THE IMPACT OF ELECTRONIC BANKING ON OPERATIONAL PERFORMANCE OF COMMERCIAL BANKS IN DAR ES SALAAM-TANZANIA: A CASE OF COMMERCIAL BANKS IN DAR ES SALAAM REGION - TANZANIA

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By

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A Thesis /Dissertation Submitted in Partial Fulfillment of the requirements for the Degree of Master of Business Administration (MBA-CM) of Mzumbe University

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, A dissertation entitled **The Impact of Electronic Banking on Operational Performance of Commercial Banks in Dar-Es-salaam-Tanzania,** in partial/fulfilment of the requirements for the Degree of Master of Business Administration - Corporate Management (MBA-CM) of Mzumbe University.

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I, Lida Lugano, declare that this thesis is my own original work and that it has not been presented and will not be presented at any other university for a similar or any other degree award.

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Date _____

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DEDICATION

With deepest love and affection, I dedicate this dissertation to my beloved mother Daines Lugano. She has been my source of inspiration and for sure, I owe her a lot in my life. To my sisters; Bupe Lugano, Enea Shaidi and my brother Rodwell Lugano.

ABBREVIATIONS AND ACRONYMS

ATM - Automated Teller Machines

BCBS - Basel Committee on Banking Supervision

BOT - Bank of Tanzania

CRDB - Cooperative Rural Development Bank

E-banking - Electronic banking

EFT - Electronic Fund Transfer

ICT - Information and Communications Technology

NBC - National Bank of Commerce

NMB- National Microfinance Bank Plc

TAM - Technology Acceptance Model

TRA - Tanzania Revenue Authority

SPSS- Statistical Package for Social Science computer software

ABSTRACT

Electronic banking has grown considerably as a means of financial intermediation and innovation. Commercial banks have moved from traditional paper and manual operations to electronic operations. Despite the increasing importance of E-banking services, its impact is not well documented and information on issues like the degree to which E-banking has contributed in enhancing the operational performance of the banks and the issues connected with its utilization is deficient. Therefore, this study set to investigate the impact of electronic banking on the operational performance of commercial banks in Dar- Es -Salaam region. A cross sectional study design was used and involved a sample of 120 respondents consisting of employees and managers of four commercial banks namely; National Microfinance Bank plc., CRDB Bank plc., NBC Bank Limited and Tanzania Postal Bank operating in Dar- Es -Salaam region. Both purposive and random sampling was used in selecting the banks and respondents respectively. The data collected was analyzed by using both qualitative and quantitative method with the help of Statistical Package for Social Science Computer Software (SPSS). Various aspects of bank operations were examined to ascertain the linkage between those of E-banking and operations performance. Results show that ATMs are the most commonly used e-banking service followed by mobile banking and internet banking. The finding revealed that the main outcomes of e banking on bank operations are profitability, operational efficiency and improved service delivery. Security was found to be a major challenge affecting bank operations in using of e-banking. The study therefore, recommended both the banks and financial regulators to take constructive measures to ensure that there is enough security to financial information and customers be reminded to always keep their passwords, PIN numbers safely, and report any suspicious transactions immediately to their respective banks.

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CHAPTER ONE

BACKGROUND INFORMATION

1.1 Introduction

The study is set to investigate the impact of electronic banking on the operational performance of commercial banks in Dar- Es- Salaam region. This chapter provided insight into the background, problem statement, study objectives and research questions. The other areas that are presented in this chapter are the significance and scope/ limitation of the study. Arrangement or organization of this study is also provided at the end of this chapter.

1.2 Background

Over the last few decades, the banking industry has experienced a dramatic change resulting from the adoption of Information and Communications Technology (ICT). Financial institutions banks inclusive have moved from traditional paper and manual operations to electronic operations such as electronic banking (Salhi and Alipour, 2010). Electronic banking (E-banking) has grown considerably as a means of financial intermediation and innovation which offers significant benefits to both the customers and banks. Financial institutions use E-Banking as means to overcome the competitive challenges imposed by banks operating online and reduce the cost of providing services that were once provided exclusively by bank personnel (Akinyele and Olorunleke, 2010). Electronic based banking enables banks to provide services more efficiently and also enriches customer convenience their by easing their financial transactions (Stoica et al. 2015). Customers who use E-banking can easily compare products and services offered by different banks thereby increasing competition between banks, and enable them to penetrate into new markets (Nsouli and Schaechter, 2012). Thus, the installation E-banking has become a strategic component in which commercial bank use in delivering traditional banking service which help them in maintaining customer loyalty and increasing market shares.

E-banking has a wide range of services of which use different electronic equipment in which consumers opt for. Chang (2003) argues that E-banking has a significant contribution to the bank's distribution channels such as computer banking, ATMs, mobile banking and internet banking. Services such as ATMs, debit cards and direct deposit speeds up processing and reduce operating costs while computer and mobile banking are seen as ways in which banks can retain the existing customers and attract new ones (Anguelov et al., 2004). In addition, E-Banking can enable banks to provide quality services to high value (corporate) customers since they are able to inquire information on their accounts on financial transactions, cash transfers, cheque books issue, cash transfers and inquiry on bank rates anywhere let it at home, in a office and so on and at any convenient time using their personal computers without visiting the bank (Ghaziri, 1998). This has resulted into efficient delivery of financial services. Similarly, E-banking according to Gan et al. (2006), is an important channel for selling banks' products and services and ensures the successfulness of the banks. Therefore the tremendous increase of service quality and efficiency of banks worldwide has been due to the integration of ICT in bank operations. The banks can use the electronic commerce technology for meeting the competitive advantage and gaining the best level of profitability while providing best services to its customers. The banks can utilize the electronic trade innovation to meet the competitive advantage and gain the best level of benefit while giving best services to its clients.

In Tanzania the development of the E-banking started with the introduction of ATMs by several banks that replaced bank tellers to facilitate cash movements and simplify banking services in the country. Now, several banks have introduced more electronic services like mobile banking that replaced the branch banking, internet banking replaced mail while electronic cash and credit cards replaced bank transactions. Consequently, customer's dependency on branch banking has declined. These features of E-banking and the increasing demand for such services has forced banks to invest in customer electronic based services (Akhisar et al, 2015). Burnham (1996) contends that it is vital for each bank to take part in the provision E-banking services keeping in mind the end goal to have a long haul survival in the market as E-banking can bring

down operational cost and give best fulfillment of client needs which gives an competitive advantage for banks. As per Woherem (2000), banks that apply ICT to their operations are prone to survive and flourish in this competitive market environment. Hence, move to E-banking is a need for banks as it offers significant opportunities in terms of competitive advantage and permits banks on one hand to enhance productivity and operational viability and then again to build up a more grounded and more strong business association with its clients (Ackah and Agboyi, 2014).

However, the adoption of E-banking is not generally a simple move for the bank as it can be unpredictable and costly to actualize. This is because banks face number of challenges which can undermine its effective utilisation of E-banking facilities. Lack of infrastructures (telecommunication and energy) necessary to provide E-services cost of ownership and adoption as well as the unfamiliarity of employees and customers with computer are the major challenges banks face in using e-banking technology (Akbari, 2013). Given the massive investments in E-banking by many banks and the challenges above, the impact E-banking has on commercial bank operations is is a critical issue that need to be addressed.

1.3 Problem Statement

Banking transactions and processing of documents were mostly paper based in the traditional banking operations before the adoption of E-banking. This led to slow pace of banking operations and clients were definitely made to spend many hours in the congested bank halls carrying out transactions. Nowadays the use of the E-banking technology has taken off in the Tanzania banking industry replacing the traditional banking procedures. This is reflected in the expanded volume and complexity of bank operations, expanded developments and assortments in product and service conveyance. Majority of the banks have invested large amounts of money in ICT to provide better customer services and increase their profits. The prospect of reducing the cost of operations and increasing operating revenue actually is seen as a motivator in the investment in E-banking by banks. Investment in ICT is expected to cause a significant effect on the banking operations costs, profits and customer service

provision. It can empower the banks to create advanced products, have better market infrastructure, and can execute reliable techniques for control of risks and helps the banks to reach geographically distant and expanded markets. However, on the other hand the adoption of E-banking can cause some to the banks in terms of exposure to risks such as security of systems (data confidentiality and hazards such as hackers and computer viruses).

Despite the increasing importance of E-banking services, the impact of E-banking is not well documented in the Tanzanian context, information on issues like the degree to which E-banking has contributed in enhancing the operational performance of the banks and the issues connected with its utilization is deficient. Due to the complexity of banking services, it is not well known weather banks adoption of E-banking monetary the monetary values for banks. This is because not every increase in the customers' satisfaction moves into the higher operations performance and benefits, particularly in the case of a very expensive investment in innovation like ATMs. Also the extents to which E-banking can affect bank operations vary from one bank to another and from country to country. Therefore this study has been designed to besides recognizing the impact of E-banking on commercial bank operations, also, to outline the bottlenecks confronting commercial banks in utilizing E-banking in Tanzania.

1.4 Research Objectives

The general objective of this research was to investigate the impact of E-banking on commercial bank operations in Tanzania.

1.4.1 Specific Objectives

This research was guided by the following specific objectives;

i. To identify the products and services of E-banking provided by banks.
ii. To identify the factors for the introduction of E-banking by banks
iii. To investigate the impact of E-banking on day to day operations of commercial banks.

iv. To identify the challenges faced by commercial banks while using E-banking services.

1.5 Research Questions

This research was guided by the following specific research questions;

i. What are the E-banking products or services provided by commercial Banks?
ii. What are the factors for the adoption of E-banking by Banks?
iii. How does E-banking affect day to day operations of commercial Banks?
iv. What are the challenges faced by the banks while using E-banking services?

1.6 Significance of the Study

Given the importance electronic banking has on customers and banks, this study is of great importance to both the managers, academicians and other stakeholders as it does not only give the impact E-banking on bank operations additionally it investigates the factors deciding or constraining the supply of electronic services. Generally, this study contributes to the following:

i. For banks, the study gives a better understanding of how electronic banking facilitate efficiency through electronic payment processing, reduced cost of operation and increased banking penetration.
ii. For the researcher, the study gives a better knowledge of the issues under investigation and also sharpened research skills.
iii. For corporations and businessmen, it gives knowledge of how E-banking can give them a better way to access capital due to its short payment processing period and increased efficiency in payment and accounting processes.
iv. For customers, this study provides them with a better understanding of the advantages of electronic banking such as increased convenience, reduction in risk of cash related crimes, access to credit and cheap access to banking service.
v. For the academicians, the study fills the gaps in previous studies, draws in other researchers to carry out the study past this scope and serves as secondary

data for scholars, students and other researchers interested in electronic banking.

1.7 Scope and Limitation of the Study

As expressed above, this exploration focused on investigating the impact of electronic banking on the operational performance commercial banks in Dar Es Salaam region. The study also identified the various products and services of e-banking offered by commercial banks in the Tanzanian market. Mainly due to time constraint and the attention required from the authorities and respondents of the bank this study was constrained to just four commercial banks namely; National Microfinance Bank Plc, CRDB Bank Plc, NBC Bank Limited and Tanzania Postal Bank operating in Dar- Es-Salaam region.

1.8 Organization of the Study/Dissertation

This chapter gives a brief prologue to the research, expresses the research problem and both research objectives and questions are defined. Literature reviews follows in chapter two. The review incorporates relevant studies on impact of electronic banking, research gap and conceptual framework. The methodology that give an account of how the research was conducted is laid out in chapter three. The research area, sampling and data collection methods are examined in chapter three. The findings of the study is presented and discussed in chapter four. The closing chapter summarizes the findings from the research and conclusions and recommendations emerging from the research are drawn. Additionally related areas of the study requiring further research are also presented.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two presents relevant literature to the research objectives under investigation and builds a theoretical foundation whereupon the research is based and some empirical studies which relates to the impact of E-banking on commercial bank operations. The reviews are presented under the following sub-headings; Conceptual definition of E-banking, E-Banking service, theories related to E-Banking adoption, theoretical review on the impact of E-Banking on commercial bank operations and the difficulties confronted by the banks while utilizing while using E banking in Tanzania. Empirical studies and conceptual framework are also presented.

2.2 Conceptual Definitions

2.2.1 The Concept of Information and Communication Technology (ICT)

ICT is the form of innovation in which information can be transmitted, stored, created, shared or exchanged information and used for communication. This extensive definition of ICT incorporates innovations, for example, phone (mobile and fixed), computers, television, radio as well as the services and equipment connected with these innovations, for example, text messaging, radio broadcasts and electronic mail.

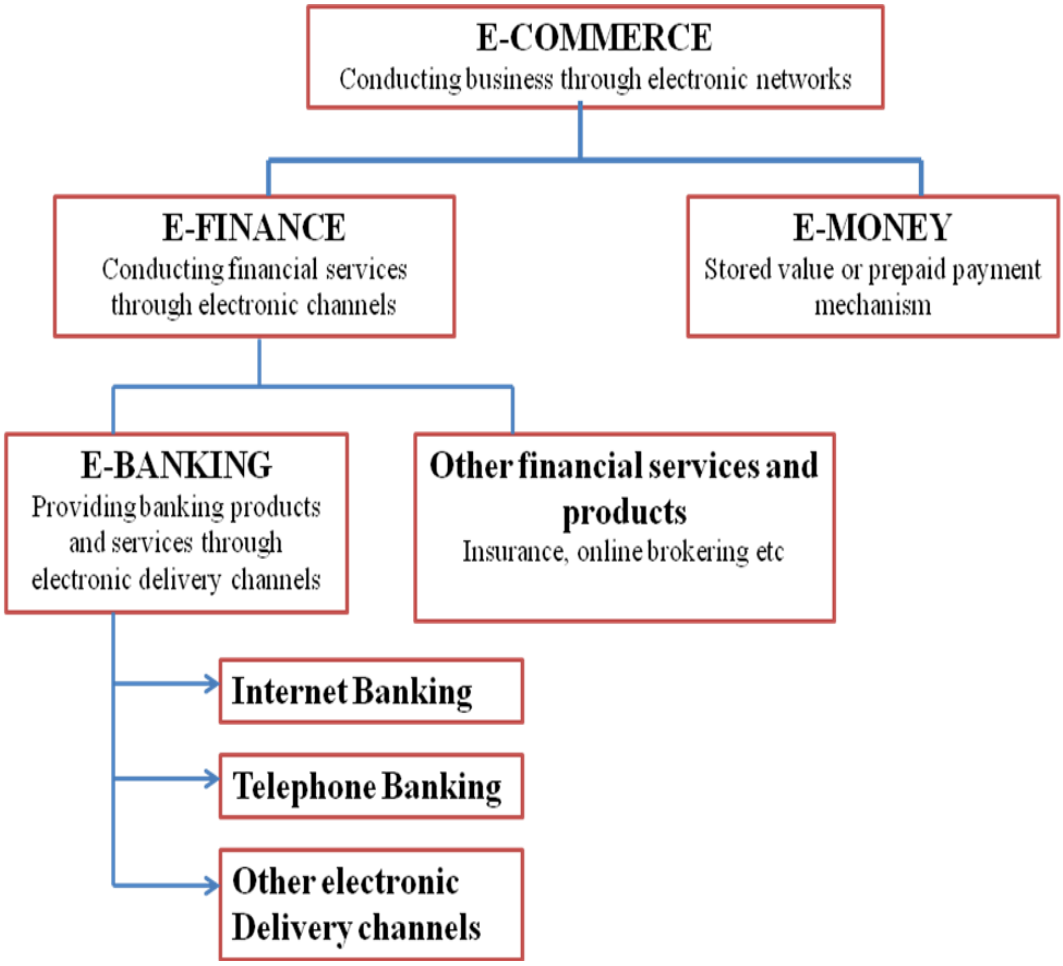
The adoption and use of ICT is basic to the development and sustainability of banking system. It is a prerequisite for local and global competitiveness. As a consequence of globalization, the deployment of ICT in the banking sector has progressively turned into a vital element for business development and a platform for gaining competitive advantage, particularly in a highly competitive industry like banking. This therefore, made it imperative for banks to invest in ICT to meet certain requirements for modern payments system intended to handle huge scale financial exchanges. The improvement in information gathering, storage, handling, transmission and distribution technology have affected all aspects of banking activity.

2.2.2 The Concept of E-Banking

Different Authors have defined E-banking differently mainly because the term refers to various types of services through which bank customers can request information and carry out banking services (Shehu et. all 2013). For instance, Daniel (1999) defines electronic banking as the distribution of information and services by banks to clients by means of various delivery platforms that can be used with a utilized with a PC or other gadgets. Also Salehi and Zhila (2008) define E-banking as a process which involves an electronic association between banks and customers in order to prepare, manage and control financial transactions of the customer by the bank. The Cambridge Dictionary defines E-banking as the use of the internet to organize, examine, and make changes to your bank accounts and investments electronically, or the use of the internet by banks to operate accounts and services. The Oxford Learners Dictionary on the other hand defines E-banking as something that is operated and based on electronics; it then goes further to define it as a science and technology of electronic phenomena, devices and system as in computer, radio, etc.

The most widely recognized definition E-banking originates from the Basel Committee on Banking Supervision which defines E-banking as "*the provision of retail and small value banking products and services through electronic channels as well as large value electronic payments and other wholesale banking services delivered electronically*" (Basel Committee on Banking Supervision [BCBS], 1998). Figure 1 below shows different delivery channels for E-banking services. In this study, an Automated Teller Machine (ATM) is added also as a delivery channel for E-banking.

Figure 1: Electronic banking delivery channels



Source: Nsouli and Schaechter (2012)

2.3 E-Banking Status in Tanzania

Emergence of electronic banking can be traced back from the early 1990s when Tanzania experienced a period of economic liberalization through foreign investments. Economic liberalization triggered different stakeholders to engage different economic activities that needed support of a strong, efficient, reliable and secure payment system (Mniwasa, 2005). In order to meet the challenges above, banking sector in Tanzania invested ICT thereby introducing e-banking. Since then, banks such as Tanzania Postal Bank, NBC, CRDB and NMB have significantly

invested in ICT by introducing different forms of e-banking to facilitate day to day operations especially electronic cash movement.

Banking practices in less developed nations are entirely not quite the same as that of developed nations (Kundi and Shah, 2009). In Tanzania, though a large number of banks have invested in ICT. E-banking is still in its growth and development stages and not completely functioning because of lack of infrastructure and technology. Available technology, infrastructure is not is not adequate enough to satisfy the current country prerequisites.

2.4 E-Banking Products and Services in Tanzania

There are many e-banking products and services offered to the customers. These products have are totally changed the way the banking sector operate. The banking industry has now shifted to cashless society, where physical cash, notes and coins have been replaced by electronic purse and digital cash. Below are some of the products and services of e-banking;

2.4.1 Internet Banking

Internet banking involves conducting banking transactions, for example, balance inquiries, account transfers, bill payments, and some even offer online credit applications over the web utilizing PC without going to the banks (Steven, 2002). Clients can get access to account information whenever, day or night, and this can be done from anyplace. Internet banking has enhanced banking effectiveness in rendering services to customers. Business banks in Tanzania can't disregard the use of internet as it plays an essential role in their operations since customers are aware of technological advancements and often demand higher quality services.

National Microfinance Bank (NMB) for instance offers an extensive variety of internet services. These include; access to business account and financial transactions is real-time which allows effective financial management anytime and anywhere via the internet. NMB internet banking also makes it easy for companies to check

balances, pay bills, transfer funds, view transactions and order for financial statements. Other services provided by NMB internet banking include;

- Transferring money between own account to other account within NMB (internal transfer)
- Transfer funds Electronically (EFT) to other local banks in Tanzania
- Ability to capture and maintain beneficiaries
- Payment advance can be sent with personal references to any email address
- Ability to pay bills online through NMB bills payment
- Payment to suppliers and staff salaries are made simple through upload a file online which is guided by the producer and checker approach.

2.4.2 Automated Teller Machines (ATM)

An ATM is an electronic computerized telecommunications gadget that permits banks' clients to directly use a secure mode of communication to get to their financial balances, request or make money withdrawals (or cash advances using a credit card) and check their account balances without the need for a human bank teller. Various ATMs also permit individuals to deposit cash or cheques, transfer money between their bank accounts and top up their cellular telephones' prepaid accounts. In Tanzania, there are several ATM machines and the number is fast-growing, despite the fact that the demand-availability ratio is still very small compared to the developed world. According to the 2014 annual report by the Bank of Tanzania (BOT), the number of ATMs in Tanzania as of June was 1,481 (BOT, 2014). CRDB bank in Tanzania has a network of 335 ATMs all over the country, (CRDB, 2013). The Bank's ATMs are situated in commercial and neighbourhoods, petrol filling stations, airport terminals, and other spots which are conveniently accessible. Services accessible at CRDB Bank ATMs include: Balance inquiries, cash withdrawals, mini statements and transfers between own CRDB Bank accounts. The bank also offers easy deposit ATMs which accepts cash, counts the notes, and gives customers access for depositing cash in their accounts in a safe and easy way. Services available at Easy Deposit ATMS are: Cash deposits, balance inquiries, mini statements, transfers between own

CRDB bank accounts, cash withdrawals and bill payments. Other products of CRDB connected to ATMs include Tembo Card and MasterCard. This allows customers to withdraw cash from domestic and global ATMs and in addition making purchases in outlets without hassles of carrying cash. With these services one can;

- Withdraw cash any ATMs globally
- Swipe at outlets where MasterCard/VISA card is accepted
- Shop worldwide
- Pay recurring bills
- Track expenses as CRDB Bank account will have the list of all purchases made including date, time spent and name of a vendor

2.4.3 Mobile Banking

This involves the use of cell phones for settlement of money related exchanges. This innovative service allows the customer to perform financial transactions by means of mobile phone. It offers customer with opportunities for example; transaction alert (informing customers of account activities), account enquires, mini statement, requesting for cheque books or savings withdrawal books, account to account transfer and even top ups of cellular phone credits. Commercial banks in Tanzania offer mobile money services in the name of NMB mobile for NMB bank, SimBanking for CRDB bank and NBC mobile for NBC bank. For instance through CRDB's SimBanking service customers can;

- Perform Intra-Bank Funds Transfer to any bank account within CRDB Bank network,
- Transfer funds to mobile money (such as M-pesa, Airtel Money and Tigo Pesa),
- Utility bills payments (such as LUKU, TRA, Dawasco etc)
- airtime purchase for self and others
- Ability to send money to people with no bank accounts or ATM cards (Cardless),

- Balance Enquiry, Mini Statement and Alerts (notifications of TemboCards/Visa/ MasterCard usage)

According to BOT, The number of mobile payment users increased from 29,126,517 to 31,830,289 by end June 2014 (BOT, 2014).

2.5 Theories in E-Banking

2.5.1 Innovation Diffusion Theory

The diffusion of innovation theory developed by Rogers in 1962, endeavours to investigate the factors that influence an individual or organization to adopt a new technology. Rogers identified several traits of an innovation that are key influences on adoption behaviour. As per Rogers, these traits are *relative advantage, complexity, compatibility, trialability, and observability* (Rogers, 1995). Banks will embrace a new technological development of which they perceived to be providing more benefits than its predecessor (Traditional baking). The theory confirms that organizations will participate in the diffusion of a new innovation in order to gain competitive advantage, lessen costs and protect their strategic positions. Along these lines, it is hypothesized that, when banks perceive distinct advantages offered by E-banking, they are more likely to adopt it (Al-Jabri et al, 2012).

2.5.2 The Reasoned Action Theory

The reasoned action theory that was developed in 1975 by Fishbein and Ajzen has been utilized broadly as a part of marketing research. The theory has been designed to clarify the conduct beyond the acceptance of an innovation and incorporates four general concepts: subjective norms, behavioural attitudes, intention to use and actual use. It contends that people assess the outcomes of a specific conduct and make intentions to act that are consistent with their evaluations. More specifically, reasoned action theory states that people's conduct can be anticipated from their intentions, which can be predicted from their attitudes and subjective norms. Following the chain of prediction further back, attitudes can be anticipated from an individual's beliefs

about the outcomes of the conduct. Subjective norms can be anticipated by knowing how critical other people think the conduct should or should not be done.

A particularly supportive part of reasoned action theory from a technology point of view is its affirmation that any other factors that impact conduct do so only indirectly by influencing attitude and subjective norms. Such variables would incorporate, amongst others things, the framework plan characteristics, client attributes and task characteristics. Subsequently, is entirely proper with regards to foreseeing the conduct of using multimedia innovation. In spite of the fact that the reasoned action theory, is an extremely broad theory and as such does not determine what particular beliefs would be pertinent in particular circumstances. Nevertheless, the consideration of subjective norm represents an important variable, which is not in any case incorporated into other popular models. Additionally it can be depicted as a standout amongst the most compelling theory to clarify human conduct's disposition toward adoption of technology (Venkatesh et al, 2003).

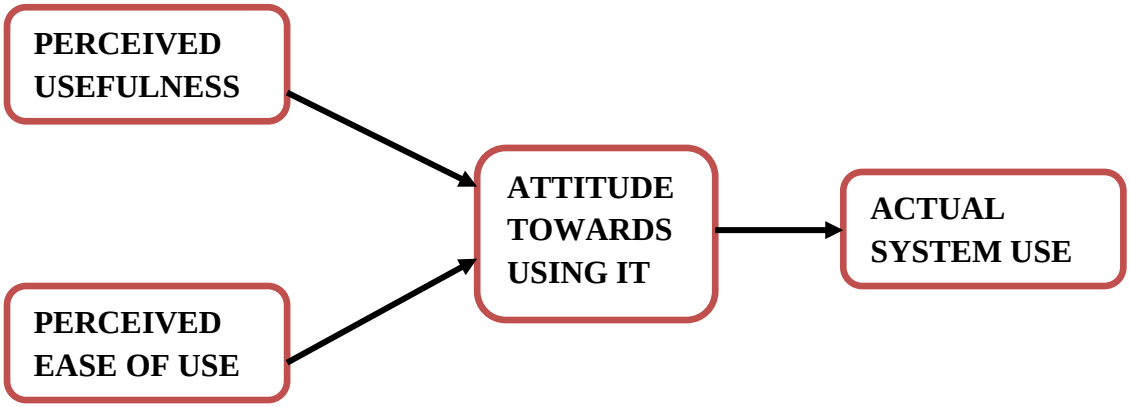
2.5.3 Technology Acceptance Model

Technology Acceptance Model (TAM) was proposed by Davies in 1986 to study the acceptance of the technology by an individual taking into account, basically, both the perceived ease of use and the usefulness of the technology. According to Davis (1989), actual information technology system use is affected by behavioural intentions that themselves are affected by attitudes toward use.

Convictions about the system, perceived usefulness, and perceived ease of use in TAM directly influence attitudes toward use. TAM model which deals with perceptions as opposed to genuine use, recommends that when users are presented with a new technology, two essential factors influence their choice about how and when they will use it (Lule et al, 2012). These key factors are: Perceived usefulness (the degree to which a person believes that using a particular system would enhance his or her job performance) and Perceived ease-of-use (the degree to which a person believes that using a particular system would be free from effort). The model was introduced in order to help researchers and practitioners to study the process of

executing a new technology in the workplace environment. It works by assessing attitude of personnel with respect to new technology over perceived ease of use and usefulness. E-banking clients will adopt the technology in the event that the technology will give huge advantages such enhanced proficiency, reduced costs and high revenues.

Figure 2: Technology Acceptance Model



Source: Lule et al., 2012 page 35.

2.6 Impact of E-Banking and Commercial Bank Operations

There are numerous benefits of investing in technology in the banking sector. According to Barnes and Corbitt (2003) these include: reduced downtime and less maintenance, lower operating costs due to a reduced need for resource inputs, differentiation from improved quality, faster response times, increased product variety, etc. Banks invest in ICT in order to minimize operating costs, maximize operating revenues (Simpson, 2002) and enhance customer satisfaction (Meihami et al, 2013). The cost performed by an ATM for a single transaction is possibly less than the cost of a transaction performed by a teller, as ATMs are capable of handling a large number of transactions per unit of time than a bank teller (Laderman, 1990). ATMS provides investment opportunities, decreases operating expenses (i.e. cost savings), ensures efficient delivery of service delivery, branding of shared network, satisfaction of customers and competitiveness etc and so on brought about by speed of transactions and saved time for customers (Jegede, 2014).

Investment in ATM has resulted into labour substitution effect which brings down the operating expenses and in this way enhances the cost efficiency of banks (Chin-S et al., 2008: Jayamaha, 2008). Labour substitution effect emerges when the use of an ATM lessens tellers' work that reduces the demand for labour (Adewoye and Omoregie, 2013).

Adewoye and Omoregie adds that banks with heavier *work force* expenses pressure has a *tendency* of installing more ATM machines to replace teller labour costs, as a result of the substitution effect and operating cost consideration intending to achieve the *objectives* of operation efficiency**.** Likewise, the cost of conveying bills electronically is significantly lower than if the bill was in paper structure delivered through the mail (ibid, 2013). The use of E-banking empowers banks to accomplish a higher level of efficiency (decongestion in the banking hall), provide cost effective services and offer a wide spread flow of information at no time and at a reasonable cost (Woherem, 2000). The cost of banking on the customer perspective reduces time

wastage in long queues and for bank there is no need to extra paper, extra employee and investments opportunity with other section and other banks. E-banking reduces consumer dependence on personal interaction as customers obtain services from their banks without entering the bank premises (Federal Reserve Bank of Kansas City, 2006). Before the adoption of E-banking, banking transactions were mostly paper-based transactions leading to low operational efficiency (Ekwueme et all, 2010). Subsequently clients were inevitably made to spend several hours in the congested bank halls doing their transactions (Ovia, 2005). E-banking ensures speedy operations and enhances productivity (Osabuohien, 2008).

A decrease in the number of clients visiting banks with an expansion in alternative channels of distribution will likewise minimize the queues in the branches (Thornton and White, 2001). Increased availability and accessibility of more self-service distribution channels helps a bank's administration in lessening branch system and its partner staff overheads. Bank workers and office space that are released in this way might be utilized for some other gainful endeavours (Birch and Young, 1997). This ultimately leads towards enhanced consumer loyalty and the bank's bottom line (Thornton and White, 2001).

E-banking may permit banks to offer new products and services, to grow their businesses for traditional activities and to consolidate their competitive position in offering available payment services, while ensuring operating costs cut for banks (BCBS, 1998). The adoption of ICT enhances the banks' image and a more extensive, speedier and more efficient market. It also makes work easier or less demanding and more interesting, enhances the competitive edge of banks, improves bank-customer relationship and assists in solving essential operational and planning issues. ICT directly influences how managers decide, how they plan and what products and services are offered in the market.

Despite the advantages of E-banking discussed above, this service has a number of problems. The present banking services provided through Internet are constrained because of security concerns, complexity and technological problems (Sathye, 1999:

Mols et al., 1999). Hewer and Howcroft (1999) utilized the term trust to depict a measure of risk. Suganthi et al., (2001) viewed risk in the context of security concerns and risk in the context of trust in one's bank. Finally, a number of studies found that trust and perceived risks have a significant positive influence on commitment (Bhattacherjee, 2002; Reputation of a service provider is another important variable influencing trust. Doney and Cannon (1997) defined reputation as the degree to which clients believe a supplier or service provider is honest and concerned about its customers. Tyler and Stanley (1999) contended that banks can build close and long lasting relationships with clients only if trust, responsibility, trustworthiness and collaboration is created between them.

In spite of the fact that banks have set up security systems to guarantee that transactions conducted online are shielded from web security threats, online banks are highly targeted by cyber criminals. Conducting online transactions online is more risky compared to making transactions in a physical branch because of hacking problems and identity theft (Imola and Claudia, 2014). E-banking involves several operational risks related to the security of systems and exchanges, including information secrecy and verification of the parties involved, and another concern is the continuous availability of the internet for financial exchanges prompting significant hazards, such as hackers and computer viruses (Sokolov, 2007). Cybercrime, also known as electronic crime is an economic crime committed using computers and the internet. Typical examples of cybercrime are distributing viruses, unlawfully downloading files, phishing and pharming and stealing personal information *for example*, bank account details (PWC, 2014a). In addition to the above risks, technical difficulties likewise emerge. In some cases the bank's website could go down, and in the event that it will bother the customer because he/she has to go to a branch or make a phone call which is usually busy because other customers are also making calls. Another issue is the unpredicted increase in the number of customers using internet that the servers of the bank may not be able to cope up with.

2.7 Challenges faced by the banks while using E-banking in Tanzania

E-banking is one of the emerging ICT components that have changed the operations of business banks. Notwithstanding, in developing countries like Tanzania, there are most every now and then reported impediments. Obstacles for E-banking can mean the confronting events or difficulties which hinder the adoption of certain innovation or confronting events which are contrary to the adoption of certain innovation.

These issues are infrastructural deficiency, for example, inconsistent power supply and communication link. For this situation it requires the government or organizations to supply stable and efficient electricity and telecommunication system (Ayodele, 2015). Another problem is inadequate skilled managers and requisite tools on end users and client frameworks; here efforts should be done in provision of infrastructure and skilled man power. Additionally, non-provision of satisfactory security for fraud prevention, banks should endeavour to provide stand by cameras at every ATMs machine to screen every activity of the clients with bad intentions. Agwu et al (2014) study in Nigeria reveals that the primary barriers to the adoption of E-banking are poor security network, poor or inaccessible telecommunication infrastructures particularly in rural areas and poor internet and computer knowledge. Rumanyika (2015) and Masamila (2014) identifies poor network coverage, lack of knowledge of E-banking users, theft of mobile handsets, high mobile money transaction fees, irregular standards of mobile money payments, ATM breakdown and theft and poor privacy in data protection as the major factors which influence adversely the adoption of E-banking in Tanzania.

Rumanyika (2015) and Masamila (2014) distinguishes burglary of versatile handsets, poor system scope, absence of learning of E-managing an account clients, high portable cash exchange expenses, unpredictable models of versatile cash installments, ATM breakdown and robbery and poor security in information insurance as the central point which influence adversely the reception of E-saving money in Tanzania.

2.8 Empirical Studies on Impact of E-Banking

There are few studies in Tanzania that have examined the impact of E-Banking on commercial banks operations. Below is a selection of few studies that have been conducted in Tanzania and other East African countries and Nigeria.

Kipesha (2013) examined the impact of ICT adoption on efficiency and financial sustainability of Microfinance Institutions in Tanzania. The study utilized DEA model to estimate technical efficiency of Microfinance institutions in Tanzania. Financial self sufficiency was estimated using operating self-sufficiency ratio while ICT usage level was measured using ICT usage index. Regression analysis model was used to test for association and cause and effect between ICT with efficiency and financial sustainability. The study found a positive though weak association and insignificant course and effect between ICT usage with efficiency and financial sustainability. ICT adoption was found to have a positive correlation with efficiency and financial sustainability in Microfinance Institutions. The correlation results infer that ICT usage positively affects efficiency and sustainability as they move as they move in the same bearing. The quality of the effect was observed to be low due low investments in ICT among Microfinance firms. The study concluded that Microfinance Institutions in Tanzania should increase their ICT ventures; grow their customer base and expand ICT use level in order to realize the benefit of ICT in their organizations.

Kevin et al. (2013) investigated the impacts and challenges of ICT adoption in the Tanzanian banks. A sample of 48 respondents was used while purposive sampling was utilized and the information gathered was analysed using SPSS, the researcher employed mean and standard deviation. The study found that ICT has a noteworthy effect on banking as it services saves time in making exchanges and can be accessed from any anywhere at any time, enables extensive networking and connects banks globally therefore enhancing smart banking solutions and services to the customers. The study discovered that that there is a need for bankers to educate the public on the use of online banking products, invest more into ICT infrastructure and the government to reduce tax of ICT gadgets. This study prescribes that individual technologies need to be researched; impact of adopting other individual innovations,

profitability and performance issues should also be explored to open up and make a room for policy and business decisions.

Ngango et all (2015) examined the contribution of E-banking towards banking on performance of banking Institutions in Rwanda. The study used descriptive research design by basing on qualitative and quantitative approach in order to get better analysis of the study. Both primary and secondary data collection tools were used with their relevant tools like questionnaire and documentary analysis in order to come up with required data. In the findings it was set up that Electronic banking system like ATM, Pay direct, electronic check conversion, mobile telephone banking and E transact greatly affects bank performance since they increase profitability, lessen bank operation expenses operations, and increase bank asset and bank efficiency.

Okiro and Ndungu (2013) studied the impact of mobile and internet banking on performance of financial institutions in Kenya. The study investigated 30 financial institutions. The study revealed that among 66.7% of the respondents indicated that internet banking had a positive impact on performance commercial banks. The study found that the most prevalent internet banking service is balance inquiry while the least is online bill payment. Cash withdrawal was the most commonly used mobile banking service whereas purchasing commodities was the least commonly used.

To investigate the Relationship between Electronic Banking and Financial Performance among Commercial Banks in Kenya banking system, Aduda and Kingoo (2012) established whether there is relationship between performance measured by return on assets and investments in e-banking, number of ATMS and number of debits cards issued to customers as proxy for e-banking. The study used secondary data collected from annual report of target banks and Central Bank of Kenya. Both graphic and inferential statistics in analyzing the information was used. The findings revealed e-banking has strong and significance marginal effects on returns on asset in the Kenyan banking industry. In this manner, there exists positive relationship between e-banking and bank performance. The study concluded that electronic banking has made

financial transaction to be simpler by conveying services nearer to its customers thus enhancing banking industry performance.

John and Rotimi 2014 examined the impact of electronic banking on satisfaction of corporate bank customers in Nigeria. A sample survey research design with a sample of 100 respondents consisting of corporate and individual customers of GTB Bank of Nigeria Plc was used. Data was collected with a structured questionnaire which was analysed by descriptive statistics and the hypothesis formulated was tested using chi-square test. The result shows a significant relationship between electronic banking and customers' satisfaction. In addition, E-banking was found to be popular because of its convenience and flexibility, and transaction related benefits like speed, efficiency and accessibility. Security and power were also found as major challenges. John and Rotimi recommended that critical infrastructure like power; security and telecommunication should be strengthened to ensure the application of electronic banking in Nigeria and optimum satisfaction on the part of customers.

Another study by Munyoki and Ngigi 2011 investigated the factors affecting e-banking adoption among commercial banks in Kenya, and the difficulties confronted by business by commercial banks in the adoption of E-banking. Descriptive research design and a sample of 44 commercial banks was used. The outcomes demonstrated that banks had only partially adopted e-banking as a strategy. The issue of security was found to be the most critical factor influencing e-banking adoption. Other significant inhibitors were inadequate regulatory support, lack of in-house it professionals and quality of infrastructure.

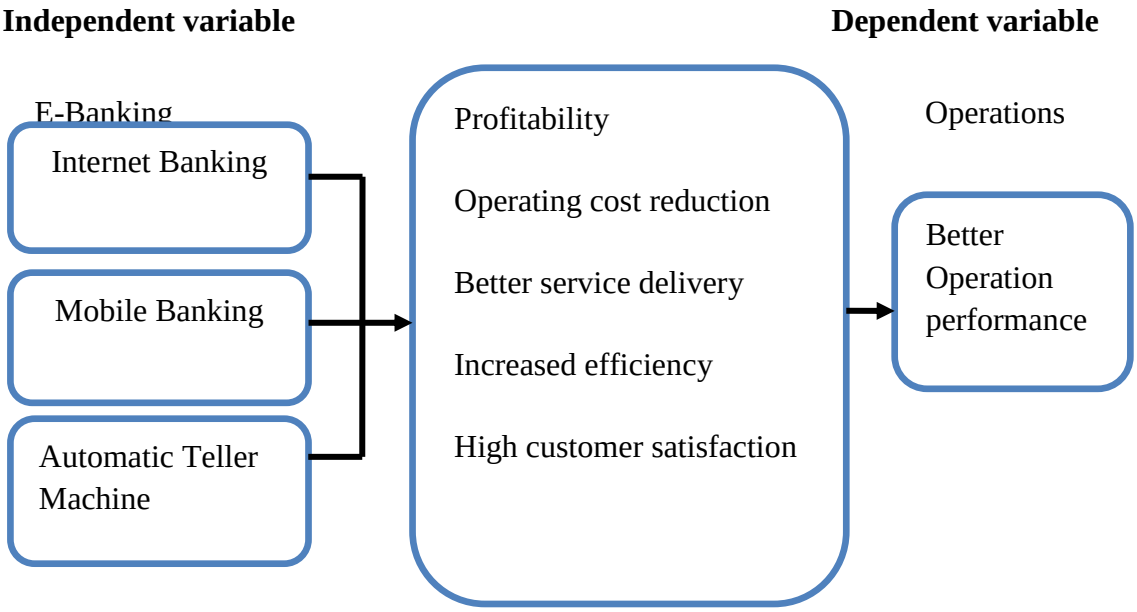
2.9 Research Gap

Different researches have been conducted on electronic banking and its adoption in Tanzania. Most of these studies (see Kipesha (2013); Kevin et al. (2013) concentrated on the profitability and customer satisfaction as the resulting prime effect of e-banking on commercial banks. As the field expanded throughout the years, it is not sheltered to say that profitability and customer satisfaction can be the main outcomes of an E-banking, however little has said on the cost of operations and bank efficiency that are

all of Electronic banking in Tanzania. Different models have been produced and utilized in order to understand the information technologies, such as Internet banking however because of time and space it is important to attempt a study on the variables impacting the adoption of E-baking in Tanzania since currently almost all financial institutions have adopted e-banking. Most of these studies looked at in the literature review, are almost similar, others are applicable in the sectors and institutions they were conducted and the condition at which E-Banking can impact the performance of commercial banks varies from sector to sector and region to region. Nevertheless, none of those studies attempted to look on the impact of E-Banking on the performance of commercial banks in Dar Es salaam region. This research therefore will bridge the gap in order to come up with appropriate measures to improve the implementation of ICT in Tanzanian banking industry.

2.10 Conceptual Framework

Figure 3: Conceptual framework



Source: Research's Construct, 2016

The above concept implies that E banking types such as Mobile Banking, Internet Banking and ATMs improves banks operation performance (Profitability, Operating cost reduction, Better service delivery, Increased efficiency and High customer satisfaction) especially if other factors such as network coverage, reliable internet service provider, adequate skills on how to use the system, cost of adopting electronic power supply and many other connections remain constant. The investigations considered other elements not in the conceptual framework but rather are related to respondents such as age, gender, level of education and so on.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three clarifies different techniques that were used in data collection and analysis of that data. More specific the chapter included areas such as research design, study area, study population, sample size, sampling technique, sources and types of data, data collection methods, data analysis technique, reliability and variability of data and instrument for data collection.

3.2 Research Design

Research design according to Kothari (2004) is meant to facilitate the smooth undertaking of various research operations thereby making research as efficient as possible especially in getting maximum information with minimal expenditure of effort, time and money. This study used a cross sectional study design to explore the impact of E-banking on commercial bank operations. A Cross sectional design (one-short study design) is considered as a more intensive study that seeks to give a certain finding relating to a larger population at a point in time. This technique permitted in-depth investigation of the impact of E-banking and the researcher used both quantitative and qualitative data collection methods in order to give a broad understanding of the impact of E-banking on commercial bank operations.

3.3 Study Area

The study was conducted in Dar Es Salaam region because it was a potential area where most of the commercial banks headquarters are based. Hence, there is a possibility of obtaining all necessary and relevant information for the study. Four (4) commercial banks in Dar- Es- Salaam were chosen as cases for this study. Also the researcher was familiar with the region hence enhanced availability of data required for this study.

3.4 Study Population

Population refers to all cases that conform to some designated set of specification (Nachmias and Nachmias, 2008). The targeted population consisted of employees and managers of commercial banks who could provide vital information on the subject matter. The selected sample helped the researcher to obtain important information related to the study.

3.5 Sample Size and Selection

Sample size according Kothari (2004) is defined as a collection of some parts of the population on the basis of which judgment is made small enough to convenient data collection and large enough to be a true representative of the population from which it had been selected. *Sample size refers to various items to be chosen from the universe to constitute a sample. The sample must be optimum.* The study employed probability sampling method; where by respondents from the four banks were randomly selected. The sample size for this study involved 138 respondents consisting of employees and managers. The sample size for the respondents was estimated using the following formula adopted from formula adopted from the Cochran (1977)**.**

$$n = \frac{(Z_{\alpha/2})^2\, p(1-p)}{e^2}$$

Where;

n - The sample size

z - The value from z tables (1.96) at 95% confidence level

p - The estimated proportion of an attribute that is present in the population

e - The acceptable sampling error e = 5%

$$\mathrm{n} = \frac{(1.96)^2 * 0.9(1-0.9)}{(0.05)^2} = 138.3 \approx 138$$

3.6 Sampling Techniques

Kothari (2004) defines sampling as a process which involves picking up of a few or small units out of whole population for study. Such unit is expected to be representative of the whole population. In this study purposive and random sampling techniques were used.

3.6.1 Purposive Sampling

Purposive samplings is the method used purposely to pick up the people whom the researcher think and regards to have adequate knowledge of the available information regarding the nature of the target group or population and the important feature which can be used to make a close judgment on research Kothari (2005). In purposive sampling researcher intentionally select individuals and sites to learn or understand the central phenomena (Creswell, 2005). In this study, purposive sampling was used in selecting the banks. The banks were purposely selected based on their market position and involvement in E-banking.

3.6.2 Random Sampling

Kothari (2005) define simple random sampling as sampling technique which provides an equal chance of being selected from a wide population. In this study, a simple random technique was used to select respondents. This is so because the study intended to provide equal chances of being included in the sample to avoid bias. Therefore, a total of 138 respondents were randomly chosen.

3.7 Data Collection Methods and Instruments

3.7.1 Data Collection Methods

This study used both primary data and secondary, with quantitative and qualitative nature. The objective nature of primary data, since they have not been interpreted by any researcher before, were given the first priority in this research, without ignoring the importance of secondary data in accomplishing the study. The novelty of information gathered from primary data gives the researcher confidence in covering the gap, using the most recent information.

3.7.2 Methods of Data Collection

3.7.2.1 Interview

This method involves the use of oral-verbal stimuli presentation and reply in terms of oral-verbal (Kothari, 2004). It is clear that interview is an oral administration of questionnaires and therefore a face to face. Interview method is appropriate tool in most studies such as descriptive study. The researcher used the interview to collect information that is difficult to be collected by the questionnaire method. Both structured and unstructured interview were used so as to get in-depth information and to give the interviewer more prominent flexibility to ask and permit the respondent to express their views openly.

3.7.2.2 Questionnaire

Questionnaire involves sending questions requesting the respndents to answer and return the questionnaires, (Krishnaswami, 2003). Questionnaires were designed to capture both quantitative and qualitative data relevant to this study. In so doing, structured and semi structured questionnaires with closed and open ended questions were employed. English and Kiswahili languages were used depending on how comfortable the respondent was in using a given language.

3.7.2.3 Observation

The researcher used participatory observation method to observe daily practices, aspects and activities carried out in banks. This permitted the researcher to collect first-hand information through experience or seeing what exactly was taking place.

3.7.2.4 Documentary Review

Documentary review involved reviewing of existing literatures that can provide a key concept to be used in any area of interest. The researcher reviewed various material records documents, books, journals and websites; from Internet and from library. This method of data collection was suitable in situations where respondents failed to respond to all the questions that they were asked due to lack of correct memories and shortage of time.

3.8 Reliability and Validity

Reliability of research instrument refers to the degree or extent to which research instrument produce consistent results of data over time if the repeated measurements are done (Emory, 1991). Usually reliable measuring instrument contributes to validity. A survey pilot test was done in order to ensure reliability of interview and questionnaires guide, where questions were sent to the supervisor of this study for inspection of things like clarity, ambiguity and time that to be spent in filling the questionnaire in order to reduce external source of variation such as boredom, fatigue and biases.

Also the primary data collection tools was reliable because the researcher was the only person collecting the primary data thus minimizing bias of the data collected and the use of mixed data collection methods insured validity of the information.

The researcher administered the filling of questionnaires during data collection to allow respondents ask questions like ‘what you mean by saying’ so provide elaborations. By administering the questionnaire the researcher ensured that most of the questions answered.

3.9 Data Analysis

The data collected was analyzed by using both qualitative and quantitative method with the help Statistical Package for Social Science computer software (SPSS) so as to get a meaningful picture of ideas and opinions from respondents. Quantitative method is based on the measurement of quantity or amount, while Qualitative method is concerned with qualitative phenomena (Kothari 2004). The researcher used coding system to help the data being descriptive analysed and findings presented in form of means and percentages. Tables helped in the presentation of the findings.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

Chapter four analyses the primary data collected with methodologies discussed in chapter three. It is divided into two major sections of which the first one discusses the general characteristics of the respondents and the second section discusses the specific objectives of the study.

4.2 Analysis, Discussion and Interpretation

A total 138 questionnaires were distributed out of which 120 equivalent to 87% were returned, representing a high response rate for the survey. The high response rate was because most of the questions were simple and asked directly to the respondents. Data analysed in this study is based on the response from the returned questionnaires.

Table 4.1 Distribution of respondents and response by bank

Bank	**Questionnaires distributed**	**Questionnaires returned**	**Questionnaires not returned**
NMB	35	33	2
CRDB	35	34	1
NBC	34	29	5
TPB	34	24	10
Total	**138**	**120**	**18**

Source: Field Data Survey, 2016

4.3 Demographic Characteristics

The general description of bank staff provides an overview of the population that took part in the study. In the perspective of the researcher, these socio-economic and demographic attributes of respondents have such a great bearing on responses given by the respondents on the state of E-banking on commercial bank operations. They have an essential value attributes to any society as they reflect their behaviour in decision-making and the expected responses. The general characteristics of respondents examined in this study-included age, gender, education level, work experience and job position in the bank.

4.3.1 Age Group of Respondents

Among the 120 respondents interviewed, majority (73 (60.8%)) fall within the ages of 18 and 40 years, while 47 (39.2%) were aged above 41 years and none of the respondents was found underneath the age 18 years. This demonstrates that most the respondents in the banks are between ages of 18 and 40 years old.

Table 4.2 Distribution of Respondents by Age

Age	**Frequency**	**Percent**
Below 18 years	-	-
Between 18- 40 years	73	60.8
Above 41 years	47	39.2
Total	**120**	**100**

Source: Field Data Survey, 2016

The findings suggest that, a greater number of the respondents met were adult and mindful individuals hence they were in a position of giving the data required, as well as relevant one to meet the objectives of the study.

4.3.2 Gender of Respondents

In recent years, gender diversity increased significantly in the workplace as a large number of women have joined the workplace. Table 4.3 provides a summary of male and female proportion of the 120 surveyed respondents. Results demonstrate that a greater number of the respondents i.e. 67 (55.8%) were female and 53 (44.2%) who were males. This was because of the way that majority of the respondents were mostly female. In view of the findings, it is obvious that more women were found mostly involved in the banking industry than men. This shows that the banks visited gives equal opportunities to men and women across all levels and job types and there was somehow gender balance of the respondents, which make the study to have the opinions of both males and female.

Table 4.3 Distribution of Respondents by Gender

Gender	**Frequency**	**Percent**
Male	53	44.2
Female	67	55.8
Total	**120**	**100**

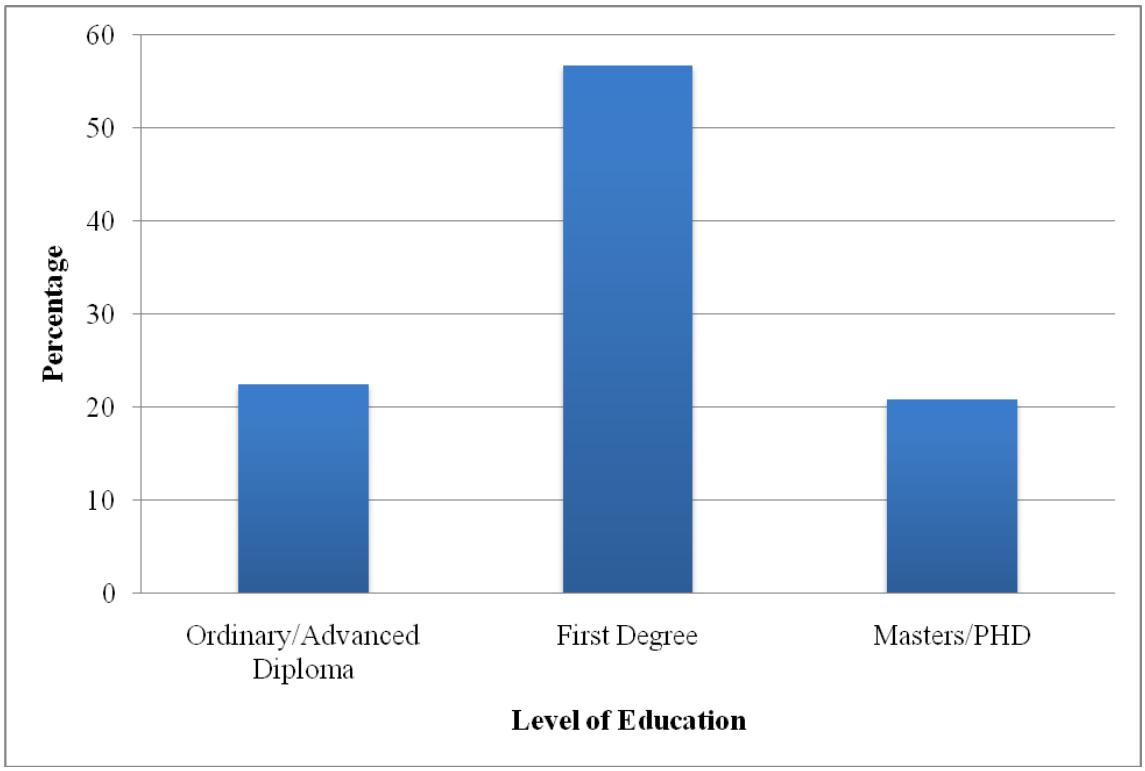
Source: Field Data Survey, 2016

4.3.3 Education Level of Respondents

The banking industry has undergone considerable technological progress following the innovation of E-Banking services and massive use of computers. In a rapidly changing technological environment, education becomes even more important because employees' ability to deal with disequlibria induced by technological change depends largely on education. This study equally assumed that education level plays a significant role in general-skill building up. For instance, literacy enables employees to follow written instructions for using E-Banking. Results in Figure 4.1 presents a summary of education level of respondents with respect to years spent in schools. The outcomes demonstrated that out of 120 respondents interviewed, greater number i.e. 68 (56.7%) had achieved First Degree level while a couple of them i.e. 27 (22.5%) have an Ordinary/Advanced Diploma and 25 (20.8%) of the respondents have

Masters/PHD. This infers that respondents had adequate academic qualifications for reading and understanding the questionnaires legitimately and hence there is a reason to trust that they answered to the questions presented to them accurately.

Figure 4.1 Distributions of Respondents According to Educational Qualification



Source: Field Data Survey, 2016

4.3.4 Working Experience

Table 4.4 Distribution of Respondents according to Working Experience

Number of Years	Frequency	Percent
1 – 5	17	14.2
6 – 10	63	52.5
11 – 15	21	17.5
16 - 20	19	15.8
Total	120	100

Source: Field Data Survey, 2016

The information in table 4.4 shows that 63 (52.5%) of the respondents have a work experience of 6 to 10yrs, 21 (17.5%) of them have worked from 11-15 years, while 19 (15.8 %) have worked for 16-20 years, and 17 (14.2%) have worked for 1-5. Therefore, a majority of the respondents have worked between 6-10 years, which implies that more respondents had an experience in managing bank operations, and therefore they were in a better position to tell about their encounters concerning the impact of E-banking on bank operation.

4.3.5 Position in the bank

Table 4.5 Distribution of Respondents according to Position held

Position	Frequency	Percent
Branch Manager	10	8.3
Head of department	28	23.3
Supervisor	9	8.3
Officer	33	27.5
Ordinary Staff	40	33.3
Total	**120**	**100**

Source: Field Data Survey, 2016

The results showed that out of 120 respondents interviewed, ordinary staffs were 40 (33.3%). The rest are as follows; 33 (27.5%) are officers, 28 (23.3%) are Heads of

departments, 10 (8.3%) Branch Managers and 9 (8.3%) were Supervisors. Therefore, majority of the respondents were ordinary staffs with 40 (33.3%).

4.4 E-banking Products and Services

With respect to one of specific objectives of this research that intended to identify weather the banks offer e-banking services and the products and services of E-banking provided by banks, the findings of the study indicated that 120 respondents, equivalent to 100% agreed their banks offer electronic banking services. From the above, it can be deducted, that all the banks visited offer electronic banking services.

Table 4.6 Offering of E-banking Services

Options	**Frequency**	**Percent**
Yes	120	100
No	-	-
Total	**120**	**100**

Source: Field Data Survey, 2016

4.4.1 Electronic Banking Service Offered

There are many products and services of E-banking; however, this study aimed at investigating specifically those that were offered by the selected banks. The findings of the study indicated that the commonly used electronic banking services include; ATMs with 58(48.3%) responses, Mobile banking were 40 (33.3%) and Internet banking were 22(18.3%). Overall, the majority of the banks offered make use of ATM as an e-banking product.

Table 4.7 Electronic Banking Service Offered

Services	**Frequency**	**Percent**
ATM	58	48.3
Internet banking	22	18.3
Mobile banking	40	33.3
Others (specify)	-	-
Total	**120**	**100**

Source: Field Data Survey, 2016

The study also investigated how frequent is E banking used. From table 4.8, findings shows that 85 (70.8%) of the respondents have been making use of E-banking products very frequently, 24 (20%) frequently and 11 (9.2%) occasionally.

Table 4.8 Frequent Use of E-banking

Decision	**Frequency**	**Percent**
Very frequently	85	70.8
Frequently	24	20
Occasionally	11	9.2
Not in use	-	-
Total	**120**	**100**

Source: Field Data Survey, 2016

Furthermore, respondents were asked to indicate the approximate number of customers using E-banking in their respective banks. 93 respondents equivalent to 77.5% indicated that the customers using E-Banking range from 61% to 80%. This implies that use of the E-banking services by customers is significantly high.

Table 4.9 Range of customers using E-banking services

Services	Frequency	Percent
Below 20%	-	-
21% - 40%	-	-
41% – 60%	27	22.5
61% – 80%	93	77.5
Above 80%	-	-
Total	**120**	**100**

Source: Field Data Survey, 2016

4.4.2 Uses of E-banking by banks

To be in the position to understand how E-baking is used, the researcher posed the question that asked "What does the bank use e- banking mainly for?". In analyzing the response to the question, table 4.9 summarizes the result. Majority of the respondents i.e. 73 (60.8%) indicated that banks use E-banking mainly for banking operations and customer services and 47 (39.2%) for Advertisement/Marketing and selling of service products.

Table 4.10 The main use E-banking

Services	Frequency	Percent
Advertisement / Marketing and selling of service products	47	47
On live banking operations and customers services	73	73
Loan application and processing including Mortgage	-	-
Bill payments	-	-
Transfer of funds	-	-
Total	**120**	**100**

Source: Field Data Survey, 2016

4.5 Impact of E-banking on the Operations of Commercial Banks

4.5.1 Profitability

Increased revenue is the objective of every firm. This study assumed it was important to investigate whether the investment in E-banking by banks has increased their revenues. The findings in table 4.11 show that 111 (92.5%) of the respondents agree that E-banking has increased bank's profitability while 7.5% of the respondents strongly agreed to the above questions.

Table 4.11 Profitability

Decision	Frequency	Percent
Strongly agree	9	7.5
Agree	111	92.5
Undecided	-	-
Disagree	-	-
Strongly disagree	-	-
Total	120	100

Source: Field Data Survey, 2016

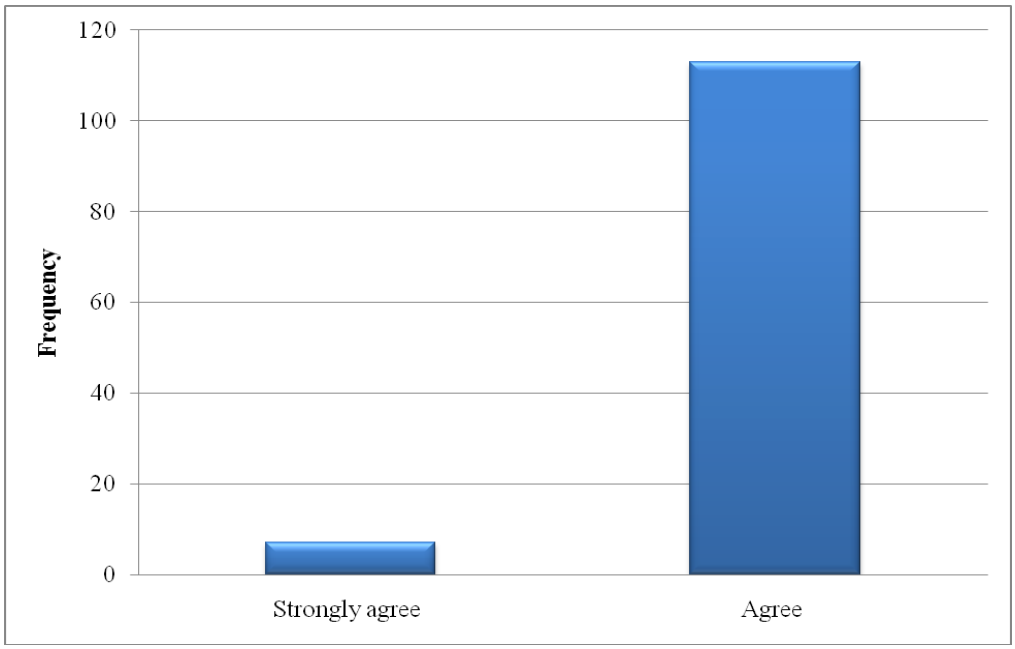
The results above are similar to that of Sumra et al, (2011) who found e-banking to have led to increased profitability of banks in Pakistani and empowered the them to meet their operating expenses. Ngango et al (2015) had similar findings in Rwanda where E-banking channels such as pay direct, ATMs, electronic check conversion, mobile banking and E transact had greatly affected bank performance in Rwanda because they increased profitability, reduced bank operating cost, and expanded bank resource and bank effectiveness.

4.5.2 Efficiency

This study assumes that every firm has an obligation to produce high quality products at the lowest cost possible. Thus, a firm will adopt any technologies that will enable it to achieve the above objective. Therefore, the researcher found it necessary to assess the impact of E-baking on operational efficiency. As shown in figure 4.2, out 120

respondents, 113 equivalent to 94.2% agree that E-banking has lead to the increased operational efficiency in the provision of bank services. The findings are consistent with that of Kipesha (2013) who reported the presence of positive correlation between efficiency and ICT usage in Microfinance Institutions in Tanzania. This implies that E-baking usage has a positive impact on operational efficiency therefore; banks should increase their investments in ICT in order to realize the great benefits of ICT.

Figure 4.2 Bank Operational Efficiency



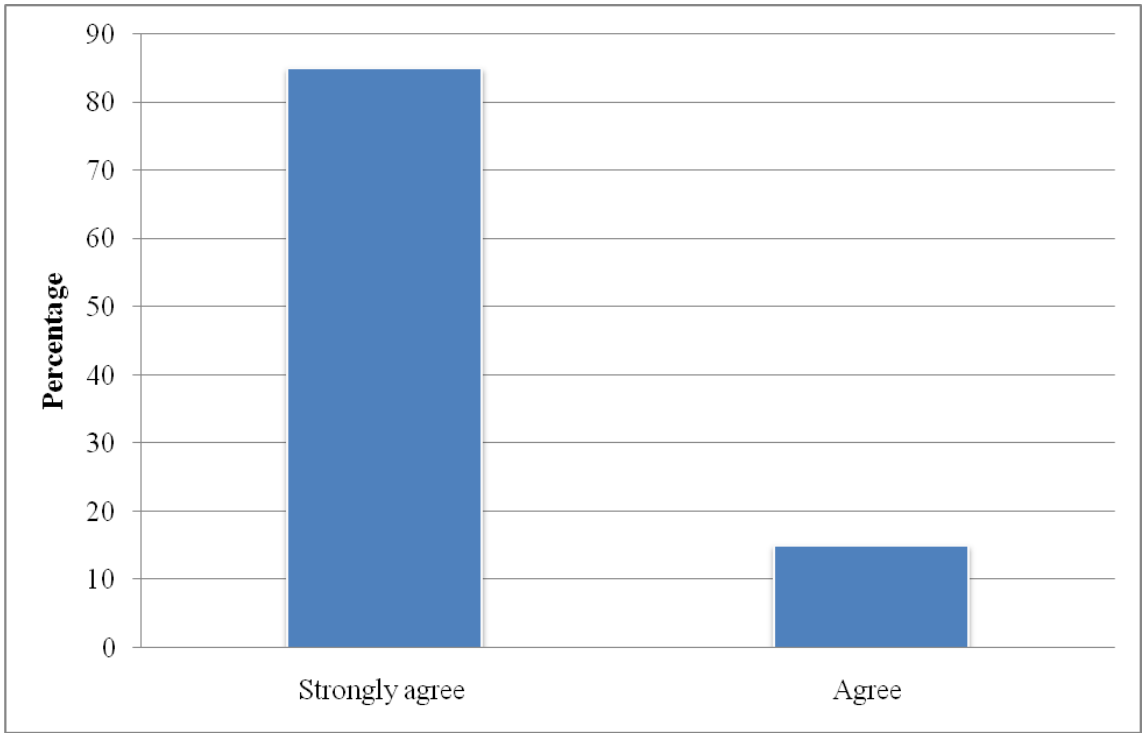
Source: Field Data Survey, 2016

4.5.3 Customer Service Delivery

It generally recognized by business organizations that providing good service to customers is necessary in fuelling the success of the organization. Given the significance of this phenomenon, this study thought that it was important to examine if the investment in e baking has led to improved customer service delivery. Figure 4.3 shows that out of the 120 respondents, 102 (85%) strongly agree that E-banking has led to improved service delivery while 18 (15%) agree to the above matter. The findings above are in line with that of Addae-Korankye, (2014) who found that that E-

banking has impacted positively on customer service and profitability of banks in Ghana.

Figure 4.3 Customer Service Delivery



Source: Field Data Survey, 2016

In additional to improved customer service delivery, it was also found that have been provide better and wider range of banking services as a results E banking innovation. The results are summarized in table 4.12.

Table 4.12 Range of Banking Services

Response	Frequency	Percent
Strongly agree	39	32.5
Agree	72	60
Undecided	5	4.2
Disagree	3	2.5
Strongly disagree	1	0.8
Total	**120**	**100**

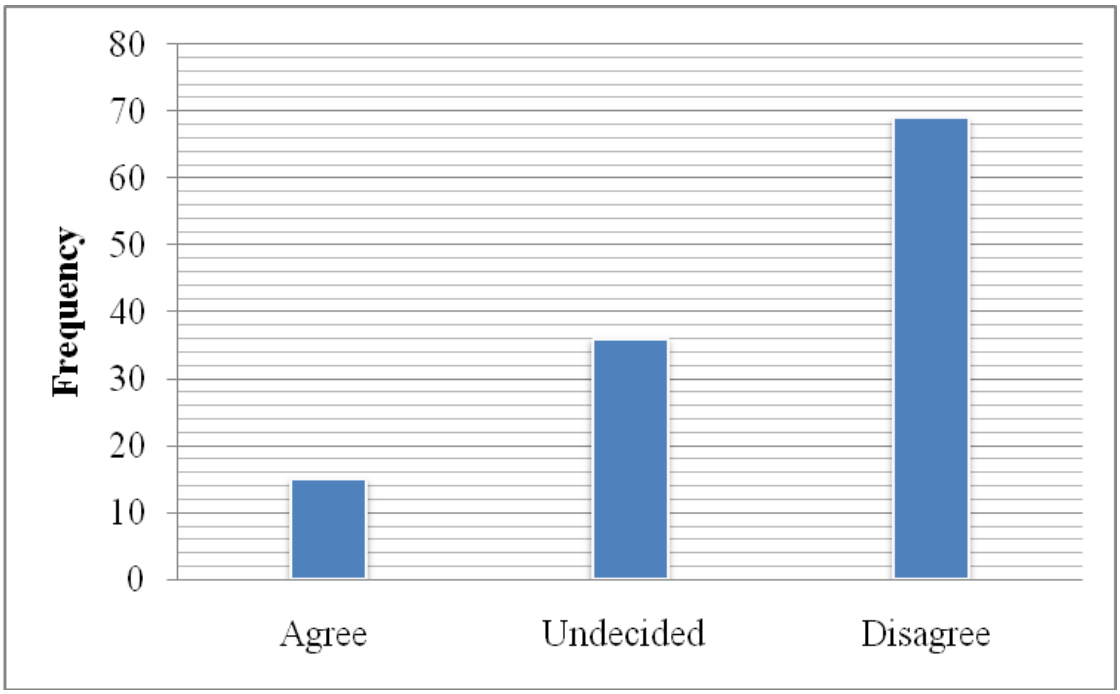
Source: Field Data Survey, 2016

Table 4.12, can be deduced that 72 (60%) respondents out of the 120 agree that the adoption of E-banking banks have been able provide better and wide range of financial services. 39 (32.5%) strongly agree, while 5 (4.2%) of the respondents were Undecided, and 1 of the respondent disagreed representing (0.8%).

4.5.4 Physical Branch Banking

With the emergency internet and mobile baking in recent years, there has been significant changes in the way banks interact with their customers as customers do not require physical presence at bank branch to perform any transactions. As the number of customers that that use e-banking services expands, one may anticipate that customers to put less value on a bank's location. Hence, the significance of location would decrease. Moreover, one may anticipate that banks will adjust their branch extension arrangements because of this diminished interest for bank branches and as their investment in electronic services increases However, it not known if the number of customers visiting the banks (physical branch banking) has been replaced by these technologies. To be in the position to understand whether E-banking has replaced physical branch banking, the researcher posed the question that asked "Has E-banking has been able to replace the Physical Branch Banking?"

Figure 4.4 Physical Branch Banking



Source: Field Data Survey, 2016

Figure 4.4 show that 69 (57.5%) disagree that physical branch banking has been replaced by E-banking, 40 (30%) are in between (neither agree nor disagree) and only 15 (12.5%) agree. Therefore 57.5% disagree of the statement that physical branch banking has been replaced by E-banking. This means that despite the increasing use of internet and mobile banking, the number of times customers visited bank branches remains high.

The findings of this study are supported by the report released by TSB Bank (United Kingdom) in June 2014. The report states that despite a of the growing number of clients using mobile and online banking to access their accounts and make exchanges, branches remain the first point of call for purchasing financial services products. TSB's own research demonstrates that 88% of bank accounts are opened at branches, while 71% of personal loans and 85% of mortgage applications still occur, in whole or in part, in a bank branch. At the point when clients are conducting "value-added"

transactions of any description, where they need guidance or discourse, branches remain as vital as ever.

Furthermore, the study asked respondents to compare the service of E-banking with traditional banking. 82 (72.5%) indicated that the services under E-banking are far better than it was under traditional banking.

Table 4.13 Comparison the service of E-banking with traditional banking

Decision	**Frequency**	**Percent**
Far better	82	72.5
Better	33	27.5
Same	-	-
Poor	-	-
Total	120	100

Source: Field Data Survey, 2016

4.5.5 Impact of E-banking on Employees Performance

The researcher believes that E-banking helps employees in saving time and ensuring easy handling transactions. It is for this reason the researcher decided to investigate whether the adoption E-banking has helped bank staffs to work better than it was before. Results in table 4.14 show that out of the 120 respondents, 112 (93.3%) respondents agreed that E-banking has helped bank staffs to work better than it was before, while 6 were undecided representing (5%), and 2 equivalent to 1.7% disagreed.

Table 4.14 Impact of E-banking on Employees Performance

Response	**Frequency**	**Percent**
Strongly agree	60	50
Agree	52	43.3
Undecided	6	5
Disagree	2	1.7
Strongly disagree	-	-
Total	**120**	**100**

Source: Field Data Survey, 2016

4.5.6 Customer Attractions

From table 4.15, it can be deduced that 94 (78.3%) of the respondents agreed that E-banking has attracted more customers to the banks, while 16 were undecided representing 13.3%, and 10 equivalent to 8.3% disagreed.

Table 4.15 Customer Attractions

Response	**Frequency**	**Percent**
Strongly agree	31	25.8
Agree	63	52.5
Undecided	16	13.3
Disagree	3	2.5
Strongly disagree	7	5.8
Total	**120**	**100**

Source: Field Data Survey, 2016

In additional to Customer Attractions, the study further investigated if the customers are satisfied with the E-banking services. The study revealed that 78 (65%) agree that customers are satisfied with the services.

Table 4.16 Customers satisfaction with e-banking services

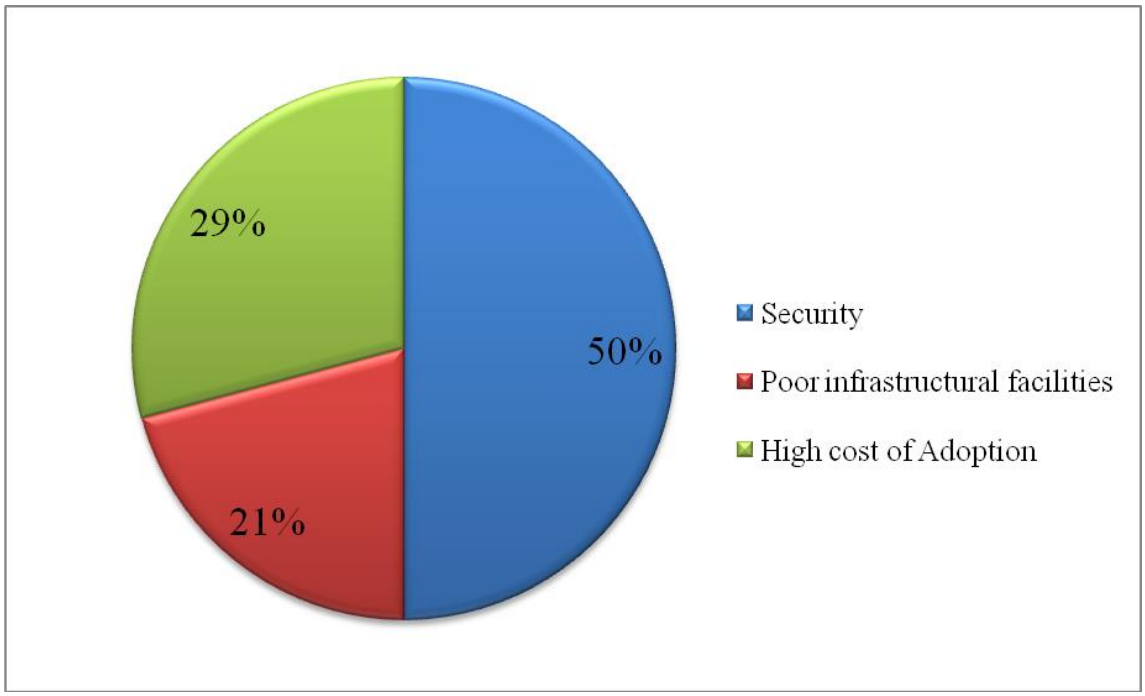
Response	Frequency	Percent
strongly agree	17	14.2
agree	78	65
Undecided	21	17.5
disagree	3	2.5
strongly disagree	1	0.8
Total	**120**	**100**

Source: Field Data Survey, 2016

4.6 Challenges of Electronic Banking

Security of transactions and bank information is vital in all aspects. E-banking applications represent a security challenge as they exceptionally on ICT systems that create vulnerabilities in financial institutions, businesses and potentially harm customers. In this study, it was important to consider the challenges affecting the development of E-banking. As shown in figure 4.5, of 120 respondents interviewed, majority 60 (50%) acknowledged that security is the major challenge facing E-banking in Tanzania, 35 (29.2%) of the respondents are of the view that High cost of Adoption is a major challenge facing e-banking. The state of the infrastructural facilities was not that much ranked as a serious challenge 25 (20.8%). The findings above are in line with Munyoki and Ngigi 2011 and John and Rotimi 2014. The issue of security was observed by Munyoki and Ngigi to be the most critical factor influencing e-banking adoption in kenya. Other major inhibitors were inadequate regulatory support, lack of in-house it professionals and quality of infrastructure. Also John and Rotimi 2014 found security and power challenges in Nigeria. John and Rotimi adds that infrastructure like power; Security and telecommunication should be strengthened to ensure the application of electronic banking in Nigeria and optimum satisfaction on the part of customers.

Figure 4.5 Challenges of Electronic Banking



Source: Field Data Survey, 2016

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This segment of the study displays a summary of findings, conclusion and it then continues to offer suggestions in light of the findings drawn from the study furthermore exhibits the principle areas prescribed for further research.

5.2 Summary of the Study Findings

This study was conducted to investigate the impact of E-banking on commercial bank operations in Tanzania. A cross sectional study design was used and the sample size for this study involved 120 respondents consisting of consisting of employees and managers four commercial banks namely; National Microfinance Bank Plc., CRDB Bank Plc, NBC Bank Limited and Tanzania Postal Bank operating in Dar Es Salaam region. Statistical Package for Social Science computer software was used to ease the analysis of information. Descriptive statistics, for example, frequencies, percentages and coefficient of variation were generated. The study found that the respondents in selected banks have characteristics common to most financial service providers settings elsewhere in Tanzania. Specifically, the study had the following specific objectives:

To identify the products and services of E-banking provided by banks, there are many products and services of E-banking; the findings of the study revealed that the commonly used electronic banking services are ATMs, mobile banking and Internet banking.

The second objective was to identify the factors for the introduction of E-banking by banks. The findings revealed that majority of the respondents indicated that the motive to use E-banking is mainly for banking operations and customer services.

The third objective was investigating the impact of E-banking on day-to-day operations of commercial banks. The finding uncovered that a substantial number of the respondents concur that E-banking has increased bank’s profitability, operational

proficiency and enhanced customer service delivery. However few of them differ of the disagree that physical branch banking has been replaced by E-banking. It was additionally found that E-banking has helped staffs to work to work better than it was before.

Despite the fact that the researcher was guided by the specific objective, keeping other factors constant there was a need to give respondents open question to mention to identify the challenges faced by commercial banks while using E-banking services. Security was identified by the majority as a major challenge facing E-banking in Tanzania. Other constraints to E-banking were high cost of adoption and infrastructural facilities.

5.3 Conclusion

In view of the main findings of this study, the following conclusion can be drawn:

A large number of banks have adopted e-banking to in their operation which has enabled the banks to operate more effectively, efficiently and profits have been increased.

E-banking enables payment and transactions to be processed quickly and more easily than it was before. Customer can access funds and transfer funds between accounts, pay bills and make purchases 24 hours a day through electronic means such as ATMs, mobile phones or computers. Also e-banking has improved the relationships between the banks and their customers relationship by rendering effective services. Customers can now have access to their accounts outside bank working hours to make withdrawals to attend to their needs.

Although E-banking has brought many benefits to the banks, security of the transactions has been the primary concern in using E-banking to both the banks and customers. The lack of security may result into increased access to and alteration of information.

5.4 Recommendations

Based on the study findings, the following recommendations through which e-banking affects bank operations are made:

i. Commercial banks should continue investing in E-banking as it has a positive impact on the operational performance of the banks through which it reduces operational costs and increases profit. Moreover, with the change in technology, banks should be able to provide products and services that meet current changing needs of the customers.

ii. Since ATMs are the most commonly used, commercial banks should ensure ATMs are well distributed across the country order to ensure better customer service.

iii. Both the banks and financial regulators should undertake constructive measures to ensure that there is enough security to financial information. Also the banks should educate their customers on the importance of personal security. This means that customers should be reminded to always keep their passwords, PIN number safely, and report any suspicious transactions immediately to their respective banks. With the security and privacy issues resolved, the future of electronic banking can be very prosperous.

5.5 Areas for Further Research

The researcher put much effort to ensure that this study remained within its stated objectives, scope, research design and methodology. However there may be some areas that were uncovered because some of the limitations and need further research. Below is a list of limitations and areas for further research interested researchers or academic scholars.

i. The findings in this study are based on the information collected on banks located only in Dar Es Salaam region. There are other regions in Tanzania that have not been covered in this study. Therefore, this study provides opportunities to potential researchers and scholars to explore more in such areas to get a full picture of electronic banking in the uncovered areas.

ii. Only one type respondents were studied that is bank employees. Further studies may include customers (individual or corporate customers).

iii. Data collection is based on responses from bank employees. Bank employees tried to maintain high level of secrecy in revealing the information required. It

is therefore possible that there will be some missing important information. Future study may seek official approval from the Tanzanian banking committee; this can provide a better and more realistic picture of E-banking.

iv. This study is limited to only four(4) selected commercial banks i.e. National Microfinance Bank Plc., CRDB Bank plc., NBC Bank Limited and Tanzania Postal Bank. Future studies may consider other banks.

v. Transactions in E-banking are made through mobile phones, computers and internet that are subject to security threat. Therefore, it will be interesting if further studies are conducted on security and risks related E-banking.

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APPENDICES

Appendix I: Questionnaires

Dear respondent,

This questionnaire is designed to collect information regarding your feelings about ***the impact of E-banking on operational performance of your bank.***

All information you give will be used for only academic purpose. So please be sincere with your responses. It will take about 5 to 10 minutes to complete this questionnaire.

If you have any enquiries, please contact Ms. Lida Lugano with either of the following contacts;

Mobile: 0754930960

E-Mail: lidalugano11@gmail.com

Thank you for your understanding, time and cooperation.

PART A: RESPONDENTS PROFILE

Instruction: Please Tick in the Appropriate Box

1. What is your Gender?
   - ☐ Male
   - ☐ Female
2. What is your age (in years)?
   - ☐ Below 18 years
   - ☐ Between 18- 40 years
   - ☐ Above 41 years
3. What is your level of education?
   - ☐ Ordinary/Advanced Diploma
   - ☐ First Degree
   - ☐ Masters/PHD

4. For how long you have been working with this Bank

- ☐ 1- 5
- ☐ 6 – 10
- ☐ 11 – 15
- ☐ 16 – 20

5. What is your position in the bank?

- ☐ Branch Manager
- ☐ Supervisor
- ☐ Head of department
- ☐ Officer
- ☐ Ordinary Staff
- ☐ Others (Please specify).....

PART B: E-BANKING USAGE

Instruction: Please Tick in the Appropriate Box

6.Do your bank offer E-banking through the following channels and how often the customers use the services?

Services	Very frequently	Frequently	Occasionally	Not in use
ATM				
Internet banking				
Mobile banking				
Others : specify				

7. For how long has your bank been using E-banking?

- ☐ Less than a year
- ☐ 1-3 years
- ☐ 4-5 years
- ☐ Above 5 years

8. What does the bank use e- banking mainly for?

- ☐ Advertisement / Marketing and selling of service products
- ☐ On live banking operations and customers services
- ☐ Loan application and processing including Mortgage
- ☐ Bill payments
- ☐ Transfer of funds
- ☐ Other Please specify …….

9. What services do customers get from the bank through internet banking? Tick one or more below

- ☐ Account information
- ☐ Loan application and processing
- ☐ Bills payments
- ☐ Balance and account activity
- ☐ Transfer of funds
- ☐ View and print statement of account
- ☐

Other transactions: please specify

…….....**.....**

10. What services do customers get from the bank through mobile banking? Tick one or more below

☐ Account information

☐ Mobile Top-ups

☐ Bills payments

☐ Balance and account activity

☐ Transfer of funds

☐ Other transactions: please specify

…….....**.....**

11. What services do customers get from the bank through ATM? Tick one or more below

☐ Account Balance Enquiry

☐ Cash Withdrawal

☐ Bills payments

☐ Cash Deposits

☐ Transfer of funds

☐ Mini Statement

☐ Other transactions: please specify …….....

12. Please indicate the approximate percentage range of customers using E-banking services.

☐ Below 20%

☐ 21% - 40%

☐ 41% – 60%

☐ 61% – 80%

☐ Above 80%

PART C: IMPACT OF E-BANKING

Select a response that best describes your position in the following statements using 1: Strongly Agree, 2: Agree, 3: Neutral, 4: Disagree, or 5: Strongly disagree.

	Statement	**1**	**2**	**3**	**4**	**5**
13	E-banking has increased bank profitability					
14	Such increase efficiency has led to overall cost reduction for bank					
15	The adoption of e-banking his contributed to improvement of bank services?					
16	Such increase efficiency has led to overall cost reduction for bank					
17	E-banking has been able to replace the physical branch banking					

18. How do you compare the service of E-banking with traditional banking? (Please Tick in the Appropriate Box).

- ☐ Far better
- ☐ Better
- ☐ Same
- ☐ Poor

19. What do you think are the main challenges for the development of E-banking in your bank?

a) .....

b) .....

c) .....

d) .....

e) .....

f) .....

THANK YOU VERY MUCH FOR YOUR TIME