THE CONTRIBUTION OF ELECTRONIC BANKING TOWARDS THE PERFORMANCE OF COMMERCIAL BANKS IN TANZANIA: A CASE OF CRDB BANK

By
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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Master degree of Business Administration (MBA) Corporate Management of Mzumbe University.

December, 2020
CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation titled; ‘The Contribution of Electronic Banking Towards the Performance of Commercial Banks in Tanzania case of CRDB bank” in partial fulfillment of the requirement for the award of Mzumbe University degree, Master of Business Administration in Corporate Management (MBA- CM).

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DEDICATION

I would like to dedicate this Dissertation to my Husband Edwin Tesha, my Mother Agnes Ndosi and my classmates and who have been supporting me in the process of doing this Master's degree. I consider this work as important step in my life and family.
ABSTRACT

This study examined the contribution of electronic banking towards the performance of commercial banks in Tanzania. The following were objectives: to determine the customers usage rate of Automatic Tellers machine (ATM) and its effects on the performance of Commercial Banks in Tanzania; to assess the extent to which customers use Mobile Banking and how it affects the performance of Commercial banks in Tanzania; to examine the customers usage rate of internet banking and its contribution towards the performance of commercial banks in Tanzania; and to identify the challenges associated with the use of electronic banking to Commercial Banks in Tanzania. The study adopted case study research design whereby CRDB Bank was used. The study involved a sample size of 100 respondents; data collection was done through the use of interviews, questionnaires and documentary review. Data analysis was done through the use of Microsoft Excel. The results of the study show that ATM helps to reduce operational costs and improves return on assets, it has made it easy for customer to conduct financial transaction remotely. ATM has led into increased profitability and bank performance. ATM machines has improved the returns on assets (ROA). The results show that Mobile phones/simbanking has increased customer access to banks services as most of customers manage financial transactions remotely without visiting the bank branch. Also customers enjoy many benefits such as convenience, time saving, cost effective, enhanced business efficiency, and elimination of cheque writing or signing as CRDB has integrated its system with M-Pesa, Airtel Money, TigoPesa and Halo Pesa. As for the usage and contribution of internet banking the findings revealed that this innovation has increased customer access to the banks services. The findings show that network difficulties during transactions are the main challenge facing users of electronic banking. The study recommends that CRDB Bank should increase education campaign and creating awareness concerning the benefits of electronic banking.
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CHAPTER ONE

PROBLEM SETTING

1.1 Introduction
This chapter covers on the introductory details in relation to the subject under study whereby the focus is on the contribution of electronic banking towards the performance of commercial banks in Tanzania. The key aspects are discussed in this section include the problem statement, objectives of the study, research questions, significance of the study and scope of the study.

1.2 Background to the study
The level of innovation has affected the way modern businesses operate in first world and third world countries. Western countries are more developed in terms of innovations whereby for many years they have implemented computer systems to facilitate smooth operations. Most of their business operations are done through electronic systems. In the past decade a number of organizations in the developing countries have embraced the innovations as key part of their business operations. Among the leading sector in terms of innovations includes banking industry which has benefited a lot from innovation. Today many commercial banks in the developing countries have computerization their system whereby the implementation of innovations such as ATM machines, internet banking, and electronic banking and among others which are used manage banking transaction for the customers. With electronic banking customers can easily access banking services online fast and conveniently (Nader, 2011).

Electronic banking has gained popularity in many developing countries including Tanzania whereby by 2000s many banks started embracing electronic banking especially commercial or privately owned banks and multinational banks (Nigel, Penalver and Nicholas, 2008). During this period, a large number of commercial banks in the less developed nations particularly in Sub –Saharan Africa (SSA) have adopted electronic banking as a business strategy which aims at ensuring efficiency
and effectiveness of bank operations (Parasuraman, 2009). According to World Bank discussion paper (2016), online banking accounted for 70% of the market in industrial countries today compared to 21% developing countries or emerging countries and especially in Africa. Today transaction today is 6% for ATM application while Bank or mobile money transaction is 43% compared to the rate of below 3% in the 2000s for electronic transactions.

Access to mobile technology and integration with the banking systems in Africa has contributed significantly towards the utilization of modern banking technologies such as internet among customers. The use of electronic banking among banks has proved to be important towards the profitability among commercial banks in Africa. The adoption and implementation of electronic banking system among commercial banks whereby new technologies are used has proved to be profitable to among commercial banks as it attracts more customers, lowering operation cost and enables commercial banks to provide financial services at lower cost (Pikkarainen and Pikkarainen, 2014).

Most of financial institutions have implemented electronic banking in Africa due to the fact that it enables banks to offer financial products and services such as insurance services, allows bank customers to shop for various goods and services online using different online banking systems, pay for bills and others more safely than ever before. According to Singh and Malharta (2014), electronic banking is convenient as it enables bank customer to manage a large number of transactions, payment of bills, checking balances all time any minute in a day and all days in a week. Electronic banking never closes due to the fact that it allows bank customers to access different services at any point in and from anywhere as customers can access services though different means such as computers, laptops, mobile phones, anywhere in the country and the world.

The increased competition and expectation have created awareness among banks concerning the role and benefits of innovation such as electronic banking, forcing financial institutions to implement new innovations and technology is to remain
sustainable, competitive and attract new customers as well as retaining customer base. Due to the benefits associated with the adoption of electronic banking has made commercial banks to consider electronic banking as strategic move to remain competitive in the market (Thomas, 2012).

The development of modern technologies such as evolution in mobile phone telecommunications in Tanzania has led to the emergence of the online banking and money transactions institutions which pose more competition and threat to commercial banks. For instance, almost all Telecommunication companies such as Tigo which provide Tigo- PESA, Vodacom- VODA PESA, Airtel with Airtel – MONEY and Zantel with Easy PESA, Hallotel with Hallo Pesa and among others have developed a very sophisticated system for money transaction and other operations which traditionally were being provided by banks (Thomas, 2012). Due to the increased competition from other intermediaries including telecommunication companies’ commercial banks have decided to invest heavily on electronic banking especially in areas such as the use of ATM machines, mobile banking whereby they have integrated their systems with those telecommunication companies and internet banking. This has been done so as to increase performance, to remain competitive and profitable in the market. However, it is not clear the extent to which commercial banks have benefited from investing in electronic banking.

1.3 Statement of Research Problem
Many banks including CRDB Bank have adopted and used the new technology of electronic banking of e-banking to enable their customers to verify the balances in their accounts, transfer funds and other electronic bills payments (Asgha, 2012). All Banks are currently enabling their customers to withdraw money Automatic Teller Machines (ATMs) which are very beneficial to both customers and bank operations (Nasim). This is because ATMs facilitates the procedures of access to account to be very easy, however uses of ATMs reduces workload in banks operations (Nasim, 2009). Different from benefits of ATMs, the most benefits of e-banking to commercial banks are; cost savings, attainment new segment of the population,
efficiency improvement of the banks’ status and better customers service and fulfillment (Talla, 2013). To customers, electronic banking offers also new value. With the help of e-banking is no longer found bound time or geography. Consumers all over the world have relatively easy access to their accounts 24 hour per day, several days a week. It makes available to customers a full range of services including some services not obtainable at branches. Therefore, customers can handle their banking dealings whenever they want, and they can benefit from more privacy while interacting with their bank (Berger, 2008).

E-banking is adopted by a banking system for variety of reasons, which comprise rising customers’ demand, the call for increasing sales to active customers, changes in the environment and the need to accomplish competitive gain and increased efficiency (Kumbhar, 2011). Despite of all these benefits of e-banking to customers and Bank operations, the contribution of e-banking in commercial banks performance specifically the CRDB Bank is still not described in reviewed documents. It is from this reason this study examined the contribution of electronic banking towards the performance of CRDB Bank.

1.4 Research Objectives

1.4.1 Main Objective
The main research objective of this study is to examine the contribution of electronic banking towards the performance of CRDB Bank.

1.4.2 Specific Objectives

i. To determine the customers’ usage rate of Automatic Tellers machine (ATM) and its effects on the performance of CRDB Bank.

ii. To assess the extent to which customers use Mobile Banking and how it affects the performance of CRDB Bank.

iii. To examine the Customers usage rate of internet banking and its contribution towards the performance of CRDB Bank.

iv. To identify the challenges associated with the use of electronic banking to CRDB Bank.
1.5 Research questions

1.5.1 General research question
To what extent does electronic banking contribute towards performance of CRDB Bank?

1.5.2 Specific Research Questions
i. To what extent does customers use Automatic Tellers machine (ATM) and what is its contribution to the performance of CRDB Bank?
ii. To what extent do customers use Mobile Banking and how it affects the performance of CRDB Bank?
iii. To what extent do Customers use internet banking and how it contributes towards the performance of CRDB Bank?
iv. What are the challenges associated with the use of electronic banking to CRDB Bank?

1.6 Significance of the study
This study focused on the contribution of electronic banking towards the performance of CRDB Bank. Therefore, the study is of significance to commercial banks and other financial institutions. However, the findings of this study provide new insights concerning the process of adoption of electronic banking which is very essential to the banks performance. In fact, the findings provide information on the extent to which CRDB Bank has benefited by implementing such banking solutions and innovations.

Academicians and researchers; the findings of this study will be useful to all researchers intending to pursue their studies in the areas of electronic banking alimentation and use. Similarly, academicians can use the findings of this study as point references in classes and studies. This is due to the fact that the findings of this study will offer the benefits and challenges of electronic banking.
Government and policy makers; the findings of this study will provide more details on what it takes to implement and use electronic banking in the developing countries like Tanzania as the study will offer more details on the benefits and associated challenges. Therefore, the government and policy makers will be in the position of formulating policies which support the general implementation and use of electronic banking in Tanzania.

1.7 Scope of the study
This study confined itself towards examining the contribution of electronic banking towards the performance of commercial banks in Tanzania. To accomplish this study CRDB Bank PLC was used as case study whereby the study involved a sample of 70 customers and 30 staffs from CRDB Bank PLC.

1.8 Limitation of the study
On the process of completing this study the researcher experience different limitations which included low level of cooperation among respondents as most of them were busy with their daily routine. Therefore, it was difficult for the researcher to bring together the participants to participate on focus group discussion and interviews. Also it was difficult to get secondary data as some managers and bank officers were reluctant to share internal data concerning the contribution of such technological development on the profitability of CRDB bank. However, the research was able to access the needed data by asking support from senior management of the respective bank. Also the study focused on single unit which is CRDB bank as it did not include other financial institutions which are not owned by the government. Therefore, the researcher was not able to compare the performance of CRDB bank with other commercial banks.

1.9 Organization of the study
This study is sub divided into six chapters whereby the first chapter provides the background to the study, statement of research problem, research objectives, and significance of the study as well scope of the study. Chapter two comprises
definitions of concepts relating to the study, theories used to guide this study, empirical literatures, research gap and conceptual framework. Chapter three comprises research design, population of the study, area of study, sampling procedure used to determine the sample size of the study, methods of data collection as well as data analysis methods. Chapter four of this study comprises information on the demographic characteristics of all respondents who were invited to take part in this study and the findings of the study based on the subject matter and research objectives. Chapter five focuses on the discussion of findings while chapter six comprises summary of findings, conclusion and recommendations.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
This chapter focuses on the related literature in relation to the contribution of electronic banking towards the performance of commercial banks. It is categorized into four main categories namely; theoretical with definitions of key concepts, empirical review and conceptual framework.

2.2 Theoretical literature review
2.2.1 Definition of key concepts
i) Electronic banking
This is defined as the system that enables bank customers access their accounts and information on bank products and services by the use of bank’s website, devoid of the intervention of sending letters, faxes, original signatures and telephone confirmations (Thulaniet et al., 2009). E-banking, also known as electronic funds transfer (EFT), is simply the use of electronic means to transfer funds directly from one account to another, rather than by cheque or cash (Talla, 2013). The concept had initially been associated with the use of the Automated Teller Machines across the globe; with the growth of technology and new inventions electronic banking cater across a number of forums used on either purchase transactions or deposit as part of banks dealings, these include the use of computer and electronic technology as a substitute for cheques and other paper transactions (Saffuet et al., 2008). E-banking offers a set of services that consumers find practical to mention but a few service via Automated Teller Machines (ATM) providing services daily, pay phone systems such as the M-Pesa services in Tanzania etc, personal computer banking, debit card purchase transactions and the direct deposit services (Asghar, 2012).
One of the direct advantages of e-banking adoption is cost effectiveness. E-banking allows customers to save time by conducting their transactions quickly, without having to queue at banks to use paper documents. Websites offer customers the opportunity to interchange electronic data or to communicate with bank staff, since all important transaction details are laid out on the website. Online banking also provides customers with immediately available and transparent information. The indirect advantages are round-the-clock access to banking services, wherever in the world, at every time and a wide range of investment opportunities (Venkatesh and Morris, 2000).

ii) Customer service
Customer service (CS) is broadly defined as the combination of activities offered by retailers in an attempt to boost service quality, i.e. a shopping experience that is perceived to be more gratifying (Howardell, 2003). According to Bell (2003) services are different from products in many ways. CS is firstly regarded an experience that differs from merchandise because it is intangible and inconsistent. While merchandise can be held and examined, a service, such as the assistance that is provided by a salesperson, cannot. This intangibility makes it difficult to objectively evaluate CS (Liao and Chuang, 2004). Traditionally, customer service is understood as a constituent concept that includes all activities and efforts carried out by business owners and management to make customers feel that the business firms or companies take into account their welfare, as well as their present and future needs as they relate to the companies (Birdir, 2002).

iii) Meaning of Information technology
According to ITAA (2012) information technology is “the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware.” Information technology involves the use of computing systems and software to store information and convert them, protect, process and transmit (Stijnet al., 2012). However in today’s society the term has grown to encompass not only
technology telecommunications and computing, but it has expanded to cover everything related to processing and transfer of data as well. It is because of this that the role of information technology is certainly an important one in an organization’s financial management system.

iv) **Internet Banking**
Omni Channel refers to a banking service delivery channel that allows bank Customers to access accounts information and perform various transactions over the Internet with the same look and feel in different platforms. This Omni channel system will be accessed via web and mobile App. Internet Banking Benefits includes; reduce cost of operations, enhanced business efficiency, reconciliation time is significantly reduced, elimination / reduction of cheque writing or signing, reduction time spent on data entry for routine payments e.g. salaries, bills, enhanced security and control, dual control and reduce risk of forgeries. Steps for interment banking includes

1. **My account**: By default, all accounts are shown in the system have available and book balance.
2. **Customise**: Switch the priority of the accounts or set Alias Account Names.
3. **Quick Access**: User can customize what menus should be displayed for quick access, such as Favourites, Quick Pay and Templates.
4. **Quick Link(Action)**: is available next to each account where you are able to view the individual account details and perform various account transactions

Internet Banking Products includes; **My Account**: Provides account overview, details of your accounts and history of all the transactions. **My Cards**: Provides cards overview, details of your cards, history of all the card transactions, and allows block/unblock cards. **Accounts E-Statement**: Gives ability to download statements online in an electronic format. **Online Transaction status**: Provides a register for all the electronic transactions done through the Omni Channel. **Batch**
Transaction Status: provides a register for all of the electronic transactions done by the user through the Bulk Payments in the Omni Channel.

Internet Banking Transfer process includes; Make a Transfer: Transfer funds between customers own registered accounts within CRDB Bank, transfer to other accounts within a Bank, transfer to other Bank Accounts within from one country (TISS), and transfer to International Bank Accounts(SWIFT). Beneficiary Maintenance: User can create new beneficiaries and can see the list of created beneficiaries, the beneficiary full name as specified by the user and the total of transfers. Templates: Saved transactions details and re-use for another payment for the same customer. Standing Orders: Create new, view, amend or cancel standing orders. Quick Pay: Enables you to make transfers to a registered Omni Channel user by simply entering the registered mobile numbers.

Internet Banking Activities may involve; trade Finance: Includes demand guarantee, demand guarantee amendment application form, application for commercial documentary credit (LC), application for amendment to a commercial documentary credit. Services: Includes message, pending authorization, batch authorization, register for quick pay, account personalization, alerts, manage favourites, financial calendar.

Security Option: Include change my password, change user nickname, change security question, MOTP activation, and token synchronization. Exchange Rates: Displays the exchange rates. Other Activities: Open an Account, apply for Credit Card, Increase Debit/Credit Card Limit, order a Print Statement, Negotiated Rate Request, Order Bankers Cheque.

v) Mobile application
Mobile banking usually uses app is a mobile banking service application developed specifically for use on small, wireless computing devices, such as smartphones and tablets. It allows Bank customers to access their bank accounts through mobile handset (more or similar to mobile banking on USSD technology). Customers can download and install SimBanking App from the Google play store & App store
platforms (Gaspar, 2018). Benefits on the Mobile App includes; the use of standard strong password, easy to navigate from one service to another, no USSD charges, MNOs independent, accessible anywhere, no need of retyping number saved on phone book during transactions, failed transaction can be resent without waiting 24 hrs recons, customers can easily send feedback and customers can un-register their devices without visiting branches.

2.2.2 Electronic banking evolution

The modern world is developing in technology; such the advancement if information communication technology (ICT) has introduced a number of new systems in all the aspect of life and the economy in general. Science has joined the world all the way through the use of internet systems which were in the early 20th century used for mail communication and advertisement plans by several companies in the world (Mambi, 2010). The 21st Century, shaped by the technological revolution, is the age of globalization. The internet massively impacts all aspects of business. In the 21st century, electronic business is no longer an option for businesses; it is a necessity. Recently electronic banking has been adopted in a variety of commercial activities, advancing services such as sell and purchase of items through the use of internet systems (Binamungu and Ngwilimi, 2006). Despite the risks associated in the technology adopted, market economy, and the need to make the world a one village has necessitated commercial and financial institutions adopting e-banking to link banking activities or affairs simply than it was in the past. This is to say with electronic banking it is even easier for a holding bank to control its subsidiary bank allocated at a distant as a result of technological advancement (Mambi, 2010).

2.2.3 Theories of the study

This area investigates the different theories and model that clarify the impact of innovations on the performance of commercial banks. A few theories were examined: these incorporate; diffusion of innovations, disruptive and theory of Creative Destruction.
2.2.3.1 Diffusion of Innovation Theory
Roger's (2003) Diffusion of Innovation (DOI) theory is a well-known model utilized in data ICT and innovation research to clarify client adoption of new advancements or innovations. Rogers explained innovation as a procedure by which technologies is imparted through specific channels after some time among the individual from a certain societ'y(Rogers, 2003). Innovation development is a thought or something that is seen to be new (Rogers, 2003).

The rate of dissemination of new ideas is influenced by innovation advancements is dependent upon simplicity of complexity, observations and trial among users. Rogers (2003) provides relative favorable position as how much a development is viewed as being better than compared to previous ones; multifaceted nature, which is seen usability; based on how much such innovation is seen by the potential adopter as being generally hard to utilize and understand it.

Likewise, the compatibility level of the innovation in terms of existing qualities, needs, preference and desires of adopters. Preliminary capacity is how much the consequences of the innovation is perceived (Rogers, 2003). Based on the theme of the present study it is clear that diffusion theory is very useful in guiding the present study given the fact that the current study focuses on the contribution of electronic banking towards the performance of commercial banks. In the recent years a number of commercial banks including CRDB Bank have embraced electronic baking as source of competitive advantage. However, it is not clear the extent to which they have benefited from it. With this theory the researcher was in the position of understanding the level of adoption of electronic banking system at CRDB bank and was also able to understand the impact of such innovation towards that performance of the respective bank.

2.2.3.2 Disruptive Innovation Theory
The disruptive innovation theory focuses on the strength of certain innovations which became dominant in certain industries Clayton (2008). The theory provided insights on the types and nature of the innovations adopted and implemented by
commercial banks to facilitate their operations in the modern business environment dominated by competition. According to the disruptive innovation theory innovations which are being adopted by commercial banks have become disruptive in nature as they change the traditional ways on how banks used to operate when delivering services to customers.

With the use of disruptive theory, it is clear that the researcher was in the position of understanding the extent to which innovation have been able to change the traditional operation of commercial banks such as CRDB Bank given the fact that the bank has been able to adopt new technologies largely due to the changing trend in the international and local markets as well as based on the influence of customers. Moreover, the researcher was able to understand the extent to which such adoption of electronic banking has benefited the particular banks in terms of customer recruitments, improved service delivery, revenues and profitability.

2.3 Empirical Review

This section comprises the empirical literature reviews relating to the subject under investigation as they provide insights concerning the contribution of electronic banking towards the performance of financial institutions.

Aminiet al., (2011) investigated the determinants affecting usage of e-banking for the customers of Iran. The results indicated that perceived usefulness and computer self-efficiency as the main factors that influenced the acceptance of internet banking. It was established that users who were comfortable in using computers found it easy to use e-banking systems as opposed to those with little or no computer skills who found the process complex. From the study it was evident that the focus was solely on users and it neglected none users. It is important to look at the perception of both users and none users. Moreover, the study did not look at other factors around complexity of e-banking systems such as e-banking website design and features and also the clarity of instructions appended on e-banking site on how to navigate the system.
A study to investigate customers’ perception on internet banking adoption in an emerging Indian economy by Safeena et al., (2010) noted that a majority of the respondents contented that a complex website took long to navigate through and thus discouraged many people to continue using it. The respondents considered website designs which were user friendly and easy to navigate as having a positive impact in usage of internet banking. However, the study did not look at customer perception on seeking support from a bank officer or another skilled person when they are faced with complex options on the e-banking website and also if instructions available on the website provide sufficient information to make website navigation less complex.

Saha and Zhao (2005) identified nine service quality dimensions in internet banking, they are efficiency, reliability, responsiveness, fulfillment, privacy, communications, personalization, technology update and logistic/technical equipment. First five dimensions were tested as a core dimensions in internet banking. Communication and personalization were identified as another two important service quality dimensions in internet banking. Fasanghari and Roudsari (2008) established a customer satisfaction evaluation method based on combination of linguistic variables, fuzzy triangular numbers, and fuzzy entropy. They found that the designed evaluation method creates suitable results and the evaluation could be done as well as possible. Nupur (2010) investigated the impact of variables of e-banking on customer satisfaction in Bangladesh and argued that reliability, responsiveness, assurance, empathy and tangibles are the core service quality dimensions for customer satisfaction in e-banking. Moreover, their studies could not identify the reasons for using e-banking services.

De Young and Nolle (2007) conducted a study on the impact of internet on the performance of US community banks in terms of profitability by focusing on the extent to which the adoption of internet banking led into improved deposit and profit gained from such transactions. The results of the study found that customers preferred internet baking due to low charges and it led into increased profitability on the side of commercial banks, it was found that internet banking was more useful than branch as it offered flexibility to among customers, it was
also found some banks were quick on adoption of electronic banking than others due to the nature of the top management and organizational structure.

Roselyn et al (2013) carried out a study on the impact of innovations on the income generations among commercial banks in Kenya. The study used case study design and used interview and questionnaires as tools of data collection. The finding of the study revealed that the adoption and implementation of innovation such as electronic banking had moderate influence on the performance of commercial banks in Kenya especially on revenue generation or income generations. The findings indicated that commercial banks in Kenya needed more support from government to ensure that the process of adoption of any innovation was smooth. The findings revealed that banks which adopted electronic banking or any sort of innovation which support smooth operations were able to earn more income compared to their counterpart. The study recommended that the government of Kenya should support commercial banks in terms of incentives which could enable them to effective manage technological transfer from developed countries to boost innovations in the developing countries like Kenya due to the fact that this will lead into improved job creation and hence more people could be employed.

Hernando (2006) conducted a study on the influence of internet banking on the performance of banks in Mexico City, Mexico. The objective of the study was to understand the extent to which internet banking as transaction channel was effective towards the performance of commercial banks in Mexico City in Mexico. The findings of the study revealed that the adoption of innovations such as electronic banking was important to the performance of banks in Mexico as it led to the reduction of operation expenses such as reduction of overhead costs relating to staffing, IT and marketing which in turn led to the increased profitability. The findings of the study revealed that the use of internet banking acts as source of competitive advantage to many banks. It was found that many commercial banks were able to generate more profit from investing into internet banking.
Malhotra et al (2009) carried a study on the effects of electronic banking on bank performance and risk in Paris, France. It was found that the use of electronic banking such as internet banks led into more profit among banks as it led to improved operational efficiency on banks services. It was also found that the use of internet banking led into reduced cost of investment compared to other forms of investments in the banking sector. They also found that internet banks have higher asset quality and are better managed to the expenses for building and equipment and that internet banks in India rely substantially on deposits. They further found out that smaller banks that adopt internet banking have negatively impacted on profitability. Mabrouk et al (2010) analyzed the effect of the adoption of two types of financial innovations namely product innovation such as mobile phone banking and process innovation such as the use of ATM (such as visa card and credit card). The findings of the study indicated that innovations such as mobile banking were very crucial towards the performance of banks. The study found that banks which adopted innovations earlier were more likely to be more profitable compared to ones which adopted innovations later. Preston (2013), suggested that technology is becoming the leitmotif of the modern world and a backbone of the international economy. Businesses, governments, communities, organizations and individuals seemingly everywhere are looking at technology as key to attainment of their goals.

Laurie (2012), another major area where performance has depended on information technology in companies is the auditor’s department in the preparation of financial statements; accountants do not have to spend hours customizing financial statements for each day since this job can be accomplished with just a few mouse clicks. Almost all organizations today believe that information technology usage in financial statements is the roadmap to success. They have depended on this technology to maintain the general ledger and most entities have automated the process of entering the transaction totals.
2.4 Research Gap
Most of the reviewed studies focused, on different areas and especially they covered more on the effect of innovation on Commercial Bank performance from different parts of the World. Likewise, these studies did not include a more variables as they were too specific. For instance, Malhotra et al (2009) focused on the contribution of internet on bank performance and risk in Paris, France. Hernando (2006) conducted a study on the influence of internet banking on the performance of banks in Mexico City, Mexico.

The objective of the study was to understand the extent to which internet banking as transaction channel was effective towards the performance of commercial banks in Mexico City in Mexico. De Young and Nolle (2007) conducted a study on the impact of internet on the performance of US community banks in terms of profitability by focusing on the extent to which the adoption of internet banking led into improved deposit and profit gained from such transactions. Most of these studies were conducted in societies which are different from Tanzania in terms of economic, social, political and cultural settings. Also the present study will include more variables such as the contribution of ATM, internet banking and mobile banking towards the performance of commercial banks in Tanzania.

2.5 Conceptual Framework
The conceptual framework in this study aims at indicating the relationship that exist between independent variables (electronic banking) and dependent variable which is the (performance of commercial bank in Tanzania). The study specifically aims at looking into the implementation of different innovations in the banking industry based on the perceived benefits associated with such innovation. This is due to the fact that many commercial banks have implemented various innovations relating to electronic banking such as ATMs innovations, mobile banking and internet banking. The diagram provided below provide relationship that exist between electronic banking and performance of commercial banks.
Figure 2. 1: Conceptual Framework

Independent variables

- Automatic Teller Machine (ATM)
- Mobile Banking
- Internet Banking

Sources: Researcher (2019)

Dependent variables

Performance of Commercial Banks
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This chapter focuses on the research methodology used in this study whereby key aspects such as sample and sampling procedures, sample size, types of data, data validity and reliability, ethical considerations and others.

3.2 Research Design
This study employed a case study research design whereby CRDB Bank was used as a case study.

The researcher selected CRDB Bank because is among of the banks in the country which have adopted a number of innovations as part of business improvements such as electronic banking that enable customers to conduct more transaction than ever before. Therefore, a researcher was able to assess the contribution of electronic banking towards the performance of CRDB Bank. The use of case study research design enabled the researcher to understand the detailed information concerning the subject understudy. For instance, the researcher was in the position to understand the contribution of ATM, mobile banking and internet banking towards the performance of CRDB Bank.

3.3 Area of study
This study was conducted at CRDB Bank Headquarters located in Dar es Salaam. The selected bank has adopted innovation in different areas such as internet, ICT and ultimately electronic banking. Therefore, the researcher was in a good position to understand the extent to which electronic banking has contributed to the positive performance of the respective bank. Areas of concentration on which CRDB Bank have improved includes the use of modern ATM, Mobile banking and internet
banking. CRDB Bank has been a leader when it comes to innovation in the banking industry.

### 3.4 Target population

This study involved categories of population during data collection. The included population comprised of different CRDB Bank staff officers from different departments i.e. Business Development Bank, Customer service, operations, ICT, Administration and procurement, and Loan and insurance. However, another category of population was the customers of CRDB Bank.

### 3.5 Sample size

The sample size for this study was calculated by using the formula which was developed by Yamane in 1973. The formula is described below:

\[
n = \frac{N}{1 + N (e)^2}
\]

Whereas:

- \(n\) = size of the sample (portion number of households)
- \(N\) = population of sample (total households) i.e. i.e. 4,364,541 people (housing census, 2012)
- \(e\) = is probability of error of (0.1).

Therefore:

\[
n = \frac{4,364,541}{1 + 4,364,541 (0.1)^2}
\]

\[
n = \frac{4,364,541}{4,364,542 (0.01)}
\]

\[
n = \frac{4,364,542}{43,645.42}
\]
\[ n = 100 \]

Therefore, sample size for this study comprised 100 respondents, where 30 were staff officers of CRDB Bank who were from the following departments; 5 Business Development Banking, 5 Customer service, 5 Operations, 5 ICT, 5 Administration and procurement, and 5 Loan and insurance. Moreover, the sample size also comprised 70 customers of CRDB Bank. However, Table 3.1 described well the sample size.

<table>
<thead>
<tr>
<th>SN</th>
<th>Departments</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Business Development Banking</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Customer service</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Operations</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>ICT</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Administration and procurement</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Loan and insurance</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Customers</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### 3.6 Sampling techniques

The study applied both non-probability and probability sampling techniques during selection of participants to involve in the study. The techniques are described well in the following sub-headings.

#### 3.6.1 Non-probability sampling technique

In non-probability sampling techniques, specifically the purposive sampling method was employed to select the key informants to include in the study. These key informants comprised of five staffs in each department from six departments which are; Business Development Banking, Customer service, Operations, ICT, Administration and procurement, and Loan and insurance. To apply this method, when a researcher reached to the department, the staff officer was selected purposively based on his/her availability and accessibility on that time when data were collected.
3.6.2 Probability sampling technique
The probability sampling technique particularly simple random sampling was used to select respondents (customers) to include in the study. Specifically, in this simple random sampling a lottery method was employed. When a researcher reached in a Bank where data were supposed to be collected from, she listed all customers who were found in the area by their names. Thereafter, the first step was to arrange those names alphabetically and numbered accordingly. The second step was to write numbers listed in the sampling frame on small pieces of papers and placing them in a jar. The third step was to mix all papers well and taking out one piece of a paper from a jar. The process was repeated until the required number of customers was reached. However, the main reason for applying simple random sampling particularly a lottery method was to avoid biasness in selecting customers to involve in the study (respondents).

3.7 Data Collection Methods
This study utilized different methods of primary data collection. These methods included; Questionnaire, Interview, and Focus Group Dissuasions (FGDs). Through these three methods of primary data collection, a researcher was able to capture required information of both kinds i.e. quantitative and qualitative. However, the methods are described in the subheadings below:

3.7.1 Questionnaire
Adam and Kamuzora (2007) define questionnaire as an instrument for information assortment that comprises of a lot of foreordained and organized inquiries given to the subject to react or fill in by researcher through self-managed process. According to Kothari (2004), advantages of questionnaires is that they are not expensive, they are liberated from predisposition of the questioner, respondents have sufficient time to offer all of the needed responses and a good example can be provided and in this manner results can be made high trustworthy and dependable.
In this study questionnaires were used to collect data from both customers (respondents) and staff officers of CRDB Bank. The questions were consisting of both closed-ended and open-ended questions for gathering quantitative and qualitative information. However, open-ended questions allowed freedom of expression because respondents (customers) and staffs of CRDB Bank were able to use their own words, while closed-ended questions limited respondents the specific answers in order to obtain information on the magnitude of the issue under study in quantitative manner. Therefore, questionnaires were administered to 30 staffs and 70 customers of CRDB Bank. However, it was a task of a researcher to read and clarify questions for the respondents to understand.

3.7.2 Interview
According to Maxwell (2012) interview refers to a venture in which two individuals exchange and share their ideas regarding a specific theme or subject matter. It also refers to the opinion through which the qualitative interview, the point of the view of individual regarding certain situations of experiences are easily reviewed and analyzed, and allowing a researcher to gain an insight in the general perspective of the interviewees.

In this study, the in-depth interviews were used to collect data from the key informants from the six departments of CRDB Bank. These departments include; Business Development Banking, Customer service, Operations, ICT, Administration and procurement, and Loan and insurance. To get detailed information, the interviews were conducted accordingly to the well-structured interview checklist.

3.7.3 Focus Group Discussions
According to Ambary (2017) Focus Group Discussion (FGDs) is an excellent approach when conducted a qualitative research, since the research is able arrange formal settings, able to use non-directive interviews, and able to use unstructured question format.
In this study, five focus group discussions were conducted whereby each group discussion comprised 10 to 12 members. The participants of these FGDs were from two categories; customers who were supposed to be at least 8 members and CRDB Bank staffs who were supposed to be at least 2 members. However, for the purpose of diversity, interested participants were recruited based on gender, age, education and working experience. Moreover, each FGD used to take not less than 90 minutes but also not more than 120 minutes. The discussions were open and the participants demonstrated enthusiasm about the topic. As they were getting excited with their discussions, in fact, a researcher was able to ask further questions that contributed in expanding the discussion and gaining deeper knowledge.

3.6 Reliability and Validity of Data

3.6.1 Reliability
According to Dooley (2005) reliability is gauged by the constancy of scores. For example, an understanding between several types of instrument or between various things of a similar aspects or between various raters by utilizing a measure that can be checked. The estimation of measure depends on its unwavering quality and legitimacy as well as on its particular reason. Consequently, a measure with unassuming unwavering quality and legitimacy may demonstrate sufficient during the beginning of the study. So as to ensure dependability the study utilized different data gathering techniques.

3.6.2 Validity
Validity refers to the fittingness, weightiness, and helpfulness of the particular derivations" produced using measures (Dooley, 2005). That implies adequacy of research instruments to quantify what is expected to be estimated like disposition, learning and practice. Questionnaires and interviews were tested with some few samples to ensure accuracy of the wording, with the aim of making sure that the inquiries measure what they should quantify and if there is any biasness, just as knowing whether the respondents can comprehend the inquiries as the analyst means.
From the pilot study tools for data collection were improved before actual data collection.

3.7 Data Analysis
Data analysis is deliberately sorting out crude information gathered in a way that encourages the understanding the nature of data collected in relation to the research study. It additionally incorporates amended mistakes in the information, coding the information, and putting data in proper structure (Kothari, 2004). As indicated by Kombo and Tromp (2003) data analysis means to analyzing what has been gathered from a sample and making conclusions based on the available data.

For questionnaires, the researcher classified all responses assigning numbers or codes. Prior to the real data analysis, examination of the available or collected data through questionnaires was done as well as approving, editing and after that data were coded. The data collected through questionnaires and interview methods were examined and processed through the use of Microsoft Excel. The researcher used descriptive statistics and graphs to describe the results whereby all data collected through the use of questionnaires were entered into the Microsoft Excel which helped the researcher to generate score such as frequencies and percentages which were presented through the use of charts and tables.

For interviews, the researcher read all of the questionnaires and examined the meaning, perception and produced some notes based on the responses. The researcher identified the relevant words, phrases, sentences and opinions. Because of the nature and scope of the study, the researcher presented and dissects information by utilizing qualitative procedures. In order to get desired results from the study, data collected through interviews and questionnaires were processed through editing, coding, classification and tabulation. As indicated by Kothari (2004) editing is a procedure of looking at the gathered data to identify mistakes/errors, oversights and clearing them. Coding is the way toward surveying numerals or different images to answers with the goal that responses can be put into
predetermined number of classifications or classes. They ought to be suitable to the study or problem being studied. Classification intends to orchestrate information into classes based on regular qualities. Classification is the way toward outlining crude information and showing the equivalent in summarized form/structure.

3.8 Ethical Consideration

According to Kothari (2004) ethical includes standards or norms of conducts which acts as guideline towards understanding what is right and what is wrong. Ethical consideration is very crucial for successful data collection during the administration of researcher study. In this study the researcher maintained a highest level of ethics to make sure that study adheres to highest level of professionalism while taking into accounts the do and don’ts of research study. The researcher made sure that she collects letter allowing collecting data from the respective organization which is selected as case study. Also she asked for the permission from the top management of CRDB bank to allow her to conduct this study and collect information from respondents. Similarly, the researcher informed all respondents involved about the aim of this study so that they can decide to participate or not to participate in this study. The researcher maintained all of the rights of respondents such as the right to privacy or confidentiality of data or information provided and among others.
CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction
This section provides the presentation and discussion of the study findings based on the research objectives. The subject of this study is contribution of electronic banking towards the performance of CRDB Bank. The specific research objectives were to; examine the Customers usage rate of Automatic Tellers Machine (ATM) and its effects on the performance of CRDB Bank, to examine the extent to which customers use Mobile Banking and how it affects the performance of CRDB Bank, to examine the Customers usage rate of internet banking and its contribution towards the performance of commercial banks in Tanzania and to examine the challenges associated with the use of electronic banking to CRDB Bank. The study involved a sample size of 100 respondents which comprised of 30 key informants (staffs of CRDB Bank) and 70 customers. The researcher prepared and distributed questionnaires to both customers and staffs of CRDB Bank. However, FGDs also involved both customers and staffs of CRDB Bank. Interviews involved only the staffs of CRDB Bank. Thereafter, findings have been illustrated by using tables, charts, graphs and words.

4.2 Demographic Characteristics of Respondents
The study examined the demographic characteristics of respondents who were invited to participate in this study. The aim was to understand the demographic distribution among respondents. With regards to demographic characteristics the focus on the sex or respondents, age of respondents, education of respondents and experience of respondents. It is also important to note that, data based on demographic characteristics were collected from both customers and staffs of CRDB Bank. Therefore, it includes a total of 100 participants. More details are provided hereunder.
4.2.1 Sex of respondents

The researcher sought to examine sex of respondents who were included in this study; the aim was to understand sex distribution of respondents in relation to the contribution of electronic banking towards the performance of commercial banks in Tanzania. Summary of findings is presented in the Table 4.1.

<table>
<thead>
<tr>
<th>Sex of Respondents</th>
<th>Frequency (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Female</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research Findings (2019)

The findings of the study show that 40% of all respondents who participated in this study were Male compared to 60% of respondents who were Female. From the findings of this study it is clear that female respondents were more than their male counterpart. The study found that both male and female respondents were aware concerning the adoption of electronic banking at CRDB bank and most of them are using electronic banking in one way or the other.

4.2.2 Age of respondents

The researcher examined the age of all respondents who were invited to participate in this study. The aim was to understand the age distribution of respondents in relation to contribution of electronic banking towards the performance of commercial banks in Tanzania. Summary of findings is presented in the Table 4.2.
The results of the study indicate that 35% of respondents out of 100 had age range between 18-30 years, also it was found that 31% of all respondents out of 100 had age range between 31-40 years old, another category comprised 22% of all respondents who had age range between 41-50 years while the last category of respondents had age range between 51 and Above years old. The study found that most of the respondents across age group were aware concerning electronic banking.

### 4.2.3 Education Level of respondents

The researcher sought to examine the level of education of all respondents who participated in this study; the aim was to understand the education level across categories of respondents who took part in the study in relation to the contribution of electronic banking towards the performance of commercial banks in Tanzania. Summary of findings is presented in the Table 4.3.

<table>
<thead>
<tr>
<th>Education Level of Respondents</th>
<th>Frequency (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary education and Certificates</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Diploma</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>PhD and Above</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Source: Research Findings (2019)**
The results of the study revealed that 15% of all respondents who participated in this study were Secondary education leavers and Certificates holders, also 10% of respondents were Diploma holders, 41% of respondents who are the majority were bachelor degree holders, followed by 31% of respondents who were master’s degree holders and the last category comprised 3% of respondents who were PhD holders. During the administration of this study it was found that most of the respondents had some knowledge of electronic banking as implemented by CRDB bank.

4.2.4 Respondents Experience

The study sought to examine the experience of respondents who participated in this study at CRDB bank. The aim was to understand respondent’s experience of interacting with electronic banking at the respective bank. More details are provided in Table 4.4.

<table>
<thead>
<tr>
<th>Respondents Experience</th>
<th>Frequency (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Between 1-5 years</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Between 6-10 years</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>10 years and above</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Research Findings (2019)

The study findings revealed that 22% of all respondents who participated in this study had been interacting with CRDB Bank for less than 1 year, followed by 31% of all respondents indicated that they have been interacting with CRDB Bank for the duration between 1-5 years. It was also found that 28% of all respondents had been working with the respective bang for the duration between 6-10years and 19% of respondents have been working and using CRDB bank services for duration of 10 years and above.
The study found that all respondents who participated in this study had good experience with CRDB Bank and they were aware concerning the contribution of electronic banking towards the performance of commercial banks in Tanzania.

4.3 Usage rate and Contribution of ATM to the Performance of CRDB Bank
The study sought to examine customers’ usage rate of ATM machines and its contribution towards the performance of CRDB Bank. The aim was to understand the level of usage and the ways Automatic Tellers machine (ATM) contribute to the Commercial Bank performance. In this objective data were obtained from both customers and staff officers of CRDB Bank. The methods used to collect data in this objective included; questionnaires, interviews and FGDs. However, interviews were employed only to staff officers of CRDB Bank. The findings are illustrated in Figure 4.1.

Figure 4.1: Usage rate and Contribution of ATM to the Performance of Commercial Banks (n=100)

![Bar Chart]

Source: Research Findings (2019)
4.3.1 ATMs reduce operational costs

The results of the study in Figure 4.1 indicate that 27% and 32% of all respondents out of 100 strongly agreed and agreed respectively that ATMs has led to reduction cost relating to the of operations of the bank and has good return bank investment as it has made it easy for customer to interact with the respective bank remotely. Also the use of ATM machines has reduced operational cost as machines are used manage cash transfer and transaction as such activity could have been performed by human beings of employees which means extra cost to the bank. The findings of the study show that 7% of all respondents who took part in this study remained silent as they were not sure if ATMs influence reduction of operational costs and hence better return on assets for the bank or not. Also it was revealed that 19% and 15% were not certain with the statement.

However, in the interview session most of the key informants who were the staff officers of CRDB Bank claimed that the uses of ATM have been useful and helpful to both customers and to bank operations, as it seems to save time.

One of the staff officers of CRDB Bank pointed out that:

“The uses of ATM have been beneficial to both bank and its customers, it has reduced the costs of manual operation to banks, and also it has reduced or avoided completely wastage of time to customers when they need money at any time”.

4.3.2 ATMs have lowered period of payback to the Bank

It is also illustrated in Figure 4.1 that 30% and 40% of respondents strongly agreed and agreed respectively that ATMs investment have payback period of less than 3 years and has nice return on bank investment. This is due to the fact that AMT machines generate more money per day depending on the number of transaction conducted and the amount being charged per transaction. The study findings show that 10% of respondents said that they did not know as to whether ATMs investment have payback period of less than 3 years and hence good return on assets or not. This
may mean that they were not aware concerning the revenues and profit being generated from each ATM machines owned by CRDB bank per day. Similarly, it was found that 12% and 8% of all respondents did not agree with the statement that ATMs investment have payback period of less than 3 years and hence good return on assets. In the Focus Group Discussion which composed 10 participants who were the customers and CRDB Bank officers, one of the participants from the category of customers commented that:

“For me as customer, it is difficult to know whether ATMs investment has nice return on bank investment, but what I understand is that wherever I use ATMs, I used to be charged with some amount”.

4.3.3 Income from ATMs improves income and profitability
The findings of the study in Figure 4.1 show that 30% and 50% of respondents respectively strongly agreed and agreed that revenues made from ATMs have had positive impact on bank income and profit margins. This is due to the fact that CRDB Bank charges different amount depending on the nature of transaction made whereby some transaction are being charged higher amount than others. For instance, when customers make transaction from different banks other than CRDB bank they are being charged more. It was also found that 14% of respondents said that they did not know as to whether incomes from ATMs have had positive impact on bank income and profit margins or not. The available findings show that 14% and 5% of all respondents did not agree with the statement that incomes from ATMs have had positive impact on bank income and profit margins.

4.4 The extent or usage rate and Effect of mobile banking on the CRDB Bank performance
The study sought to examine the extent to which customers use Mobile Banking and its effects on the performance of Commercial banks. Different methods of data collection were used such as focus group discussion and questionnaires. In addition, data for this objective were also obtained from both participants; customers and staff officers of CRDB Bank. Summary of findings is provided below.
4.4.1 Extent to which customers use Mobile Banking at CRDB Bank

The study found that CRDB bank has integrated its system of electronic banking with those of telecommunication companies to facilitate easy transactions. It was revealed that CRDB bank is working closely with telecommunication companies like Vodacom Tanzania limited, Airtel Tanzania, Tigo Tanzania and among others. The study found that a total number of 1,141,644 CRDB bank customers are using mobile banking or sim-banking as it is called by the respective bank since when the service was introduced. Based on the available findings it was revealed that most of these customers are using Vodacom, followed by Tigo and Airtel Tanzania limited. Summary of results is shown in Figure 4.2.

Figure 4.2: Extent to which customers use Mobile Banking at CRDB Bank

![Pie chart showing the percentage of customers using mobile banking through different service providers.]

Source: Research Findings (2019)

The study found that a large number of CRDB bank they are connected to the CRDB bank electronic banking through Vodacom whereby 51% of all customers are using Vodacom to conduct their electronic banking transactions, followed by Tigo whereby
30% of all customers who are connected to sim banking use Tigo telecommunication system and 19% are holders of Airtel Tanzania mobile numbers. The study found that Simbanking a CRDB bank mobile banking service that enables CRDB Bank account holders to carry out banking transactions using their mobile handsets. SimBanking product can be accessed through SimBanking Mobile Application and SimBanking USSD technology. SimBanking Mobile Application has been developed specifically for use on wireless computing devices such as smart phones and tablets, can be downloaded from Google Play Store and App Store while USSD SimBanking can be accessed by any handset by dialing *150*03#.

Moreover, when a researcher wanted to know more about how SimBanking could be a good stimulate the operations in a bank, while benefiting the customers for improving CRDB Bank performance, one of the key informants stated that:

“In fact, SimBanking helps our customers to get services all the time and at everywhere, this has been as a catalyst to our good performance, hence it attracts many customers to open accounts in our bank also to deposit money because they can get it on time”.

During the administration of this study it was revealed that the use of sim banking was very advantageous to customers as it is convenience, time saving, cost effective, enhanced business efficiency, elimination / Reduction of cheque writing or signing and enhances government revenue collection. It was revealed that SimBanking employs different levels of security and control on login, there is the use of PIN for USSD SimBanking and Password for Mobile application to login, use of ATM card details on registration, suspension of service in case of SimSwap, suspension of service in case of three times wrong pin/password and ATM verification for re-registration.

It was revealed that CRDB Bank SimBanking offers Customers with the following banking services and products whereby Customers can inquire different services such as account Balances: Available Balance and Booked Balance, mini statement: Latest 10 transactions on Mobile application and 6 on USSD SimBanking, full statement:
One-month full statement using Mobile App, personal transfers such as transfers between own accounts maintained within CRDB Bank. Customers can purchase airtime for their mobile phones and for their friends from different telecommunication service providers such as Vodacom, Tigo, Airtel, TTCL, Halotel and Smile. Simbanking also offers Bill payment functionality used to pay bills to various utility companies and other organizations/institutions maintaining special accounts at the bank for regular payments collections:

**Table 4.5: Bills Payments through SimBanking**

<table>
<thead>
<tr>
<th>SN O</th>
<th>Tanesco</th>
<th>Water Authorities</th>
<th>Pay TV bills</th>
<th>Other Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LUKU</td>
<td>DAWASCO</td>
<td>DSTV</td>
<td>TRA Bills</td>
</tr>
<tr>
<td>2</td>
<td>Other TANESCO</td>
<td>MORUWASA</td>
<td>AZAM</td>
<td>Schools</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>ARUWASA</td>
<td>StarTimes</td>
<td>Precession Air</td>
</tr>
</tbody>
</table>

Source: Research Findings (2019)

4.4.2 Effect of mobile phones services on the bank performance

The findings of the study indicate that Simbanking or mobile banking has been beneficial to CRDB bank in terms of performance. More details are provided in Table 4.6.

**Table 4.6: Effect of mobile phones services on the bank performance (n=100)**

<table>
<thead>
<tr>
<th>SN O</th>
<th>Effect of mobile phones services on the bank</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>I don’t know</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobile phones has increased customer access to the banks services</td>
<td>30</td>
<td>29</td>
<td>9</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>The use of mobile banking has increased deposit rate in the bank</td>
<td>28</td>
<td>51</td>
<td>7</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>The use of mobile banking has increased the level of innovations</td>
<td>29</td>
<td>41</td>
<td>10</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>The use of mobile phones has led increased customers especially retail ones than corporate customers</td>
<td>24</td>
<td>45</td>
<td>13</td>
<td>9</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Research Findings (2019)
The findings of the study in Table 4.6 show that 30% and 29% of all respondents invited to participate in this study strongly agreed and agreed respectively that Mobile phones has increased customer access to the banks services as most of them today they can manage financial transactions remotely without visiting the bank branch. The study found that 9% of respondents were not sure if Mobile phones has increased customer access to the banks services or not and at the same time it was revealed that 19% and 13% of respondents did not agreed with the statement that Mobile phones has increased customer access to the banks services. The study found that CRDB bank has established sim banking which is a mobile banking service that enables CRDB Bank account holders to carry out banking transactions using their mobile handsets. SimBanking can be accessed by dialing *150*03# and entering PIN or download mobile application. With the use of Sim banking customer enjoy many benefits such as convenience, time saving, cost effective, enhanced business efficiency, elimination / reduction of cheque writing or signing and enhance government/ins tuitions revenue collection.

The findings of the study in Table 4.6 illustrate that 28% and 51% of all respondents strongly agreed and agreed respectively that the use of mobile phones has improved the level of deposit in the bank. This is because CRDB bank allows customer to deposit money through the use of mobile phones as the bank systems have been integrated with those of telecommunications operation Tanzania. The study findings indicate that 7% of respondents said that they did not know as to whether the use of mobile phones has improved the level of deposit in the bank or not. Also the study revealed that 5% and 8% of all respondents did not agree with the statement that the use of mobile phones has improved the level of deposit in the bank.

The findings of the study in Table 4.6 indicate that 29% and 41% of all respondents strongly agreed and agreed respectively that the use of mobile phones has led to more bank innovations. This is due to the fact that CRDB has integrated its system with those of telecommunication companies such Vodacom, Airtel Tanzania limited, Tigo Tanzania and among other. With such integration it has become easy for customers to conduct financial transactions online. The findings of the study revealed that CRDB
Bank has invested immensely on innovation as the bank consider innovations as source of competitive strategy and staying ahead of competition against competitors in the banking industry. The findings of the study show that 10% of respondents said that they did not know as to whether the use of mobile phones has led to more bank innovations or not. Also it was found that 14% and 6% of all respondents did not agree with the statement that the use of mobile phones has led to more bank innovations.

The result of the study in Table 4.6 illustrate that 24% and 45% of respondents who participated in this study strongly agreed and agreed respectively that the use of mobile phones has led to more retail customers than corporate customers. The study found that a large number of customer used mobile phones to conduct transactions whereby they can send money into their bank account and receive from into their mobile money from bank. The findings of the study show that 13% of all respondents said that they did not know as to whether the use of mobile phones has led to more retail customers than corporate customers. Likewise, 9% and 7% of all respondents respectively did not agree with the statement that the use of mobile phones has led to more retail customers than corporate customers.

4.5 Effects of Internet banking on the performance of commercial banks in Tanzania

In this objective, the study sought to examine customer’s usage rate of internet banking and its contribution towards the performance of commercial banks in Tanzania. However, data for this objective were collected from key informants only i.e. 30 Staff officers of CRDB Bank. Additionally, only questionnaires and interviews were used to gather data. Summary of findings is provided in the Tale below.
The study findings in Figure 4.3 show that 25% and 34% of all respondents strongly agreed and agreed respectively that internet banking has increased customer access to the banks services. In the interview session with the staffs of CRDB Bank, a researcher was able to understand that there are many ways which enable customers to access their finances from CRDB bank. Among of those includes the use of internet system whereby a customer can transfer money from her/his account to other accounts such as mobile phones, to another bank, making payment to different facilities and among others. The findings of the study indicate that 9% of all respondents said they did not know as to whether internet banking has increased customer access to the banks services or not. This maybe was due to the fact that they did not prefer to use internet banking.
facility to conduct online transactions or they were reluctant to adopt new technologies and inventions.

The findings of the study show that 13% and 18% of respondents respectively did not agree with the statement that internet banking has increased customer access to the banks services.

The study found that CRDB Bank has introduced internet banking whereby there is application which enables customers to conduct transactions online. Internet banking service delivery channel allows bank Customers to access accounts information and perform various transactions over the Internet with the same look and feel in different platforms. This Omni channel system will be accessed via web and mobile Applications. Uses of internet banking at CRDB are provided in the figure below.

Figure 4. 4: Uses of internet banking at CRDB Bank.

Source: Research Findings (2019)
In the interview session the researcher was able to understand that internet banking provides different services to customers such as customer account as by default all accounts are shown in the system and have available and book balance. Customers can customize by switching the priority of the accounts or set Alias Account Names. Internet banking enables quick access as user can customize what menus should be displayed for quick access, such as Favourites, Quick Pay and Templates. It also provides quick link (action) which is available next to each account where you are able to view the individual account details and perform various account transactions.

However, it was also reported that internet banking enable customers to make a transfer by transferring funds between customer own registered accounts within CRDB Bank, transfer to other accounts within CRDB Bank, transfer to other Local Bank Accounts within Tanzania (TISS), and transfer to International Bank Accounts(SWIFT). It also provides beneficiary maintenance whereby user can create new beneficiaries and can see the list of created beneficiaries, the beneficiary full name as specified by the user and the total of transfers. It offers template whereby saved transactions details and re- use for another payment for the same customer. Internet banking allows bulk payment;it also allows customers to make mass payments by importing the information into the internet banking channel system i.e. file type, transfer type, description, and upload the file.

The internet banking was also reported during interview with key informants (staffs of CRDB Bank) to allow bill payment whereby customers make bill payments from their accounts to the service provider such as Airline payment, Bundle, Government Payments (GEPG), Luku, Mobile payments, Television bills and TRA. However, the study found that Internet banking has payment limits whereby for retail customers’ transaction is TZS. 20 Million Per day, USD 20,000 per day, GBP 20, 000 per day and EUR 20,000 per day. For corporate customers the limit setup for corporate customers is TZS 200 Million and USD, GBP, EURO 200,000 and ZAR 20 Million per transaction globally. These limits are for TISS, SWIFT and Personal Transfers.
The findings of the study in Figure 4.3 show that 30% and 50% of all respondents who were invited to participate in this study strongly agreed and agreed respectively that the use of internet service has improved the level of deposits for the bank. The study qualitative findings obtained from interviewees reveal that more transaction can be done at a time especially when customers wishes to deposit money into their account. The findings of the study show that 6% of respondents said that they did not know as to whether the use of internet service has improved the level of deposits for the bank or not. This may mean that they did not use internet to manage most of their transactions with the respective bank. Also the findings of the study indicate that 8% and 2% of respondents they did not agree with the statement that the use of internet service has improved the level of deposits for the bank.

The findings of the study in Figure 4.3 indicate that 30% and 40% of all respondents who took part in this study strongly agreed and agreed respectively that internet banking has led to more bank innovations than ever before. This is due to the fact that internet banking allows customers to conduct more transaction to different destinations or different systems and different places online. The study found that CRDB Bank internet facility is linked to different financial transactions systems across the globe hence customer can conduct more transaction at a time without limitations. The findings of the study show that 10% of all respondents who participated in this study said that they did not know as to whether internet banking has led to more bank innovations or not as they were not sure or they did not witness more innovations relating to internet banking. Also it was revealed that 15% and 5% of respondents did not agree with the statement that internet banking has led to more bank innovations.

The findings of the study show that 18% and 44% of all respondents who participated in this study strongly agreed and agreed that internet banking has led to more retail customers than corporate customers. This is due to the fact that most of the electronic banking systems are designed for individual uses than corporate uses; at the same time, it has become easy for retail customers to access services from commercial
banks than ever before. It was also found that 16% of all respondents said that they did not know, this maybe was due to the fact that they were not sure as to whether internet banking has led to more retail customers than corporate customers or not. Likewise, it was revealed that 14% and 6% of respondents did not agree with the statement that internet banking has led to more retail customers than corporate customers.

During the interview session one of the staffs of CRDB Bank said that:

“Now days more customers use our ATM machines than ever before as it is easy for them to access their finances and financial information remotely they do not need to come to the branch for some services”

4.6 Challenges associated with electronic banking to Commercial Banks in CRDB

The study sought to examine the challenges associated with the use of electronic banking to Commercial Banks in Tanzania. The aim was to understand the challenges facing commercial banks which have invested heavily in automation and electronic system to support the bank operations. Data of this objective were collected from on a category of customers, this category included 70 customers. Moreover, the methods used to collect data for this objective involved questionnaire and FGDs.
### Table 4. 7: Challenges associated with electronic banking to CRDB Bank (n=70)

<table>
<thead>
<tr>
<th>SN O</th>
<th>Challenges associated with electronic banking to Commercial Banks in Tanzania</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>I don’t know</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Network difficulties during transactions</td>
<td>36</td>
<td>39</td>
<td>10</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Cost associated with the adoption of electronic banking are high and difficult to afford</td>
<td>18</td>
<td>41</td>
<td>9</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Electronic banking services are expensive to access among lower incomes customers</td>
<td>39</td>
<td>40</td>
<td>15</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Literacy level of technology is very low among customers</td>
<td>37</td>
<td>40</td>
<td>8</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Lack of enough facilities or infrastructures is among of the difficulties</td>
<td>21</td>
<td>47</td>
<td>12</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>Lack of trust on security and privacy among customers hence they fear using electronic banking</td>
<td>32</td>
<td>41</td>
<td>15</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>It is difficult to keep pace with rapid change in terms of technology</td>
<td>34</td>
<td>45</td>
<td>12</td>
<td>13</td>
<td>6</td>
</tr>
</tbody>
</table>

**Source: Research Findings (2019)**

#### 4.6.1 Network difficulties

The available findings of the study in Table 4.7 show that 36% and 37% of all respondents who participated in this study strongly agreed and agreed respectively that network difficulties during transactions was among of the main challenge facing users of electronic banking provided by CRDB Bank. In the FGD which comprised 11 participants, respondents claimed that they are unhappy with the stability of network system especially based on the challenges they have experienced when interacting with the respective bank.
As one of the participants of the FGD reported that:

“Though the technology allows us to access our accounts wherever we are, the problem is still remaining on networks, sometime we lose our money due to cut off networks when you have already started the process of withdrawing, recovering procedure also is very cumbersome”.

Moreover, the findings from Likert scale also indicate that that 8% of all respondents remained silent which may mean that they were not sure as to whether network difficulties during transactions was among the difficulties customers experienced when conduct financial transactions. The findings also show 8% and 7% disagree and strongly disagree respectively on the statement that network difficulties during transactions was among the main challenge. This implies that they had not experienced any difficulties when they conducted online transactions.

4.6.2 Costs associated with electronic banking

Different from the described results above, the findings in Table 4.7 also illustrate that 18% and 41% of all respondents who participated in this study strongly agreed and agreed that cost associated with the adoption of electronic banking are high and difficult to afford. Through the FGDs, it was also reported that commercial banks like CRDB Bank charged more cost on transaction conducted by among customers are very high as banks want to compensate the expenses incurred during installation of electronic banking systems such as ATM machines and mobile money facilities.

The result of the study shows that 9% of all respondents who were invited to take part in this study remained neutral as they were not sure if cost associated with the adoption of electronic banking are high and difficult to afford. it was also found that 20% and 12% of all respondents did not agree with the statement that cost associated with the adoption of electronic banking are high and difficult to afford.
4.6.3 Expensiveness among lower income countries

The results of the study in Table 4.7 reveal that 39% and 40% of all respondents agreed that electronic banking services are expensive to access among lower incomes customers. In fact, in the FGDs most of the participants were able to report that transaction is conducted for free which includes asking for balance from the bank, money transfer from bank to the mobile phones, from mobile phones to the bank, form bank to another wallet through internet banking and among others.

One of the customers who participated in a FGD pointed out that:

“Though we use online banking, but there are different charges which make this system to be so expensive and challenging us”.

The findings of the study indicate that 15% of all respondents who participated in this study were not sure as to whether electronic banking services are expensive to access among lower incomes customers. However, the findings also show that 4% of all respondents who participated in this study did not agree with the statement that electronic banking services are expensive to access among lower incomes customers. The study found that CRDB bank has introduced sim banking which involves different charges which in one way or the other are expensive for lower income customers or users. Table 4.10 show charges associated with the use of mobile phone transactions or sim banking.
Table 4.8: Charges for mobile phone transactions or sim banking

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>FEE PER TRANSACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWN ACCOUNT TRANSFERS</td>
<td>699</td>
</tr>
<tr>
<td>OTHER ACCOUNT (3RD PART) TRANSFERS</td>
<td>829</td>
</tr>
<tr>
<td>TISS TRANSFERS</td>
<td>1,800</td>
</tr>
<tr>
<td>CARDLESS TRANSACTIONS</td>
<td>1,180</td>
</tr>
<tr>
<td>BALANCE INQUIRY</td>
<td>400</td>
</tr>
<tr>
<td>MINISTATEMENT INQUIRY</td>
<td>295</td>
</tr>
<tr>
<td>BANK TO MNO TRANSFER (5,000-10,000)</td>
<td>1,500</td>
</tr>
<tr>
<td>BANK TO MNO TRANSFER (10,001-30,000)</td>
<td>2,800</td>
</tr>
<tr>
<td>BANK TO MNO TRANSFER (30,001-100,000)</td>
<td>3,500</td>
</tr>
<tr>
<td>BANK TO MNO TRANSFER (100,001-200,000)</td>
<td>4,500</td>
</tr>
<tr>
<td>BANK TO MNO TRANSFER (200,001-500,000)</td>
<td>4,600</td>
</tr>
<tr>
<td>BANK TO MNO TRANSFER (500,001-1,000,000)</td>
<td>6,395</td>
</tr>
</tbody>
</table>

MNO - Mobile network operators
- MPESA TRANSFER
- TIGO PESA TRANSFER
- AIRTEL MONEY TRANSFER
- HALOPESA TRANSFER

Table 4.9: Charges for Internet Banking transactions

<table>
<thead>
<tr>
<th>SNO</th>
<th>Tanesco</th>
<th>Water Authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subscription fee</td>
<td>Free</td>
</tr>
<tr>
<td>2</td>
<td>Balance of account</td>
<td>Free</td>
</tr>
<tr>
<td>3</td>
<td>Mini and E-Statement</td>
<td>Free</td>
</tr>
<tr>
<td>4</td>
<td>Monthly service fee</td>
<td>Free</td>
</tr>
<tr>
<td>5</td>
<td>Own &amp; Internal transfer</td>
<td>TZS.899</td>
</tr>
<tr>
<td>6</td>
<td>TISS</td>
<td>TZS 11,800</td>
</tr>
<tr>
<td>7</td>
<td>SWIFT</td>
<td>0.25% of the amount (min. USD. 59 shared and 88.5)</td>
</tr>
<tr>
<td>8</td>
<td>Bulk Payments</td>
<td>TZS. 1,999</td>
</tr>
<tr>
<td>9</td>
<td>Bulk Payments to Mobile Numbers</td>
<td>TZS 1,200</td>
</tr>
<tr>
<td>10</td>
<td>Standing Order</td>
<td>TZS 1,000</td>
</tr>
<tr>
<td>11</td>
<td>Single EFT Payments</td>
<td>TZS 1,500</td>
</tr>
</tbody>
</table>

Source: Research Findings (2019)

4.6.4 Low literacy level of technology

The available findings of the study in Table 4.7 indicate that 37% and 40% of all respondents strongly agreed and agreed that literacy level of technology is very low among customers. The study found that a large number of account holders at CRDB
bank are not well educated this makes them less confident to use electronic banking system given the fact that the language used in the system is English. The study found that most of the instruction provide on the online banking facilities are in English language this makes it difficult for those who cannot read, write and understand English too access banking services from CRDB Bank.

The study found that 8% of all respondents said that they did not know as to whether literacy level of technology was very low among customers to hinder them from conduct electronic financial transaction from the CRDB Bank. It was also found that 10% and 5% of respondents did not agree with the stamen that literacy level of technology was very low among customers.

4.6.5 Inadequate infrastructures
The findings of the study in Table 4.7 show that 21% and 47% of all respondents strongly agreed and agreed respectively that that lack of enough facilities or infrastructures is among of the difficulties. It was revealed that placing infrastructures required to facilitate online transaction was very expensive such as locating ATM machines in the different parts of the country for customers to be able to conduct different transactions. The findings of the study indicate that 12% of all respondents who were invited to take part in this study remained silent which may mean that they were not aware as to whether lack of enough facilities or infrastructures is among of the difficulties. The findings of the study revealed that 12% and 7% of all respondents did not agree with the statement that lack of enough facilities or infrastructures is among of the difficulties.

4.6.6 Lack of trust on security and privacy
The available findings in Table 4.7 indicate that 32% and 41% out of 100 respondents who participated in this study agreed that lack of trust on security and privacy among customers hence they fear using electronic banking. During the administration of this study it was revealed that a large number of customers who interact with CRDB bank they fear a lot concerning the security and privacy of all financial transaction which
they conduct in the respective bank. During FGD one among of the participants said that:

“I made transaction from the bank to my mobile phone but I did not receive money into my mobile number as I was expecting. Then I had to contact the bank and they told me that money was already withdrawn from my account. It took me few hours to be able to obtain my money and this was after contacting the bank and the telephone company.”

It was found that 15% of respondents remained silent this was due to the fact that they were not sure as to whether lack of trust on security and privacy among customers hence they fear using electronic banking. The study found that 12% and 10% of respondents respectively did not agree with the stamen that lack of trust on security and privacy among customers hence they fear using electronic banking as they believed that security personal financial transaction has improved a lot in the recent years. The current legal framework is weak on privacy and security as a result of its silent a cybercriminal is penalized under Economic Sabotage Act; this practice is contrary to the other jurisdiction that instead has a set of laws to cater for electronic crimes independently of the criminal law act.

4.6.7 Difficulties to keep rapid pace with change in technology

The findings in Table 4.7 illustrate that 34% and 45% of all respondents who participated in this study agreed that it is difficult to keep pace with rapid change in terms of technology. This is due to globalization and changing trends in science and technology especially innovation taking place every moment. During FGD with customers and staffs from CRDB officers one among officer within CRDB Bank had this to say;

“We have been investing in modern technologies but after utilization of the system for few years we are told that there are new versions and then we are supposed to change the old ones. For instance, we have ATM machines which allows customers to withdraw cash 400,000
Tanzania shillings per transaction but today new ATM machines have been introduced which allows customers to withdraw 600,000 Tanzania shillings per transactions”. With all these changes it becomes expensive and difficult to keep up with this advancement”

The available findings indicate that 12% of all respondents who were invited to participated in this study said that they did not know as to whether it is difficult to keep pace with rapid change in terms of technology as they were not aware concerning the subject under discussion. It was also revealed that 13% and 6% of respondents respectively with the stamen that it is difficult to keep pace with rapid change in terms of technology
CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter provides the discussion of findings of study in relation to the subject matter which examined the contribution of electronic banking towards the performance of commercial banks in Tanzania.

5.2 Usage rate and Contribution of ATM to the Performance of CRDB Bank

The findings of the study show that ATMs leads into reduction of operational costs and hence better return on assets for the bank. Similarly, Musara and Fatoki (2010) found that innovation like the use of ATM gives improved knowledge into dealing with old and new operations in the commercial banks hence leading into increased profitability and the general performance. Innovation like the use of ATM machines has changed the manner in which commercial banks works together as well as changed for all intents and purposes all circle of human life. Abor (2005) asserts that ATM influences even the ban operational cost, the direction of bank performance, profitability and the direction of an economy and development. Customers deliberately cooperate with changes or results of innovation in practically especially on their day by day practices. This in turn has led to the improved bank performance in terms of profitability.

The findings of the study show that ATMs investment have payback period of less than 3 years and hence good return on assets. This is due to the fact that AMT machines generate more money per day depending on the number of transaction conducted and the amount being charged per transaction. Similarly, Abor (2005) found that the installation of ATM machines in the off-site has positively improved the returns on equity (ROE) of most commercial banks in Nigerian. Also it was found that the implementation of ATM machines among banks improved the returns on assets (ROA) of commercial banks. Likewise, Aldajani and Alfares (2009) found that
Automated Teller Machines are among the most significant services facilities in the financial business. In the banking industry, data and communications innovation is assuming important job in solving operational difficulties, for example, it provides quick exchange of information, data handling, record management and recovery and some more. The Automated Teller Machine (ATM) is one of the few electronic financial communication or channel utilized in the financial industry. Most banks depend a lot on the ATM as they have led into increased productivity and profitability and it has high return on investment made.

It was revealed that ATMs have had positive impact on bank income and profit margins. This is due to the fact that CRDB Bank charges different amount depending on the nature of transaction made whereby some transaction are being charged higher amount than others. Similar findings were reported by Abo (2005) who found that in Rwanda, ATM as a financial channel has appreciated; it is wide spread and used. It was found that the greater part of customers’ inclination for ATM as a means of financial transactions is partly because it has changed the tradition of queuing in the bank branches, but at the same time it has improved the performance of commercial banks in terms of revenues, recruitment of new customers and among others. ATMs especially when introduced off-site serve clients from where they are.

5.2 Effect of mobile banking on the bank performance
The findings of the study show that Mobile phones has increased customer access to the banks services as most of them today they can manage financial transactions remotely without visiting the bank branch. The study found that CRDB bank has established sim banking which is a mobile banking service that enables CRDB Bank account holders to carry out banking transactions using their mobile handsets.

The findings of the study show that mobile phones have led to more bank innovations. Mobile phones have led to more bank innovations or not. Also Akpan (2009) revealed that convenient method for keeping cash (M-saving aside cash) is a use of adaptable exchange that engages customers to bank essentially at any time and spot, Medhi et al (2009) found that the establishment of M- business is built by
Mobile-saving money and various banks have adopted this innovations with a particular ultimate objective to manage customer loyalty, manage customer transactions, extend benefits and after that promote positive change in the performance of the bank in terms of revenues and profitability. The study found that a large number of customer used mobile phones to conduct transactions whereby they can send money into their bank account and receive from into their mobile money from bank. Similar findings were reported by Chovanová (2006) who demonstrated customer can trace record of transactions with their mobile phones which includes conduct transaction such as cash management (deposit and withdrawals). A client of a bank can obtain the essential information by just dialing a telephone number. Since the use of mobile phones provide flexible timing whereby customers have the ability to use it to get outstanding access to financial institutions for 24 hours per day without expecting to visit the bank for any transactions.

5.3 Effects of Internet banking on the performance of CRDB Bank

During the administration of this study respondents indicated that there are many ways which enables customers to access their finances from CRDB bank. Among of those includes through the use of internet system whereby a customer can transfer money from her or his account to other accounts such as mobile phones, to another bank, making payment to different facilities and among others. Similar findings were reported by Young et al. (2007) who found that internet banking helped banks to improve their performance and was more beneficial compared to not-internet banking as it enabled customer to manage online transaction easily at with large amount compared to some methods. It was further reveled that internet banking led to the improved ROE within a short period since its inception; it was found that commercial banks which adopted internet banking was able to realize investment objectives within two years of operations. Moreover, Malhotra & Singh (2009) found that the use of internet increased customer access to their saved money as they can make deposit and withdraw from any part of the world and at any point in time. It was also found that internet banking improved customer satisfaction, commitment and loyalty hence leading into improved bank performance.
The findings of the study show that internet service has improved the level of deposits for the bank. The study found that more transaction can be done at a time especially when customers wishes to deposit money into their account. Similar findings were reported by Katri (2003) who expressed that the Internet banks serve a channel which enables customers to deposit more money into their bank accounts it becomes easy for bank customer to conduct transaction such as cash deposits remotely; likewise, it acts as a channel of offering recognizable proof and improved services to various outsider organizations such as third parties like agents and among others. The reasons behind Internet banking services is partly because it helps banks in expense saving, increase client base, empower mass customization for e-Business administrations, broaden advertising and communication channel, engaging in new technological advancement and related benefits, and helps banks to identify new areas of business.

The findings of the study show that internet banking has led to more bank innovations than ever before. The study found that CRDB Bank internet facility is linked to different financial transactions systems across the globe hence customer can conduct more transaction at a time without limitations. Similar findings were reported by Onay et al (2008) who conducted a study on Turkish banks and found that internet banking contributes immensely to the benefits of banks.

According to their study Internet has changed the way banks interact with customers and due to innovations it has created completion within the component retail banking division. It has likewise given chances to rising commercial banks in the developing countries to develop their budgetary and financial transaction systems. It was found that the internet banking innovations has positively affected the financial performance in Turkey. Siam (2006) analyzed the impact of internet banking and innovations on Jordanian banks and found out that majority of banks are giving bank service to customers through the use of internet banking whereby all services are provided in their websites to enables customers to choose and access services of their choice.
The findings of the study show that internet banking has led to more retail customers than corporate customers. Katri (2003) found that clients’ capacity and decision to use internet banking rely upon a few factors, for example, easy to understand interface, level of Internet experience, services being provided for instance email, balance statements, news, online money related transactions, shopping and best services being provided.

5.4 Challenges associated with electronic banking to CRDB Bank

The available findings of the study show that network difficulties during transactions was among of the main challenges facing users of electronic banking provided by CRDB Bank. The cost associated with the adoption of electronic banking is high and difficult to afford. Respondents reported that commercial banks like CRDB Bank charged more cost on transaction conducted by among customers are very high as banks want to compensate the expenses incurred during installation of electronic banking systems such as ATM machines and mobile money facilities. It was revealed that electronic banking services are expensive to access among lower incomes customers.

This is due to the fact that no transaction is conducted for free which includes asking for balance from the bank, money transfer from bank to the mobile phones, from mobile phones to the bank, form bank to another wallet through internet banking and among others.

The available findings indicate that 32% and 41% out of 100 respondents who participated in this study agreed that lack of trust on security and privacy among customers hence they fear using electronic banking. During the administration of this study it was revealed that a large number of customers who interact with CRDB bank they fear a lot concerning the security and privacy of all financial transaction which they conduct in the respective bank. It was revealed that the current lawful framework on electronic banking, it does not accommodate satisfactory protections to make increase of trust for electronic banking Mambi (2010)
CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction
This chapter focuses on conclusion in relation to subject matter which focused on contribution of electronic banking towards the performance of commercial banks in Tanzania.

6.2 Summary of findings
The aim of this study was to understand contribution of electronic banking towards the achievement of financial institutions in Tanzania and specifically the private banks which operates for profit maximization. The specific objectives of the study were; to examine the Customers usage rate of Automatic Tellers machine (ATM) and its effects on successfulness of banks in Tanzania especially in the key indicators of performance, to examine the extent to Mobile Banking application is preferred by customer and how it influence the banks performance and how it affects the performance of Commercial banks in Tanzania, to examine the Customers usage rate of internet system when they conduct financial transaction or when they interacts with CRDB Bank and how the application of such innovation has affected the productivity of the respective bank and to examine difficulties associated with the use of electronic systems among financial institutions or private banks in Tanzania.

The findings indicate that ATMs led into minimization of running expenses leading into increased profitability to the investment as it has made it easy for customer to interact with the respective bank remotely. Also the use of ATM machines has reduced operational cost as machines are used to manage cash transfer and activities which could have been performed by employees which means extra cost to the bank. It was found that innovation like the use of ATM improves efficiency and effectiveness operations in the privately owned banks which has increased productivity and the general performance. Innovation such as using of ATM
machines has changed the manner especially on how financial services are provided to the users or customers.

The findings of the study show that ATMs investment leads into increased return on investments, this is clear due to the fact that banks like CRDB Ban generate more profit from ATM usage among customers. This is due to the fact that AMT machines generate more money per day depending on the number of transactions conducted and the amount being charged per transaction. The study findings show that installation of ATM machines in the off-site has positively impacted income on the respective bank this means that CRDB bank has experienced good return on equity (ROE).

Also it was found that the implementation of ATM machines among had positive effects on the CRDB bank returns on assets (ROA) of CRDB bank. It was revealed that ATMs was among the few electronic financial communication or channel utilized at CRDB Bank. CRDB bank depend a lot on the ATM as it has led into increased productivity and profitability and it has high return on investment made. The findings of the study show that that revenues made due to the available innovations implemented by the bank has increased bank profits and general returns on capital invested. This is partly because CRDB as private financial institution offers service for different amount of price depending on the nature of transaction made whereby some transaction are being charged higher amount than others. For instance, when customers conduct transaction from different banks other than CRDB bank they are being charged more.

The findings of the study show that the implementation of Mobile money which facilitates or enables customer to conduct or access bank services was among of biggest source of revenues and profit as most of customers today can manage financial transactions remotely without visiting CRDB branch. The study found that CRDB bank has established sim banking which facilitates CRDB Bank account holders to interact and transact through their mobile handsets. With the use of Sim banking customer enjoy many benefits such as convenience, time saving, cost
effective, enhanced business efficiency, elimination / reduction of cheque writing or signing and enhance government/institutions payments and collection.

It is shown that due to mobile money customers uses personal mobile phone to withdraw and deposit their money in the respective financial institution. This is because CRDB bank allows customer to deposit money in the bank as the bank systems have been integrated with those of telecommunications operation Tanzania. The findings of the study revealed that the use of mobile technologies was among of the innovations led into improvement of bank performance. Mobile phone enables customers to send money from their mobile account into banks and from CRDB bank into mobile phone account CRDB has integrated its system with those Vodacom, Airtel, Tigo and Hallo pesa. With such integration it has become easy for customers to conduct financial transactions online. It was found that mobile technology such as mobile phones has attracted a large number of retail customers compared tobigs or large companies as bank customers. The study found that a large number of customer used mobile phones to conduct transactions whereby they can send money into their bank account and receive into their mobile money account.

The study findings revealed that CRDB Bank has invested a lot on internet banking system which in turn had attracted a significant number of customer access to the banks services. It was shown that there are many ways which enable customers to access their finances from CRDB bank. Among of those include the use of internet system whereby a customer can transfer money from her or his account to other accounts such as mobile phones, to another bank, making payment to different facilities and among others. The study found that CRDB Bank has introduced internet banking whereby there is application which enables customers to conduct transactions online. Internet banking service delivery channel allows users to possess information relating to services and bank products and perform various services through different platforms.
The study found that internet baking provides different services to customers such as customer account as by default all accounts are shown in the system and have available and book balance. Customers can customize by switching the priority of the accounts or set Alias Account Names. Internet banking enables quick access as user can customize what menus should be displayed for quick access, such as Favourites, Quick Pay and Templates. It also provides quick link (action) which is available next to each account where you are able to view the individual account details and perform various account transactions.

The findings of the study show that most of CRDB bank services are now available to customers; this involves all forms of financial services which customers might be looking for. The study found that more transaction can be done at a time especially when customers wishes to deposit money into their account. CRDB Bank has implemented more innovations than ever before this includes the use of internet to access bank services. This is partly because internet banking enable users to manage more transaction to different destinations or different systems and different places online. The study found that CRDB Bank internet facility is linked to different financial transactions systems across the globe hence customer can conduct more transaction at a time without limitations.

The available findings show that network difficulties during transactions was among of the main challenge facing users of electronic banking provided by CRDB Bank. Respondents were unhappy with the stability of network system especially based on the challenges they have experienced when interacting with the respective bank. The adoption of electronic banking is high and difficult to afford as commercial banks like CRDB Bank charged more cost on transaction conducted by among customers are very high as banks want to compensate the expenses incurred during installation of electronic banking systems such as ATM machines and mobile money facilities. Electronic banking services are expensive to access among lower incomes customers. This is due to the fact that no transaction is conducted for free which includes asking for balance from the bank, money transfer from bank to the mobile phones, from mobile phones to the bank, form bank to another wallet through internet banking and
among others. Literacy level on technology is very low among customers as some account holders at CRDB bank are not well educated this makes them less confident to use electronic banking system given the fact that the language used in the system is English.

Lack of enough facilities or infrastructures is among of the difficulties. It was revealed that placing infrastructures required to facilitate online transaction was very expensive such as locating ATM machines in the different parts of the country for customers to be able to conduct different transactions.

6.3 Conclusion
In light of the above results of the study it is clear that electronic banking is continuously changing the practice of banking in the Tanzania business environment in general and banking industry in particular. CRDB bank and most of financial organizations are investing a lot in modern ecologies like ICT. The finding portrayed that CRD Bank Ltd has developed different systems of electronic banking for its clients to use whereby ATM and among other innovation systems such as phones were the most used ones. The successful conveyance of electronic banking by commercial banks has the ability to lower the associated expense of transactions in this way that it affects performance and profitability of the bank. Customer services through the use of technologies at CRDB is likewise improved as there is less queuing not like the traditional branch banking and clients can execute with the bank in convenient ways. However, there are few challenges which hinder the effective implementation and application of such advancement but the benefits of electronic banking outweigh the challenges.

The results demonstrate that electronic banking contributes to the revenue generations to among financial organizations large and small and to the banks like CRDB in Tanzania. The study results show that impact of electronic banking on bank productivity was high given the fact that banks generates revenues on every transaction conducted by customers.
The implementation of electronic banking has upgraded the way CRDB Bank conduct business in Tanzania and has also changed the sector as it is increasingly beneficial and viable, additionally it has a solid effect on the general financial benefit by enabling commercial banks like CRDB Bank making staff productivity, successful and effective; with those advancement CRDB Bank has improved business opportunity of CRDB bank and other commercial banks in Tanzania. This is particularly accomplished by generating revenue by the utilization of ATM machines among customers for 24 hours which means day and night in consistently. Clients would now be able to obtain their information from banks and manage transaction procedure based on process provided by CRDB Bank which helps them in the utilization of available systems.

6.4 Recommendations
The recommendations provided below reflect the relay situations when it comes to the use of modern technologies on the management of bank operations in Tanzania and other parts of the world.

- Because the findings have shown the ATMs have been beneficial to both bank operations and customers, the CRDB Bank should make sure that the ATMs stations are increased in most places around their customers to make them easily access to services particularly transaction wherever they need to do so. This will enable them to manage time for other economic activities which may indirectly benefits the banks, since through those economic activities they earn money to deposit in banks.

- Since the findings have shown customers to prefer using mobile phones to access banking services, it is now a time for the CRDB Bank with cooperation of mobile phone companies to reduce the charges of using mobile phones in access to banking services. This will increase the number of customers who use mobile phones hence this would be beneficial to CRDB Bank, customers and mobile phone companies.

- Since the findings have shown influence of internet banking in performance, also easily access of accounts’ information for the customers, the CRDB Bank
should add efforts to educate its customers on the benefits of using internet banking. This will increase the number of customers who use internet banking and it would be beneficial to both customers and the bank.

- Because the findings have shown the challenges associated with electronic banking system such as; network problems, costs associated with electronic banking, expensiveness and lack of enough facilities. The CRDB Bank should improve its technology in electronic banking to avoid unnecessary technical problems which face its customers during uses of electronic banking.

6.5 Areas for further studies
This research examined contribution of electronic banking towards the performance of commercial banks in Tanzania whereby the study used CRDB Bank as area of study. Due to limited time the study did not cover all aspect relating to the subject matter; therefore, future researchers should focus on the following areas. Future study should use survey research design by including more commercial banks in the study. This will be useful as it enables them to collect data which are more comparable and more reliable. Future studies may decide to include only few variables instead of including more variables. For instance, the present study included internet, ATM and Mobile phones as main variables.
REFERENCES


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Saha, P and Zhao, Y (2005) Relationship between online Service Quality and Customer Satisfaction, Lule University of Technology MSc. Programme in Electronic Commerce.


APPENDICES

APPENDIX I: QUESTIONNAIRES
This questionnaire is a device that helps the Researcher and others to understand the general learning situation in the banking Industry. This survey can be generally taken by marketer, bank manager etc.

Questionnaire for Employees
PART I – RESPONDENTS PROFILE
Please tick (√) the appropriate choice
a) Background Information
1. If it's not too much trouble select the reaction that best depicts your answer with
   1 Age:
   Under 25
   25-35 □
   36-45 □
   46-55 □
   > 55
2. Background Information:
   Sexual orientation: Male [ ] Female [ ]
3. Training
   2: Respondent Particulars.
   Sexual orientation male Female
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<th>statement</th>
<th>strongly disagree</th>
<th>Disagree</th>
<th>Neither agree not disagree</th>
<th>Agree</th>
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<td>Use of mobile phone has increased customer access to bank services.</td>
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<td>Use of mobile phone has improved the level of deposits for the bank</td>
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<td>Use of mobile phone has led to more bank innovations</td>
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<td>Mobile phones have led to more retail customers than corporate customers to the bank</td>
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<td>Internet services</td>
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<td>7</td>
<td>Use of internet services has added to more profitable business avenues</td>
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APPENDIX II:
INTERVIEWS GUIDE

1. To what extent to does Automatic Tellers machine (ATM) contribute to the performance of CRDB bank in terms of usage rate?

2. To what degree do clients utilize Mobile Banking and how it influences the efficiency and effectiveness in CRDB bank?

3. To what degree do Customers us web banking and how it contributes on the profitability of CRDB bank?

4. What are the difficulties related with the utilization of electronic banking at CRDB Bank?