: Assistance for Research:

Greetings and best wishes from Uganda Martyrs University.

This is to introduce to you NALWANKUMA BRIDGET. who is a student of Uganda Martyrs University. As part of the requirements for the award of the Degree of Bachelor of Business Administration and Management of the University, the student is required to submit a dissertation which involves a field research on a selected case study such as a firm, governmental or non governmental organization, financial or other institutions.

The purpose of this letter is to request you permit and facilitate the student in this survey. Your support will be greatly appreciated.

Thank you in advance.

UGANDA MARTYRS UNIVERSITY OFFICE OF THE DEAN FACULTY OF BUSINESS ADMINISTRATION & MANAGEMENT SIGN:.....

Yours Sincerely,

Mr. Edward Segawa
Associate Dean

Uganda Martyrs University P.O. Box 5498 - Kampala - Uganda
Tel: (+256)038-410603 Fax: (+256) 038-410100 E-mail: bam@umu.ac.ug