

KIBOGORA POLYTECHNIC

FACULTY OF BUSINESS AND DEVELOPMENT STUDY

DEPARTMENT OF ECONOMIC AND MANAGEMENT

ROLE OF ELECTRONIC BANKING SYSTEM AS A TOOL OF IMPROVING BANKING SERVICES IN RWANDAN COMMERCIAL BANKS.

Case study of Bank of KIGALI [BK], Branch of RUSIZI

A Research project paper to be submitted in partial fulfillment of requirements for the award of Bachelor degree with honors in Economic and Management

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Kibogora, July,2022

DECLARATION

Declaration by the candidate

We, **Jean Bernard IRADUKUNDA**, and **Jean Damascene TUYISENGE** hereby declare that This research paper is our own original work, and not a duplication of any similar academic work. It has therefore not been previously or concurrently submitted for any other degree, diploma Or other qualification to Kibogora Polytechnic or any other institution. All materials cited in this Paper which are not our own have been duly acknowledged.

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Date:

Signed by

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Declaration by the Supervisor

We, declare that this work has been submitted for examination with my approval as KP supervisor.

BUMBALI Machiavel

Signed

Date.....

ABSTRACT

The study on “The role Electronic Banking system as a tools of improving Banking Services in Rwanda commercial banks” this study we was conducted in Bank of Kigali, Kamembe branch, with purpose of highlighting the role of using Electronic Banking system for the improvements Banking services. The researcher had intention of responding to three questions: what is the reason why there are still long line of customers at front of the Banks while using different tools of E-banking system even if banks had updated all electronic banking system? What are the benefit of using electronic banking system for customers and banks over still using manual banking system? What are the challenges and problem’s faced by using Electronic banking systems?

A sample of 96 of customers and staffs of selected in Bank of Kigali, Kamembe branch. These sample was selected from a target population of 24,054 customers and staffs. Participants were selected through a purposive sampling process. We used questionnaire for asking questions to respondents for purpose of to gain more information to the study. For analyze all data we was used SPSS application. The researcher was using frequency distribution, percentages and cumulative percentage for possessing data.

The researcher discovered that, the commercial banks especially in BK it has many different tools of E-banking systems, and year per year in BK there update the version Electronic banking system another to void burglary people and improve BK services and after researcher discovered that as electronic banking system improved same as number of customer increase. this is significance of that E-banking system it has big role of improving banking services in commercial banks. But even if is that, the level of manual logic system is still high rather than digital system, those is big gap that limit and increase the misunderstanding well the role of E-banking systems for some customers of commercial banks.

The researcher recommends that for banking services being improved at high level there is much needed to be done on both side for customers and commercial banking institution much need to be done in the area of creating awareness about the availability of E-banking services. also Banks should try to win customers confidence by providing adequate security of transaction back up of critical data files and alternative means of processing information.

DEDICATION

To our beloved parents

To our beloved brothers and sisters

To our teachers and lectures

To everyone who was supported me during our studies

God blesses all entire family dedicated.

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First and foremost, we thank almighty God for his grace that has been with us during our life of very day and the during the time of studies.

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LISTE OF ACRONYMS AND ABBREVIATIONS

BK: Bank of Kigali

E-banking: Electronic Banking

KP: Kibogora Polytechnic

ATM: Automated teller machine

IT: Informational technology

ACH: Automated Clearing House

BCR: Banque commerciale du Rwanda

BNR: Bank National of Rwanda

EFT: Electronic Funds Transfer

ISP: Internal Service Provider

NBI: National Bank America cards, Inc.

PIN: Personal Identification Number

POS: Point of Sale

SA: Society Anonyms

SWF: Society of Worldwide Interbank Telecommunication

ICT: Information Communication Technology

SMS: Short Message Service

CHAPTER ONE: GENERAL INTRODUCTION

1.0 INTRODUCTION

1.1 BACK GROUND OF THE STUDY

Electronic banking, or e-banking, is the term that describes all transactions that take place among companies, organizations, and individuals and their banking institutions. First conceptualized in the mid-1970s, some banks offered customers electronic banking in 1985. However, the problem was lack of Internet users, and costs associated with using online banking, stunted growth. The Internet explosion in the late-1990s made people more comfortable with making transactions over the web. While financial institutions took steps to implement e-banking services in the mid-1990s, many consumers were hesitant to conduct monetary transactions over the web. By 2000, 80 percent of U.S. banks offered e-banking. Customer use grew slowly. At Bank of America, as example, it took 10 years to acquire 2 million e-banking customers. In 2001, Bank of America became the first bank to top 3 million online banking customers, more than 20 percent of its customer base. Online customers proved more loyal and profitable than regular customers. In October 2001, Bank of America customers executed a record 3.1 million electronic bill payments, totaling more than \$1 billion. The advancement in Technology has played an important role in improving service delivery standards in the Banking industry. In its simplest form, Automated Teller Machines (ATMs) and deposit machines now allow consumers carry out banking transactions beyond banking hours. (Aladwani, 2001)

The Banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate. Information and Communication Technology (ICT) is at the center of this global change curve of Electronic Banking System in Africa today have been using electronic and telecommunication networks for delivering a wide range of value added products and services, managers in Banking industry in Rwanda cannot ignore Information Systems because they play a critical impact in current Banking system, they point out that the entire cash flow of most fortune Banks are linked to Information System. (Aladwani, 2001)

With online banking now day, individual's clients of banks can check their account balances and make payments and checking all information of his/her account without having to go to the bank site. This is gradually creating a cashless society where consumers it doesn't necessary to have cash in hand another to pay transactions or product purchased this is improving customer relationship management system. For example: bank customers can pay for airline tickets and subscribe to 2 initial public offerings by transferring the money directly from their accounts, or pay for various goods and services by electronic transfers of credit to the sellers account. More people to day has their own mobile phones, banks have also introduced improving banking services though mobile banking another to help their customers to access to their account wherever they are. Mobile banking allows individuals to check their account balances and make fund transfers using their mobile phones. This was popularized in Rwanda first by Bank of Kigali; customers can also recharge their mobile phones via SMS. Electronic Banking system has made banking transactions easier around the World and it is fast gaining acceptance in Rwanda. For the purpose of this study the researcher has chosen Bank of Kigali Kamembe branch as a case study in order to study the contribution of electronic banking system to banking services efficiency or performance improvement in Rwanda.

1.2 STATEMENT OF THE PROBLEM

As the technology advances, the banking services is becoming developed through the new technology based on internet, and many Commercial Banks have started this technology by creating different system which can help to provide their customers good services.

According to R David (2011) which written about the electronic banking for commercial banks, but in his recommendation also said that there is still gap about the customers to understand well the role and contribution of using electronic banking system.

According also what researcher observed on the different banks, where there are many clients always on longest line waiting services for cashier for saving or withdrawing their money without care there electronic banking tools like ATM machine or using telephone banking as tools known as fastest services.

As a result, some clients complain of the above, it is upon this that is why the researcher would like to examine the role of E- banking system for improving banking services for commercial bank because researcher believes that. To highlight deeply the role of E-banking system to customers of the banks, will make them being understanding and more attracted for using different E- banking tools, so us more customers increase its pressured the banking institutions to increase banking services as well as possible.

1.3 OBJECTIVES OF THE STUDY

1.3.1 General objective

Generally, the study was found out the electronic banking system can be a tool for improving banking services in Rwanda commercial bank institutions.

1.3.2 specific objectives

1. To identify the reason why customers accepting to attend line on bank waiting banking services while using E-banking system found in Bank of Kigali.
2. To identify the application of electronic banking system and highlighting the role or contribution of using electronic banking system in payment service, saving Services, withdrawing and credit services.
- 3.To examine the challenges and mitigation solutions associated to the electronic banking system and banking service in BK.

1.4 REASECH QUESTIONS

1. why customers accepting to attend line on bank waiting services while using electronic banking system used in bank of Kigali?
2. How the electronic banking system is delivered and what is it role or contribution of electronic banking system in payment service, serving service, withdrawing and credit service at Bank of Kigali?
3. what are the challenges and mitigation solutions associated to the electronic banking system and banking service in BK?

1.5 SIGNIFICANCE OF THE STUDY

As it the recommended that for undergraduate studies every student must fulfill the requirements and present his/her own dissertation and this work was enriched the knowledge got from different reading and courses.

This study gave the BK and other banking institutions the information about the reasons why all customers do not use e-banking.

The researcher report is to be the property of Kibogora Polytechnic library where other researchers will get it and use as reference for further research.

The study enabled the more customers of BK to know and gain more information and sufficient knowledge on the using e-banking system.

Finally, yet importantly, the study revealed to the whole society the advantage of using electronic banking likewise it improves banking services.

1.6. LIMITATION OF THE STUDY

Some of the respondents was too busy to get tie to respond to the question. To stand at bank waiting electronic banking users such as mobile banking and BK quick machines problem to the researcher because they will not be many in bank. Another to overcome with them will require researcher to

be courage himself and improving well communication among respondents for explaining them well the purpose of research.

1.7. SCOPE OF THE STUDY

As it is required in other to avoid boring, it's necessary to limit the study in space, in time and in the domain.

In space, the current research can be applied in the whole country, but case of remitted time and means, it is applied in BK specifically in Kamembe Branch.

In time, this work covered the period of three years; between 2019 to 2021 this period is sufficient interval considering the year of research implementation and 2022 corresponds with the year before the research of implementation for using recent data.

In domain, this study was limited in market generally electronic banking system and the topic is about the role of E-banking system as tool of improving the services in Rwanda commercial banks

1.8 THESIS ORGANISATION

The researcher is organized according to the following chapter: chapter one covers the background of the study; state the problem for the study, the objectives of the study and its significance, the research questions and constraints of the study. The second chapter talks about review of relevance theoretical, conceptual and empirical literature that was relevant to the study. Chapter three presents the approach of the study, target population, sample size as well as data collection process. Chapter four discusses the findings of the data analysis collected from members selected as sample from Bank of Kigali (BK)branch at Kamembe as one in commercial Bank in Rwanda. It also discusses an analysis and interpretation of the findings. Finally, chapter five presents the researcher's conclusion and recommendations on the investigate problem and the results.

SUMMARY

This chapter presents the background of the study about the role of E-banking system for improving banking services in commercial banks in Rwanda especially in Bank of Kigali as our case study, and this chapter also shows problem thesis, the general and specific objectives of this research which focus about the tools in electronic banking and how it beneficial to improve banking services. Not only that it is also look the application of electronic banking system for improving customer satisfactions, the challenge and mitigation faced by E-banking institution. Significantly, this study will be benefic for the existing customers of the commercial bank, and attract new customer and increase morale to the employees of the commercial banks. Furthermore, this chapter ends up with showing the organization of this work.

CHAPTER TWO: LITERATURE REVIEW

2.0 INTRODUCTION

This chapter gave overall view of earlier works and theories in areas of the role of E-banking towards banking services of commercial bank in Rwanda. This section the basic part well consider is theoretical review, conceptual review, empirical review and summary of whole chapter. It presents the historical element of E-banking, it looks at different E-banking tools used, and reviews E-banking towards banking on performance of banking. In the beginning of this chapter we will going to explain well the basic different key concepts such as: Bank service, electronic banking system, commercial bank and other related to research which will help to understand well this research.

2.1 DEFINITION OF THE KEY CONCEPTS

2.1.1 Bank services

Kinley (2012) explained bank services as, “A bank services are an establishment where individuals make advances of money as may be required and safely made, and to which individuals entrust money when not required by them for use”

According to Imperial Dictionary, “A bank services is an establishment which trades in money, an establishment for deposit, custody, and issue of money and also for granting loans and discounting bills and facilitating transmission of remittances from one place to another

2.1.2. E-banking system

(Daniel, 1999) defines e-banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer, a mobile phone with browser or desktop software, telephone or digital television.

Electronic banking (e-banking), also known as Internet banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels ((D, Sathye, 1999).

Electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. The following terms all refer to one form or another of electronic banking: personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking. PC banking and Internet or online banking is the most frequently used designations. It should be noted, however, that the terms used to describe the various types of electronic banking are often used interchangeably (Sathye, 1999).

(Pikkarainen et al, 2004) define e-banking as an internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments

2.1.4 A commercial bank

According to Gilbert "A commercial bank is a dealer in capital or more property a dealer in money. He is an intermediate party between the borrower and the lender. He borrows from one party and lends to another and the difference between the terms at which he borrows and those at which he lends from the source of his profit.

According to Roger, "The bank which deals with money and money's worth with a view to earning profit is known as commercial bank."

According to Ashutosh Nath, "Commercial bank is and intermediary profit making institution.

<https://the-definition.com/term/commercial-banks>

2.2 THEORETICAL FRAMEWORK

The concept of e-banking is a delivery channel for banking services. Banks have used electronic channels for years to communicate and transact business with both domestic and international corporate customers. With the development of the Internet and the World Wide Web (WWW) in the latter half of the 1990s, banks are increasingly using electronic channels for receiving instructions and delivering their products and services to their customers. This form of banking is generally referred to as e-banking or Internet banking, although the range of products and services provided by banks over the electronic channel vary widely in content, capability and sophistication. E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. The definition of e-banking varies amongst researches partially because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone (Daniel E. , 1999). (Salehi and Zhila, 2008), describes e-banking as an electronic connection between bank and customer in order to prepare, manage and control financial transactions.

Electronic banking can also be defined as a variety of following platforms: (i) Internet banking (or online banking), (ii) telephone banking, (iii) TV-based banking, (iv) mobile phone banking, and e-banking (or offline banking). Furthermore, (Sathye, 1999) said that E-banking includes the systems that enable financial institution customers, individuals or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network, including the Internet or mobile phone. Customers access e-banking services using an intelligent electronic device, such as a personal computer (PC), personal digital assistant (PDA), automated teller machine (ATM), kiosk, or Touch Tone telephone.

While some literature restricts the use of the term to internet banking (Daniel, 1999) elsewhere the term is limited to retail banking or both retail and corporate banking (impson, 2002). Banking Supervision (1998), “e-banking refers to the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit-taking,

lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money”.

Electronic banking has long been recognized to play an important role in economic development on the basis of their ability to create liquidity in the economy through financial intermediation between savers and borrowers. It also offers financial services and products that accelerate settlement of transactions and in the process reduce cash intensity in the financial system, encourage banking culture, and catalysis economic growth However, for the effective functioning of the financial system, the payment systems must be safe and efficient; otherwise they can be a channel for the transmission of disturbances from one part of the economy or financial system to others. This is why central banks have been active in promoting sound and efficient payments system and in seeking the means to reduce risks associated with the system (Al-Gahtani, 2001)

2.2.1 E-banking in Rwanda

Rwanda historically operated a cash-driven economy particularly in the consumer sector, however the system has witnessed improvements over the years, and particular in recent times has moved from its rudimentary level of the early years of banking business to the current state of sophistication comparable to other economies at the same level of development.

One important reason for financial liberalization and deregulation is the need to develop a good payment system which promotes an appropriate mechanism for efficiency in mobilizing and allocating financial resources in the economy. The payment system occupies an important place in the development of a country economy, in fact the level of development of a countries payment system is a reflection of the state or condition of the country’s economy (Aladwan.A, 21, 2001)

Rwanda payment system is paper-based and this accounts for the high level of cash in the economy (cash outside bank), the concept “payment system” has different meanings among writers the definition ranges from a simpler to a more complex definition. According to Report on the survey of developments in the e-payments and services products of banks and other financial institutions in Rwanda payment system is defined as a system which consists of networks which link members, the switches for routing message and rules and procedures for the use of its infrastructure (NBR, 2008)

(Anyanwaokoro, 2001)), in theory and policy of money and banking, payment system is defined as a system where settlement of financial obligations is done by the use of credit cards or even pressing some bottoms that transfer the amount in their bank to the account of another person through the computer. According to (Orjih,1999) a payment system is defined as one which consists of different methods of payments which are checks, credit cards, Bankers drafts, standing order, documentary credits swift etc. for the settlement of transactions.

2.2.2 Application and usage of Electronic Banking

For many consumers, electronic banking means 24-hour access to cash through an automated teller machine (ATM) or Direct Deposit of paychecks into checking or savings accounts. But electronic banking involves many different types of transactions (Simpson, fox,beier, 2002)

Electronic fund transfer (EFT) is a components of electronic banking uses computer and electronic technology as a substitute for checks and other paper transactions. EFTs is initiated through devices like cards or codes that let you, or those you authorize, access your account Many financial institutions use ATM or debit cards and Personal Identification Numbers (PINs) for this purpose. Some use other types of debit cards such as those that require, at the most, your signature or a scan. For example, some use radio frequency identification (RFID) or other forms of “contactless” technology that scan your information without direct contact. The federal Electronic Fund Transfer Act (EFT Act) covers some electronic consumer transactions (Simpson, 2002).

ATMs are electronic terminals that let you bank almost any time. To withdraw cash, make deposits, or transfer funds between accounts, you generally insert an ATM card and enter your PIN. Some financial institutions and ATM owners charge a fee, particularly if you don’t have accounts with them or if you engage in transactions at remote locations. Generally, ATMs must tell you they charge a fee and its amount on or at the terminal screen before you complete the transaction. Check the requirements with your institution and at ATMs you use for more information about these fees (Simpson, 2002).

Direct Deposit lets you authorize specific deposits, (like paychecks and Social Security check and other benefits) to your account on a regular basis. You also may pre-authorize direct withdrawals so that recurring bills (like insurance premiums, mortgages, utility bills, for Consumers) are paid

automatically. Be cautious before you pre-authorize direct recurring withdrawals to pay companies you aren't familiar with; funds from your bank account could be withdrawn improperly. Also monitor your bank account to ensure that direct recurring payments from your account to others are for the correct amount ((Simpson, 2002).

Pay-by-Phone Systems let you call your financial institution with instructions to pay certain bills or to transfer funds between accounts. You must have an agreement with the institution to make such transfers Personal Computer Banking lets you handle many banking transactions via your personal computer. For instance, you may use your computer to view your account balance, request transfers between accounts, and pay bills electronically (Simpson 2002).

Debit Card Purchase or Payment Transaction let you make purchases or payments with a debit card, which also may be your ATM card. This could occur at a store or business, online, or by phone. The process is similar to using a credit card, with some important exceptions, while the process is fast and easy, a debit card purchases or payment transfer's money – fairly quickly – from your bank account to the company's account. So it's important that you have funds in your account to cover your purchase. This means you need to keep accurate records of the dates and amounts of your debit card purchases, payments, and ATM withdrawals. Electronic Check Conversion converts a paper check into an electronic payment or when a company receives your check in the mail When you give your check to a cashier, the check is run through an electronic system that captures your banking information and the amount of the check. You're asked to sign a receipt and you get a copy for your records (Fox, S. and Beier, J, 2006).

When your check is handed back to you, it should be voided or marked by the merchant so that it can't be used again. The merchant electronically sends information from the check (but not the check itself) to your bank or other financial institution, and the funds are transferred into the merchant's account.

When you mail-in a check for payment to a merchant or other company, they may electronically send information from your check (but not the check itself) through the system, and the funds are transferred from your account into their account. For a mailed check, you should still receive advance notice from a company that expects to send your check information through the system electronically. For example, the merchant or other company might include the notice on your

monthly statement. The notice also should state if the merchant or company will electronically collect from your account a fee – like a “bounced check” fee – if you have insufficient funds to cover the transaction (Simpson, 2002)

2.2.3 The necessity of e-banking

First of all, the bank must fully understand and appreciate the fact that the banking industry now exist, in a global village. It must therefore strive to provide local and global banking services using the infrastructure of the global village. Most current E-banking applications use the internet. The advantages of on line banking are in providing convenience and flexibility for customers (Anyanwaokoro, 2001) Some online banking allows customers to get current account balances at any time. Customers do not need to wonder whether a check of has cleared or a deposit has been posted. At the click of a button, customers can easily check the status of their current savings and money-market accounts through online banking. Banks can provide immediate account enquires or statements online for customers (Casalo, 2007)

2.2.3.1 Internet

Most of the applications mentioned involved the use of internet, E-banking is more than just Internet banking in the still evolving e-climate in the economy; it involves using the net to exploit new opportunities by transforming products and markets and business processes. E-banking also means developing new relationship with customers, regulatory authorities’, suppliers and banking partners with digital age tools, for example, it requires all understanding. Customer/bank relationships will be more personalized resulting in novel modes of transaction processing and services delivery (Simpson, fox,beier, 2002).

E-banking is essentially about banks using new age methods and tools to expand into new banking markets and grow. Creating a corporate online presence for your bank should be more than just buildings a website. It should be about building a web business for your bank, to do this effectively the people in charge, i.e. the CEOs not just IT directors and managers must have a deep knowledge of what E-banking culture demands (Clive, 2007)

2.2.4 Type of electronic banking

Electronic banking consists of the following: mobile banking, internet banking, telephone banking, electronic card etc.

2.2.4.1 Mobile banking

Mobile banking involves the use of mobile phone for settlement of financial transactions. It supports person to person transfers with immediate availability of funds for the beneficiary. Mobile payments use the card infrastructure for movement of payment instructions as well as secure Short Message Service (SMS) messaging for confirmation of receipt to the beneficiary. Mobile banking is meant for low value transactions where speed of completing the transaction is a key. The services covered under this product include account enquiry, funds transfer, recharge phones, changing of passwords and bill payment which are offered by few institution (Sathye, 1999).

Mobile Banking: In a survey of consumer mobile banking preferences released today, IDC Financial Insights found mobile banking usage has almost doubled since last year's survey, and the number of institutions offering the service has also increased. However, according to the survey, while mobile banking may have finally turned the corner with customer acceptance, it is not a mainstream channel and in order to be successful, financial institutions need to be strategic about their mobile offerings. In addition, realistic expectations, an understanding that there are few to no revenue opportunities around mobile currently, and the backing of senior management, are all key to mobile success (BankAway, 2001).

2.2.4.2 Internet banking

Internet banking involves conducting banking transactions such as account enquiry printing of statement of account; funds transfer payments for goods and services, etc on the internet (World Wide Web) using electronic tools such as the computer without visiting the banking hall. E-commerce is greatly facilitated by internet banking and is mostly used to effect payment. Internet banking also uses the electronic card infrastructure for executing payment instructions and for final settlement of goods and service over the internet between the merchant and the customer, currently the most common internet payments are for consumer bills and purchase of air ticket through the websites of the merchants (Littler, 2006).

2.2.4.3 Telephone banking

These are banking services which a customer of a financial institution can access using a telephone line as a link to the financial institution's computer center. Services rendered through telephone banking include account balance funds transfer, change of pin, and recharge phones and bills payment (James, 2009).

2.2.4.4 Electronic card

An electronic card is a physical plastic card that uniquely identifies the holder and can be used for financial transactions on the internet. For instance, Automated Teller Machine (ATM) and Point-of Sales (PoS) terminal are used to authorize payment to the merchant or seller (James, 2009). The various types of electronic cards include debt, credit cards; releasable cards require visiting banks for replenishment. Debit cards are linked to local bank accounts and offer immediate confirmation of payment. Credit cards can be used to link a customer to a credit line and can also be used for accessing local and international networks and are widely accepted in most countries. The underlying infrastructure and operational rules are often provided by global trusted schemes (such as visa and master card) in addition to local lines (James, 2009).

2.2.5 Different form of electronic banking system

2.2.5.1 Payment system: payment system consists of a set of instruments, banking procedures, and typically inter-bank transfer systems that ensure the circulation of money.

2.2.5.2 Home banking: this term is used for a variety of related methods whereby a payer uses electronic devices in home or workplace to initiate payment to payee. In addition to computer technology, it can be performed using the telephone and interactive voice response. (IVR) (Klein, 1992:113)

2.2.5.3 Electronic cash: This is another form of cash electronic form. It addresses circumstances in which the payer is not present at present at the point of sale or service, but has electronic communications facilities available; e.g. is connected to the internet, or to some other manifestation of the emergent global information infrastructure, such as cable-TV installation with enhanced capabilities. (Hefferman, 1996)

2.2.5.4 SWIFT (Society of Worldwide Interbank Telecommunication): This cooperative organization created and operated by banks that operate a network that facilitates the exchange of payment and financial messages.

2.2.5.5 Automated clearing house: This is the electronic clearing system in which payment order are exchanged among financial institutions, primary via magnetic media and telecommunication network and are handling by a data processing center.

2.2.5.6 ATM (Automated Teller Machine): This is an electronic device that permit authorized users, typically using machine- readable plastic cards, to withdraw cash with their account and access to other services such as balance inquiries, transfer of funds, and acceptance of deposits. ATM may be operated online with real time access or offline.

2.2.5.7 Credit cards: is basically a payment mechanism which allows the holder or the card to make purchases without any immediate cash payment. Credit limit is fixed by the issuing bank and the limit is determined by financial history as well as the type of card (Keshekhar& Lekshmy, 2006:8)

2.2.5.8 Debit card: this is a card enabling the holder to have purchases directly charged to fund on account at a deposit taking institutions, and may sometimes be combined with another function, for example a cash card or a check guaranty card. (Keshekhar& Lekshmy, 2006:8)

2.2.5.9 POS (Point of Sale). This term refers to the use of payment card at a retail location (point of sale). The payment information is captured either by paper voucher or by electronic terminals, which in some cases are designed to transmit some information where this is so the arrangement is offered to as electronic funds transfer at the point of sale (EFTPOS).

2.2.5.10 PIN (Personal Identification Number)

This is a numeric code that a cardholder may need to quote to verification. In electronic transaction, it seems as a signature. (Keshekhar& Lekshmy, 2006:8)

2.3. E-banking Usage Motivators

(Sathye, 1999) defines adoption as “the acceptance and continued use of a product, service or ideas” The critical question is whether customers will accept the electronic form of receiving information and performing transactions. In the study of Ernst and Young (1998) found that

financial institutions are not sure about customer acceptance of E commerce and evidence shows that 3% of Malaysian doing online retail transactions. Moreover, Mols et al. (1999) study reveals that the diffusion of electronic banking is more determined by customer's acceptance than by the seller offerings. Davidson (1998) study found that there is little evidence of consumer demand for Internet banking services. Among the factors influencing the non-adoption of Internet banking by customers include the desire for personal interaction with banking staff, technology phobia, widespread network of existing branches and also low computer literacy among customers (Mols et al., 1999). O'Connell (1996) demonstrated that the explanation for slow growth of Internet banking is caused by security concerns, lack of knowledge about availability of such a service, Internet banking sites being not user-friendly and the lack of access to computers or the Internet. In these study six factors such as awareness, ease of use, safety and security, cost of Internet banking, reluctance and lack of computer or Internet access are focused.

2.3.1 Bank Operation Management

The success of banking industry depends on the capabilities of management to anticipate and react to such changes in the financial marketplace (Gan et al., 2006). Meanwhile E-banking also allows customer to have direct access to their financial information and to undertake financial transactions with more convenient way (Rotchanakitumnuai and Speece, 2003). Since, it represents an electronic marketplace whereby consumers may conduct their transactions on a virtual level (Reiser, 1997; Daniel, 1999; Bradley and Stewart, 2003). Correspondingly, the banking industry is now using the new communication media (Internet) to offer its versatile services to the customers with ease and convenience.

2.3.2 Reasonable Service Fees and Charge

Price/costs are one of the single most important factors that influence the consumer adoption of innovation. Suganthy et al (2001) found that cost as a characteristics of Internet banking. Two types of costs are involved in the Internet banking, i.e. normal costs associated with Internet activities and second is the bank charge and cost (Sathye, 1999). If consumers are to use new technologies, the technologies must be reasonably priced relative to alternatives (Willis Report, 1997). Otherwise, the acceptance of the new technology may not be viable from the standpoint of

the consumer. Virtual Society Project researcher (Buzz, 2000), point out that millions of users are now turning their backs on the Internet due to its limitations and high access charges.

2.3.3 Security

Security is one of the very important factors in determining the decision of consumers to use E-banking. In a study ABF (1997) found that security concerns are keeping both consumers and bankers away from Internet banking. The Walls report (1997) also 13 reported that unless security is improved, more households would be willing to conduct their transactions over the Internet. O'Connell (1997) conducted study in Australia found that security concerns were discovered as the main cause for the slow growth of Internet banking in the country.

2.3.4 Accessibility:

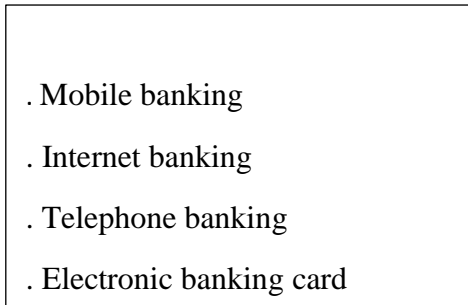
Finally, availability of access to computers/Internet is a prerequisite for adoption of Internet banking (Sathye, 1999). The more widespread the access to computer/Internet the greater the possibility of use of Internet banking adoption, O'Connell (1996) study found that lack of access to computers as one of the reason for slow adoption of Internet banking. (Daniel, 1999) study in UK reveals that lack of customer access to suitable PCs as the main reason for low usage of electronic banking. In the same view Ramsay and Smith (1999) found that accessibility as one of the main reasons for non-adoption of Internet banking.

2.4 CONCEPTUAL FRAMEWORK

This concept it shows the different variables which are dependent or independent of research and shows it determinants.

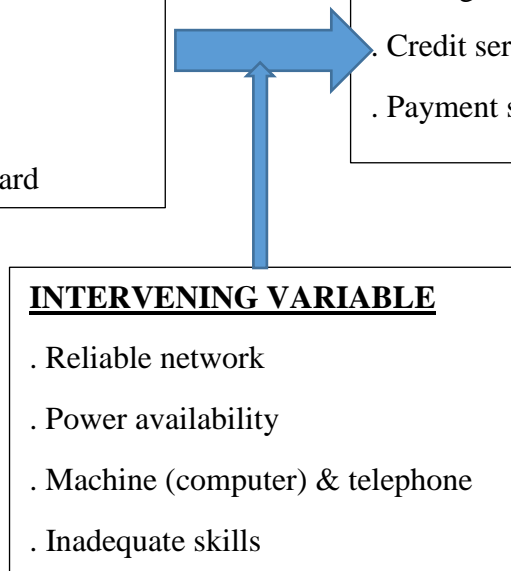
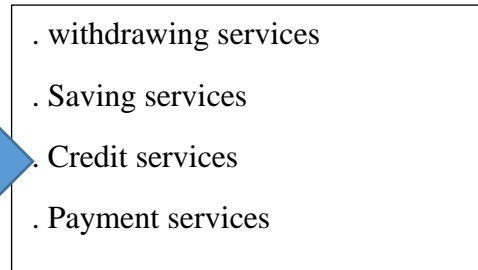
Independent variable

E-BANKING SYSTEM



dependent variable

BANKING SERVICES



Source: primary data, 2021

The above concept implies that E banking types such as Mobile Banking, Internet Banking, Telephone Banking, and Electronic Banking card play the different roles for improving banking services such as depositing, saving payments and credit to customers especially if other factors remain constant and this factors include network coverage, reliable internet service provider, machine of computer or telephone are available and adequate skills on how to use the system, government policy on IT, power supply and many other connections.

2.4 EMPIRICAL FRAMEWORK

Many researchers in all corners of the world did studies on electronic banking system but most of them addressed issues like what electronic banking system is, electronic banking with satisfaction of customers, the relationship between electronic banking in private and public institutions, and other were look on electronic banking with only financial performance but non- of them did study

on the role of electronics banking system as tools for improving banking services for commercial banks.

Mols (1999) acknowledged that the electronic banking is an innovative distribution channel that offers less waiting time and a higher spatial convenience than traditional branch banking with significantly lower cost structure than traditional delivery channels. Electronic banking reduces not only operational cost to the bank but also leads to higher levels of customer satisfaction and retention. As a result, electronic banking is very attractive to banks and consumers, who now have higher acceptance to new technology.

Nyangosi et al. (2009) collected customers' opinions regarding the importance of e-Banking and the adoption levels of different e-Banking technologies in India and Kenya. The study highlighted the trends of e-banking indicators in both countries. The overall result indicates that customers in both countries have developed a positive attitude and they give much importance to the emergence of e-banking.

In a survey carried out by Amin Zallaghi (20018) With The purpose of this study was to investigate the effect of acceptance of e-banking on the development of new services and financial performance of the Maskan Bank of Lorestan province. The results of the research indicate that perceived security, perceived trust and quality of e-banking services have a positive impact on the acceptance of e-banking. And acceptance of e- banking has a positive impact on the development of new bank services, and on the other hand, the development of new services has a positive impact on the financial performance of the bank.

In a survey carried out by J. Hammoud & R Bizri and EL Baba (20018) which wrote on the Impact of E-Banking Service Quality on Customer Satisfaction The purpose of this study was to examine the relationship between the dimensions of E-Banking service quality and customer satisfaction to determine which dimension can potentially have the strongest influence on customer satisfaction. The findings show that reliability, efficiency, and ease of use; responsiveness and communication; and security and privacy all have a significant impact on customer satisfaction, with reliability being the dimension with the strongest impact.

Based on all above researcher said many of them were based on electronic banking and customer satisfaction, but there have to be satisfied while there not using well all electronic banking system

and know well, understanding well the role of using those electronic banking systems, there must know well another to improve banking services. so that am agree with Amin Zallaghi (20018) said that perceived trust and quality of e-banking services have a positive impact on the acceptance of e-banking. And acceptance of e- banking has a positive impact on the development of new bank services, and on the other hand, the development of new services has a positive impact on the financial performance of the bank

22.5: GAP TO BE FILLED

Many researchers in all corners of the world did studies the contribution of electronic banking with customer satisfaction and others was studied on contribution of e-banking system to bank performance but most of them addressed issues like what electronic banking system is, , impacts of E-banking system, and the relationship between E-banking system in private and public institutions but non- of them did study on role of e-banking system as tool of improving banking services in commercial bank especially in Bank of Kigali t, as seen below and proved by alternative researchers.

One of the gaps that this study intends to fill in is there is still need to determine and highlight role of electronic banking system for banking services improvement in Rwanda commercial banks. Many of studies has just mentioned on electronic banking toward customer satisfaction or financial performance of the banks, but there didn't care on the banking services as a basic fundamental of all, means if there are well banking services it may be factor that determine how customer satisfaction, and how financial performance improved.

So far, this shows a big gap to be covered by this research study in order to come up with appropriate impressions knowing and understanding clearly role of e-banking system toward banking services improvement in Rwanda commercial banks especially at Bank of Kigali.

2.4.3 Summary

Information technology generates fundamental changes in the nature and application of technology in business. Information Communication Technologies (E banking) can provide powerful strategic and tactical tools for organizations including banks, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.0 INTRODUCTION

Methodology refers to a set of methods and principles that are used when studying a particular kind of work. According to William (1990:42), research methods refer to a number of ways of arriving at the knowledge regarding what is.

This chapter indicates various methods and techniques the researcher will use during the course of gathering relevant information from the field. It also describes methods and techniques used i.e. Research design, target population, sample design, data collection procedures and data analysis.

3.1 RESEARCH APPROACH

This study it's both quantitative and qualitative approach. Therefore, quantitative and qualitative data collection methods will be used. This research work will be qualified to be of quantitative study because during the study, numerical data will be used, collected and analyzed. But also qualitative data will also be used in non-numerical study than number.

3.2 RESEARCH DESIGN

research design is the outline plan, strategy specifying the procedure, to be used in seeking an answer to research questions. It is also a road map than helps the research to obtain object from which data is collected; Christensen (1991: 269). Therefore, the researcher will make descriptive study design on a select Bank (Bank of Kigali- BK). To describe record, analyze, and interpret conditions that exist or existed.

3.3 TARGET POPULATION

According to (Grinnel and Williamson, 1990:73)target population is a defined as a totality of persons or subjects with which the study is concerned. Population according to Lawrence (1990:6) is a group of individuals, persons or items from which samples are taken for measurement. For the case of the study, the researcher used population consisted of 25 employees and 24,029 customers. Total population was 24,054 which was refers in Bank of Kigali.

3.4 SAMPLING PROCEDURE

Stratified sampling technique was used to choose department to be investigated and this followed Census and purposive whereby the researcher took the whole population which is 96 out of 24054 respondents: employees of BK located in different department, customers of BK, and unstudied customers will be in part of interviewer; this information can be illustrated as follows:

Table 3.4 1: Justification of the target population and Sample design to be used

Department	Population	Sample size	Sampling design
Employees	25	20	purposive
Customers	24014	66	Census
Unstudied customers	15	10	Census
total	24054	96	

Source: Bank of Kigali (2022)

With this kind of technique, the researcher is certain to include elements that are presumed to be typical of a given population about which the researcher seeks information. According to Black (1976), census does not involve any random selection process. Further, according to Welman and Kruger (2001), the advantage of non-probability sampling is that it is economical and less complicated. Purposive sampling procedure was used because the researcher believes it is convenient and time saving. Purposive sampling techniques were used in the sample selection in order to enable the researcher pick respondents who meet the purposive of the study. The members were purposively selected depending on their ability to easily analyze and understand the problem of study. Also a fair representation from each office and the stakeholders were considered when sampling.

3.5 SAMPLE SIZE

In reference to (Grinnel and Williamson, 1990:73) before the sample can be selected, the researcher has to decide on how many people are needed to take part in a study. In other words, the researcher has to decide on the sample size was got through calculation using the above formula.

The selection of respondent was based on estimation theory of confidence interval method as used by (Alain Bouchard:1965) that when the population is less than 100,000 individuals, the researcher used a sample of 96 individuals, then the sample size was calculated using the following formula

$$nc = \frac{n}{1 + \frac{n}{N}}, \text{ and the standard errors is } 10\%$$

Where; nc= corrected sample

N= Population size

N= 96 individuals with standard error of 10%

$$nc = \frac{n}{1 + \frac{n}{N}}; nc = \frac{n}{N + n}; nc = \frac{Nn}{N+n} = \frac{24054 \times 96}{24054 + 96} = \frac{2306784}{24125} = 96 \text{ respondents as the sample size}$$

3.6 SAMPLING TECHNIQUES AND PROCEDURE

To ensure appropriateness of the study, the population was represented by a sample that was selected using convenience sampling and purposive sampling technique.

3.6.1 Convenience sampling

According to (Sekaran, 2003) the population was represented by a sampling is non-probability sampling where the information is collected from the members of the population who are readily available to provide it. The researcher used this technique to select 96 out of 24,029 customers, to respond to the questionnaires in order to minimize time transportation expenses.

3.6.2 Purposive sampling

According to (D. bailey, 1978:83), purposive sampling is a method of sampling whereby the researcher uses his or her own judgment about which respondents to choose, and picks only who best meet the purpose of the study.

In this case, purposive sampling was used to select 10 respondents from 25 employees who were knowledgeable about the information that the researcher need.

3.7 DATA COLLECTION SOURCES AND TECHNIQUES

For the better achievement of the research objectives, the primary and secondary sources of data were used.

3.7.1 Primary data

This is all about the use of first data information. These are the information that were directly collected from the respondents in personal nature to clarify, confirm or explain the results revealed by secondary data sources and any other relevant information that could not be disclosed by the existing records.

The researcher used the following methods:

3.7.1.1 Questionnaires

According to Richard and Williams (1999), a questionnaire is a system used for collecting data, where a set of written questions call for responses.

The researcher used questionnaire simply because it the responses were gathered in the standardized way and it was quick to collect information using a questionnaire. The researcher used the open ended questions in order to give the respondents space for explaining his or her answer deeply and he or she could as well state or mention any information not captured in the questionnaire. One set of questionnaire was designed for the community members; it included both 24 open and closed ended set of questions that to be answered. The questionnaire was written in a simple and clear language for the respondent to feel free while answering. In addition to that the use of questionnaire is considered vital to the research since it provides accurate information regarding the study

The researcher used questions which permitted him to obtain the necessary primary data. Primary data were those measurements observed and recorded as part of an original study. These were data not available elsewhere.

3.7.1.2 Documentary review

Documentation is called by some authors “the literature review” is used in any research in order to collect data and any relevant information of written source (Beck & Pilot, 2006). This research also reviewed literature obtained from the case study organization. This method was chosen because; it is vital in providing background information and facts about e banking on performance of the bank before primary data could be collected. Indeed, before field data is collected, a wide collection of data had been collected and this was used to cross check with the primary data that is to be obtained by the field.

3.7.1.3 Interview guide

An interview is a face to face conversation between an interviewer and interviewee which is conducted for the purpose of obtaining information. This technique is useful since it is flexible to use. It is an appropriate in studying attitudes, values, beliefs, and motives of interviewees. This technic will be used while collection information from the members who have difficulty in reading, for the illiterate peoples.

3.7.1.4 Validity and reliability

The validity of data was checked before processing the results. This helped to establish the reliability of the tools to be used in data collection. This was done by pre-testing the questionnaires using sample of 5 respondents, similarly interview guide was checked by interviewing 5 respondents. This process is aided correction of the mistakes and errors within the tools of data collections to verify how they are reliable to produce significant information from the field. The reliable data was got and this minimized statistical errors.

3.8 ETHICAL CONSIDERATION

In conducting the researcher there are some ethics that was considered, the adherence to ethical consideration helps the researcher to have smooth process in data collection. In conducting research, the researcher considers the following ethics in order to establish rapport with the respondents:

Informed consent, in doing research, the researcher ensured permission is got from the respondents to participate in the research. The research will request a permission to conduct a research which require authority letter.

Confidentiality and privacy, the researchers will allow the respondents to be free when conducting the research.

Anonymity, no mentioning name was allowed because it looked like coercing the respondents.

3.9 DATA ANALYSIS AND PROCESSING

According to (Nachmais, 1978) data processing and analysis is link between data collection and analysis. It concerns the transformation on the findings collected from the field into a system of categories. Data processing, relevant to the objectives of the study was considered and transformed into meaningful information for interpretation and understanding.

Analysis of data is a process of inspecting, cleaning, transforming, and modeling data with the goal of highlighting useful information, suggesting conclusion, and supporting decision making. the process in question require different strategy, in this study, on the perspective of the study the researcher went through analytical, historical, statistical and comparative research by using survey as methodology of accessing data. The data collected was processed and analyzed using (SPSS) PASW statistic student version 8 via frequency distribution, percentages and commutative percentages and Microsoft excel win10 also was used in interpretation data via tables.

3.9.1 Editing

(K.Williamson, 1982:40)defined editing as a process where errors in complicated interview schedule and questionnaires are identified and eliminated whenever possible. The researcher used editing to cheek completeness, accuracy, uniformity and comprehensibility of data collected. To ensure that all answers are coherently and logically recorded to provide consistent information in order to facilitate the understanding of phenomenon and cross check the data collected, the process of editing and coding was considered. The responses to the questionnaire were analyzed descriptively and reported as frequency of responses and percentages and later is analyzed and interpreted using tables.

3.9.2 Coding

According to (Churchill, 1992)coding are the process by which data is categorized. Through coding, the raw data was transferred into symbols usually numerals that were tabulated and counted. Thus, the researcher used coding to summarize data collected from the field. The editing helped the researcher to examine data, detect any errors and omission, and to correct them where possible. This was done through checking, inspection, correcting and modifying collected data to ensure the completeness, accuracy, uniformity and comprehensiveness

3.9.3 Tabulation

(Girbert A.Churchill, 1992:608), tabulation refers to the to the orderly arrangement of data in a table summary format achieved by counting the frequency or responses. To each question. Tables are used to indicated the frequency of specific responses. Pie chart and bar chart were also used to present information in graphical form. Tabular presentations were used for presentation of data inform of frequency and percentages. The graphs indicate the number of occurrence of responses to particular questions statically. The researcher used SPSS software to analyze data and the

presentations were in tables and graphs. Graphical presentations give clear understanding of the research interpretations for clear and easy understanding of the phenomenon studied

SUMMARY

Thus study was conducted on 24056 members including customers and employees of BK Kamembe branch among whom 95 sample size selected, using Alain Bouchard formula. The data were collected through questionnaire, documentation and interview for qualitative and quantitative analysis, with help of computer packages such as SPSS by using frequency distributional and percentages and cumulative percentages.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 INTRODUCTION

This chapter is devoted to results presentation, analysis and interpretation referring to the objectives of the study. This chapter deals with presentation of findings and interpretations of data provided by respondents, and it also consists of discussion of findings and summary of findings as well.

4.1 IDENTIFICATION ANALYSIS OF RESPONDENT BY SEX

Gender composition of the respondents had to be analyzed in order to know each side's both view on the questions related to the study and participation in commercial banking services improvement from using electronic banking system.

Gender of the respondents

Table 4.1 shows gender of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	40	41.7	41.7	41.7
	Male	56	58.3	58.3	100.0
	Total	96	100.0	100.0	

Source: Primary data, 2021

From table 4.1 show that, 58.3% were male while 41.7% were females. This shows that respondents were more male than female. This was confirmed by the responses from the questionnaires filled where males were more than females. More significantly it shows that data obtained is free of gender bias.

4.1.2 Identification of respondents by age

The age bracket of respondents was also taken into considerations for a deep analysis of the respondents' responses

Table 4.2 Table below shows age structures of the respondents
Age of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30 years	7	7.3	7.3	7.3
	31-40 years	65	67.7	67.7	75.0
	41-50 years	21	21.9	21.9	96.9
	Above 50 years	3	3.1	3.1	100.0
	Total	96	100.0	100.0	

Source: Primary data, 2021

From table 4.2 shows that, 67.7% of the respondents were between 31 - 40, 21.9% were between 41 – 50, 7.3% between 21 - 30 and 3.1% above 50 years. This implies that there was fair representation of the population as almost all classes were represented and the data provided reflected the views of the entire population and the majority of the respondents are matured which means they can give a matured view.

4.1.3 Identification of respondent by education

The educational lever of respondents was also taken into considerations, as it would provide the researcher with information about working with e banking system in BK in term of education.

Table 4.3 shows educational level of the respondents

Educational level of the respondents	Frequency	Percent	Cumulative	
			Valid Percent	Percent

Valid	Not educated	10	10.4	10.4	10.4
	Primary level	15	15.6	15.6	26.0
	secondary level	33	34.4	34.4	60.4
	University level	35	36.5	36.5	96.9
	Masters level	3	3.1	3.1	100.0
	Total	96	100.0	100.0	

Source: Primary data, 2021

From table 4.3 shows that, 36.5% of the respondents were studied at Bachelor's degree level, 34.4% was diploma degrees 3.1% was masters and 15% was primary level and 10.4 were not educated. This implies that the big number of respondents are educated which means could read, understand and interpret questionnaires reliably. The data collected was believed to be reliable and was thus processed to present findings

4.1.4 Identification of respondents by experience

In analysis of this study also we asked respondent their experience another to be sure that information there provided will be reliable and valid

Table 4.4 shows experience of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2-3 years	45	46.9	46.9	46.9
	3-4 years	21	21.9	21.9	68.8
	5 years and above	30	31.3	31.3	100.0
	Total	96	100.0	100.0	

Source: Primary data, 2021

From table 4.4 shows that, 31.3% of the respondents had served in Bank of Kigali for a period of 5 years and above, 21.9% between 3 – 4 years and 46.9% for a period between 2-3 years. This implies that almost all respondents had taken reasonably enough time in service and thus the data they provided was believed to be reliable.

4.2 ANALYSIS RELATED TO OUR OBJECTIVES

4.2.1 Electronic Banking Tools used by Bank of Kigali

Table 4.5 shows respondent’s views on different ways Bank of Kigali applies e banking

Electronic banking tools		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mobile banking	19	19.8	19.8	19.8
	Internet banking	15	15.6	15.6	35.4
	Telephone banking	16	16.7	16.7	52.1
	Electronic card	46	47.9	47.9	100.0
	Total	96	100.0	100.0	

Source: Primary data, 2021

Table 4.5 shows application of E banking in bank of Kigali, 19.8% of the respondents says the bank applied E banking through mobile banking, 47.9% electronic card banking, 16.7% telephone banking and 15.6% internet banking. This implies that bank of Kigali applies electronic banking in different ways ranging from mobile, internet telephone and electronic cards. This is a good sign of service delivery to the customers and improves bank performance forth with especially if well utilized.

4.2.2 The way electronic banking system is delivered to customers

Table: 4.6. The reasons that pushed customers to use electronic banking system in BK

Reasons for using electronic banking

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prestige	4	8.2	8.2	8.2
	Easy to use	44	44.7	44.7	52.9
	Economical	10	14.7	14.7	67.6
	Efficient	38	32.4	32.4	100.0
	Total	96	100.0	100.0	

Source: Primary data, 2021

As the table 4.7 shows, 32.4 respondents out of 76 which represent 80% believe that to use electronic banking is efficient, 14% of respondents look at electronic banking as economical and only 44.7% customers use the system because it I easy. Only 8.2 respondent answered about the e-banking being prestige.

According to the figures above, they indicate that the E-banking users can use electronic banking for the purpose of avoiding the risks of theft when leaving banks with cash in hand and saving their tim

**Table: 4.7 services offered by BK through the use of electronic banking system
Appreciation of BK Electronic services**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	12	14.5	14.5	14.5
	Very good	32	28.9	28.9	43.4
	Good	10	11.3	11.3	54.7
	Satisfactory	42	45.3	45.3	100.0
	Total	96	100.0	100.0	

Source: Primary data, 2021

The table above shows how respondents attitude towards services offered by BK, and observing the table clearly, it shows that bank even if it looks as good performances also it still has a lot to do in making the services more efficient, this is being represented by the percentage of 11.3% respondents who thought the services were good and 45.3% though that the service were satisfactory, other respondents who thought services offered were very good are represented with 28% and only 12% argued that the services were excellent. Therefore, the researcher saw that the services offered through ATMs and Mobile banking were more efficient so as to encourage large number of clients to use the ATMs and Mobile banking.

Table: 4.8 Advantage of electronic banking system especially for the BK customers

Advantages of Electronic banking system		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	it is secured	5	6.6	6.6	6.6
	It is efficient	16	18.7	18.7	25.3
	It is quick	47	48.7	48.7	74
	It save money and time	24	21.1	21.1	95.1
	It avoids burglary	4	4.9	4.9	100.0
	Total	96	100.0	100.0	

Source: primary data 2021

The figure above shows that 6.6% on the respondents accepted that electronic banking system is secured, 21.1% accepted it is efficiency, 48.7% admired that it as quick, 18.7% said than it saves time and 4.9% responded that it avoids burglary. this shows that most of customers use e-banking for the purpose of having quick service

Table: 4.9 Problem faced when using manual banking system in last eight years

Counterfeited money	24	14.5	14.5	14.5
Tellers make errors and mistake	32	45.3	45.3	59.8
Time consuming	10	11.3	11.3	71.1
burglary	30	28.9	28.9	100.0
Total	96	100.0	100.0	

Source: primary data 2021

The researcher wanted to know the problems that the customers faced when using manual banking system, 28.9% responded that they face burglary problems, only 14.5% of the respondents said that he received counterfeited money, 45.3% of them said that sometimes tellers make errors and mistakes in dispensing cash and recording transactions, and 11.3% said that manual banking system is time consuming and that was the major drawback of this kind of banking system. No one of the respondent said that they have any other problem out of those mentioned. According to the table above, it takes a lot of time to be served when using manual banking system

4.2.3 Types of E-banking in bank of Kigali

The table 4.10 shows respondent's views on the types of E -banking in Bank of Kigali

Table 4.10 Types of E banking in Bank of Kigali

Types of E -banking in bank of Kigali	Response									
	Strongly agree		Agree		Disagree		Strongly Disagre		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
ATM	40	45.5	56	54.5	-	-	-	-	96	100
Pay direct	59	52.3	37	47.7	-	-	-	-	96	100
Visa or debit card	36	43.2	60	56.8	-	-	-	-	96	100
Telephone banking	62	63.6	34	36.4	-	-	-	-	96	100
Electronic check payments	34	36.4	62	63.6	-	-	-	-	96	100

Source: Primary data, 2021

The table 4.10 shows the perceptions of respondents on types of E -banking in bank of Kigali and their responses were as follows.

Presentation on ATM shows that all the respondents (100%) agreed that ATM is used by clients of bank of Kigali. This means that ATM is one of the E banking services commonly used by clients of Bank of Kigali as it is unanimously accepted by the respondents. ATMs are electronic terminals that let you bank almost any time. To withdraw cash, make deposits, or transfer funds between

accounts, you generally insert an ATM card and enter your PIN. Therefore, it provides convenience in banking.

The Pay direct is another type of E banking used by clients of bank of Kigali and as seen in the presentation in table 4.10, where all the respondents accepted. Direct Deposit lets you authorize specific deposits, (like paychecks and Social Security check and other benefits) to your account on a regular basis. You also may pre-authorize direct withdrawals so that recurring bills (like insurance premiums, mortgages, utility bills, for Consumers) are paid automatically.

The Phone banking was represented by 100%, meaning that respondents agreed that phone banking solutions are used by bank of Kigali clients. Pay-by-Phone Systems let you call your financial institution with instructions to pay certain bills or to transfer funds between accounts. You must have an agreement with the institution to make such transfers (Simpson 2002).

All the respondents (100%) accepted that Bank of Kigali uses Visa or debit card is used for deposit and withdrawals from the bank. Debit Card Purchase or Payment Transaction let you make purchases or payments with a debit card, which also may be your ATM card. This could occur at a store or business, online, or by phone. The process is similar to using a credit card, with some important exceptions (Fox and Beier, 2006). While the process is fast and easy, a debit card purchases or payment transfer's money – fairly quickly – from your bank account to the company's account. So it's important that you have funds in your account to cover your purchase. This means you need to keep accurate records of the dates and amounts of your debit card purchases, payments, and ATM withdrawals. Also be sure you know the store or business before you provide your debit card information to avoid the possible loss of funds through fraud.

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

In general, it can be concluded that bank of Kigali has varieties of e banking services for their clients in order to provide effective and efficient service delivery.

4.2.4 Roles of E banking in bank of Kigali

The table 4.11 shows respondent's views on the roles of E -banking in bank of Kigali

Table 4.11 Roles of E banking in bank of Kigali

Roles of E -banking in bank of Kigali	Response									
	Strongly agree		Agree		Disagree		Strongly Disagree		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Depositing	48	50.0	48	50.0	-	-	-	-	96	100
Withdrawals	96	100	-	-	-	-	-	-	96	100
Making payments	38	45.5	58	54.5	-	-	-	-	96	100
Asking credit	58	54.5	38	45.5	-	-	-	-	96	100

Source: Primary data, 2021

The table 4.11 shows the perceptions of respondents on roles of E -banking in bank of Kigali and their responses were as follows.

Presentation shows all the respondents (100%) agreed that electronic banking is used for depositing of cash and check in the bank. This implies than the clients use electronic banking for payment of cash AMT machine, telephone banking, pay direct and visa or debit card transfer.

The respondents further stated that they also use electronic banking for withdrawal of money from accounts since it is more convenient because a client can transact a business where ever he or she is most especially with mobile banking services where mobile telephone is used.

E banking also help bank clients to authorize payments directly from the bank for example purchase form supermarket, payment of electricity and water bills. This makes it convenient for the bank, account owners and the supplier of goods.

Checking balance another transaction performed by electronic banking where by clients can use ATM, mobile banking and internet banking to check for their balance direct from the bank and this can allow clients to make a decision on how much to deposit or withdraw.

Therefore, it can be concluded that e banking promotes effectiveness and efficiency in service delivery since clients can be able to withdraw and deposit money, authorizes payment and check account balance at ease

4.2.5 Contribution of E banking on Performance of Bank of Kigali

Table 4.12 shows respondent's views on Contribution of E banking on Performance of Bank of Kigali.

Table 4.12: Contribution of E banking on Performance of Bank services of BK especially in last 5 years (2017-2021)

Performance measures of Banking services for Kigali	Response									
	Strongly agree		Agree		Disagree		Strongly Disagree		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Increased income from using e-banking system	76	81.8	20	18.2	-	-	-	-	96	100
Number of Customers increase	67	72.7	29	27.3	-	-	-	-	96	100
New update e-banking system	64	70.5	32	29.5	-	-	-	-	96	100
Increased banks Asset	67	72.7	29	27.3	-	-	-	-	96	100

Source: Primary Data, 2021

The table 4.12 shows the perceptions of respondents on the contribution of E banking on Performance of Bank of Kigali.

All the respondents (100%) agreed that the bank profit has been increasing for the last five years. This means that the bank profit has been increasing as seen by secondary data in table 4.12 indicating the bank profit increment from 2017 to 201.

Customer’s satisfaction presentation indicates that all the respondents agreed that customers were satisfied with the bank service and this can be shows that BK were providing good services to their customers.

All the respondents agreed that the management quality of the bank of Kigali is good and this was reflected in financial report as shown in table 4.17.To asses a bank’s management quality, it requires professional judgments of banks compliance to policies and procedures, aptitude for risk-taking, development of strategic plans Lastly the response on bank asset indicated that bank asset increased as management quality and profit increase.

4.2.6 Challenges of Electronic Banking in Bank of Kigali

Table 4.13 shows challenges the bank face in having effective e banking system in place.

Table 4.13: Challenges of Electronic Banking in Bank of Kigali

Challenges	Frequency	Percent	Valid Percent	Cumulative Percent
Power cut off problem	22	27.2	27.2	27.2
Network reliability	45	34.1	34.1	61.3
Security issues	6	11.2	11.2	72.5
Inadequate skill	19	20.3	20.3	92.8
Others	4	7.2	7.2	100
Total	96	100.0	100.0	

Source: Primary Data, 2021

Challenges hindering the implementation of electronic banking system in bank of Kigali are ranging from network reliability meaning that there is a network problem as a result clients face challenge to use e banking facility. Internet coverage is also a problem because some locations and clients do not have internet facility. Some clients also have skills on how to operate the e banking equipment's and this pose threat on performance of the bank. And lastly there is also security issues as the system can be accessed by hackers and this poses threat to both customers and bank inform of losses and confidentiality of client's information.

4.3 DISCUSION OF FINDINGS

The role of electronic banking system as a tools of improving banking services in Rwanda commercial banks, with a case study of Bank of Kigali (BK) Kamembe branches; was the study with 96 respondents as a sample size. As regarded the identification of the respondents were categorized on the basis of gender, age, marital status, education level, and profession. The study revealed that the majority of respondents were male corresponding to 58.3 and 41.7 of female this confirms that both women and men participate in BK services as they all provided this research study with patient information.

Respondents in the age bracket, the study established that most of the respondents ranged between the age bracket of 31 to 40 years which represented by 67.7 and 41 to 50 years which represented by 21.9 while those in age category between 21 to 30 and those above 50 were below 10 percent. The findings indicate that membership of Bank of Kigali comprises balanced distribution of age.

Based on table 4.3 established that highest numbers of members of BK had achieved degree as their highest education levels where had 36.5 percent studied university and 34.5 studied secondary levels and 3 percent master's degree while only 10 percent didn't study thus signify that larger number of customers of commercial bank in Rwanda especially in BK has ability and are capable to use well electronic banking system.

The findings presumed that all of the respondents as we see on table 4.4 were above 2 years for working to gather with BK some was customers and other was employees this implies that the data from them will be correct and can be believable because there has enough experiences.

Table 4.5 shows the different electronic banking tools used in BK such as internet banking, telephone banking, mobile banking and electronic card those is related also to the different types

of electronic banking system found on table 4.10 such as; ATM, pay direct, telephone banking, visa or debit card, and electronic check payment, all those different types is used 100 percent by clients of BK but even if all are used electronic card like including ATM card and is more used as we seen in table 4.5 report.

On the table 4.6 shows the reasons that attract to use electronic banking system where larger number said that there were attracted that electronic banking system is easy to use regarded on percent of 44.7 and electronic banking system is efficient also regarded on percentage of 32.4 others said is being prestige and economical.

The way BK delivering services is satisfactions those is proved in table 4.7 where no one is dissatisfactions all was appreciation BK services and satisfaction on above 45.3 percent, let them appreciate electronic banking services of BK offered their had many reasons, because electronic banking system it's very important for them as we see in table 4.8, electronic banking system is quick at 48.7 percent and it is save money and time at 21.1 percent, its efficient at 18.7 percent, and also its secured and avoiding burglary at 11.5 percent.

Based on table 4.9 shows the problems meet while was using manual system like counterfeited money, teller make error and mistakes, time consuming and burglary those problems is big issue which was limit the development of institutions because confidentiality of customers was in low level.

Based on table 4.11 and table 4.12 report, electronic banking system play a big role in all side, for customers and bank itself, where based on different role which helps 100 percent the customers such as: depositing, withdrawing, make payments and checking account balances, the best of those there may applying all those without going on bank station branches only using electronic banking tools said up, as well as all of those more improved in the customers as also improve banking performance as we see on table 4.12 where electronic banking system contribute to performances of BK through increasing BK profits and customers satisfaction and also its improves management quality and bank assets all contribute 100 percent.

Even if electronic banking system has more role and contribution for customers and banks, there are also challenges or problems their meet when there are using it such as: power problem (power cut off) which has 27.2 percent, network reliability which also biggest challenges on 34.1 percent,

security issue has 11.2 percent, inadequate skills has 20.3 percent and other said by respondent like institutional strategies exchange, climate change also was the challenges which has 7.2 percent.

4.4 SUMMARY OF THE FINDINGS

For summarizing the findings presented above I have to look for if the findings observed in research is meet with objectives of the study. Based on objectives which is identify the reason why customers accepting to attend line on bank waiting banking services while using electronic banking tools used by Bank of Kigali we fund that electronic banking system it is used more where larger number at 44.7 % said that their used it because it is easy and fast and 37.2% said that there use it because it is efficient. Based on objectives which is identify the usage of electronic banking system and highlighting the role or contribution of using electronic banking system in commercial bank services the table 4.5 shows that bank of Kigali it used all different tools of electronic banking system and also table 4.10 shows 100 % all types of electronic banking system is used with customers of BK this is confirmed well in table 4.7 where the larger number of respondent satisfactory and more happily the services offered by BK. This also play a big role of improving banking services as we see on table 4.11 where both all depositing, withdrawals, making payment and checking account balance was the role of electronic banking system which is used 100% with customers and improved and also us improving also banking performance increase the profit, customer satisfactions, and quality of management is improving and bank asset increase from table 4.12 all of those comes as a results of electronic banking systems.

The different obstacles or challenges when there using electronic banking systems now day is completely different to challenge's meet by using manual banking system based on what we see on table 4.9 where the problems their meet while using manual system the dominated is the errors from the teller, countrified money, burglary and time consuming where compared with problem faced by using e-banking system such us problem of poor connection, power cut off and inadequate skills on table 4.3, those signify that as banking services improvement the problem faced also exchange, the way to fight those problems for overcome with it will be together us updating new system also determining the problems can meet and the measures to overcome with it will facilitate that each new problem will come the way to solve it will be also available.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.0. INTRODUCTION

This chapter involves general conclusions and recommendations. The conclusion is based on the study objectives and the recommendations are based on the discussion of the findings and analysis of findings with focus to challenges raised by respondents

5.1 CONCLUSIONS

The researcher conducted on the role of electronic banking system as a tools of improving banking services of commercial bank especial in Bank of Kigali Kamembe branch as our case study.

The study findings indicated that the more the respondents' responses, it was analyzed that electronic banking system plays a big role in facilitating banking services as we saw in analysis electronic banking system contribute 100 percent in development of performance of Bank of Kigali as one in commercial Banks in Rwanda same as its increase Electronic Banking services and confidential to its institutional for customers. Any way as customers increase together with profit and asset of institutional increase it directly favor sing institutional to find each possible way for retaining their customers through creating new version electronic banking system and updating the existing one for purpose to increase and providing best services to their customers and made into them more confidence and more attraction of them so that day by day electronic banking system continuous growing and playing its role of improving banking services in all commercial bank.

5.2 RECOMMENDATIONS

The electronic banking system play a big role in improving banking services as shown in research finding in fact that there is different problems which still obstacles for clients of commercial bank which limits the customers don't use electronic banking system as required, same limits the improvement of banking services. those different limits need to be solved like the banks should put ATM in different locations easily accessible by customers, so that quick service and convenience is maintained hence improving bank operations. At the same time constantly serviced should be ensured in order to provide reliability of the services.

And also The bank should subscribe to reliable internet providers for effective and efficient service delivery. The bank should employ skilled personnel with more experience on network management in order to ensure the reliability of network. The bank management should establish country wide training and training for clients on usage of various e business applications for efficient performance of the bank. For example, training on ATM and VISA usage, internet banking, and mobile banking and so on. The bank should keep on upgrading their e banking technology in order to have an up to date system for effective service delivery. Constant power back up should be ensured on order to solve the problems of power interruptions and fluctuations.

5.3 SUGGESTION FOR FURTHER STUDY

Thus study was carry out the role of electronic banking services as a tools of improving banking services in commercial banks in Rwanda, were case study at Bank of Kigali, Kamembe branch. After this study also there is more which is necessary to search on another to continue improving banking services.

So that other research should white on the relationship between electronic banking system and environmental factors.

Should also white on how improvement of electronic banking system together with improvement of banking services contribute for the economics of country.

Based also the problem viewed in research for electronic banking system also is a topic others researcher should writ on for analyzing the relationship or problem between internet connection with electronic banking system.

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APPENDICES

APPENDIX 1 RESEARCH QUESTIONNAIRE

Madam / Miss / Sir, my name is Jean Bernard IRADUKUNDA and Jean Damascene TUYISENGE. We are completing our studies at Kibogora Polytechnic. In order to have our bachelor's degree in economics and management, we prepared a research questionnaire on the critical analysis of the role of electronic banking system as tools improving banking service in commercial bank especially in Bank of Kigali branches Kamembe as our case study. That is why we ask support in helping to answer the following series of questions. The information, that will be provided, will be used only for purposes of this research and confidentially treated.

PART 1: QUESTIONS RELATED TO IDENTIFICATION OF RESPONDENTS.

1. Age group:

- a. Under 20
- b. 21-30
- c. 31-40
- d. 41-50
- e. Above 50

2. Gender:

- a. Male
- b. Female

3. Level of education

- a. No education
- b. Primary level
- c. Secondary level
- d. University level

e. Others (specify)

4. How long have you been working with Bank of Kigali?

a. 1 - 2 years

b. 2 – 3 years

c. 3 – 4 years

d. 5 years and above

PART 2. QUESTIONS RELATED TO OBJECTIVES OF STUDY

5. They are different electronic banking tools used in bank of Kigali

Definition of the Scale for the assessing the application of electronic mobile banking in Bank of Kigali (1 = strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree).

Application of electronic banking	1	2	3	4	5
a. Mobile banking					
b. Internet banking					
c. Telephone banking					
d. Electronic card					

6. What are the reasons that pushed you to use electronic banking specifically using cards or mobile banking?

a. Prestige

b. Easy to use

c. Economical

d. Efficient

e. other

7. how do you appreciate the services offered by BK through the use of electronic banking (BK quick machine and Mobile money)?

a. Excellent

b. Very good

c. Good

d. Satisfactory

e. Poor

8. What are the advantages of electronic banking system?

a. It is secured

b. It is efficient

c. It is quick

d. It saves money& time

e. It avoids burglary

9. What are the problems faced when using manual banking system?

a. Burglary

b. Money counterfeit

c. Errors and mistakes

d. Time consuming

e. Others

10 What are types of electronic banking in Bank of Kigali you are aware off

- a. ATM []
- b. Pay Direct []
- c. Telephone banking []
- d. Visa Solution []
- e. Electronic check payments []
- f. Others specify.....

11 How effective are the above roles in promoting banking efficiency?

Roles of electronic banking	Strongly agree	Agree	Disagree	Strongly disagree
Depositing				
Checking accounts				
Withdrawals				
Making payments				
Others				

12 Do you think electronic bank has promoted performance of the bank in the following

Ways? Definition of the Scale for the assessing how electronic bank has promoted performance of the Bank of Kigali (1 = strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree)

Roles of electronic banking	Strongly agree	Agree	Disagree	Strongly disagree
Increased Profit				
24. Reduced Cost				
Customers Satisfaction				
Improved Management Quality				
Increased banks Asset				

13. Challenges faced by banks while using electronic banking system?

- a. Availability of internet
- b. Reliability of network
- c. Availability and reliability of ATM
- d. Security problems
- e. Power failure
- f. Lack of knowledge by customers
- g. Others, specify

APPENDICES

APPENDIX 2 INTERVIEW GUIDE

This interview questions we will use for illiterate customers of bank of Kigali. In different commercial bank is being developed day to day from manual system to digital system, where digital system concerned with internet development so that bank of Kigali is used different electronic banking system for improving services to their customers.

The electronic banking tools used is

- 1. Mobile banking
- 2. Internet banking
- 3. Telephone banking
- 4. Electronic card

1. how do you understand those electronic banking tools? please explain in your answer

.....

2. about those electronic banking tools do you use one of them or more? Yes, or Not?

a. if yes explain n your word the reason why you us it, and the benefit you gain for using it

.....

b. if no also explain also the reason why don't use it

.....

3. The way bank of BK delivered you services through electronic banking system is satisfied or is dissatisfied? Please tell me more

.....

4. What are the challenge faced by using electronic banking system?

.....

5. What are you proposing to overcome these challenges?