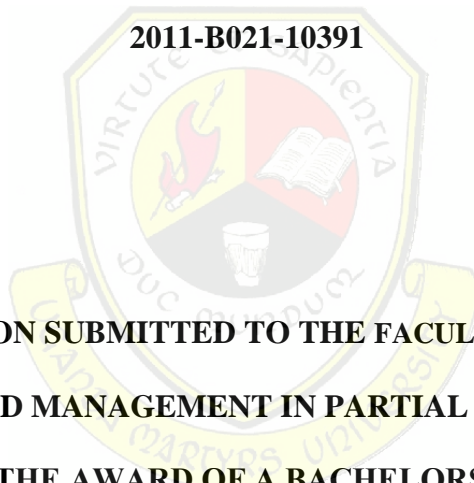


**THE EFFECT OF INFORMATION TECHNOLOGY ON THE PERFORMANCE OF
COMMERCIAL BANKS IN UGANDA**

A CASE STUDY OF CENTENARY BANK, KAYABWE BRANCH

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REQUIREMENTS FOR THE AWARD OF A BACHELORS' DEGREE IN BUSINESS
ADMINISTRATION AND MANAGEMENT OF
UGANDA MARTYRS UNIVERSITY**

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Dedication

It is my pleasure to dedicate this study to my Sponsor FAWE Uganda, my Parents Ongom Joseph, Ayen Silvia, my guardian Madam Kirungi Christine Rwankote and brothers and sisters, Emmanuel, Calvin and Milly and Otto Boniface (RIP).

And to all FAWE students in various Universities.

Acknowledgement

First I would like to thank the almighty God for having given me the grace to go through the ups and downs in order to come to the end of the course.

My special thanks goes to my loving sponsor FAWE Uganda Chapter, which has contributed tirelessly in sponsoring my education since my senior one up to now, and very constructive pieces of advice that have paved way for me to develop my career.

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I wish to express my humble gratitude to my supervisor, Mr. Mugerwa Richard, for his candid guidance and sacrifice of his time to attend to me during the conduct and compilation of this research.

For all the above and those I have not specifically mentioned, I request you to accept my sincere gratitude for your support. May God bless you all.

TABLE OF CONTENTS

Approval	i
Declaration.....	ii
Dedication	iii
Acknowledgement	iv
TABLE OF CONTENTS	v
Lists of Tables.....	ix
List of Figures.....	x
List of Abbreviations	xi
Abstract.....	xii
CHAPTER ONE	1
INTRODUCTION.....	1
1.0 Introduction.....	1
1.1 Background of the study	2
1.2 Statement of the Problem.....	5
1.3 Objectives of the Study	6
1.3.1 Main objective	6
1.3.2 Specific objectives	6
1.4 Research Questions	6
1.5 Scope of the study.....	7
1.5.1 Content scope.....	7
1.5.2 Geographical scope	7
1.5.3 Time scope	7
1.6 Significance of the study.....	8
1.7 Justification of the Study	9
1.8 Definitions of Key Terms	10
1.9 Conceptual Framework.....	11

CHAPTER TWO	13
LITERATURE REVIEW	13
2.0 Introduction.....	13
2.1 Overview of Banking sector and Information Technology	13
2.2 Actual Review of Literature.....	15
2.2.1 Mobile Banking and time management of bank’s Customers	15
2.2.2 The Use of ATM and the productivity of Banking Sector.....	20
2.2.3 Internet Banking and sales growth of Banks	24
2.3 Conclusion	28
 CHAPTER THREE	 29
RESEARCH METHODOLOGY	29
3.0 Introduction.....	29
3.1 Research design	29
3.2 Area of the Study	30
3.3 Study Population.....	30
3.4 Sampling procedures.....	31
3.4.1 Sample Size.....	31
3.4.2 Sampling techniques	33
3.5 Data sources	34
3.5.1 Primary data	34
3.5.2 Secondary data	34
3.6 Data Collection Methods	34
3.6.1 Questionnaire	34
3.6.2 Interview	35
3.6.3 Observation method	36
3.7 Data Collection Instruments	36
3.8 Quality control methods.....	36

3.8.1 Validity	36
3.8.2 Reliability.....	37
3.9 Research procedure	37
3.10 Data analysis and presentation.....	38
3.10.1 Quantitative data	38
3.10.2 Qualitative data	38
3.11 Ethical Consideration.....	38
3.12 Limitations of the Study.....	40
CHAPTER FOUR.....	41
DATA PRESENTATION, ANALYSIS AND DISCUSSION	41
4.0 Introduction.....	41
4.1 Background Characteristics of the respondents	41
4.1.1 Position of the respondents	42
4.1.2 Gender of the respondents	43
4.1.3 Age distribution of the respondents	44
4.1.4 Experience of the respondents	45
4.2 Presentation, Analysis and discussions of the findings	46
4.2.1. Effect of Mobile banking on time management on Bank' Customers.....	46
4.2.2: The use of ATMs and the productivity of the Bank	53
4.2.3 Internet banking and sales growth of the bank	59
4.3 Conclusion	65
CHAPTER FIVE	66
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	66
5.0 Introduction.....	66
5.1 Summary of the findings.....	66
5.1.1 Mobile banking and time management of customers	66

5.1.2 The use of ATMs and Bank’s productivity.....	68
5.1.3 The effect of Internet banking on Bank’s sales growth	69
5.2 Conclusion	70
5.2.1 Mobile banking and time management of customers	70
5.2.2 The use of ATM and bank’s productivity.....	70
5.2.3 Internet banking and Bank’s sales growth.....	70
5.3 Recommendations.....	71
5.4 Suggestions for further investigations	73
REFERENCES.....	74
Appendix I: Questionnaire Survey.....	80
Appendix II: Interview Guide.....	86
Appendix III: Work plan	87
Appendix IV: Research Budget	88
Appendix V: Picture Showing Some of the Payments through Mobile Banking In Centenary Bank.....	89
Appendix VI: Services offered through Mobile banking.	90
Appendix VII: An outlook of the branch ATM Machine	91

Lists of Tables

Table 1: Showing summary of various Mobile banking services.....	19
Table 2: Showing the Classification of respondents.....	31
Table 3: Computation of sample size per category of respondent.....	33
Table 4: The respondents' Position in the bank.....	42
Table 5: Gender of the respondents	43
Table 6: Age distribution of the respondents	44
Table 7: Experience of the respondents	45
Table 8: This Bank offers Mobile banking (CenteMobile) services.....	46
Table 9: Mobile banking affects the time management of bank's clients	47
Table 10: The long line in the Bank is caused as a result of non-Mobile banking services	48
Table 11: It is easy to use Mobile payment system	49
Table 12: Clients are often updated on their phones in case of transaction on their accounts	50
Table 13: The overall satisfaction level about Mobile banking on time management of clients	52
Table 14: Number of respondents using ATM cards.....	53
Table 15: How often do you visit ATM machine?	54
Table 16: The use of ATMs affects the productivity of this Bank	56
Table 17: Percentage of productivity increases because of using ATM machine	58
Table 18: Does this bank offer internet banking?.....	59
Table 19: How long have you been using internet banking?.....	60
Table 20: Internet banking provides more revenue than Traditional banking.....	61
Table 21: The relationship between Internet Banking and Bank sales growth?.....	63
Table 22: The major purposes for using Internet Banking	64

List of Figures

Figure 1: Conceptual Framework	11
Figure 2: Pie chart showing how often clients visit ATM Machine	54
Figure 3: Showing internet banking provides more revenue than traditional banking.....	62

List of Abbreviations

ABBREVIATIONS	MEANING
ATM	Automated Teller Machine
CERUDEB	Centenary Rural Development Bank
E-Commerce	Electronic Commerce
EFT	Electronic Fund Transfer
ICT	Information Communication Technology
IT	Information Technology
NSSF	National Social Security Fund
NWSC	National Water and Sewerage Corporation
PC	Personal Computer
PIN	Personal Identification Number
POS	Point of Sale
The SPSS	Statistical Package for the Social Scientists
UMU	Uganda Martyrs University
USD	United States Dollar
VSAT	Very Small Aperture Terminal

Abstract

This study sets out to ascertain the effect of Information Technology on the performance of Commercial Banks with a case study in Centenary Bank, Kayabwe branch. It specifically looked at the effect of Mobile banking and the use of ATMs on the time managements of Bank's clients and Bank's productivity respectively and also to establish the effect of internet banking on sales growth of the Bank.

A descriptive cross- sectional survey was used in the study; both quantitative and qualitative techniques were employed in the data collection process, analysis, presentation and discussion of findings. The data used in this study was both secondary and primary, a stratified random sampling technique was employed to 52 respondents consisting of; management, employees and customers of Centenary Bank, Kayabwe branch using self-administered questionnaires, oral interviews were carried out on the four (4) management and observations made where necessary.

The results of the study generally indicates that Information Technology has contributed positively to the performance of banking services in Centenary Bank, Kayabwe branch particularly ATMs being the most popularly used (98%), followed by Mobile banking (Cente-Mobile) with 76% and lastly Internet Banking (30%) which is not fully administered and popularized to most of the clients .From the findings, There are risks involved in using Mobile banking, internet banking and the use of ATMs with internet banking considered to be most risky.

From the study findings, it can be concluded that Information Technology positively affect the performance of Centenary Bank, Kayabwe branch thus increasing their productivity, Bank's sales growth, improving time management of clients and consequently leading to a more than expected performance by the Bank.

Therefore for Centenary Bank, Kayabwe branch to improve their performance and remain competitive in banking sector, there is a considerable need to be innovative by adopting various IT innovations. The study also recommends increased investment in IT innovations by providing a thorough training on various banking technology usage and developing strategies in solving risks associated with each banking technology to all various stakeholders of Centenary Bank and other Banks in Uganda in order to be competitive and to improve on their performance.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The advent of information revolution has led to the second industrial revolution which has seen computers create far reaching transformation the global world today. In recent years, the global scene of all forms of activity has gone under a rapid change and the way things are done has also changed. These changes have occurred in all fields and are strongly pronounced in the field of banking.

According to Mulira (2003), two factors are increasingly clear and they are all involved in banking and financial activities under these new environmental conditions. Firstly, it is no longer possible to continue using the old work technology and become effective in managing modern banking activities. Secondly, modernization of work technology without reasonable command and control over the new technology may lead to loss of managerial effectiveness in the ever changing environment. Commercial institutions has a leading role in their economies and are progressively seeing computerization as part of their core operations because past experience and intuition are becoming irrelevant in the face of complex and new situations faced by commercial institutions.

Therefore, the chapter presents the background of the study, statement of the problem, purpose of the study, research questions, scope of the study, significance of the study, justifications, definitions of key terms and Conceptual framework.

1.1 Background of the study

According to Agboola (2004), the application of Information and Communication Technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all Banks and indeed a pre-requisite for local and global competitiveness. He further argues that ICT directly affects how managers decide, plan on what products and services to offer in the banking industry; similarly, it has continued to change the way banks and their corporate relationships are organized worldwide and the variety of innovative devices available to enhance the speed and quality of service delivery.

Mugenda and Mugenda (2003) approach was used to develop the background of the study as seen below;

The advances in Information Technologies in the last two decades have introduced unprecedented changes in the conduct of economic activities. The employment of information technologies (IT) in manufacturing and related activities has been an important source of global competitiveness of manufacturing firms. Late industrialisers, such as in Sub-Saharan Africa, have been left behind in the global competition (Jelilian et al., 2000 and Mshomba, 2000). However, investment in IT and its application in manufacturing activities can spur substantial productivity increases that would significantly improve the performance of African firms. While studies that have surveyed the state of the African industry abound, studies that pay particular attention to the adoption and use of IT in African manufacturing are rare. The ability of African firms to efficiently employ IT to further their competitiveness is a new challenge that should be understood in designing and implementing policies that promote industrial growth in the new era of information economy in the banking sector (Jelilian et al., 2000).

In Nigeria, Information Technology (IT) has revolutionized banking, transforming the banking industry into a vibrant enterprise (Adeosun et al, 2009). The transformation implies that the Nigerian banking industry, which is dominated by Commercial Banks, has continued to invest heavily in IT product and services and these include hardware, software, telecommunication, training, consulting, and outsourcing. Commercial Banks' investment in IT accounts for about 70% of the industry's total Investment cost and 46% of the total organizational IT spending in Nigeria (Central Bank of Nigeria, 2009).

In addition, Information technology acquisition and deployment is capital-intensive and requires deliberate commitment for success, even more so when building IT Infrastructure as practiced by Nigerian commercial banks. Agboola and Salawu (2008) argues that ,some banks have built private, Very Small Aperture Terminal (VSAT) satellite systems to overcome the challenges posed by the lack of communication infrastructure in Nigeria's banking industries. Ayankotun (2008) notes that Nigerian commercial banks spent 114 million US dollars yearly on information technology equipment. In 2009, the 24 commercial banks in the country spent more than 107 million US dollars on IT and related services

In Uganda, many Commercial Banks have valued the importance of Information Technology such as electronic banking, Mobile banking and ATMs in improving the profitability and the overall efficiency of their business, (Abaasa, 2007). They have similarly allocated substantial resources for internet banking adoption and begun to build infrastructures to support a more reliable and quicker transfer of information to reach their customers (Thornton and White, 2001).

For the purpose of this study, the task of Information Technology in the community of Centenary bank, restricted and foreign sector banks is to evaluate and measure the observation of the Bank Employees towards the Implementation of Information Technology in the Banks also to assist the awareness and fulfillment of the clients with the banks. Information Technology has been providing clarification to financial organization to take care of their accounting and back office requirements. It also facilitates and speeds up the automation of modern supply controls, such as Automated Teller Machines (ATM), Internet Banking and Mobile Banking (Cente-Mobile). In this bank information system , there are always crisis which makes the bank endure an insufficiency thus advanced Information System supported by a superior mechanism control is required to make certain that an Information Technology has achieved the required processing.(Centenary Bank Annual Report, 2012).

Because of that, the study aim to explore the effect of Information Technology usage and performance of Centenary Bank, in banking management and then search the impact on improving the performance to both policy makers, banks and their clients

1.2 Statement of the Problem

As the intensity of computer use in business has greatly improved over the years, this has helped commercial institutions to improve on their overall financial positions by promoting transparency, accountability and efficiency through faster capturing, processing and communication in information.

Despite of that, most banks are faced with the challenge of delivering effective services which can satisfy their customers. In the effort to deliver effective services, the banking sector undertakes numerous approaches and among them is the use of Information Technology (Marion, 2008).

Although the Banking sector is using Information Technology, banks still find it difficult to properly sort out transactions thereby leading to loss of trust by customers, also the banks have found it a challenge to grow and meet up with their responsibilities to shareholders and other stakeholders of the Banks. Irrespective of the fact that banks are making much profit, they still suffer from liquidity problems which is said to be as a result of insolvency (Gichau, 2008).

Similarly, the Centenary Bank Annual Report (2012) indicates that, the bank in 2011 experienced a high staff turnover , the ratio of non-performing loans , dormant customer accounts has been increasing year after year (Centenary Bank, loan portfolio analysis and performance management reports 2004-2011) indicating poor staff performance such as a decreased in earning after tax by 2.5%.

It is based on this background that the researcher recognized the need to investigate the reasons behind the poor performance despite the high level of computerization in the bank and how they can be overcome in order to enable the bank to effectively meet their objectives.

1.3 Objectives of the Study

1.3.1 Main objective

The main objective of the study was to establish the effect of Information Technology on the performance of Commercial Banks with specific reference to a case study of Centenary Bank, Kayabwe branch.

1.3.2 Specific objectives

- (i) To find out whether Mobile Banking affects the time management of clients in Centenary bank, Kayabwe branch.
- (ii) To examine the effect of using ATMs on the productivity of Centenary Bank, Kayabwe branch.
- (iii) To establish the effect of Internet Banking on sales growth of Centenary Bank, Kayabwe branch.

1.4 Research Questions

- (i) What is the effect of Mobile banking on the time management of clients of Centenary Bank, Kayabwe Branch?
- (ii) What is the effect of using ATMs on the productivity of Centenary Bank, Kayabwe Branch?
- (iii) What is the effect of internet banking on sales growth of Centenary bank, Kayabwe Branch?

1.5 Scope of the study

According to Onen (2008), the scope of the study can be defined as the delimitation of the study and it refers to a description of the boundary of the study in term of content, geographical and time.

1.5.1 Content scope

The study concentrated on establishing the effect Information Technology has on the performance of Centenary Bank, Kayabwe branch. The study focuses on the Information Technology which was the independent variable with several indicators or dimensions considered which include; Mobile Banking, Internet Banking, Electronic Fund Transfer (EFT) and the use of ATMs. Performance of Commercial Bank was the dependent variable having the following measures and dimensions; Time management, productivity and sales growth.

1.5.2 Geographical scope

The study was conducted at Centenary Bank, Kayabwe branch located along Kampala-Masaka highway in Mpigi district approximately 83 kilometers south west of Kampala, one kilometer from the equator, this case study was selected because it has computerized Information System with which ease their operations. All departments that use Information Technology systems were covered by the study.

1.5.3 Time scope

The researcher mainly focused on the three (3) years to gather the information that was from 2011 to 2014. The researcher focused on the period to estimate the possible effects of Information Technology and performance of Commercial Banks in that particular period since in 2011 Centenary Bank faced a high turnover of staffs, high ratios of non- performing loans, dormant customer Bank accounts and reduction in earnings after tax.

The findings helped the researcher to estimate the possible ways on how to improve on the banking performance in Commercial Banks using the Information Technology.

In addition, this period was also long enough for the researcher to analyze the performance levels properly and determine the extent of Computerization in the bank and find out the truth about the bank under study and coming up with strategies of reducing on the level of poor performance in the bank.

1.6 Significance of the study

In light of objectives which this study was set to achieve, the following were the significances of the study to researcher, policy makers, Government, management of Centenary Bank and their clients;

First, the study benefits Centenary Bank as it provides a useful framework for analyzing the strategic significance of Information Technology. It also widens business scope, improving customer service, targeting markets and adding value to their products and services as well as improving delivery of information in a just in time basis and creating strategic alliances based on effective information handling.

Similarly, it also benefits this organization as well as individuals intending to introduce Information Technology to guide them in avoiding problems and risks associated with the use of ATMs, Mobile banking, internet banking and to reduce the costs of operation. All these improve on their competitiveness with their rival firms.

Secondly, the study benefits Government and management of Centenary Bank, since information technology provides timely, accurate, relevant and reliable information that is

very useful for decision making, problem solving, planning , control and management of trends of economic activities within the country.

Finally the researcher needed this information because it was essential in partial fulfillment of the requirement of an award of a Bachelor Degree in Business Administration and Management of Uganda Martyrs University.

1.7 Justification of the Study

Competition in Commercial Banks has significantly become very stiff, to overcome this competition, Commercial Bank need to invest heavily on IT innovation such as Mobile Banking, the use of ATMs and Internet Banking (Agboola,2004).

In addition, Adeosun et al (2009) asserts that the digital age and the potential threats posted by the non-traditional competition which necessitate innovation has made it inevitable for Uganda commercial bank to improve upon their operation has the face revolution are being confronted with increasing customer base compelling them to offer what their customer would be expecting tomorrow.

Banks have to deviate from just being a profit making banks to a more conscious customers centered institution by using information technology such as Mobile banking, internet banking and the use of ATMs in order to improve on their competitiveness (Adeosun et al, 2009).

In 2011, there was poor performance of staffs in Centenary Bank which was characterized by non-performing loans, reduced deposits due to failure to attract customers and dormant customer bank accounts (Centenary Bank Report, 2012). This being the case, it was therefore necessary to carry out this research because it would help to find out the causes of the above problems and develop strategies to overcome which would lead to effectiveness and efficiency.

1.8 Definitions of Key Terms

Mobile Banking

Chaitain, et al (2011), defined Mobile banking as a broad term for use of phone to access financial services and trigger financial events.

It can also be defined as the provision and availability of banking- and financial services with the help of mobile telecommunication devices.

Internet Banking

To give customers access to their Bank accounts via a web site and to enable them to enact certain transactions on their account, given compliance with stringent security checks (Essinger, 1999).

It is the use of internet to obtain account status information or carry out a transaction on an account with financial institutions

Information Technology

Agboola (2004) defines Information technology as the use of electronic components and computer software to convert, store, protect, process, transmit and retrieve information.

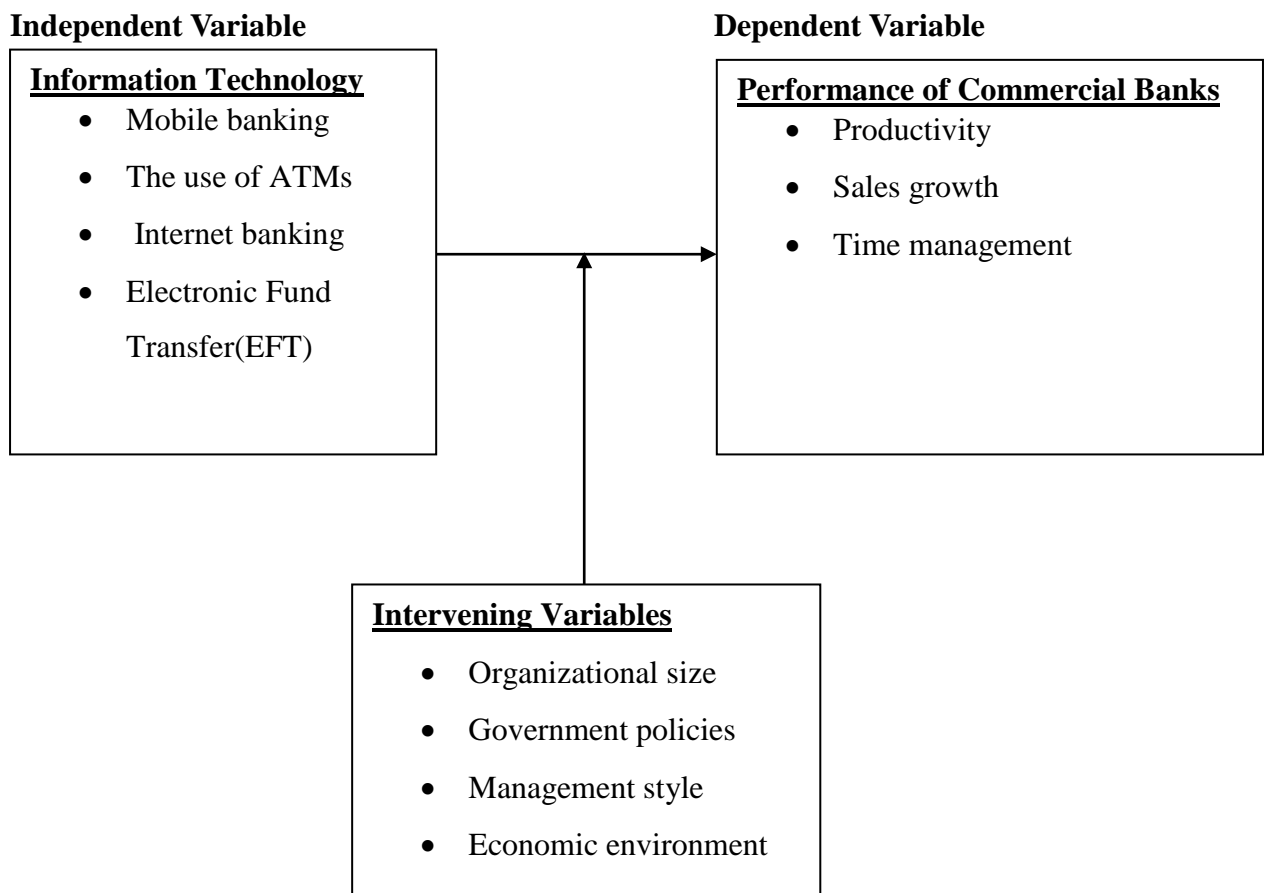
Electronic Fund Transfer

An Electronic Funds Transfer at the Point of Sale is an on-line system that allows customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases (at purchase points). A POS uses a debit card to activate an Electronic Fund Transfer Process (Chorafas, 1988).

1.9 Conceptual Framework

The conceptual framework shows the relationship between the independent and the dependent variables. The attributes of the variables are also mentioned and are used by the researcher to form objectives that correlate the variable. The framework here under describes the relationship.

Figure 1: Conceptual Framework



Source: Developed by the Researcher after the literature review of; Nasikye (2009), Rose and Hudgins (2010) and Malhotra (2008).

Explanation;

As modified by the researcher, the arrow linking the two variables, that is, the independent and the dependent variables shows that the two are interrelated. Each of the attributes under the independent variable is used to generate both positive and negative results on the dependent variable. The independent variables like Mobile Banking, the use of ATMs, Internet Banking and Electronic Fund Transfer (EFT) predict on variables like time management, productivity and sales growth. The performance of the dependent variable cannot be good or can be hindered if Information Technology is not carried out effectively. Better Information Technology leads to good performance. However, the performance of the independent variable can be affected by the Government through its various policies, organizational size, management style and economic environment.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter, the works of the past researchers were reviewed and summarized and only that pertinent ideas relevant to this study were highlighted. As such areas which were not sufficiently covered in the past studies were identified and only those in line with the objectives of the study were captured. The literature review was conducted in accordance with the objectives and citations made in each objective indicating the research gaps that the study intended to fulfill.

2.1 Overview of Banking sector and Information Technology

According to Financial Institutions Act (1993), a bank means any company licensed to carry on banking as its principal business and includes all branches and offices of that company in Uganda. To conduct banking normally means; Accepting deposits of money from the public repayable on demand or at the expiry of a fixed period or after notice, employ such deposit wholly or partly by lending or other means for the account of and the risk of the person accepting the deposits, present to another bank for payment, cheques, drafts or orders received from customers.

Commercial Bank is defined by Financial Institutions Act (2004) as a company licensed to carry on financial institution business in Uganda and whose principal business consists mainly in the acceptance of call, demand, savings and time deposits withdraw able by cheque or otherwise, in the capacity of a bank, provision of overdrafts and short to medium term loans.

Uganda financial system is dominated by banking. According to Lederer (2006), like many developing countries in Africa, Latin America and Asia. Uganda's banking system is centered in the capital and big town with few if any financial service in rural areas (Madhyam, 2010).

Information Technology

Information Technology by definition refers to the general term that relates to the use of computers as an aid to creating and maintaining data that is to say information. IT is related to all aspects of managing and proceeding especially within large and small organizations.

Yasuharu (2003) asserts that the implementation of information technology and communication networking has brought revolution in the functioning of the banks and the financial institutions. It is argued that dramatic structural changes are in store for financial services industry as a result of the Internet revolution.

In addition, Neelegham (1990) argues that for financial institutions to perform efficiently, they should embrace and install reliable and effective Information Technology systems in their operations. However, most research about innovation focused on manufacturing industries though increasing attention has been paid to innovation in service industries recently (Gallouj, 2002; Howells and Tether, 2004).

Neelegham (1990) further claims that the survival of an enterprise in the age of knowledge-based economy depends on how to improve their organizational innovation capability. Technological innovation is the key variable and means of differentiation between logistics service providers.

Miles (2004) argues that Commercial Banks can increase their performance by employing new technologies. They should employ new Information Technologies like Mobile banking, internet banking, Electronic Fund Transfer and use of ATMs to raise their service capability in the e-commerce age (Agboola, 2001).

2.2 Actual Review of Literature

2.2.1 Mobile Banking and time management of bank's Customers

Nasikye (2009) notes that in the banking sector world today, Mobile Banking is a fast growing issue. This has come to improve the level of banking system and can be described as the provision of banking or financial services with the aid of mobile telecommunication devices. M-banking has come to stay, providing its customers with an expedient way of banking. This is not however without challenges, but they are minimal and can be handled without much stress.

The terms Mobile Phone banking and mobile banking (M-Banking) are used interchangeably. The term M-Banking is used to denote the access to banking services and facilities offered by financial institutions such as account-based savings, payment transactions and other products by use of an electronic mobile device. Mobile banking has yielded a multiple effect on the number of solutions available to clients most especially on time management. This is in addition to more efficient transactional environment and the high substitution of banking points (Nasikye, 2009).

In addition, Chaitain, et al (2011) defines Mobile banking as a broad term for use of phone to access financial services and trigger financial events; it does not assume any specific deployment model or any specific deployment transaction type, mobile banking covers both

transaction and non-transaction enabling services such as viewing financial and bank account information on customers' mobile phone which does not require customers to move to the banking hall or ATM machine.

Similarly, Nasikye (2009) argues that Mobile banking has transformed the way people in the developing world transfer money and now it is poised to offer more sophisticated banking services which could make a real difference to people's lives most especially on time management. This type of banking can offer a wide variety of services ranging from account information, which has to do with alerting the customers on the updates and transactions on their account through their mobile phones. Lee and Benbasat (2003) notes that people receive short messages on their phones informing them of their immediate transactions in their bank accounts which in turn lead to time management of clients. Also, they help in payments (utility bills), deposits, withdrawals, transfers, purchase airtime, request bank statements and perform 13 other crucial banking tasks, all in real time over their mobile phones (Kim et al, 2009).

To support the above arguments, Porteous (2006) distinguishes two aspects of mobile banking that is; Additive and transformational characteristics of mobile banking. Additive aspects are those in which the mobile phone is merely another channel to an existing bank account. Mobile banking is additive when it merely adds to the range of choices or enhances the convenience of existing customers of mainstream financial institutions mean while transformational characteristics arise when the financial product linked to the use of the phone is targeted at persons who do not hold formal bank accounts with the conventional banking Institutions.

Similarly, Sarker and Wells (2003) assert that the only single access requirement or barrier to the resultant mobile banking will be the mobile phone. However worldwide market penetration of affordable cellular devices and growing network service diffusion makes this intricacy almost fully resolved hence sets a firm pedestal for mobile banking escalation.

Porteous (2006) further argues that mobile banking has the potential to be transformational owing to various facts. First, it uses existing mobile communications infrastructure which already reaches unbanked persons. Secondly it may be driven by new players, such as mobile phone industry operators, with different target markets from traditional banks who are able to harness the power of new distribution networks for cash transactions. These include airtime merchants, who extend the reach beyond the conventional tellers or ATM networks of banks.

In addition to the above, additive Mobile banking may be cheaper than conventional banking because the offering is competitive enough though the Mobile phone banking idea was initially born out of the intention to reach the unbanked poor people; it has stretched its tentacles far and wide to captivate the interest of unimagined client segments. Even the prudential banks have joined the fray and are now acting as agents and outlets of Mobile service provider banking services. This could have come as a realization on the part of the traditional banks of the maxim that *“if you can’t beat them; joins them.”* There is need to balance technology with a reasonable human interface. These arguments coincide with those of Lyman et al. (2008) which assert that low income and education, individuals attach a high premium to interaction and interpersonal relationships. In addition, 73 percent of non-users and infrequent users of Mobile-banking prefer face to face financial dealings rather than electronic devices even though the devices are faster, convenient and manage time.

Finally, Porteous (2006) asserts that transformational Mobile-Banking raises concerns pertaining to efficiency and customer convenience in term of time management. Agents are having trouble with float management especially adequacy of cash reserves to finance withdrawals (Benbasat, 1991). A cashless economy built entirely on phone credits where these could be exchanged via the mobile would greatly ease the flow of currency and rid inefficiencies in the system. Another aspect that warrants perfective attention is the network stream to ensure stability and extinguish down times that occasion service failure making mobile banking services not efficient (Porteous, 2006).

To solve the above problem of Mobile banking, a number of enabling technologies are being used in the delivery of Mobile banking service applications. According to Abunyang (2007), they include; Interactive Voice Response (IVR), Short Messaging Service (SMS), wireless Access Protocol (WAP) and standalone Mobile Application Clients (MAC). SMS banking uses text messaging and works in either a push or a pull mode. In pull mode, the bank sends a one-way text message to alert a mobile subscriber of a certain account situation or to promote a new bank service. In push mode, the mobile subscriber sends a text message with a predefined request code to specific number.

The bank then responds with a reply SMS containing the specific information. (Soderberg, 2008) and the details is as shown below

Table 1: Showing summary of various mobile banking services

	PUSH	PULL
TRANSACTION		Fund transfer Bill payment Share trade Check order
INQUIRY	Minimum balance alert Credit/debit alert Bill payment alert	<ul style="list-style-type: none"> • Account balance inquiry • Account statement • Check status inquiry • Transaction history

Benefits of Mobile banking

i. *Offering innovative*, personalized mobile services can also assist banks to attract and retain customers. (Soderberg, 2008),M-banking offers financial institutions the opportunity to target and acquire new customer segments that value mobility and real-time control of their finances, leading to increased customer growth and revenue.

ii. *Reduced customer support costs*; Mobile banking solutions also offer a full range of benefits for financial institutions, ranging from reduced customer support costs to improved customer satisfaction and retention as well as revenue growth.

iii. *Offers more cost effective channel*; According to Nasikye (2009),mobile phone offers more cost effective channel and hold greater promise for making financial services reach much lower income and remote client. It’s the most cost effective service suitable for a developing country Abunyang (2007).

iv. *Mobile banking extends the convenience of existing online services* such as account balance information, funds transfer, bill payment and mini statements by making them accessible from any mobile device. (Nyaoke, 2008).

v. *Drastically cuts down the costs of providing service to the customers*; this is the biggest advantage that m-banking offers to banks.

vi. *M-banking enables 'Anywhere banking'*. Customers now don't need access to a computer terminal to access their banks; they can now do so when they are travelling or when waiting for their orders to come through in a restaurant.

2.2.2 The Use of ATM and the productivity of Banking Sector

According to Hudgins (2010), an ATM combines a computer terminal, record keeping system and cash vault in one unit, permitting customers to enter financial firm book keeping system either with a plastic card containing a PIN or by punching a special code number into a computer terminal linked to the financial firm's computerized record 24 hour a day. Once access is gained, cash withdrawal may be made up to pre-specified limits, and deposits, balance inquiry and bill paying may take place. With ATM taking over more routine services like cashing checks, the personnel of a financial service provider have more time to sell other services and help other customers who have special service needs. The average ATM processes at least 200 transactions per day.

Similarly, Rose (1999) cited by Abor (2005), describes ATMs as follows: "an ATM combines 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".

Once access is gained, it offers several retail banking services to customers. They are mostly located outside of banks, and are also found at airports, malls, and places far away from the home bank of customers. They were introduced first to function as cash dispensing machines. However, due to advancements in technology, ATMs are able to provide a wide range of services, such as making deposits, funds transfer between two or accounts and bill payments. Banks tend to utilize this electronic banking device, as all others for competitive advantage and increasing on their revenue stream which lead to high productivity.

However (Hudgins, 2010) notes that ATMs are not necessarily profitable for all service providers for example, because ATMs are available 24 hours a day, customers may use these machines more frequently and for smaller transaction than they would with a human teller for example if the customers need cash for movie for Friday night and for dinner on Sunday, he or she may access an ATM Friday afternoon after work for USD 30 and then drive to an ATM on Sunday near home for another USD 50 to pay for dinner.

In contrast, customer may visit a human teller at branch office on Friday and with draw USD80 for the all weekend. Moreover customers show little hesitation to use ATM for their cash withdrawals and then use a human teller when it's time to deposit a pay roll check thus requiring the financial firm to have both machines and human teller available. Then to the widening use of surcharge fees for ATM use may cost some customers to reduce their usage of these machines in favor of human tellers hence pushing up operating cost (Rose, 2010). The recent study by Stefanadis conducted at the Federal Reserve's concluded that, the cost of operating ATM has exited the income they generate by more than USD10000 annually per machine (Hudgins, 2010).

On the other hand, the combined services of both the Automated and human tellers imply more productivity for the bank during banking hours. This is because, 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 (an average of about 6,400 transactions per month for ATMs compared to 4,300 for human tellers (Rose, 1999). Furthermore, as the ATMs continue when human tellers stop, there is continual productivity for the banks even after banking hours.

Similarly, Hudgins(2010) argues that ATM rank high in resource efficiency, they call for only a limited commitment of resources particularly staffs, ATMs process more transactions per month than human tellers (a rough average of about 50 percent more) and do so at lower cost per transaction. On a per-transaction basis , the same transaction that cost an average of about 36 cents through an ATM costs over a dollar through a human teller, this is why some large financial firms charge service fees if a customer uses a human teller for a transactions.

Despite of that, ATM surcharge fees may put smaller financial firms that own few machines at a disadvantage encouraging customers seeking to avoid service fees to transfer their account to the largest financial firms, which operate more machine in more locations, these fees may be especially damaging to low income consumers who often have few branch offices in their neighborhood but may have ATMs nearby. ATMs are among the efficient providers of basic financial services costing far less per transaction than human tellers though they are apparently are not quite as efficient as the internet for certain transactions. While ATMs are best known for providing customers with cash and accepting deposits and bill payments, many of these machines recently have lengthened menus.

Today ATMs are often shared by several financial firms in order to lower cost and networked around the globe with thousands of other machines to offer customer access to other accounts while traveling, though expensive to purchase and install, employees' salaries, utility bills and maintenance cost. Recent estimate suggest that ATM cost an average of about USD 70000 to USD 80000 to purchase and install and about USD1500 per month to operate while the cost of operating a full-service branch office averages at least a million dollar and often far more (Hudgins and Rose, 2010).

Riegler (2006) asserts that millions of bank customers no longer rush to branch bank offices during their lunch hours to stand in line, waiting to complete routine transactions. Instead, customers have the option of using an Automated Teller Machine (ATM), which are widespread on street corners in cities large and small towns and it is available any time. This is supported by Kumbhakar (2003) who argues that increased competition following the introduction of ATMs made banks transfer some of the market power back to the depositors in the form of higher interests on deposits, which increased banks' cost of funds. At the same time, reduction in operating costs through pruning the number of branches did not materialize as banks moved to provide convenient branching to depositors as a strategy of maintaining their market share (Humphrey, 1991). Thus, measured cost productivity declined following introduction of ATMs though the unmeasured "quality" of banking output in terms of extensive branching and ATM networks, and a wider variety of financial services that helped customers better manage risks, may have well increased subsequent to deregulation (Berger and Mester, 2001).

Finally, ATMs and other limited service facilities do not rank high among those customers interested in personalized service(particularly older customers), nor do they rank high in their ability to sell peripheral services such as enticing customers to take out a car or purchase a retirement fund . Depository institutions that put their ATM outside or away from the branch office. Moreover many customers view limited service facilities as less safe due to the frequent incidence of crime, robbery and even murder of customers in an effort to steal their cash or access the customer's account at will. ATM frequently attracts crime because most transaction carried out through these machines is cash withdrawals. Video monitoring, along with privacy screens, lighting systems and built in alarms are popular methods today for increasing ATM safety and security (Rose and Hudgins, 2010). Many depository institutions have moved to lower their operating costs by adding ATMs onto their full service branch offices and by simultaneously reducing the number of personnel and the amount of rented space inside each branch office, an important consideration in installing ATMs however is the amount of downtime they may experience, if no human tellers are available and the service provider has only one ATM on site and is not working, customers may take their business elsewhere, this is why many financial firms install multiple ATMs at the same site and replace old machine frequently in order to realize more productivity.

2.2.3 Internet Banking and sales growth of Banks

Many Commercial Banks in Uganda have valued the importance of electronic banking in improving the profitability and the overall efficiency of their business, (Abaasa, 2007). They have similarly allocated substantial resources for Internet banking adoption and begun to build infrastructures to support a more reliable and quicker transfer of information to reach their customers (Thornton and White, 2001).

The evolution of internet banking has altered the nature of personal-customer banking relationships and has enabled electronic channels to perform many banking functions that would traditionally be carried out over the counter (Abaasa, 2007).

Despite the above attention, there is a richness of information on the nature and scope of Internet banking, but there is a scarcity of evidence about the impact of Internet banking activities among banks that have adopted it compared to those that have not done so. Our purpose is to fill significant gaps on this issue, especially with respect to the Uganda banking markets, where no rigorous attempts have been undertaken to understand this aspect of the banking business (Abaasa, 2007).

The idea of Internet banking according to Essinger (1999) is: “to give customers access to their bank accounts via a web site and to enable them to enact certain transactions on their account, given compliance with stringent security checks”. To the Federal Reserve Board of Chicago’s Office of the Comptroller of the Currency (OCC) Internet Banking Handbook (2001), Internet Banking is described as “the provision of traditional (banking) services over the internet”.

Kim et al. (2006) point out that Internet banking by its nature offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking. Service delivery is informational (informing customers on bank’s products,) and transactional (conducting retail banking services).

Essinger (1999) further argues that Internet technology holds the potential to fundamentally change Banks and the banking industry. An extreme view speculates that the Internet will destroy old models of how Bank services are developed and delivered (DeYoung, 2001a).

The widespread availability of Internet banking is expected to affect the mixture of financial services produced by banks, the manner in which banks produce these services and the resulting financial performances of these banks.

Whether or not this extreme view proves correct and whether banks take advantage of this new technology will depend on their assessment of the profitability of such a delivery system for their services. In addition, industry analysis outlining the potential impact of Internet banking on cost savings, revenue growth and risk profile of the banks have also generated considerable interest and speculation about the impact of the Internet on the banking industry (Berger, 2003).

Berger (2003) further asserts that banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labour intensive methods with automated processes thus leading to higher productivity and profitability. However, to date researchers have produced little evidence regarding these potential changes. Nonetheless, recent empirical studies indicate that Internet banking is not having an independent effect on banking profitability and sales growth although these findings may change as the use of the Internet becomes more widespread.

More recently in India too, a wider array of financial products and services have become available over the Internet (Malhotra and Singh, 2004), which has thus become an important distribution channel for a number of banks. Banks boost technology investment spending strongly to address revenue, cost and competitiveness concerns. For some activities, banks hope to see a near-term impact on profitability. Other investments are motivated more by a desire to establish a competitive position or avoid falling behind the competition.

As technology reshapes the banking services industry, new products and services are offered through the Internet (Ndubisi, 2003). The banking sector has little choice but to implement some form of internet technology in order to remain both innovative and on the cutting edge of competitive advantage in order to improve on their sales. According to Wiley (1997), Internet banking is the newest delivery channel to be offered by retail banks in many developed countries. It allows customers to conduct financial transactions on a secure website operated by their retail or virtual bank. In this case, the internet is used as a message carrier where the customer uses a PC and a modem or local area network to connect to the bank using its online website or software provided by the bank. Features commonly unique to Internet banking are the personal financial management support, such as importing data into a personal finance program (Lustsik, 2003).

According to Malhotra (2008), Internet banking has gained worldwide acceptance as a new delivery channel for performing various banking transactions. It provides the opportunity to the customers to conduct banking transactions at their convenience. In fact, Internet banking refers to the use of Internet as a delivery channel for the banking services, including traditional services, such as opening an account or transferring funds among different accounts, as well as new banking services, such as electronic bill presentment and payment, which allow the customers to pay and receive the bills on a bank's website. There are two ways to offer Internet banking. First, an existing bank with physical offices can establish a website and offer Internet banking in addition to its traditional delivery channels. Second, a bank may be established as a "branchless," "Internet-only," or "virtual" bank (Malhotra, 2008).

Malhotra (2008) further argues that Internet banking model offers advantages for both banks and customers. The Internet provides the banks with the ability to deliver products and services to customers at a cost that is lower than any existing mode of delivery. A survey conducted in United States shows that of all the modes of transactions, Internet banking is the cheapest for the banks. Customers benefit not only from the increased convenience but also from higher interest rates resulting from cost savings by the banks. The ability to pay higher interest rate with a much wider potential of customers, allows these banks to grow faster than traditional banks. Practically, the extent to which these banks distribute these benefits is not yet clear. It is therefore important for bankers, bank supervisors and policymakers to understand how Internet banking affects the sales growth of banks.

2.3 Conclusion

In order for Banks to meet the demand for their increasingly sophisticated customers, Banks need to invest in the range computer equipments and software programs in order to deliver effective services. This is be necessary if Banks are to increase their existing Information Technology level such as Automated Teller Machine (ATM) transaction levels while at the same time ensuring that the customer's security and the confidentiality of their financial records and transactions is done through Mobile banking and Internet banking by ensuring the use of Personal Identification Number (PIN) to ensure safety in their Bank accounts.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents research methodology. As shall be seen, this methodology was influenced by the purpose of this study and it was based on how the research questions shall be responded. In order to achieve the objective of the study, the research methodology was designed to find out accurate information about the study.

Therefore the chapter outlines the study design used in the research, the study population, sample size of the study, the sampling techniques, data collections methods, data instruments used, quality control methods of the data, research procedure, data analysis and presentation, ethical considerations and limitations of the study.

3.1 Research design

The researcher employed a case study design where data was collected from the Management, employees and customers of Centenary Bank, Kayabwe branch, the researcher selected this kind of design because it best suited the collection of primary data from this organization. In this regard the researcher was able to interact with the Management, employees and customers of Centenary Bank, Kayabwe branch and it made it possible for him to understand the dynamic factors of the research by having a first-hand experience.

In addition, the study was descriptive and explanatory and therefore gave opportunity to study in depth Information Technology and performance of Commercial Banks.

Similarly, since in modern research, it is inevitable to use a combination of methodologies, the study was both quantitative and qualitative. Under the quantitative method, the researcher used cross sectional survey where data was collected on the variables of interest from the selected sample. Under the qualitative method, the researcher availed information as given by the respondents on thematic basis.

3.2 Area of the Study

The study was carried out at Centenary Bank, Kayabwe branch located along Kampala-Masaka highway found in Mpigi District approximately 83 kilometers South West of Kampala City and one kilometer from the equator. Centenary Bank was selected as a case study because it is among the Bank with the longest serving history in the country and currently so popular. It has opened up a number of branches in the country and they are doing well in the development of the country. Despite being one of the popular Banks in Uganda, the Centenary Bank Annual report (2012) points out the high rate of staff turnover and poor performance among staffs in 2011. This therefore gave the researcher a feeling of investigating particularly how IT affects the performance of Centenary banks and to evaluate strategies to be adopted by management to improve on the performance.

3.3 Study Population

The researcher chose respondents from population of 60 which included Management, employees and customers of Centenary Bank, Kayabwe branch. The researcher chose from different number of people from the management, employees and customers', they were given questionnaires, interviewed and also consulted for the research about Information Technology and performance of Commercial Bank.

The study population was obtained based on the table below;

Table 2: Showing the Classification of respondents

Category	Number
Management	5
Employees	15
Customers	40
TOTAL	60

Source: Developed by the researcher after examining the Company documents like the Pay roll documents, Management reports and through interview conducted with the branch Manager.

3.4 Sampling procedures

3.4.1 Sample Size

According to Mugenda and Mugenda (2003), it is impossible to study the whole targeted population and therefore the researcher decided on the sampled population.

The researcher used the sample size of 52 people of which 4 were the management, 13 were employees and 35 were customers. The respondents were randomly selected. They were given questionnaires, interviews were administered and an observation was made by the researcher which was used to get information needed to assess the effect of Information Technology on the performance of Commercial Banks.

This sample size was determined by the formula established by Amin, M, E., 2005 as shown below;

$$n = \frac{\text{Total Population}}$$

$$1 + Ne^2$$

$$n = \frac{60}{1 + 60(0.05)^2}$$

$$n = \frac{60}{1 + 60(0.0025)}$$

$$n = \frac{60}{1.15}$$

$$n = 52$$

Where;

n is the sample size

N is the total number of Management, employees and customers at Centenary Bank,

Kayabwe branch

e represents the error which can be either 0.05 or 0.01

Table 3: Computation of sample size per category of respondent

Respondents category	Computation of category sample size
Management	<u>Number of Management staffs</u> × overall sample size Total population $5/60 \times 52 = 4$
Employees	<u>Number of employees</u> × overall sample size Total population $15/60 \times 52 = 13$
Clients	<u>Number of clients</u> × overall sample size Total population $40/60 \times 52 = 35$

Source: Primary data 2014

3.4.2 Sampling techniques

The stratified random sampling was used in the case study of Centenary Bank, Kayabwe branch. The stratified random sampling involves categorizing members of the population into mutually exclusive and collective exhaustive groups. An independent simple random sample is then drawn from each group of respondent that is, management, employees and customers. The stratified random sampling technique was preferred because it enabled the researcher to determine the desired level of sampling precision for each group and for administrative efficiency.

The other advantages are that, a stratified sample can provide greater precision and often requires a smaller sample which saves time and money.

The procedure is therefore cost efficient; the researcher can also obtain sufficient sample points to support a separate analysis of any sub-group, if necessary, it was easy to divide the study population of respondents into different strata based on their positions.

3.5 Data sources

3.5.1 Primary data

This is data that involves firsthand information or field work obtained through observations interviews or discussion with the employees or other relevant stakeholders and questionnaire from customers, employees and management of Centenary Bank, Kayabwe Branch.

3.5.2 Secondary data

Secondary data was obtained from available sources such as text books, journals, on-line Published articles, information from the local newspapers and Internet search engines among others.

3.6 Data Collection Methods

The data collection methods used in this study was questionnaires, interview and observation.

3.6.1 Questionnaire

Questionnaire was the main collection tool used where by respondents were given questionnaire to fill in the answers of their own choice which the researcher analyzed as it helped the researcher to get first hand, additional accurate information about Information Technology and the performance of Commercial Banks. The questionnaire was also selected to collect data for the research because it ensured quantifiable responses for the same items from all respondents. Furthermore, it saved both time and cost to distribute and analyze.

The same close ended questionnaires were developed for the management, employees and customers, respondents were required to tick answers to indicate how strongly they agreed or disagreed with the statements in the questionnaires, or respond by ticking either 'yes', 'no', 'Not sure' and 'I don't know', depending on how the answer best fits them. There were also provisions for answering open ended questions (*see sample questionnaire in appendix I*), the questionnaires were pre-coded with numbers for each question to facilitate statistical analysis. A five likert scale was adopted in the questionnaires which range from 5(Strongly Agree) to 1(Strongly Disagree), this was preferred over other types of scale because it simplifies questions making them easier to understand, and also because they tend to produce consistent answers, lastly questionnaire preserves the possibility of easy computation by producing data that can be analyzed qualitatively for pattern and trends.

3.6.2 Interview

Interviews were arranged for bank management of Centenary Bank, Kayabwe branch to provide a deeper understanding of the issues being investigated and to complement and provide deeper insights into the findings of the quantitative analysis. According to Trochim (1996), the method of interview permits collection of first hand detailed information about the themes of the study. In addition it gives respondents a chance to answer questions unlimitedly and flexibly and therefore is appropriate method to use to collect data from key informants.

It was also mainly used to cater for those respondents who are not in hurry and do not understand the language used in the questionnaire because it permits clarification for questions.

3.6.3 Observation method

Finally Observation method was also used to see some tangible indicators of Information Technology and its impact on Bank's performance. This method was used because it was cheaper to obtain accurate information that may not be captured using the questionnaire and interview method. This method was also used because it ensures that, photos of critical activities are taken, which can be used as attachments for the research findings.

3.7 Data Collection Instruments

Under the interview method, an interview guide and check list was used. Under the observation, pens, eyes, digital camera and others natural senses were used.

3.8 Quality control methods

This is a process through which researcher seeks to ensure that the research quality is maintained or improved and errors are reduced or eliminated. The researcher used this method to make sure that data collected is of required quality by using the following methods below;

3.8.1 Validity

Validity is the accuracy and meaningfulness of inferences, which are based on the research results; it is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study. Therefore validity looks at how accurately represented are the variables of study (Mugenda and Mugenda, 2003), the study adopted content validity which is the degree to which data collected using particular instruments represents a specific domain of indicators or content of a particular concept, to ensure content validity of instruments, the researcher constructed instruments with all the items that measure variables of the study, the researcher also consulted the supervisor for proper

guidance, after which the researcher pre-tested the instruments and after pre-testing ambiguous questions were removed or polished so as to remain with the finest data required. Before conducting an interview, the researcher ensured the respondents of confidentiality and sought permission to take photograph.

3.8.2 Reliability

According to Mugenda and Mugenda (2003), reliability of an instrument refers to the ability of instrument to collect the same data consistently under similar condition. In relation to Burns (1997), the concept deals with accuracy of instruments and consistence of the data collected by it. The researcher aims were to use instruments that are required consistent information in difference visits to the researcher in replicable in future.

To ensure reliability, the researcher pre-tested the instruments to check the accuracy of perception. The quality of the research instruments was also assured by the advice received from the data analysis expert at the time of the research instrument design and the degree of truthfulness was also measured by the use of face validity where by the researcher made conclusions that what was intended to be measured has been successfully measured.

3.9 Research procedure

Permission to conduct the research was obtained from relevant authorities for example obtaining introductory letter from the Faculty of Business Administration and Management and making time appointment with the branch Manager of Centenary Bank, Kayabwe branch; questionnaires were administered to Management, employees and the customers with accounts in Centenary Bank, Kayabwe Branch. The data was collected, edited and validated by the researcher.

3.10 Data analysis and presentation

In the analysis, the instruments that were used yielded both quantitative and qualitative data, after respondents had answered questionnaires and interviews and observations made by the researcher, raw data was cleaned, sorted and condensed into systematically comparable data, the quantitative and qualitative data were analyzed differently as seen below;

3.10.1 Quantitative data

In analysis of quantitative data, the data collected was analyzed using statistical analysis tools such as the SPSS version 16.0 for coming up with pie charts, bar graphs that were used to come up with tabulated percentages of the data.

The data collected after analysis would be compared to the information in the literature review or secondary data so as to find the effect of Information Technology on the performance of Commercial Bank.

3.10.2 Qualitative data

In analysis of qualitative data in the three objectives of the study, the researcher used content analysis, where each piece of work answered in both interview guide and open ended questions was read through thoroughly to identify themes where it belongs and each expression and statements that are relevant in the study was picked and best suit in its objective.

3.11 Ethical Consideration

To maintain ethical standards during the course of the study, the researcher adhered to the following ethical principles:

First, the researcher sought permission from Centenary Bank to carry out the research by submitting the letter of introduction from Uganda Martyrs University, which requested the company for permission to carry out the study, permission was granted by management of

Centenary Bank, Kayabwe branch for the study to be conducted. Therefore the clients and employees were surveyed by the permission from the management of the company.

Secondly, before carrying out the study, the researcher clearly explained to the respondents the purpose of the study. The researcher provided assurance to the respondents that the finding was to help them on how to benefit from Information Technology usage in banking sector.

Thirdly, the introductory part of the questionnaire required respondents to sign and confirm their voluntary participation, the respondents willingly accepted to participate and no one was forced or coerced to participate in the research. Therefore, the principle of voluntary participation was strictly observed during the study.

In addition, all sensitive personal and business related information collected from respondents were treated with utmost confidentiality and it was also not the researcher's objective to find faults with employees, clients and management of the company.

Fourthly, the study was also for academic purposes only and no harm of whatever kind was intended on respondents who participated in the study.

Lastly, the security and safety of the respondents and of any sensitive customer data was not compromised during the course of the study.

3.12 Limitations of the Study

The study had a number of limitations such as;

The data collected was from a small sample size and its results were not generalized. however the branch studied was only selected for careful consideration of issues of accessibility and representativeness of the entire Centenary Bank, given the high level of Information Technology usage in this branch, the findings can be cautiously generalized to the study population of Centenary Bank and the entire Commercial Banks in Uganda, this is because most of these banking technologies are more less the same in all banks, therefore impact made to different branches must be similar.

Concerning sensitive information, some aspects of the study were too sensitive and officers were not willing to disclose all the information that they have, such information was obtain through explaining thoroughly to the respondents that, the information obtained can be used specifically for academic purposes and such information accessed was kept confidential.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction

In this Chapter, the findings got from the field on the effect of Information Technology on the performance of Commercial Bank at Centenary Bank are presented, analyzed and discussed according to the research objectives and the researcher used both qualitative and quantitative methods of data collection to come up with this findings.

In order to carry out this research adequately, the researcher designed questionnaires and supplied them to the Management, employees and customers of Centenary Bank, Kayabwe branch. The researcher distributed 50 questionnaires and 2 of them were not returned. The researcher conducted interview by the use of the interview guide, only 4 managements were interviewed and observations were also made. This therefore provided the researcher with enough reliable information for the study.

The chapter presents two sections, that is, section one explains background information of the respondents who participated in the study and section two presents results of the findings, analysis and discussion of findings.

4.1 Background Characteristics of the respondents

This section describes the background information of the respondents on position, Gender, Age group and Experience of the respondents. Background information was considered necessary because it was useful in making comparison on technology usage in the bank by difference categories of Managements, employees and clients.

4.1.1 Position of the respondents

The positions of the respondents at the Bank were looked at in their different categories. Therefore, this was believed to help in analysing the different activities of technology usage in relation to their position within the Bank. Details about the respondents are presented in table 4.

Table 4: The respondents' Position in the Bank

Position	Frequency	Percentage
Management	4	8
Employees	12	24
Customers	34	68
Total	50	100.0

Source: Primary data 2014

From table 4 above, 8% of the respondents were the management, 24% of the respondents were the employees and 68% were the customers, this result showed that different categories of staffs and clients participated. This indicated that there was element of hierarchical diversity. Accordingly, a hierarchical organisational structure is a type of leadership structure common in the number of business and other types of organisation.

4.1.2 Gender of the respondents

This item considered the gender distribution of the respondents. This was looked at with the aim of establishing whether there was gender balance as an inclusion strategy; even then promote the welfare of women as a minority group. Data obtained is presented in table 5

Table 5: Gender of the respondents

Gender	Frequency	Percentage
Male	24	48.0
Female	26	52.0
Total	50	100.0

Source: Primary data 2014

In table 5, the data presented shows that there was almost a balanced representation of respondents of both gender with 52.0% being female respondents and 48.0% being male respondents, this indicates that Bank's management consider gender balance as there was only a difference of 2(2%) between the female and male respondents

The composition of both female staff members and female clients was higher than that of males. When questions about this unfair distribution was raised by the researcher, the branch manager explained that females tend to be honest in their dealings with clients and so efficient service delivery and those female customers were more than their male counterparts.

4.1.3 Age distribution of the respondents

The age composition of the respondents was studied by age grouping the respondents. Studying the age composition of the respondents was deemed necessary because it would help in studying age diversity usage of Information Technology in this Bank. The results are presented in table 6.

Table 6: Age distribution of the respondents

Age group	Frequency	Percentage
18-25	22	44
26-35	16	32
36-45	9	18
46-55	3	6
Total	50	100.0

Source: Primary data 2014

The statistics in table 6 above indicates that the larger number of the respondents were 18-25 years which is 44% followed by those between 26-35 years who were 32%, those between 36-45 years were 18%. The researcher also found 6% of the respondents between the age group of 46-55 years. This categorization was used in explaining the banking technology usage and some of the respondents were old enough to give answers to the questionnaires as grownups as they are aware of what they are doing.

In addition, the finding also indicates that most of the respondents are still actively using their bank account. This means that the management, employees and clients of the Bank are still productive (young and skilled) to handle the changing Information Technology in the Bank.

4.1.4 Experience of the respondents

The study then looked at the level of experience of the respondents. Data was collected and is presented in table 7 below.

Table 7: Experience of the respondents

Experience	Frequency	Percentage
Less than 1 year	5	10
2 years	17	34
3-5 years	25	50
5-10 years	3	6
Total	50	100.0

Source: Primary data 2014

From the research carried out at Centenary Bank, Kayabwe branch, the researcher found out that the greatest number of the employees, management and clients have worked in this Bank for a period of 3 to 5 year that is 50%, followed by 17 that is 34% who have worked for 2 years, 10% comprised of those who have worked for less than one year and 3 of them that is, 6% worked for 5 to 10 years.

This chart implies that there was high turnover rate because the majority of the employees that 50% have worked for 3-5 years and as the years increase, the number of employees keep on reducing, this implies that most of them leave after 10 years and this view was in line with the Centenary Bank Annual Report (2012) which indicates that the bank in 2011 experienced a high staff turnover.

The smallest percentage (6%) implies that there are few management, employees and clients with enough experience in the banking Information Technology because those who have worked for 5 to 10 years are very few.

Despite of labour turnover, the Bank has a capability of retaining majority of its employees who are skilled and have experience to deal with Information Technology or employees are comfortable with the Bank’s Technology since the majority of the respondents are still within young active working age.

4.2 Presentation, Analysis and discussions of the findings

In this section, there was presentation and discussions of results obtained from the data collected from the field. This data was of the test statistics of the questions, frequency percentages, observation and interview based on the order of the objectives of the study.

4.2.1. Effect of Mobile banking on time management on Bank’ Customers

Table 8: This Bank offers Mobile Banking

(CenteMobile) services

	Frequency	Percentage
Yes	38	76.0
No	9	18.0
Not sure	3	6.0
Total	50	100.0

Source: Primary data 2014

From the table 8 above, it was found out that 76% of the respondents agreed that this bank offers Mobile banking services, 18% disagreed that this bank offer mobile banking services meanwhile 6% of the respondents were not sure whether it offers or not, this findings

indicates that mobile banking services are not fully administered to all customers of the bank because only 76% of the respondents agreed with the statement that this bank offer mobile banking services commonly known in Centenary bank as “Cente- Mobile”. Mobile banking is commonly used in this bank because it is simple to understand and use by the customers, this is supported by Abunyang (2007) who notes that to use Mobile Banking, one needs to simply dial *211# on the mobile phone then Enter account number (for default account type “0”), enter the secret PIN number, choose from any of the services on the menu by typing the corresponding number, transaction will be processed finally you will get a confirmation of your transaction together with your latest account balance(*see appendix V*).

Table 9: Mobile banking affects the time management of Bank’s clients

	Frequency	Percentage
Yes	20	40.0
No	18	36.0
Not sure	12	24.0
Total	50	100.0

Source: Primary data 2014

Table 9 above indicates that 40% of the respondents agreed that Mobile banking affects the time management of the client in this bank, 36% disagreed with the statement meanwhile 24% of the respondents were not sure of the answer, this indicates that mobile banking affects time management since the majority of the respondents agreed with the statement.

This according to the researcher is true since the customer does not require moving from home to the bank counter to pay their utilities bills such as National Water and Sewerage Corporation(NWSC), UMEME, National Social Security Fund(NSSF), paying school fees , buying food and buying of airtime through the phones hence saving time of clients. This finding is supported by Porteous (2006) who argues that Mobile Banking is able to harness the power of new distribution networks for cash transaction including buying air time from the mobile account which does not require conventional tellers or ATM network of banks. In addition, the Centenary Bank report (2011) indicates that the latest application is the partnership between utility operator, the National Water and Sewerage Corporation (NWSC) and Uganda telecom in which consumers directly pays for their bills using CenteMobile platform or instruct their banks to remit money to the NWSC accounts. This has made thing easy for customers and therefore encouraging them to bank their money with Centenary Bank.

Table 10: The long line in the Bank is caused as a result of non-Mobile banking services

	Frequency	Percentage
Yes	30	60.0
No	15	30.0
Not sure	5	10.0
Total	50	100.0

Source: Primary data 2014

From the table 10 above, 60% of the respondents agreed that the long lines in the Bank are often caused as a result of non-banking services, 30% of the respondents disagreed with the statement meanwhile 10% were not sure, this according to the researcher indicates that

Mobile banking allows customers to transact using their phones other than moving to the banking halls. According to Nasikye (2009), mobile phone offer far more cost effective channels and hold great promise for making financial services reach much lower income and remote clients.

Table 11: It is easy to use Mobile payment system

	Frequency	Percentage
Yes	36	72.0
No	5	10.0
Not sure	9	18.0
Total	50	100.0

Source: Primary data 2014

From the table 11 above, 72% of the respondents agreed that it is easy to use mobile payment systems meanwhile 10% disagreed with the statement that it is easy to use mobile payment system meanwhile 18% of the respondents were not sure whether it is easy to use mobile payment system, this finding seems to point out that mobile payment systems are actually easy to use among the customers of this bank. Mobile banking is commonly used in this bank because it is simple to understand and use by the customers, this is supported by Abunyang (2007) who notes that to use Mobile Banking, one needs to simply dial *211# on the mobile phone then Enter account number (for default account type “0”), enter the secret PIN number, choose from any of the services on the menu by typing the corresponding number, transaction will be processed finally you will get a confirmation of your transaction together with your latest account balance(*see appendix V*).

Table 12: Clients are often updated on their phones in case of transaction on their accounts

	Frequency	Percentage
Strongly Agree	23	46.0
Neutral	18	36.0
Agree	9	18.0
Total	50	100.0

Source: Primary data 2014

However in this Bank, clients are always updated on their phones in case there is a transaction. From the table 12 above, 46% of the respondents strongly agreed that they are always updated on the status of their accounts, 36% were neutral meanwhile 18% agreed that, they are always updated on their accounts, this indicates that clients are always alert or aware of what is happening in their accounts and this reduce on the level of them moving from home to banking hall to check their bank balances which requires a lot of time especially moving to the banking hall and following long queues or lines on the banking hall, when the clients use Mobile banking all the problems are always minimised most especially time saving.

This finding is supported by Leow (1999) who argues that telebanking has numerous benefits for both customers and Banks. As far as the customers are concerned, it provides increased convenience, expanded access and significant time saving. On the other hand, from the Banks' perspective, the costs of delivering telephone-based services are substantially lower than those of branch based services.

Abunyang (2007) however asserts that customers receives free electronic statements daily, weekly or monthly depending on their preferences outlining the transactions that have taken place during the period and that have been processed by the bank by that date through their mobile phone.

Under this service the client sends a request in plaintext format to the bank server and is send to the bank giving instruction to the bank and the server responds with the required information. The clients can access inquiry services like bank balances and mini statements using their mobile phones.

Through the interview conducted among the management, Mobile banking is convenient since there is no movement to the banking hall and ATM machine, customers can carry out their transactions anywhere. Secondly, mobile banking give 24/7 services to customers, in addition there is also easy accessibility and best of all, clients are able to buy airtime from their bank accounts and to pay their utility bills like paying water and electricity, paying rent, buying Matooke and other food items, paying school fees and remitting of National Social Security Fund (NSSF).This can be done especially when the system is okay, but in case of power break down and failure of networks or internets, this can lead to a standstill in mobile banking accessibility.

Despite the above effect, Mobile banking services provided by this bank is subjected to charges like the withdrawal charges when paying for utilities, rents, school fees. However, this method tend to be ineffective in case of theft or when employees or clients forget their PIN numbers, the branch manager explained that the problem of fraudsters can be controlled by changing the PIN frequently by the users, being careful when transacting or handling the phones and not accepting any assistance from strangers when transacting using mobile phones.

Table 13: The overall satisfaction level about Mobile banking on time management of clients

	Frequency	Percentage
Highly not satisfied	1	2
Moderate	10	20
Satisfied	33	66
Highly satisfied	6	12
Total	50	100.0

Source: Primary data 2014

From the table 13 above, the overall satisfaction level about Mobile banking indicates that, 66% were satisfied, 20% were neutral or moderate, 12% were highly satisfied meanwhile 2% of the respondents were not highly satisfied and this shows that mobile banking can indeed lead to the improvement of clients' time management in this bank because services are offered through Mobile banking such as buying airtimes, balance checks and other forms of payments (*see Appendix V and VI*). This finding is supported by Namirembe (2007) who argues that, the scope of offered service may include facilities to conduct banking transaction, to administer accounts and to access customized information. Namirembe(2007) further notes that, most of the mobile banking services offered by most banks in Uganda include; performing balance checks, account transactions, payments, credit applications and other banking transactions such as to buy airtime. Air time can be fixed on the mobile phone electronically from the customer's account (Namirembe, 2007). However one cannot withdraw or deposit as compared to some of Kenyan banks where one can use phone the withdraw money from the bank.

4.2.2: The use of ATMs and the productivity of the Bank

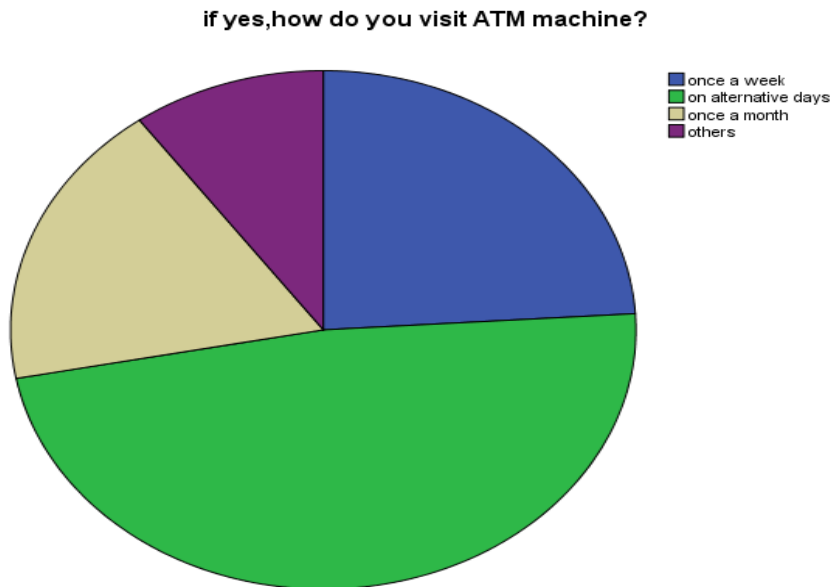
Table 14: Number of respondents using ATM machine

	Frequency	Percentage
Yes	49	98.0
No	1	2.0
Total	50	100.0

Source: Primary data 2014

The table 14 above indicates that 98% of the respondents' used ATM machine while 2.0% of the respondent were not using ATM machine, this shows that ATM usage was the most common form of information technology used in this bank since the majority use it. This is supported by Rose (1999) who describes ATMs as follows: "an ATM combines 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". Once access is gained, it offers several retail banking services to customers.

Figure 2: Pie chart showing how often clients visit ATM Machine



Source: Primary data 2014

Table 15: How often do you visit ATM machine?

Usage of ATM Machine	Frequency	Percentage
Once a week	12	24.0
On alternative days	24	48.0
Once a month	9	18
Others	5	10
Total	50	100.0

Source: Primary data 2014

Table 15 and Pie chart above looked at the frequency of ATM usage among Bank customers.

The result shows that customers frequently used the ATMs for bank transactions such as cash

transfers, depositing money, checking account balance, changing ATM PIN numbers and printing mini statements. 24 representing 48% of respondents who use ATMs indicated that they visit ATM points on alternative days. However, 24%, 18% and 10% of respondents pointed out that, they visit ATM points once a week, once a month and other days respectively. So ATM is used almost every time by the clients and staffs and this is done because it provides 24/7 services compared to moving to the banking teller , it saves time and it is convenience because most transactions are carried out simultaneously and best of all, the use of ATM is reliable especially offsite ATMs. This is supported by Kumbakher (2003) who asserts that ATMs are able to provide a wide range of services, such as making deposits, funds transfer between two or more accounts and bill payments. Banks tend to utilize this electronic banking device and all others for competitive advantage and increasing on their revenue streams which lead to high productivity.

However 10% of the respondents did not visit ATM machine and this indicated that, customers of Centenary Bank still find it useful to visit their bank branches regularly to transact some banking businesses such as detailed bank statement requests, loan application, foreign funds transfer. For which the ATMs cannot be used.

In addition some people agreed that they do not visit ATM machine because they are required to follow line when using ATM machine and this discourage some of them from visiting ATM since sometime long queues is followed in the banking hall.

Table 16: The use of ATMs affects the productivity of this Bank

	Frequency	Percentage
Yes	24	48.0
No	13	26.0
Not sure	13	26.0
Total	50	100.0

Source: Primary data 2014

Table 16 above shows that, 48% agreed with the statement that ATMs usage affects the productivity of this bank, 26% disagreed with the statement meanwhile 26% were not sure whether ATM affects the productivity. This indicates that ATM usage in this bank can improves on the productivity of this bank because ATM can serve many customers at a less time compared to banking teller; this is supported by Rose (1999) who notes that 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 (an average of about 6,400 transactions per month for ATMs compared to 4,300 for human tellers. Furthermore, as the ATMs continue when human tellers stop, there is continual productivity for the banks even after banking hours.

Through the interview conducted, it was further explained by the branch manager that ATM usage improves the productivity because every charge on the ATM increases non-interest income. Non-interest income according to the branch manager refers to those charges at the ATM and this is mostly realized by the offsite ATMs that is, branches with only ATM services, this surcharge fee seems to scare customers from using ATMs, this is in line with Rose and Hudgins(2010) who assert that ATM surcharge fees may put smaller financial firms that own few ATM machines at a disadvantage encouraging customers seeking to avoid service fees to transfer their account to the largest financial firms, which operate more machines in more locations, these fees may be especially damaging to low income consumers who often have few branch offices in their neighborhood but may have ATMs nearby.

However, this depends when the system is not having defaults, but in case there are problems such as power failure and defaults in the system, the non-interest income tends to be low hence leading to low productivity. Another problem in the ATM usage was card swapping, this is when the fraudsters tend to duplicate the clients' ATM cards and this was further explained by the branch manager that, clients should try to be very careful when using the ATMs especially by not accepting assistance from strangers and protecting their PIN.

From the observation made by the researcher on the ATM machine, it indicated that, the ATM at the branch looks somehow old and this was explained by the branch manager that, it was the ATM machine obtained from the main branch to Kayabwe branch and they were planning to replace the old ATM with a new one this year(*see appendix VII*), in this case the productivity of the old ATM machine is likely to be lower than that of the new ATM because in the old ones the transactions tend to take a lot of time in serving clients reducing productivity and it always has defaults making it difficult to use.

Table 17: Percentage of productivity increases because of using ATM machine

	Frequency	Percentage
0-20%	22	44.9
21-40%	2	4.1
41-60%	18	36.7
61-80%	6	12.2
81-100%	1	2.0
Total	49	100.0
Missing System	1	
Total	50	

Source: Primary data 2014

Table 17 above shows that, 44.9% of the respondents' points out that, productivity increase were from 0-20%, 4.1% were between 21-40%, 36.7% were between 41-60%, 12.2% were between 61-80% and 2.0% were between 81-100%. From the above finding, it can be concluded that, most of the increment of the bank's productivity were more between 0-20%, followed by increment between 41-60%. In addition, since the entire percentage group have been answered by the respondents, this indicates that the use of ATM can lead to an increase in the productivity of the bank and that, the productivity depend on the condition of the ATM (old or new) as discussed in the previous table 16. This finding was challenged by Leow (1999) who notes that ATMs has almost all the impacts on productivity of Banks, except that it lacks the productivity generated from cash dispensing by the ATMs. For as a delivery conduit that provides retail banking services even after banking hours (24 hours a day), it accrues continual productivity for the bank.

It offers retail banking services to customers at their offices/homes as an alternative to going to the bank branch/ATM. This saves customers time, and gives more convenience for higher productivity. However (Hudgins, 2010) notes that ATMs are not necessarily profitable for all service providers for example, because ATMs are available 24 hours a day, customers may use these machines more frequently and for smaller transaction than they would with a human teller for example if the customers need cash for movie for Friday night and for dinner on Sunday, he or she may access an ATM Friday afternoon after work for USD30 and then drive to an ATM on Sunday near home for another \$50 to pay for dinner(Rose and Hudgins, 2010).

4.2.3 Internet banking and sales growth of the bank

Table 18: Does this Bank offer internet banking?

	Frequency	Percentage
Yes	15	30
No	25	50
Not sure	10	20
Total	50	100

Source: Primary data 2014

From the table 18 above, 30% of the respondents agreed that this bank offered Internet Banking services, 20% were not sure meanwhile 50% of the respondents disagreed that this bank offered Internet Banking services, this indicates that internet banking was not fully administered to all clients in this bank since the majority (50%) of the respondents did not use the internet banking services because they consider it to be expensive, this is supported by Lustsik (2003) who notes that the Internet Banking is used as a message carrier where the

customer uses a PC and a modem or local area network to connect to the bank using its online website or software provided by the bank and this tend to be expensive to customers.

Table 19: How long have you been using internet banking?

	Frequency	Percentage
Below 1 month	0	0.0
1-6 months	5	10.0
6 months -1 year	7	14.0
Above 1 year	3	6.0
Total	15	30.0
Missing	35	70.0

Source: Primary data 2014

From the table 19 above, it can be seen that 10% of the respondents use internet banking between 1-6 months, 14% agreed that they use it between 6 months to 1 year, 6% of the respondents use Internet banking for 1 year and above while 70% of the respondents did not answer. This finding indicates that internet banking services seems to be a new form of technology in this bank since most of the clients use for less than 1 year, this can also be supported by Lustsik (2003), who indicates in the previous table that internet equipment are very expensive to install and maintain.

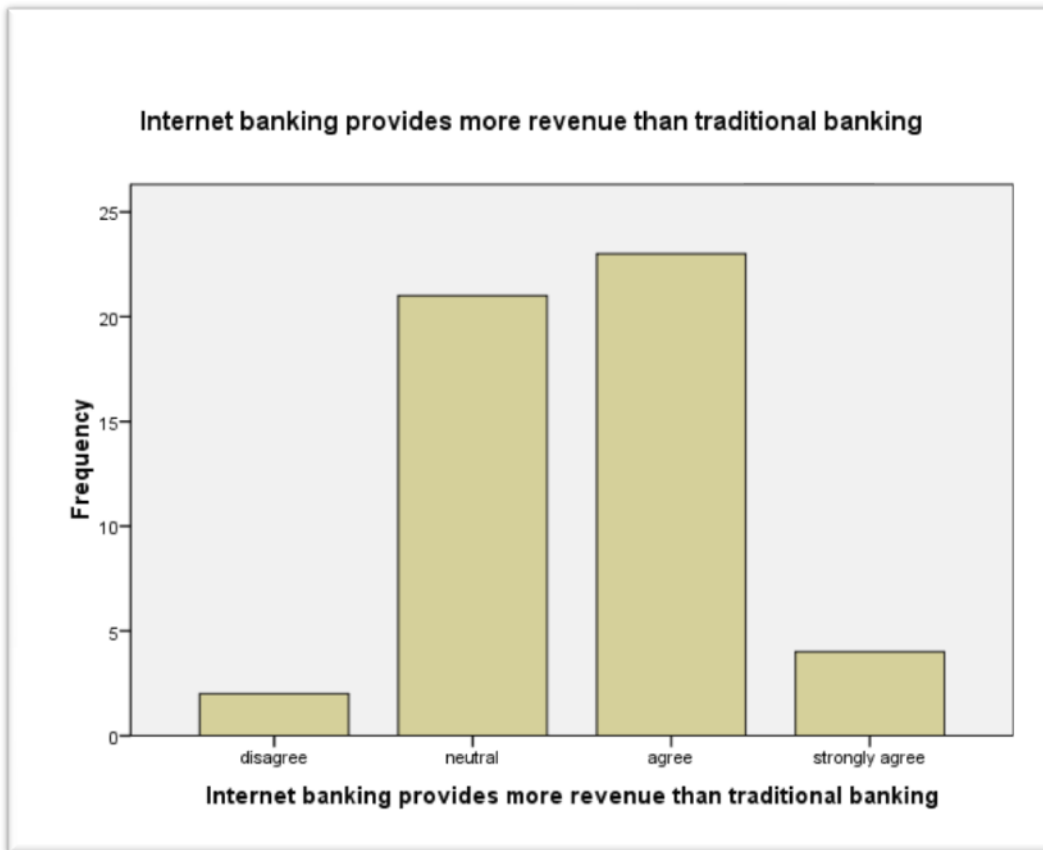
However through the interview conducted, it was explained by the branch manager that though Internet banking being the latest form of Technology in this bank; most customers tend not to use it most of the time because it provides banking services at a secure site. This finding agreed with Wiley (1997) who points that Internet banking is the newest delivery channel to be offered by retail banks in many developed countries. It allows customers to conduct financial transactions on a secure website operated by their retail or virtual bank.

Table 20: Internet banking provides more revenue than Traditional banking

	Frequency	Percentage
Disagree	2	4.0
Neutral	21	42.0
Agree	23	46.0
Strongly agree	4	8.0
Total	50	100.0

Source: Primary data 2014

Figure 3: Showing Internet banking provides more revenue than traditional banking



Source: Primary data 2014

From the table 20 and graph above, it was shown that 46% of the respondents agreed that internet banking provides more revenue than traditional banking, 8 % strongly agreed with the statement, 4% of the respondents disagreed that internet banking provides more revenue than traditional banking while 42% were neutral (not sure) on whether internet banking provides more revenue than traditional banking or not. This indicates that though being the latest form of technology in this bank with few (30%) customers using it, it can be seen that internet banking usage can lead to increase in sales growth because more revenue is realised than in traditional banking, this because internet banking is convenience, cost saving since it does require movement to the banking hall, this finding is in line with Malhotra (2008), who argues that Internet banking model offers advantages for both banks and customers because it provides the banks with the ability to deliver products and services to customers at a cost that

is lower than any existing mode of delivery, Internet banking is the cheapest for the banks. Customers benefit not only from the increased convenience but also from higher interest rates resulting from cost savings by the banks. The ability to pay higher interest rates with a much wider potential of customers, allows these banks to grow faster than traditional banks because of increase in revenue. Practically according to the researcher, the extent to which these banks distribute these benefits is not yet clear. It is therefore important for bankers, bank supervisors and policymakers to understand how Internet banking affects the performance of banks.

Table 21: The relationship between Internet Banking and Bank sales growth?

	Frequency	Percentage
Positive	36	72
Negative	6	12
Not sure	8	16
Total	50	100

Source: Primary data 2014

From the table 21 above, the finding indicates that there was a positive relationship between internet banking and sales growth (72%), 12% agreed that there was a negative relationship between internet banking and sales growth meanwhile 16% of the respondents were indifference or not sure about the relationship between this two variables. This finding indicates that internet banking can actually lead to increase in sales growth because more revenue is realized than traditional banking, this finding agrees with Thornton and White (2001) who argue that the evolution of Internet Banking has altered the nature of personal-customer banking relationships and has enabled electronic channels to perform many banking functions that would traditionally be carried out over the counter.

Table 22: The major purposes for using Internet Banking

	Frequency	Percentage
Online bill payment	21	42.0
Balance check	12	24.0
Request for cheque book	16	32.0
Others	1	2.0
Total	50	100.0

Source: Primary data 2014

From the table 22 above, the finding indicates that 42% of the respondents are using internet banking for the online bill payment, 24% are using for balance checks, 32% are using to request for cheque book while 2% are using internet banking for other uses, this indicates that most of the bank's customers were using internet banking for online bill payment followed by request for cheque book and lastly balance check, this finding is supported by Malhotra (2008) who asserts that internet banking provides the opportunity to the customers to conduct banking transactions at their convenience. In fact, Internet banking involves the use of Internet as a delivery channel for the banking services, including traditional services, such as balance check, Cheque book request and opening an account or transferring funds among different accounts, as well as new banking services, such as electronic bill presentment and payment, which allow the customers to pay and receive the bills on a bank's website.

When all the above services are offered through internet banking, it can lead to increase in revenue realised hence sales growth. However, there are certain factors that tend to hinder the internet banking usage in this bank, first, the internet banking services were not fully

administered to all customers and this means that, there are few customers using internet banking and this does not increase the sales growth when few people are using technology. Secondly, the customers were also worried on internet cost and network failure, this tend to affect the internet banking usage because most of the activities in internet banking are done through internet and the most problem through internet is the internet hackers commonly known as the fraudsters, customers fear that their bank could be affected by fraudsters and this tend to be the most problem facing internet banking services, so because of this risks consumers are expecting when they use internet banking, there were still few clients using internet banking hence reducing on sales growth.

4.3 Conclusion

According to the research carried out, with respect to the type of IT innovations used by customers in centenary bank, ATMs appeared to be the most widely accepted and highly used electronic delivery tool indicating 98.0% of the total respondents. This is followed by Mobile banking representing 76.0% and Internet banking (30.0%), because it is the latest form of IT innovation, seems to be not popularized and least used electronic delivery channel by bank customers in centenary bank. It was found that most banking customers still visit their bank branches regularly and find interactions with human tellers very important. The results of the study generally indicated that, these various forms of banking IT have contributed positively to the provision of banking services and the growth of Centenary bank.

Despite of that, some banking technology like Automated Teller Machine (ATM) and mobile banking services are giving consumers more options. By being able to access account information and perform transactions without requiring access to bank branches, ATMs, or computers, consumers are able to “bank” wherever and whenever they want and they are learning to expect such convenience.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary discussions, conclusion and recommendations of the findings. The summary focuses on the findings in relation to objectives of the study that it intends to achieve, the summary was followed by the conclusion which was also based on the findings of the study, the recommendations on how Information Technology improves on the performance of Commercial Banks which was also based on conclusion and lastly the areas of further research were also identified taking into consideration the broad nature of this particular study.

5.1 Summary of the findings

The study established a number of findings which can be summarized as seen below;

5.1.1 Mobile banking and time management of customers

The analysis made in table 9 in chapter four indicates that 40% of the respondents agreed that, mobile banking affects the time management of the client in this bank, 36% disagreed with the statement meanwhile 24% of the respondents were not sure of the answer, this indicated that mobile banking affects time management since the majority of the respondents agreed with the statement. From such a result, it showed that mobile banking can actually make clients take shorter time when dealing with their banking transactions on phones, this is true because most of the payment for utilities like water and electricity, paying of school fees, buying food like Matooke and buying airtime is done through mobile banking (Cente-

mobile), which does not require the customer to move to the banking hall or ATM machine in order to carry the above transactions.

In addition to the above, the time of clients are saved because most of time they are always being updated by sending SMS alerts to their phones, this in turn does not require them moving to the banking halls or ATM machine for balance inquiry from the bank teller hence saving their times.

Through the interview conducted, it was explained by the branch manager that, Mobile banking is a convenience way of carrying out bank transactions than using ATM machine; this is because the service is available 24 hours and 7 days a week and the transaction is done anywhere, anytime even at home.

Despite all the above effects of mobile banking on clients' time management, this is not done at a free cost, in other words, there are charges involves when using mobile banking services.

According to the research finding, in summary the demands of vibrant mobile banking implementations revolve around improved network coverage, quality connections besides reduced costs to ensure affordability and time management to all prospective stakeholders. Service providers might be better of availing the service at lower costs to net more users rather than insisting on high levies which frighten off some possible participants.

By so doing they will be able to boost their revenue streams by promoting the volume of transactions and saving times of customers. On the policy front, there is an urgent need to devise policies and strategies to reverse gaps in terms of gender, income levels and rural - urban demographics in mobile banking usage.

5.1.2 The use of ATMs and Bank's productivity

As observed from Table 16 in the previous chapter, it was found out that, 48% of the respondents agreed with the statement that ATMs usage affects the productivity of this bank, 26% disagreed that ATM usage affect bank's productivity meanwhile 26% were not sure whether ATM affects the productivity or not.

In addition to the table above, the findings also revealed that, 56% of the respondents agreed that the use of ATM affects the productivity, 34% were neutral (not sure) while 10% strongly agreed with the statement, this indicates that ATM usage in this bank can improves on the productivity of this bank because ATM can serve many customers at a less time compared to banking teller.

This according to the branch manager was explained that the use of ATM can affect the productivity of the bank in that, every charge on the ATM increases non -interest income. Non -interest income according to the branch manager refers those charges at the ATM and this is mostly realized by the offsite ATMs that is branches with only ATMs services.

However, this depends on the working condition of ATM, in case there are problems such as power failure , defaults in the system and nature of ATM (old or new), the non -interest income tend to be low hence leading to low productivity.

The observation carried out on the branch ATM machine shows that the ATM machine is becoming old which need to be replaced if they are to realized higher productivity (*see appendix VII*).

Despite the high productivity realized through non-interest income on ATM machine, there are also a number of problems associated with ATM usage and these include; long queues

followed on ATM machine in some season especially at the beginning of semester when students are paying their tuitions, another problem is ATM card swapping by fraudsters, this is when the fraudsters tend to duplicate the clients' ATM cards and this was explained by the branch manager that clients should try to be very careful when using the ATMs most especially not accepting assistance from strangers and protecting the PIN of the ATM Cards. This occurs because sometimes clients are not trained on how to use ATM machine.

5.1.3 The effect of Internet banking on Bank's sales growth

Following the information in table 20, it was seen that 46% of the respondents agreed that, internet banking provides more revenue than traditional banking, 8 % strongly agreed with the statement, 4% of the respondents disagreed that internet banking provides more revenue than traditional banking while 42% were neutral on whether internet banking provides more revenue than traditional banking or not. This indicates that though being the latest form of technology in this bank with few (30%) customers using it, it can be seen that internet banking usage can lead to increase in sales growth because of more revenue realised than in traditional banking. This is because internet banking is convenient and cost saving because it does not require movement to the banking hall.

Through the interview conducted among the bank's management, it was observed that most of customers are not using internet banking services not because they do not want but because it has not been popularized and they also fear the risks associated with using internet especially internet failure , fear of hackers or fraudsters , since the rate of online theft is increasing with increase in technology, so customers think that their bank accounts are at risks and this is what is hindering most of the clients from using internet banking in this Bank.

5.2 Conclusion

Significant issues drawn from the findings of the study lead to the following conclusions;

5.2.1 Mobile banking and time management of customers

Based on the summary above, it can be concluded that mobile banking can lead to time management of customers because the transaction is done anywhere and it is available anytime. Because it is considered to be most risky, clients are required to change their PIN regularly in case the customer loses the phone and if the customer considered that the PIN number is known by many and this encourages SIM Card swapping which is also one of the risk involved in using mobile banking services.

5.2.2 The use of ATM and bank's productivity

Concerning the use of ATMs, it can be concluded that productivity has increased as a result of using ATM machine. Despite of that, it was also found out that the ATM machine is old and needs replacement and there are a lot of long queues involved in using the ATM machine most especially at the beginning of the semester. The bank also needs to train their customers who are not able to use the ATM machine in order to prevent fraudsters or theft.

5.2.3 Internet banking and Bank's sales growth

From the findings, it was found out that internet banking leads to an increase in sales growth of this bank. However, internet banking being the latest form of technology in this bank had not been fully administered and popularized to customers because of high risks involved in using internet banking such as online theft, internet failure, and so all the stakeholders need to be trained fully on the use of this banking technology and how to overcome the risks associated with internet banking usage.

5.3 Recommendations

The information gathered by this study pointed to how important Information Technology can help a financial institution like the Banks grow and improve on their performance, especially when the required IT like Mobile banking, use of ATMs and internet banking are fully administered to the management, employees and customers of this bank. Indeed, the importance attached to IT by Centenary Bank, Kayabwe branch has seen its growth to take a prominent place in the comity of Banks in Uganda. To give expression to the questions this study sought to test, the study confirmed that IT improves on the banking performance which in turn improves the competitiveness and patronize the products and services of the Bank.

Evidence gathered by the researcher from the field points to the important IT such as Mobile banking, use of ATMs and internet banking improves on the operation of Centenary Bank.

The researcher would therefore like to make the following recommendations;

To start with, there is need for Centenary Bank to reduce their operational procedures to ease the long queue in the banking hall and ATM Machine. There is also need to open more branches with ATMs especially in the rural region to capture the large number of potential customers in these areas who would also like to enjoy the good customer services of Centenary Bank.

Secondly for Centenary Bank to always stay ahead of the other Banks there is need to constantly carry out research on the tastes of both employees and customers in order to develop corresponding products to suit these tastes. This comes against the backdrop on poor performance as indicated on the Centenary Bank Annual Report (2012), that the bank in 2011

experienced a high staff turnover and the ratio of non-performing loans has been increasing year after year (Centenary Bank, loan portfolio analysis and performance management reports 2004-2011) indicating poor staff performance such as reduction in profit after tax by 2.5%.

Again, there is need for in-service training and refresher courses for staffs of Centenary Bank because of the negative responses given by some of the respondent about a few of the staffs of the bank in terms of relationship building. These trainings and courses will always position the staff of the bank to be ready to use the available Information Technology most especially teaching clients on how to use these various types of IT, their risks and how to overcome risks associated with each type of banking technology.

To further capture more customers and to improve on the Bank's productivity, Centenary Bank should also consider the idea of replacing old Automated Teller Machines that account to the numerous complaints in the bank and cite Automated Teller Machines at strategic points outside the bank premises. This is because few of the areas that have had their Automated Teller Machines changed have had positive results on the productivity of Bank.

Lastly, there is the need for Centenary Bank to consider seriously on improving and popularising their Internet banking operation as promised customers by pointing out strategies of overcoming risks involved in internet banking usage. The researcher believes this will increase on the number of clients using internet banking and this can ease the pressure of customers joining long queues in the banking hall and sometimes long queues on ATM Machine before transacting business that is, withdrawing, and balance enquiries or depositing. Thus the bank can serve their customers at home or their offices through internet banking service.

5.4 Suggestions for further investigations

1. Future researchers could concentrate on what various efforts are needed by financial institutions in their competitive environment to gain and retain customers.
2. Secondly, given that large number of customers may leave, there is need for Centenary Bank to seriously step up its research into why customers should keep another account at other Banks and address the shortfalls as quickly as possible.
3. Another issue that could also be considered for future research is under what circumstance one can argue that customer service or care has improved performance of the financial institutions.

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APPENDICES

Appendix I: Questionnaire Survey

Dear Respondent, I am OWILLI Patrick Komol, a student of Uganda Martyrs University in the Faculty of Business Administration and Management; I am conducting a research study on the topic “**The effect of Information Technology on the Performance of Commercial Banks in Uganda**” with a case study in Centenary Bank, Kayabwe branch.

Kindly fill in this questionnaire as honestly as possible, all the information provided will be treated with highest degree of confidentiality and anonymity and will be used only for the purpose of this study.

I thank you in advance for your corporation.

SECTION A (Background of the respondent)

Please tick the box after the specific category in which you fall.

Position: (please tick the appropriate)

Management Employee Customer

Gender: Male Female

Age:

18-25 26-35 36-45 46-55 56 and above

Experience:

<1yr 2yrs 3-5 yrs 5-10 yrs

SECTION B

1. Mobile banking and time management

Tick the option that best suit you.

Does this bank offer Mobile banking?

Yes No Not sure I don't know

If no, why.....

If yes, what benefits do clients get from using Mobile banking administered to them?

.....
.....

Does Mobile banking affect the time management of clients of this bank?

Yes No Not sure I don't know

If yes, how does it affect the time management?

.....

The long line in the bank is often caused as a result of non-Mobile banking services

Yes No Not sure I don't know

It is easy to use Mobile payment system

Yes No Not sure I don't know

The overall satisfaction level about Mobile banking on time management of clients in this bank is;

Highly satisfied	Satisfied	Moderate	Not satisfied	Highly not satisfied

2. The use of ATM and the productivity of the bank

As a client of this bank, do you use ATM card?

Yes No

If no, why?.....

If yes, how often do you visit ATM machine?

Once a week	On alternative days	Once a month	Others, specify

As a member of this organization, with your experience do you think that the use of ATMs affects the productivity of this bank?

Yes No Not sure I don't know

If yes, how does it affect the productivity?

.....

As an employee or manager of this bank, has the use of ATM help you to retain your customer and help you to discover new customers?

Yes No Not sure I don't know

By what percentage have your productivity increased because of using ATM cards?

0-20%	21-40%	41-60%	61-80%	81-100%

3. Internet banking and sales growth.

Does this bank offer internet banking?

Yes No Not sure I don't know

If no, why?.....

If yes, since how long are you using the internet banking system provided by this bank?

Below 1 month	1-6 months	6 months to 1 year	Above 1 year

The relationship between internet banking and sale growth of this bank is:

Positive Negative No relationship

Other (specify)

.....

By what percentage have your sales increased because of internet banking?

0-20%	21-40%	41-60%	61-80%	81-100%

Does internet banking provide more revenue than traditional banking?

Yes No Not sure I don't know

Does the revenue coming from internet banking crosses the expenses made on internet banking?

Yes No Not sure I don't know

As an employee or manager of this bank, has internet banking helped you to retain your customers and to discover new ones?

Yes No Not sure I don't know

Has online/internet banking done according to the expectation?

Yes No Not sure I don't know

What are the major purposes for which you use internet banking?

Online bill payment	Balance check	Request for Cheque book	Others, specify

Intervening variables

Are there other factors which affect the performance of this bank other than information technology?

Yes No Not sure I don't know

If yes, what are those other factors?

.....

.....

Tick the option that best suit you.

	Strongly agree(5)	Agree (4)	Neither (3)	Disagree (2)	Strongly Disagree (1)
Internet banking provides more revenue than traditional banking					
I am able to provide credit card and purchase information through telephone.					
The sale growth of this bank improves because of using internet banking					

	Strongly agree(5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree(1)
The clients are often updated on their phone in case there is a transaction					
Am motivated to open mobile bank account					
Internet banking is reliable enough for transaction					

‘Explain different kinds of information technology use and their impacts on this bank.....

Please explain below, what you feel are

a) the main effects of Mobile banking on the time management of clients in this bank

.....

b) the effects of using ATMs on the productivity of this bank

.....

.....

c) The relationship of internet banking and sale growth of this bank

.....

.....

Thank you for responding to this questionnaire

Appendix II: Interview Guide

1. Explain different kinds of Information Technology use and their effects on this bank
2. How is internet banking related to the sale growth of this bank
3. Explain the circumstances under which mobile banking has improves on the time management of both clients and employees of this bank
4. Explain why you think, the use of ATMs has improves on the productivity of this bank
5. How does the implementation of various Information Technologies improve on the general administration of this bank?
6. What other factors do you think affect the performance of Centenary Bank other than the use of Information Technology?
7. Discuss whether mobile banking, internet banking and the use of ATM are successfully administered both clients and employees of this bank.

Appendix III: Work plan

Activity	Duration	Place	Responsibility	Remarks
Literature review	3 weeks	UMU library Commercial Banks like Centenary Bank's Websites	Researcher	Use of Journals, books, internet and other sources
Questionnaire formulation	1 week	UMU-Nkozi	Researcher	-
Questionnaire pre- testing	5 days	UMU-Nkozi	- Researcher Supervisor	Determine whether questions are free from errors & misstatement
Make appointment with prospective respondents	4 days	Centenary Bank, Kayabwe Branch	Researcher	To avoid any inconveniences
Data collection Distribution of questions Interview	2 weeks	Centenary Bank, Kayabwe branch	Researcher	The potential respondents were approached.
Data editing	2 weeks	UMU – Nkozi	Researcher	Identification of errors & incompleteness
Data analysis	1 month	UMU Nkozi	Researcher SPSS Expert	Use of SPSS package

Appendix IV: Research Budget

No.	Details	Unit/quantity	Cost per unit	Amount
1.	Stationery			
	- Typing papers	2 reams	15,000/	30,000/=
	- Pens	8	500/=	
	- Printing / binding			4,000/=
	- Photocopying			150,000/=
	- Flash disc			40,000/=
				35,000/=
2.	Transport	20 routes	10,000/=	200,000/=
3.	Meals			100,000/=
4.	Miscellaneous			50,000/=
	Total			609,000/=

Appendix V: Picture Showing Some of the Payments through Mobile Banking In Centenary Bank



Appendix VI: Services offered through Mobile banking.



Appendix VII: An outlook of the branch ATM Machine

