ADOPTION OF ONLINE BANKING IN TANZANIA
A CASE OF FBME BANK LTD
ADOPTION OF ONLINE BANKING IN TANZANIA
A CASE OF FBME BANK LTD

By
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Dissertation Submitted to Mzumbe University Dar es Salaam Campus College
in Partial Fulfilment of the Requirement for the Award Degree of Masters of
Business Administration (Corporate Management) of Mzumbe University

2013
CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled Adoption of Online Banking in Tanzania, A Case of Fbme Bank Ltd, in partial fulfilment of the requirements for award of the degree of Master of Business Administration of Mzumbe University

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I would like to thanks the Almighty God for giving me health and strength to accomplish this work.

I acknowledge my heartfelt and deep sense of gratitude to my supervisor Edison. W. Lubua for her passion, encouragement, understanding in developing study design and successful conclusion of this study.

Special thanks and appreciation is extended to my lecturers, and members of FBME BANK LTD for their assistance, guidance and counsel, as well as my fellow students such as Jacqueline and others for their insightful collaboration and advice throughout my study.

I am equally profoundly grateful to my family especially my Husband and Children for their material and moral support during the whole time of my study Thank you for the incredible inspiration, support, commitment and affection you showed me.
DEDICATION

This work is dedicated to my beloved Mother Monica and my Children.
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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>ATMs</td>
<td>Automated Teller Machines</td>
</tr>
<tr>
<td>BCP</td>
<td>Business Continuity Plan</td>
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<tr>
<td>CPU</td>
<td>Central Processing Unit</td>
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<tr>
<td>CRDB</td>
<td>Cooperative Rural Development Bank</td>
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<tr>
<td>EDI</td>
<td>Electronic Data Interchange</td>
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<tr>
<td>EFTPOS</td>
<td>Electronic Fund Transfer at Point of Sale</td>
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<tr>
<td>GPRS</td>
<td>General Packet Radio Service</td>
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<tr>
<td>GSM</td>
<td>Global System for Mobile Communication</td>
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<tr>
<td>GUI</td>
<td>Graphical User Interface</td>
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<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
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<td>IT</td>
<td>Information Technology</td>
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<tr>
<td>KCB</td>
<td>Kenya Commercial Bank</td>
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<tr>
<td>LC</td>
<td>Letter of Credit</td>
</tr>
<tr>
<td>LTD</td>
<td>Limited</td>
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<tr>
<td>MBA</td>
<td>Master’s in Business Administration</td>
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<tr>
<td>MICR</td>
<td>Magnetic Ink Character Reader</td>
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<tr>
<td>MIS</td>
<td>Management Information system</td>
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<td>OCR</td>
<td>Optical Character Recognition</td>
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<tr>
<td>PC</td>
<td>Personal Computer</td>
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<td>POS</td>
<td>Point of Sale</td>
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<tr>
<td>ROE</td>
<td>Return on Equity</td>
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<tr>
<td>SWIFT</td>
<td>Society for World Wide Interbank Financial Telecommunication</td>
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<tr>
<td>VPN</td>
<td>Visual Private Network</td>
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ABSTRACT

The study aimed at showing the level of user’s awareness towards online banking in the banking sector. FBME BANK LTD used as the case study. The report went deep in presenting the nature of the problem under discussion and it point out the major facts that are frequently experienced by many banks in preserving their system reliability level of online banking.

The main purpose of this research was to see the level of user’s awareness in online banking in the banking industry in Tanzania, level of online banking system reliability as well as to find out how banks can take advantage of opportunities brought in by technological changes.

The study adopted mixed methodology and the population was based on all levels of management especially on the Centre for Information and Communication Technology. The study used interviews, observation, questionnaires and documentation as data collection method that has enabled the researcher to gather relevant data and come up with the conclusion after critically being analysed. Data has been presented and analysed using both qualitative and quantitative research techniques. The data obtained was compiled, tabulated, graded in percentages and analysed in relation to research questions thereafter. The population of the study came from the FBME BANK LTD staffs, and other staffs within an organization and appropriate sample size of 40 respondents were used.

It was found that FBME BANK LTD has moderate level of customer awareness and less advertises on reliability of internet banking products and services and Addition to that FBME BANK LTD uses common tool of word of mouth advertisement. The researcher recommended that FBME BANK LTD should advertise its online services and use the opportunities available in the market to increase its market share.
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CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction
This chapter introduces and provides the background of the study. The study focuses on the adoption of e-services in Tanzania banking sector. The following sections are included; these are background of the study, statement of the problem, research objectives, research questions, research significance and limitation and de-limitations of the study.

1.2 Background of the Study
Development in Information and Communication Technology (ICT) influences the performance of banking activities in modern societies. In a bid to catch up with global development, improve the quality of customer service delivery, and reduce transaction cost, banks have invested heavily in ICT, and have widely adopted ICT tools in delivering a wide range of value added products and services to clients. (Baron, 2012)

ICT development has a significant effect on development of more flexible and user friendly banking services. (Baron, 2012) In this context one of the objectives of this paper is to examine the relevant literature to assess to what previous researchers have found about the impact of Information Technology on bank’s performance and customer service delivery after adoption of information technology.

Customer satisfaction and customer service delivery is a key parameter for banks to ascertain how effectively the web furthers their objectives of customer acquisition, retention and increased share of wallet (Bana, 2009). The research on the impact of IT on bank’s performance and customer service delivery in the banking industry has been broad. However, few areas, with consumer perspective, are left with less exploratory debate.
Today, information and communication technology has become the heart of banking sector, while banking industry is the heart of every robust economy. If it collapses so will the economy. It is absolutely evident from the current recession, in European banks crises, and in turn. IT has created a new infrastructure for the world economy to become truly global and also provided the users of new technology a competitive advantage over their rivals. Electronic banking system has become the main technology driven revolution in conducting financial transactions. However, banks have made huge investments in telecommunication and electronic systems, users have also been validated to accept electronic banking system as useful and easy to use (Adesina and Ayo, 2010).

Castells (2012) reveals that, now transactions worth billions of dollars can only take place in seconds in the electronic circuit throughout the globe by pressing a single button. Although, IT has revolutionized the way of living as well as conducting businesses and study of banking industry has received increased attention over the last decade, it continues to pose challenges for marketers and academic alike.

According to Loonam, Avera & Johanseen (2008), IT advancements, globalization, competition and changing social trends such as heightened customer pro-activeness and increased preferences for convenience have caused intense restructuring of the banking industry.

Information technology need in Banks is a very essential component for both individual and organizational effectiveness and development. Over time technology has increased its importance in banking sector. Banks always have a way which they would serve their customers more cost effectively and increase utility to their customers. Banks main concern has been to serve customers in a more conveniently way while increasing profit and competitiveness. Communications or information technology has helped banks to reach such goals.

Many banks are making large investments in technology, maintaining and upgrading their infrastructure in order to manage risk positions and pricing. IT has paved way
for off the shelf electronic services such as online retail banking which includes telephone banking, automated teller machines, PC Banking, internet banking, electronic funds transfer at point of sale also various electronic cards. (Banner, 2011).

Information communications and technology has benefited banks in different areas such as in speeding up customer serving time and precision, safe date storage and security whereby in network environment confidentiality of data is very important in banks of the needs to keep their hardware and software free from damage, loss or corruption.

Beer Banks have been able to develop various new products using the advanced technology systems. For all these to be achieved, organizations are implementing various security controls to ensure protection of organization’s assets, accuracy and reliability of records and operational adherence to management’s standards.

1.3 Statement of the Problem

Business activities in the modern world are influenced by changes in technologies; these changes influences the way people operate. In the banking industry, developments in technology have resulted in new delivery channels for banking products and services such as electronic funds transfer at point of sale (EFTPOS), PC Banking, automated teller machines (ATMs) and telephone banking (Alberic, 2009)

The study evaluates the influence of technological innovation to provision of banking services and the growth of banking industry in Tanzania. It particularly studies the awareness of clients on online banking tools together with the extent which they regard the tools to be reliable for banking activities. This is based on the fact that, although banks promote the use of these tools, a large number of their clients still use traditional methods of obtaining services.
1.4 Research Objectives
To evaluate effectiveness of online banking technology in Tanzanian banking industry

1.4.1 Specific Research Objectives
Specifically the study focused on the following key issues:
(i). To determine the level of user awareness towards online banking in the banking industry of Tanzania
(ii). To determine the level of online banking systems reliability
(iii). To find out how banks can take advantages of opportunities brought in by technological changes

1.5 Research Questions
The main research question was what are the impact of information communications and technology in the Banking sector?

1.5.1 Specific Research Question
The study was guided by the following specific research questions:
(i). To what extent are online banking services understood by bank customers in Tanzania?
(ii). Are online banking systems reliable?
(iii). How can banks take advantage of the opportunities brought in by technological changes?

1.6 Research Significance
The study is significant endeavour in providing a comprehensive snapshot of Information technology performance trends in FBME BANK LTD. The study intends to benefit the following stakeholders as follows:

(i). To FBME Bank Management - From the findings of the study, management should be able to have useful insights into the ways in which information
communications and technology systems is executed in an organization i.e. FBME BANK and be able outline areas for improvement.

(ii). To FBME Bank Employees - The study will enable employees to have a chance to express their views on the way information technology is carried out. It is an opportunity for employees to identify areas for improvement and enhancement.

(iii). To Academicians - The study adds knowledge for reference in the topic of role of IT in the banking sector; it provides important contribution to the body of knowledge on the benefits which can be obtained from the IT put in place and assisting on analysing importance of the system and outline challenges faced in the execution process of their daily activities. Moreover the findings on the study are vital for future reference to academic researchers who will be interested to study this area.

(iv). To Researchers - The completion of the research fulfils one of the requirements for the researcher’s award for MBA (Corporate Management).

1.7 Limitation and De-limitations of the Study

The most notable limitations of this study are:-

(i). The research process was completed within defined time frame. Some of the facts required extensive study using a large sample. But due to limited time, the research was aligned to the given timelines.

(ii). There were activities done to accomplish this study which had financial implication. Things like travelling costs, stationery costs, telephone costs just to mention few, all needed financial resources.

(iii). In this aspect the most notable issue was reluctance of staff to respond to questions or give wrong information with regards to the way they observed the whole process of IT in FBME BANK LTD. Some information was difficult to obtain due to confidentiality and policy of the organization.
Delimitation of the Study

The following was done to overcome the above mentioned limitations:-

The use of sample and not the whole population was applied to overcome this limitation. The task was done on part time basis whereby non office hours and weekends and leave days were dedicated for the task. Funds for the task were limited and therefore selection of the sample took into consideration of this fact. Effort was made to get the right people; this was done by applying both probability and non-probability
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
The Literature review is an important section of the research process. The section focuses on understanding the comments of other studies on investigated topic. This chapter consists of both theoretical and empirical studies that are of relevance to the study. In addition it also present conceptual framework that guides the research process.

2.1.1 Historical Background of Banking Industry
The banking industry today is in the industry of revolution. The combinations of regulatory and competitive reasons have led to increasing importance of total banking automation in the banking industry. Information technology has basically been used under two different avenues in banking. One is communication and connectivity and other is business process. (Akpore, 2012)

The evolution of e-banking dates back to 1986 when the banking sector was deregulated. The result of this deregulation brought far-reaching transformation through computerization and improved bank service delivery. Competition with new products became keen within the system while customer sophistication posed a challenge for them, hence the reengineering of processing techniques of business activities encourage the automation of financial services especially among new generation of commercial and merchant banks.

Today, banks have welcomed wireless and mobile telecommunication services. In this model customer account relationship rest with the bank.

New banks discovered that the evolving technology at the global level could be applied to greater advantage in the financial landscape That indeed paid off for some of them, as customers, who ordinarily would have found it almost impossible to
leave the banks they were already familiar with for a new one that was yet to find its feet, quickly noticed the difference in the available products and service.

Reengineering both, basically focusing on increasing its customer reaches. Information of technology enables sophisticated product development, better market infrastructures, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets. The latest revolution seems to happen with respect to mobile banking an attempt to leverage on the synergies of mobile banking technology in telecomm and information technology in the banking services, (Boyett, 2010).

Singh (2002) suggested that technology has introduced new ways of delivering banking services and products to the customers, such as ATMs, and internet banking (IB). Hence banks have found themselves at the forefront of technology adoption for the past three decades. These changes and developments in the banking industry have impacts on serves quality, future of the banking activities, and consequently its continually competitive ability in the world markets since going along with technology is one of the most important factors of economic organizations success in general and banks in particular (Nyangosi, 2009). This motivates banks to spend more on technology and information to achieve maximum returns and attract large number of clients.

2.1.2 Definition
According to Barnhart (2011) Banking can simply be expressed as the business of keeping, lending, exchanging and issuing money. It can also be expressed as the business of bankers. Banking today is undergoing a radical transformation.

The symptoms are obvious; new products, new players, new channels are appearing daily. This transformation is taking place across all sectors of the banking industry.

Information technology is one of the major issues on any bank chief executive’s agenda, thrust into prominence by the massive and increasing magnitude of its costs
at a time when competitive pressure has never been greater, (Carrington, Arrick, Gorgesi, and Tirlo 2009).

Information system/technology can be any organized combination of people, hardware, software, communications networks, and data resources that collect, transforms, and disseminate information in an organization, (Hawkins, 2010)

Banks urgently need to improve the ability to think strategically about information technology investments. Only banks that use their technology resources effectively have the opportunity to secure real competitive advantage in this fast changing industry through real product or service differentiation. The calculus of IT support for the banking, securities and insurance industries has changed dramatically and rapidly over the past few years. (Ugwu, 2010)

Unheard of just a few years ago, corporate intranets are now used for everything from job postings to enhanced team communications. Whole new departments are being created to support e-commerce. And the Internet/Intranet/Extranet triple-whammy is the most critical component of most financial IT shops. At the same time, new intelligent agents stand ready to take on such diverse functions as customer profiling and data mining.

2.1.3 Purpose and Aim of IT in banking Sector

In today world, information technology (IT) has become a key element in economic development and a backbone of knowledge-based economies in terms of operations, quality delivery of services and productivity of services. Therefore, taking advantage of information technologies (IT) is an increasing challenge for developing countries (Woherem, 2010). There is now growing evidence that Knowledge-driven innovation is a decisive factor in the competitiveness of nations, industries, organizations and firms. Organizations like the banking sector have benefited substantially from e-banking, which is one among the IT applications for strengthening the competitiveness. (Stamoulis, 2011)
IT applications with the highest impact upon the global economy, is creating a new business environment. As a growing number of companies launch new Internet-based business lines, many of the new technology advances occur as a result of their using the Internet to improve business processes. This often involves using the Internet to carry out business transactions. E-business has revolutionized the business sector in a way unprecedented in past centuries. It has fostered a new set of economic and social relationships.

Meyer (2009) argued that a critical use of the Internet is to develop and experiment with new business models. It is not technology by itself that makes or breaks an Internet venture, but the underlying innovation and adequacy of the adopted business approach. IT and e-banking have now become the key elements for strengthening the competitiveness of the national economy and improving the productivity and efficiency of both private and government banks. However, access to and use of these technologies remains extremely uneven.

IT creates jobs in all sectors of the economy, and as jobs are created, labour markets adjust to their demands. The increase in both the wages and relative supply of educated workers are consistent with the idea that IT allows skilled workers to perform more functions and produce things that previously were in the domain of less skilled workers, (Anya’s and Tibethis., 2008).

Customers can now electronically transfer funds across the globe without any problem or delay as compared to the traditional method before the advent of information technology when funds are seriously delayed before they are delivered to the recipients. Less developed economies are being left behind in the expansion of a global economy where knowledge is a key factor driving productivity growth. IT and e-banking contribute to the future of developing countries.
2.1.4 Overview of FBME IT Process

The core software running at FBME BANK LTD is called Flexcube Corporate (Version 5.3). This software application was designed and installed by i-flex solutions Ltd, which is one of the leading banking software application developers in the world. The system is running on an Oracle 9i relational database management system on a 64-bit Solaris platform.

Dual CPU machines are clustered using Oracle Real Application Clusters technology with Fiber channel interconnects via a cluster of storage disk arrangements. Flexcube maintains a certain static data within the system that dates within what parameters transactions are processed to ensure uniformity and to place restrictions on certain parameters within which transactions may be processed. For example, all products set up within the system have defined parameters as to their usage and may permit, for instance, that entries may only be passed across pre-defined accounts, to which the system both as a security measure and as a user friendly feature, limiting the amount of data that is required to be entered for a transaction and reducing the potential for erroneous input.

2.1.5 Key Aspects of the FBME IT Process

IT Department is responsible for the daily management of Banks processing systems, which includes Flexcube Corporate, Flexcube Branch, FBME Direct, SR Tanzania (clearing system) and SWIFT. IT has the responsibility to ensure that all systems essential to the Banks functioning are fully operational and that the security and integrity of the data captured is absolute and that retrieval of data in a form that is both acceptable and practical assured.

The Department is also responsible for the Banks communications, both data and voice, including the VPN linking its offices in Tanzania, Cyprus and Russia. (Oldham, 2011)
2.1.6 The FBME BANK LTD IT Policy

The Bank’s Information Security Policy sets out the objectives and principles relating to information security and serves as a general guide for the route to be followed in developing specific policies and realizing security measures. This Policy describes the desired security measures in general terms.

The policy among other issues it entails the following; FBME Bank actively promote security awareness in its employees, contractors and visitors.

Ensures that information is available to users when it is required, the Bank develops and implements the required measures to provide for recovery of systems and operations from a disaster, through a documented and tested Business Continuity Plan (BCP).

Current and future expectations of applicable legal and contractual requirements are identified and addressed.

All external network connections are secured
All FBME Bank’s information systems must be physically protected and operated in a manner that prevents unauthorized access. Segregation of duties for each user group and each user specifically are defined, implemented and maintained.

In online services the following are taking place; FBME Bank Ltd customers are able to initiate three types of funds transfer instruction in FBME Direct internal transfer, demand draft and outgoing payment;

During each business day banking operations department is responsible for regularly monitoring instruction originating from FBME Direct. This is done through upload reports. On a business day following a weekend or public holiday responsible personnel checks each date on which the Bank has been closed and generate reports of any contracts initiated on those days, which will be processed in Flexcube on the first working day after the holiday.
Internal Transfers are processed automatically in Flexcube, provided that the accounts to be debited and credited are in the same currency and there are sufficient available funds in the account to be debited. Otherwise the contract will be uploaded into the funds transfer module of Flexcube with status hold.

**General**

Confidentiality is a fundamental principle of the Bank’s business that is particularly applicable to non-public information concerning the Bank and to information received by the Bank from a customer or supplier for an express business purpose. It applies with equal force to oral or informal communications as well as to written, printed or computer-generated information.

**Bank Information**

Non-public information regarding the Bank is to be conveyed to others only on a reasonable need-to-know basis that furthers a legitimate business purpose of the Bank. Information is to be conveyed with the express understanding that the information is confidential and is to be used solely for the limited purpose for which it was received and given. Unless otherwise instructed, employees must treat internal Bank activities and plans as confidential, to be disseminated within the internal structure of the Bank only on a need-to-know basis.

**Customer Information**

The Bank subscribes to extremely high standards of protection for personally identifiable confidential information obtained from or about a customer, and recognises its obligation to keep such customer information secure and confidential. Such confidential information may include account balances and transaction data, financial condition, and anticipated changes in management, business plan, or financial projections.

Employees are authorised to access customer information only for legitimate business purposes on a need-to-know basis. Employees are responsible for
understanding their obligations to protect the confidentiality and security of customer information.

**Supplier Information**
Confidential competitive information submitted to the Bank in connection with the purchase of products or services must be maintained in strictest confidence in order to avoid giving or receiving any improper competitive advantage with respect to any supplier.

**Computer System**
Information and communications on the Bank's private computer systems are subject to review, monitoring and recording at any time without notice or permission. Unauthorised use or access may be subject to prosecution or disciplinary action.

### 2.2 Theoretical Background

Apparently, to identify and examine the impact of IT on bank’s performance and customer service delivery, the researcher exploded various articles/journals, relevant literature and existing practice of Electronic banking.

#### 2.2.1. Role of IT in the Banking Industry

Apparently, there are always potentials of crisis which make the bank endure an insufficiency; advanced IT supported by a superior mechanism control is required to make certain that IT has achieved the required processes insufficiency; thus, advanced information system supported by a superior mechanism control is required to make certain that IT has achieved the required processes.

A review of some related literatures reveals that IT may essentially affect negatively banks efficiency and may reduce productivity. This notion was noted by Solow (1987), "you can see the computer age everywhere these days, but in the productivity statistics". However, since 1970s to the time Solow was claiming that there was a huge decelerating in growth as the technologies were becoming ubiquitous.
On the same vein, the paradox has been defined by Turban and Michale (2008) as the discrepancy between measures of investment in IT and that of output at the national level. IT has been one of the most essential dynamic factors relating all efforts; it cannot improve banks earnings. This was revealed in an extensive survey conducted in USA for the period of 1989-2012 by Shoo and Stresemann (2011). Conversely, there are various literatures that debunk Solow’s claiming in totality and approve the positive impacts of Information and Communication

According to Kozak (2011) the influence of the IT evolution on the profit and cost effectiveness of the banking industry within the stipulate period of 1992-2012, For this period, the study declares a significant relationship between the executed IT, productivity and cost savings. The modernization of IT has set the stage for extraordinary improvement in banking procedures throughout the world. For instance the development of worldwide networks has considerably decreased the cost of global funds transfer.

According to Berger (2012) banks that are using IT related products such as online banking, electronic payments, security investments, information exchanges, financial organizations can deliver high quality customer services delivery to customers with less effort.

Hittt (2011) postulate that out that "IT contributes significantly to firm level output." They determine that Information Technology capital contributes an 81% marginal increase in output, whereas non Information Technology capital contributes 6%. Likewise they illustrate that Information System professionals are more than twice as productive as non-Information System professionals.

Farrell and Saloner (2011) showed that the relationship concerning Information and Communication Technology and banks performance have two encouraging outcomes.
2.2.2. How Banks Take Advantage of the Opportunities Brought in By Technological Changes?

For the customer: Banks are aware of customer's need for new services and plan to make them available. IT has increased the level of competition and forced them to integrate the new technologies in order to satisfy their customers. They have already developed and implemented a certain number of solutions according to Woherem, E.W. 2010 among the products and benefits includes:

**Self-inquiry facility:** Facility for logging into specified self-inquiry terminals at the branch to inquire and view the transactions in the account.

**Remote banking:** Remote terminals at the customer site connected to the respective branch through a modem, enabling the customer to make inquiries regarding his accounts, on-line, without having to move from his office.

**Anytime banking** - Anywhere banking: Installation of ATMs which offer non-stop cash withdrawal, remittances and inquiry facilities. Networking of computerized branches inter-city and intra-city will permit customers of these branches, when interconnected, to transact from any of these branches.

**Telebanking:** A 24-hour service through which inquiries regarding balances and transactions in the account can be made over the phone.

**Electronic Banking:** This enables the bank to provide corporate or high value customers with Graphical User Interface (GUI) software on a PC, to inquire about their financial transactions and accounts, cash transfers, cheque book issue and inquiry on rates without visiting the bank. Moreover, LC text and details on bills can be sent by the customer, and the bank can download the same. The technology used to provide this service is called electronic data interchange (EDI). It is used to transmit business transactions in computer-readable form between organizations and individuals in a standard format.
As information is centralized and updates are available simultaneously at all places, single-window service becomes possible, leading to effective reduction in waiting time for customers in banking halls.

For the bank; during the last decade, banks applied IT to a wide range of back and front office tasks in addition to a great number of new products. The major advantages for the bank to implement IT are:

(i). Availability of a wide range of inquiry facilities, assisting the bank in business development and follow-up.

(ii). Immediate replies to customer queries without reference to ledger-keeper as terminals are provided to Managers and Chief Managers.

(iii). Automatic and prompt carrying out of standing instructions on due date and generation of reports.

(iv). Generation of various MIS reports and periodical returns on due dates.

Fast and up-to-date information transfer enabling speedier decisions, by interconnecting computerized branches and controlling offices.

Banks makes use of new systems to do more than deliver information and basic services. Banks need the ability to also sell insurance and investment products to get a better return on this investment. Telephone banking can bring financial services to the home or office, especially if they are affordable screen phones, the bank can market stock quotes and insurance quotes

For the employees: IT has increased their productivity through the followings:
Accurately computing the cumbersome and time-consuming jobs such as balancing and interest calculations on due dates.

Automatic printing of covering schedules, deposit receipts, pass book or pass sheet, freeing the staff from performing these time-consuming jobs, and enabling them to give more attention to the needs of the customer. Woherem, E.W. 2010
IT can bring down the operational costs of the banks (the cost advantage). For instance, internet technology facilitates and speeds up banks procedures to accomplish standardized and low value added transactions such as bill payments and balance inquiries processes via online network. Woherem, E.W. 2010

IT can promote transactions between customers within the same network (the network effect).

IT has completely reshaping the landscape and the dimension of competition in the banking industry. Following the introduction of online banking, ATMs and Mobile banking, which are the initial milestones of electronic banking, the diffusion of IT and increased penetration of Internet has added a new challenges and distribution channel to retail banking: online banking for the delivery of services and products.

With the aid of information technology, online banking provides the opportunity of paying bills and performing transactions of any kind electronically. Electronic payments can be credited or debited the same day. Customers can make payments for goods or services without necessarily coming in contact with physical cash and running the risk of handling a large amount of money. Woherem, E.W. 2010

According to Haq (2011) banks existence depend on their ability to achieve economies of scale in minimizing asymmetry of information between savers and borrowers. Today, one of the major challenges facing the banking industry is how IT has helped banks to sustain the economies of scale whilst shifting from bricks and mortar banking to online banking. ICT enables them to communicate easily across as many employees as possible within and outside the country to deliver radically-enhanced customer-centric services, banks has been rapidly transformed from being just a bank to a one-stop-shop financial solutions provider.

According to Claessens (2012) Role of IT in the banking industry can allow global economies to setup a financial system before first establishing a fully functioning
financial infrastructure instead. Virtually, since electronic banking is much cheaper, it involves reduced processing costs for providers and less search and switching costs for consumers, banks can promote their services and products involving smaller transactions to lower income borrowers, even in remote areas, brings difference in the available products and service delivery systems of the two categories of banks (old and new generation). The customers without hesitation opted to pay for the extra values that would satisfy the extra-personalized product services and the attendant personalized marketing.

E-banking is about using the infrastructure of the digital age to create opportunities, both local and global. E-banking enables the dramatic lowering of transaction costs, and the creation of new types of banking opportunities that address the barriers of time and distance. Banking opportunities are local, global and immediate in e-banking.

Simpson, (2011) reveals that electronic banking is motivated largely by the prospects of operating costs minimization and operating revenues maximization. An evaluation of online banking in developed and emerging markets reveals that in developed substitute for physical branches for delivering banking services.

Recently many financial services firms are becoming e-business companies by driving down their costs and increasing customer service through the application of technology and business process reengineering. For example, new technologies allow costs to be reduced through compression of the supply chain, to eliminate all redundant and non-value added steps between demand and its fulfillment. Further, customer service is enhanced by making valuable business information available quickly, easily, and in a meaningful presentation format both to the employees serving the customers, and to the customers themselves.

Barnes (2012) already said that no any service industry seems to be more interested in setting up relations with customers than the banking industry; however, the increasing deployment of IT in financial transactions reduced the contact between
bank and customers, modifying quite remarkably the general aspect of the relationship in fact, with the IT having lowered information costs, customers were able to compare portfolios of investments between banks, or even invest directly (Cooke, 2012).

New Marketing Opportunities is as expensive to banks as the new technology is used the new systems to do more than deliver information and basic services. Banks need the ability to also sell insurance and investment products in order to get a better return on this investment. Telephone banking can bring financial services to the home or office, especially if they are affordable screen phones. By noticing how much interest the customer expresses, the bank can market stock quotes and insurance quotes. Interactive videos are new technology that banks can make available to the customer to maintain personal contact while still lowering the expense of delivery service. With an interactive video an expert employee is not needed in each branch to meet each customer face to face. Complex life insurance products, open brokerage accounts, customized product illustrations can be widely available where needed. The interactive videos will be cost effective expertise.

According to Shoebridge (2011). Interestingly, IT in particular plays an important role in the financial industry and this is one reason why the banking sector is among the most intensive in deploying IT

Al-Hawari, (2011) With the increase of Internet services and cash machines available in various locations, the most recurring problems have been mitigated and, in some cases, solved; as an effect, the volume of customer services increased became easier, and the customer experience turned out to be more comfortable. It is noticeable that the new technologies, particularly in IT, enabled banks to service customers not only in branches and other dedicated servicing sites, but also in domiciles, work places and stop and shop stores, as well as in a myriad of other channels
Thus, various issues related to the branches are another concern when dealing with the customer service delivery in the banking industry. For instance, access to the facilities (e.g., parking lot attributes and the mobility of people inside the branches), safety and convenience of location make customers access service delivery on a tangible basis (Castro, 2012); the branches external and internal architecture may mediate the perception of service delivery; while Innovations of ATMs by Information Technology inside the branches simplify the customers procedures and lowers personnel costs, the number of human attendants is also important and vary according to demand, especially for reducing waiting times for certain services, providing human interaction and servicing elder and less informed customers, who still seem to prefer people instead of machines as interfaces for their transactions (Dick, 2012).

According to Dick (2012) Advertising practices and the banks institutionalized reputation within the community may be related to customer service delivery as well points out that another strategy for developing a good image within the market is to diversify the portfolio of services. As much as who uses many banking services is not likely to move to another bank, sponsoring social activities should also be considered.

According to Delgado and Nieto (2012) IT revolution has distorted the conventional banking business model by making it possible for banks to break their comfort zones and value creation chain so as to allow customer service delivery to be separated into different businesses. Thus, for example, primarily Internet banks distribute insurance and securities as well as banking products, but not all the products they distribute are produced by their group.

However, the main economic argument for diffusion of adopting the Internet as a delivery channel is based on the expected reduction in overhead expenses made possible by reducing and ultimately eliminating physical branches and their associated costs. This specifically applies to and relevant in the Spanish banking system, which is one of the most “over branched” in Europe. As stated by DeYoung
(2011) and Delgado (2011), the Internet delivery channel may generate scale economies in excess of those available to traditional distribution channels.

However, the scope and dimension of financial services in the foreseeable future will be different from the present, in terms of the character of players, dynamism of business models, competitiveness, customer’s expectations, the degree of internationalization, adjustment to technological trends and innovations, as well as the standards of the underlying infrastructure.

Haq (2011) argued that bank exists because of their ability to achieve economies of scale in minimizing asymmetry of information between savers and borrowers. The unit costs of Internet banking fall more rapidly than those of traditional banks as output increases as a result of balance sheet growth.

2.2.3. How effective is ICT in banking sector?
According to Cheung, (2012) IT creates unprecedented opportunities for the bank sector in the ways they organize financial product development, delivery, and marketing via the Internet. While it offers new opportunities to bank sector, it also brings many challenges such as the innovation of IT applications, the blurring of market boundaries, the breaching of industrial barriers, the entrance of new competitors, and the appearance of new business models.

There are many forms of technological innovations or electronic delivery channels adopted by banks. Technological innovations have been identified to contribute to the distribution channels of Banks. The electronic delivery channels are collectively referred to as Electronic Banking. Electronic Banking is really not one technology, but an attempt to merge several different technologies. Each of these evolved in different ways, but in recent years different groups and industries have recognized the importance of working together. Bankers now see a kind of evolution in their business, partly, because the world has taken a quantum leap in the use of technologies in the last several years.
Today, banks that are well equipped with a good grasp of the electronic banking phenomenon will be more able to make informed decisions on how to transform IT and to exploit the opportunity in electronic banking. (Sekely, 2012).

In today’s competitive market, establishing core capabilities can help the banking industry reorganize their product and customer service delivery, so as to sustain competitive advantages and to achieve congruence whilst shifting from the conventional banking to electronic banking.

Electronic banking can be described as the act of carrying out the business transaction of a bank using electronic devices. Examples of electronic devices that are used include Computer Systems, Global System for Mobile Communication (GSM) phones, Automated Teller machine (ATM), Internet facilities, Optical Character Recognition (OCR), Smart Cards, etc. E-banking is about using the infrastructure of the digital age to create opportunities, both local and global. E-banking enables the dramatic lowering of transaction costs, and the creation of new types of banking opportunities that address the barriers of time and distance. Banking opportunities are local, global and immediate in e-banking.

Advances in technology allows the delivery of banking products and services more conveniently and effectively than ever before thus creating new bases of competition, also causes rapid access to critical information and the ability to act quickly and effectively which will always differentiate the successful banks of the future. The bank gains a vital or very important competitive advantage by having a direct marketing and customer service environment and new, streamlined business processes. Consistent management and decision support systems provide the bank.

However, consumer behaviour affects person's usage of electronic banking, obviously a person should have an access to a computer with an Internet connection either at home or in the office. It is possible to use computers with Internet connection also in some of the self-service branches. Apparently, the research of online shopping reveals that prior web experience has positive impact on the persons beliefs about IT in general (Crisp , 2012, p 4) and it is quite obvious to draw a conclusion that the
same applies also for electronic banking. Consumers who are on ease with IT and use them also for other purposes find it convenient to start using electronic banking. Telecommunications and Information Technology are revolutionizing the way business is done. Electronic commerce is now thought to hold the promise of a new commercial revolution by offering an inexpensive and direct way to exchange information and to sell or buy products and services. This revolution in the marketplace has set in motion a revolution in the banking sector for the provision of a payment system that is compatible with the demands of the electronic marketplace. DeYoung et al (2007) refer to the Internet banking as a "process of innovation that functions mainly as a substitute for physical branches for delivering banking services" brought by the development of both IT and IT. In the case of the Spanish banks, there is some undependable evidence that shows that the Internet distribution channel has lower unit transaction costs than the two other distribution channels (branch and telephone) for a given type of transaction (money transfer, mortgage loan, brokerage or demand deposits).

2.2.4. Challenges brought in by ICT in Banking Sector?

Basically, IT is associated with a lot of benefits, risks and new challenges for human governance of the developments (Hamelink, 2011). Today, the challenges are rapidly increasing with the pervasiveness of the Internet and the extension of information economy (Holland and Westwood, 2012). However, to successfully cope with the challenge of the IT, the bank sector must understand the nature of the changes that revolves around them, changes in terms of IT, Innovation and Demography. Without this understanding, attempts to migrate to IT may be doomed to failure.

In response to the demands for quick, efficient and reliable services, industry players are increasingly deploying technology as a means of generating insights into customers’ behavioural patterns and preferences. Well-developed outsourcing support functions (technology and operations) are increasingly being used to provide services and manage costs (e.g. Automated Teller Machine networks, Cards processing, Bill presentment and Payments, Software Development, Call Centre operations and Network management).
Investment in new information technology is not only complex but also expensive, and every responsible technology-based business strategy must be accompanied by a rigorous financial plan. As a general rule, sound management calls for retiring old infrastructure as part of the rollout of new infrastructure, thereby providing a source of self-funding for new investment.

In established firm with a large investment in legacy systems, including millions of lines of mainframe-based application code, the immediate promise of new technology lies principally in enhancing the customer relationship, this implies the layering on, as opposed to the replacement of, technology infrastructure. The technology itself is expensive, and acquiring the competencies to manage the new technology responsibly is even more expensive, updating the systems now and then also costs the industry players, there issues like anti-virus which needs to be updated time after time and these anti-viruses are to be bought in bundles which are very expensive.

Competition among banks becomes much threat to some banks which outperform its peers is thus becoming more challenging in the sector. Security of information is also a challenge which is brought in by technological changes.

ACCA (1999) defined network security as “the protection of data and programs from threats which may cause unauthorized change or modification of data or programs; the protection of information system to ensure that the system can operate as designed and the users can receive the services they need and the protection of humans against injury and harm.”

According to MWASHA (2010) from his study of implementing network security in an organization in Tanzania, it was observed that, a network cannot stand alone without implementing a network security as there are so many risks associated with the use of computers. The big source of computer threat to the organizations network as follows;
Most of users use their external storage devices with the organizations computer without scanning. These devices can carry malicious programs from different places like internet cafes or from the computer of their fellows.

Also some users seems to share their user accounts with other peoples which makes these people to view their confidential files, there are some files which are confidential to the other department.

It is observed that organizations tends to implement network security to their organizations with network policies but people seems they do not follow these policies, that is why organization can implement security measures but still there might be some threats to the networks.

And he concludes by saying that there is little emphasis to the users about following organizational network policies. All users should be aware about risks associated with computer as it is so difficult for one user (system administrator) to maintain security of the whole network; all people have to play part in security matters to the organization computer network.

Finally he recommend that important thing to be done is remind people several times about computer threat and to remind them about implement security policies, this is because there might be some newly employed people with no or little knowledge about computer threats and computer security, when reminding them it would help to reducing amount of threats in the organization.

The evolvement of Information Technology causes increase of fraudsters which threats much Tanzania banking sector since the current situation shows that losses are many via online transfers than in physical cash robbery and ambushes; theft has changed ways to get money from the banks.
Increase in Information Technology paves way to Cyber-crimes which is a very big challenge to Tanzania banking sector since there is no law involved to charge criminals that steal from banks via online services such as ATMs and fund transfers, stolen cards thus resulting into number of frauds which cannot be controlled and increases each minute as criminals go free without being punished even when caught red handed. Bankers are more concerned about the absence of prudent legal framework to supervise online banking system in the country. The legislative bodies, such as judges and lawyers do not have sufficient knowledge about virtual crime and are not aware about how to protect the banks and its customers from possible losses emerging from online banking. Dealing with computer crime has not been a priority for banking regulatory authority. The government should also lay down strict legislative frameworks that enable online banking to be conducted in a safe environment that is safeguarded against all unauthorized access so as to manage the structural integrity of the system as a whole.

Updating the security measures every time due to the fact that technology is changing that would cause for some to easily discover the solution for your outdated security measures and get access toward your confidential data. More promotion of this service should be carried out to attract customer towards online banking, and to make them familiar with online banking tools in order to eliminate any reservations that Tanzanian customers might have in banking online. A public awareness campaign aimed at all levels of the Tanzanian society should be initiated by banks to increase the level of knowledge of utilizing online banking services, especially the security and safety aspects of these services.

Banking industry is heavily depending upon information technology that needs professionals for development, implementation and support. Despite the programs performed by many banks to develop their local expertise in IT, there is still a real shortage of qualified personnel. According to a recent survey (T. Abdul Reda and M. Dayya)

In addition, personal characteristics have been identified as significant predictors of consumers adoption of an innovation various researchers have shown that it is the
perceived attributes of the innovation itself rather than the characteristics of the innovators that are stronger predictor13s of the adoption decision (Black, 2012). Clients demand a minimum relative advantage in order to switch channels. It means that the new innovative service should be perceived to be better than its predecessor. There are indeed no doubts that majority of organizations including the banks have taken the advantage of IT to enhance their operations. Today most of them have website on the Internet in order to extend their services globally, provide executive services and promote quality of service delivery.

2.3. Empirical Literature Review

In a comprehensive research conducted by Saloner and Shpard (2011) in USA within the time frame of 2010-2012 reveals that the interest of network effect is significant in utilizing Automated Teller Machines (ATMs). Milne (2011) also encourages and supported the notion of the above authors.

However, research on the impact of IT on banks performance is insufficient and the available studies are more of US, European and Australian banking industry. Carlson and Furst (2011) conducted an intensive research whether there is a positive relationship that exists between innovation of Information Technology and bank’s profitability.

Furst (2011) reveals that federally chartered US banks had higher Return on Equity (ROE) by using the conventional IT business model, IT was one of the major factors that affect bank’s profitability within the period under study and they also observe that more profitable banks adopt IT after 2012 but yet they are not the first movers. On the same note, Eglan (2012), conducted a study and found no evidence of major differences in performance of Information Technology in banking in the US subject to two caveats:

(i). This result may not be the case for all banks.

(ii). Such results are open to change over time as banks become more severe in the use of innovation.
Another study conducted in London by Sullivan (2011) The impact of IT in Banks Performance using the Survey method covering a total of 25 commercial banks also found systematic evidence that multi-channel banks in the 10th Federal Reserve District were either helped or less harmed by having Information Technology improved in transactional web sites.

Another study by Sathye (2011) of Egypt Titled the Evolution of Information Technology in Bank Customer Satisfaction for the credit unions in Australian banks for the period of 2012 to 2012, shows that Information Technology in Banking has proved to be a yard stick for performance enhancing tool.

Another comprehensive study by Lemon (2011) on Importance of Information Technology over the Banco Bank Business Performance revealed that there has been all good services provided through BC terminals installed in business centres after the introduction of Information Technology in the banks, drugstores and other shops as the Banks Investment were all flourished in a short period of time.

The study by Martins (2012) of Kenya on Loans Department of KCB using the 10 KCB branches targeted at low-income individuals and enterprises delivered through KCB showed that the information technology has enabled correspondents’ network-administering companies. Network integrator is responsible for selecting, licensing and UN licensing, training and controlling the retail companies that will work as correspondents. They are also responsible for installing the POS equipment and sets up the communication link (GPRS or dial-up line) at the correspondents’ facilities.

Similarly, a research conducted by Otieno (2011) analyzes the performance of the conventional banking versus the modern banking in the Kenyan market and find strong evidence of general experience effects of Information Technology impacts available to all start-ups.

However, in a recent study, Neito (2007) invoke and find that, for Uganda Community banks and traditional community banks, those multi-channel banks are
somewhat more profitable, mainly via increased implementation and development of Information Technology whereby there have been noninterest income from deposit service charges. Movements of deposits

Centeno (2012) conducted a study on the Link between The internet Banking and the Information Technology and the study revealed that information Technology in internet banking is seen as a complementary channel.

Another research study by conducted by Rogate (2011) of Tanzania Challenges of Implementing Information Technology reveals that successful implementation of information Technology is upon many interrelated factors. Today these aspects as in the current age in UK these factors have been dealt and overcome by the people. The study further shows that now a day’s skills of using internet and cost of accessing the technology, being at home; do not seem to be a stumbling block towards the adoption of innovation from the consumer perspective.

**In Tanzania perspective**
The banking in Tanzania started with minimal financial inclusion where by only 5% of Tanzanian use formal banking services (Corporate Tanzania 2011). The country with 42.5 million populations that means 40 million people do not have a bank account, this reflects a poverty line in which Tanzania population are living in. As the world is changing the E-banking is also evolving Tanzanians are changing as well, the way they spend, their earnings are increased thus they look for ways to manage their finances for profitability reasons for company and personal hence they tends to secure banking services. Currently online/Ebanking services have been very popular service among Tanzanians due to their easy accessibility via mobile phones which makes it easy for people to manage their accounts, they transfer money, make payments on their households expenses for example LUKU payments, water bill, and most recently TAX payments at their own flexibility any time any where they are
Online Banking at FBME Bank

As IT innovation evolves too fast, FBME started to offer the online banking services “FBME DIRECT” for sometime now aiming at communicating clearly and succinctly with its clients. The service makes banking life for FBME customers easy, convenient and controllable; the service is activated by its clients and is accessible through the internet 24/7. FBME DIRECT is available for all FBME clients. The FBME ebanking services includes the following; viewing all your account balance(s), account details including a consolidated view of all mapped accounts, viewing, printing or downloading your account statement(s), viewing your card statement(s) and loading your card(s), initiate internal transfers between FBME accounts, initiate international transfers to other banks, initiate an International demand draft, put money on your debit cards, viewing loan details, schedules, activity and repayments, setting up and managing your fixed deposits, setting up a list of regular payees, secure email messaging, secure service request, view transaction limits utilised, view account statements and view all incoming and outgoing Remittances.
2.4. Conceptual Framework

Figure 2.1: Role of IT in Banking Sector

2.4.1 Description of Variables

**Advances in IT**

IT is the vital tool in any business operations and development. The improvements in Information Technology in banking sector in Tanzania has contributed much to the rise of output in banking industry, such as improved quality of services. Advance in IT includes to how banks gives rise to new products and services available to customers.

**Information Technology Privacy**

The term privacy relates to personal data stored in computer systems. The need to maintain information privacy is very much applicable to personal collected data, business data and others. In ICT information privacy various ways are applied to make sure its safe, it includes encryption, authentication and data masking all these are used to ensure that information is available only to those with authorized access. These protective measures are geared toward preventing data mining and the
unauthorized use of personal information which are illegal in many parts of the world.

Confidentiality - Ensuring the confidentiality of the handling of information stored by the Bank and ensuring the confidentiality of the internal and external provision of information to third parties. In other words, to protect sensitive information from unauthorized disclosure or interception in an intelligible form.

Integrity - Ensuring the integrity of the information processed and stored by the Bank and the software used. In other words, to safeguard the accuracy and completeness of information and computer software.

Availability - Ensuring the availability of everything that is necessary for the information management so that the requirements set can be met. In other words, to ensure that information is available to users when required.

**Information Technology security**
The term security refers to protection of information and information systems against unauthorized access or modification of information, whether in storage, processing, or transit and against denial of service to authorized users. It includes those measures necessary to detect, document and counter such threats. Information security is composed of computer security and communications security.

Information security it is first necessary to define information because the Bank, information is data that is of value to the business and of extreme sensitivity for which security and privacy must be ensured. This information can take many forms: it may be stored on computers, computer disks or tapes, transmitted across networks, printed out or written down on paper and spoken in conversations. The purpose of information security is to ensure business process continuity by preventing information security incidents or minimizing their impact. Information security management enables information to be shared, whilst ensuring that it is still
protected. It has three basic aspects as detailed below. An example of information is electronic customer data.

**Online Banking**

This refers to performance of banking activities via the internet. It’s also called internet banking or Web banking. It’s a computerized service that allows bank’s clients to get online with the bank via internet access or telephone lines to know the status of their account(s) and transaction history. It usually also allows them to transfer funds, pay bills, request cheque books and many other services that can be accessed on the internet related to banking services. In the banking industry online banking services, they include Automated Teller Machine, Smart Cards, Telephone Banking, Bankers Automated Clearing Services which involves the use of Magnetic Ink Character Reader (MICR) for cheque processing. It is capable of encoding, reading and sorting cheques Electronic Funds Transfer, Electronic Data Interchange, Electronic Home and Office Banking.

**New Products**

In banking, this refers to those products that are evolved in banking sector as a result of proper use of Information and Communication Technology and creativity. Information Technology (IT) is the automation of processes, controls and information production using computers, telecommunications, software and ancillary equipment such as automated teller machine and debit cards (Khalifa 2000). It is a term that generally covers the harnessing of electronic technology for the information needs of a business at all levels. Irechukwu (2000) lists some banking services that have been revolutionized through the use of ICT as including account opening, customer account mandate, and transaction processing and recording. Information and Communication Technology has provided self-service facilities (automated customer service machines) from where prospective customers can complete their account opening documents directly online. It assists customers to validate their account numbers and receive instruction on when and how to receive their cheque books, credit and debit cards.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This chapter details research methodology applied. The area or place where study was conducted, the study design, the population and the samples were described. Also types of instruments which were used in collection of data were described. Moreover the methods which were implemented to maintain validity and reliability of the instruments were described. This study used a combination of case study and survey.

3.1 Study Area
Areas of study was one among the parts in research methodology that was clearly defined by the researcher, it involved geographical area or the point of focus in one particular field of specialization.(Cohen 2011).

It was very important for a researcher at the planning stage to clearly specify the area of the study and defined the area to be researched (Cohen and Kamuzora, 2011). The FBME BANK was the area for study. FBME BANK is one of the large commercial banks in Tanzania with a network of 5 branches located in retail centres and major towns across the country with a workforce of more than 140 employees.

3.2 Research Design
This study used a combination of case study

Case Study Design
Mitchell (2011) states that the “case study refers to an observer’s data: that is, the documentation of some particular phenomenon or set of events which has been assembled with the explicit end in view of drawing theoretical conclusions from it”. The case study was preferred since it shows the intense, in-depth investigation of respondents. This participant is called a “case” and can be one person, one animal, or
one group. Not only that but also the method has been preferred since it narrows down a very broad field of research into one easily researchable topic and help the generalization of the findings to the whole entire population.

3.3 Research Population and Sample

3.3.1 Population

A population is a complete collection of data which contains all subject of interest to be studied and properties to be analyzed, but also it involves a group of individuals who have one or more common characteristic that are of interest to the researcher. (Best, 2012).

The study did not cover the whole entire population of FBME. The survey design deployed and it covered part of head office, branches which are located in Dar es Salaam and some few upcountry branches. This method was chosen due to the fact that it was less expensive and it was possible to use data collection methods like interviews questionnaire and observation.

3.3.2 Sample

Sample was a segment of population in which researcher was interested in gaining information and drawing conclusions (Babbie, 1992). While selecting the sample size, researchers are advised to put into consideration three important aspects namely the availability of population, methods of sampling to be used and financial resources available for facilitation of the specific study (Charles, 2011).

The study used a sample of 40 respondents which is approximately 60% of the total population in the case study.

The study used both probability and non-probability sampling techniques in selecting respondents from the Bank. These are simple random sampling and purposive sampling respectively.
The Purposive Sampling used to select the convenient respondent from the IT department while the random sampling was employed to select the employees of the Bank who work from other department none other than IT.

3.4 Data Types
Both primary and secondary data were applied to ensure enough information is obtained. Primary data was obtained using the questionnaires and personal interviews. Secondary data was reviewed from various literatures which are available related to the study.

3.5 Data Collection Methods
There are a number of ways or methods which can be used collect data. This study mainly used opinion survey, observations, questionnaire, documentary reviews and interviews.

3.5.1 Documentary Review
This involves the study of existing documents about the area of the study. The documents were valued in providing more insights into the programme being studied by cross validating and augmenting evidence obtained from other sources Yin (1994).

In the study the secondary data was obtained from the past research works, journals, web pages, manuals, circulars, newsletters etc.

3.5.2 Interviews
In interviews information is obtained through inquiry and recorded by enumerators, (Kothari 2011). Interview can be defined as a data collection technique that involves oral questioning of respondents, either individually or as a group.(Kothari 2011). This method was used so as to elicit information in order to achieve a holistic understanding of the interviewee’s point of view or situation; it can also be used to explore interesting areas for further investigation.
3.5.3. Questionnaire

According to Kothari (2011), Questionnaires method are forms which are completed and returned by respondents it is indeed an inexpensive method that is useful where literacy rates are high and respondents are co-operative. This instrument used to gather data over a large sample. There are several reasons as to why one would wish to use the questionnaire method, to mention but a few, patterns, frequency, ease and success of use, user needs, expectations, perspectives, priorities and preferences, user satisfaction with collections and services shifts in user attitudes and opinions, relevance of collections and services to user needs, trends.

The rationale of using questionnaire in this study was in fact the working nature of some of workers may not allow them to strike an appointment for interview. In addition the questionnaires method was the most preferred for the purpose of maintaining confidentiality and reduces interviews bias.

The closed questions were useful in quantification where as open questions were used to get description and explanation.

3.6 Validity and Reliability Issues.

3.6.1 Validity Issues

According to Saunders (2011) validity is an aspect which is concerned with whether the findings are really about what they appear about. It is a measure of how well a test measures what is supposed to measure. For the purpose of ensuring validity of data collection instrument in this study a pilot study to 5 respondents which is 12% of the expected sample population was conducted and respondents’ comments and observation was used to modify the questionnaire before the actual data collection.

3.6.2 Reliability Issues

The data were collected from different sources all of which were assumed to be credible and very reliable. The primary data were collected from the Customers, staffs and other workers of the organization, Mostly the workers from IT department. These were by either interviews or questionnaires.
3.7 Data Analysis Methods

The research used the thematic analysis in analysing the data on the role of IT in Banking Sector, this is because the research has used the inductive approach which is qualitative in nature but also in thematic analysis only major things and themes are identified. Also computer package SPSS was used to provide frequencies and figures during data presentation. The data were presented by using simple statistics figures such as tables, bar charts and figures to illustrate the findings.

3.8 Data Analysis and Presentation

Both quantitative and qualitative methods were applied in data analysis. Quantitative data was analyzed by use of SPSS whilst qualitative data was synthesized and reduced into short frequencies and percentages for easy analysis and interpretation. Tables, figures and graphs were also applicable.
CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction
This chapter intends to present, analyses and discuss the findings of the study. This reviews FBME bank’s Online banking in relations to globally accepted principles and best practices. It involves reviews of documented processes available at FBME and responses from respondents of the questionnaires. Basically it aims at studying the online banking systems in FBME. The review is guided by the following research questions
(i). What are the effectiveness of Information communications Technology in banking sector?
(ii). What are the challenges brought in by Information communications Technology in banking sector?
(iii). How can banks take advantage of the opportunities brought in by technological changes?

4.2 Demographic Variables
This section aims to discussing the demographic variables to enable the researcher establish the extent of judgment one might have in the area of the study. Among the researched respondents characteristic includes age, Level of Education and Working experience.

4.2.1. Age of the Respondent
The researcher included age of the respondent in the analysis as this would help in realizing which particular age group would adopt more effectively these new changes and whether that particular age group have an influence to the financial and development of the bank in general. Data were analysed based on the following age groups or categories 18-25 years, 25-35 Years, 35-45 Years, Above 45 year.
The finding presented in Figure 4.1 below shows that the age group between 25-35 years has the highest percent of respondents which is approximately 72%. Also the age group between 35-45 years showed the lowest level of respondents which is 3% of the respondents. 25% of the respondents were between the age of 18-25 years, and The findings signifies that most of the respondent at 35-45 were active and quick to adopt to this new changes of technology as this particular age represent most of the business men and an effective working group who hasten their economic development, and own account with the bank, 3% of the respondent represent dependant and student.

The finding are supported by the study of Akpore, (2012) as cited in the literature review that in most countries the working age group are effective to adopt with any newly introduced strategy with hopes that it would help to boost their financial status. Figure 4.1 shows the age of respondents for the research.

**Figure 4.1 Age of the Respondents**

Source. Researcher’s (2013)
4.2.2 Level of Education

The level of education of the respondent was of interest to the researcher as it would help determining whether the new technology is segregative or friendly user that means it involves all categories of people regardless of the level of education. The findings revealed that 30 (75.0%) respondents were degree level education holders while 10 (25.5%) of the respondents were diploma holders.

The findings signify that More than 50% of the respondent had attained master’s degree. This entails that a good number of respondents involved in this study are well educated and hence knowledgeable on most of the concepts which were asked. This has also being a reason for using questionnaire as a major tool for data collection in our study. These findings were expected as most of the banks employees are holder of above diploma education.

These finding are supported by the findings of Akpore, (2012) of South Africa where it was observed that more of employee in the banking sector are holding up to achieve further education in their field for search of promotions and motivations.

Figure 4.2: shows the level of education of respondent.

**Figure 4.2: Level of Education**

Source Researcher’s (2013)
4.3. Working Experience

The working experience of an employee is very vital as far as the issue of the Adoption of Online Banking in Tanzania is concern, the old employees would be able to experience and comment on the effectiveness of the new technology. The finding involved 40 respondent were by 18(45.0%) of the respondents said had worked for the period of 1-3 years old,10 (25.0%) employee had worked for 1 year and below, 8(20.0%) employees have worked for 4-7 years and lastly 4(10.0%) of the employee had worked for 7 years and above.

The findings show that more than 50% of employee had worked for the period of 3-7 years, and this means that they have enough working experience to be able to know the impact and effect of the newly introduced idea. The finding are in line with the researcher preconceived ideas that since banks would prefer hiring employee with working experience therefore she anticipated to see employee with average working experience of 5 years.

These findings are supported by (Boyett,2010) as cited in the literature review that most of the African banks long working experience is considered as very important criteria and therefore these are finding are in correlations. Table 4.1 illustrates the working experience of staffs.

<table>
<thead>
<tr>
<th>Working Experience</th>
<th>Frequency</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>18</td>
<td>45</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>&gt; 7 years</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source Researcher’s (2013)
4.4 User Awareness of online Banking

Under objective number one which states “to determine the level of user awareness towards online banking in the banking industry of Tanzania” revealed that, results from the interview show that majority of respondent were quite aware of the online services offered by the bank.

4.5. Period of Online Establishment Period of the Online Banking

Establishment is essential in determining how effective the Newly Introduced Technology is but also it helps in telling the Driving Factors Behind the establishment of the Technology

The results on the Period of online Establishment involved 40 respondent where by 35(87.5%) of the respondent said the technology was established in the bank for in more than three (3) years ago while 5(12.5%) of the respondents argued that the system was established in a period of two years ago. The findings signify that the most the new technology was established in a period between 2-3 years ago.

The findings also signifies that the technology was used in the bank at different phases and it was given sometime to materialize before it was disseminated to other departments, units and lastly to the whole bank operation system and that is why there has variation of time from respondent since every one perceived the introduction of the technology in different times.

Introduction of the new technology in any system time is very important to consider however the introduction has to go in phases so as to see if it can be manifested in one particular organization, this finding are supported by the Barnhart (2011) as cited in the literature review that in a complex organization establishment and manifestation of a new program has to be done in phase and hierarchical order as this would help the organization to track the effectiveness of the program and decide to abandon it or carry along with it. Figure 4.3 shows the period of online banking establishment responses.
4.6 Expenditure in Promotion and Advertiseement

Promotion and Advertisement are very expensive although are very important in reaching the information to the target and intended group at a simpler and convenient way. (Stockler, 2010) The researcher perceived it right to find out whether the bank is spending much in promotion and advertisement of online services. The finding revealed that 36(90.0%) argued that the bank does not spend much on advertisement and promotion while 4(10.0%) of the respondent said the banks spends much on promotion and advertisement.

The finding signifies that the Online banking technology establishment does not cost the bank a lot during its establishment as it was easily accepted by employees. The finding are in line with researcher’s pre conceived ideas that since the world is changing fast in science and technology it takes no time for people to easily adopt with the changes, after all there are several other banks which have already started this technology before.

The finding are in line with Tirlo (2009) as cited in the literature review that innovation, establishment promotion and advertisement would incur minimal amount
costs regarding the nature of the business established. Figure 4.4 describes the level that bank spend on promotion and advertisement of its online services.

**Figure 4.4: Expenditure in Promotion and Advertisement**

![Expenditure in Promotion and Advertisement](image)

Source Researcher's (2013)

### 4.7 Customer’s Perception of Online Banking

Acceptability of the services rendered to customers by a certain company speaks more of the effectiveness of the services and how good the service is.

The researcher perceived it right to conduct a study to find out the customer’s perception towards the online banking, and the finding involved 40 respondents where by 21(52.5%) of the respondents said the online banking is acceptable to all customers while 19(47.%) of the respondent showed that online banking is not acceptable at all. These findings signifies that majority of the customers that more than 50% accept the introduction of the new technological advancement, the main argument were easy processes, reduce time, minimize costs.

These findings are supported by Gorgesi (2009) as cited in the literature review that showed that during the emancipation of any programme or course in any private or
public organization there would be divided mindsets which in one way or another may hinder the smooth implementation of the new changes.

The findings are also supported by Carrington (2009) also cited in the literature review that development did not just come about as laminar flow of water in the quasi river but rather in a turbulent motion, there would be ups and downs until the level is maintained. Carrington gave the detailed explanations that a smooth flow of a river cannot denote the easy movement of the organization and thus any newly introduced idea would easily be accepted without any challenges, he further said that is close and near to impossible. Therefore for the organization to be able to reach its destinations it ought to pass through several shackles and turbulent before it eventually maintain its smooth movement. Figure 4.5 explains the respondent’s results on customer’s perception on online banking.

**Figure 4.5 Customer’s Perception on Online Banking**

Source Researcher’s (2013)
4.8 Level of Online Banking Systems Reliability

Objective number two which aimed determining the level of online banking systems reliability this was measured by the registration legibility, accessibility of the online services, ATM accessibility and number of complaints from customers, the research revealed that many respondents 52.5% said that there is no condition to online services registration and the rest which is 47.5% stated that there is condition as to whom should register to online services, on accessibility of online services 92.5% of respondents started that the service is available 7days a week, and 7.5% said that is available in 4days for a week, ATM accessibility 95% of respondents stated that the ATM is online 24hours of day while only 5% of respondents stated that ATM is only accessible 6hours a day and 80% of respondents revelled to have no complaints on online services offered by the bank while 20% stated to have complaints on the service, this could only implies that most of the clients do not understand or do not use the online services thus have no complaints to it sees everything is just ok, but also it could mean that FBME BANK LTD offers best services to its client thus they are satisfied and no complaints to the bank.

4.8.1 Registration Legibility

Reliability refers to trustworthiness and dependability of the newly established business or technology as far as our topic is concern. The researcher perceived it right to find out who were legible candidates to register for online banking. The finding involves 40 respondent where by it was revealed that 21(52.5%) of the respondents said there are no condition one has to meet before he is registered as an Online Banker, while 19(47.5% ) respondent said that the bank has put some specification to be adhered to and thus every one had equal chance.

The finding signifies that more than a half of the respondent s disagreed thus it is not necessary for the bank to register one to join online banking. The argument here was that since other competitive bank does not put very long bureaucracy in registering customers to online registration, the attempt of putting those specification would put the bank into jeopardy of losing customers however as the bank there should be some
procedures to follow and specification to consider but what is necessary is the way those specification procedures are drafted and produced.

The findings are supported by the finding of Hawkins, (2010) as cited in the literature review that in information technology things have to be done while considering some specific consideration and procedure which are responsible of moving things right away. Figure 4.6 shows respondents results on registration legibility of banks clients.

**Figure 4.6: Registration Legibility**

![Graph showing registration legibility with 53% Strongly Agree and 47% Strongly Disagree.](image)

Source Researcher’s (2013)

### 4.8.2 Duration of Accessibility

The accessibility of the online banking is also very important in determining the reliability of the service among customers. The finding on the research question which asked “how many days in a week are online banking accessible to customers? Involved 40 respondent where by 37(92. %) of the respondent argued that the service is reliable in 7 days and 3(7.5%) said the service is accessible in 4 days.

The findings signifies that the online service s are accessible among customers throughout the week and that means the service is accessible and reliable but also, it
shows that the system is yet to reach its full manifestation level as they are times the service is not accessible. This is evidenced by the statement of one employee who had this to say “At times the network is down and customers cannot access the service, however this is not a serious problem as it happen to other banks and it is just a mere technical problem which we think it would be solved in a short period of time”

Another respondent had this to say during an in-depth interview that “the problems which hinder the accessibility of the online service throughout the week are just mere break down and they get fixed after short period of time”. These finding are in line with (Ugwu, 2010) as indicated in the literature review that most of the developing countries have found it difficult to copy with newly technological advancement from western countries such as UK, however with time they conform to the changes.

The findings are also in line (Woherem, 2010) as cited in literature review that “In today world, information technology (IT) has become a key element in economic development and a backbone of knowledge-based economies in terms of operations, quality delivery of services and productivity of services. Therefore, taking advantage of information technologies (IT) is an increasing challenge for developing countries” Figure 4.7 shows the respondent’s judgments on duration of accessibility of online services
4.8.3. ATM Machines Accessibility

The Automated Teller Machines (ATM) are the machines used for the easy money access; they are one among the components of Advancement in Technology in Banking. The accessibility of these machines facilitates the easy money transaction and online banking operates hand in hand with ATM machines.

The findings on how many hours are the ATM machines accessible in a week period. Revealed that 38(95.0%) of the respondents said the ATM machines are accessible and operating 24 hours in a week while 2(5.0%) of the respondents said they are accessible in 6 hours of the day.

The findings signifies that the machines are operating for long period of time in a week, the period that is valid and reliable for all customer to transactions regardless of few time of network break downs.

The online banking there has a strong platform to operate and effectively reach out the customer as the tools facilitating the system are active and reliable. The finding
are supported by Milne (2011) as indicated in the literature review that Banks in USA nourished within the time frame of 2004-2009 after the stabilization of the utilizing of an Automated Teller Machines (ATMs) by improving the operation hours from 15- 24, according to Milner the USA profit tripled as it was realised that most of the youth and tourist would access the ATM during late hours of arrivals.

Also Furst (2011) argued that there is a positive impact on longer hours of banking sector operations so are the impact of ATM. Therefore the ATM machines would impact the banks performance in a positive way. Figure 4.8 shows respondents results on ATM machines accessibility

**Figure 4.8: Hours of ATM machines Accessibility**

Source Researcher’s (2013)

### 4.8.4 Complaints from Customers

The Complaints are good indicators of the whether the system is perfoming well or there are some areas where some necessary changes are to be made. Complaints from customer if un attended could lead to decrease in revenues, bank performance and development of the banks as a result of running away customers to other rival companies, so complaints are good sign to show the right course of action also
complains indicates that customers are royal as they address their feeling to you for rectification and service improve in future.

The findings of the study shows that involved 40 respondents who were to respond to the research question which asked “are there frequency of customers complaining on services provided by the bank? Whereby it was revealed that 32(80.0%) of the respondent said there are not frequency of customers complaining on services provided by the bank while 8(20.0%) said there are frequencies of complaining.

The finding of the study shows that the Online Banking is strongly accepted by customer as they are observed to accept it. However there are very few complaints from customer which also signifies that most of the clients do not understand or do not use the online services thus have no complaints to it sees everything is just ok, but also it could mean that FBME BANK LTD offers best services to its client thus they are satisfied and no complaints to the bank or it could imply that the Online Banking is not hundred percent accepted until the bank meet some of its customers complaints. Minimal complaints from clients can also mean that people are not using the product at all due to number of reasons such as ignorance on the said product.

The findings are supported by Furst (2011) as cited in the literature review that federally chartered US banks had higher Return on Equity (ROE) by using the conventional IT business model, IT was one of the major factors that affect bank’s profitability within the period under study and they also observe that more profitable banks adopted IT model which allowed the management to hand the customers complaints in a shorter time.

Customer’s complaints shapes and mould the company’s performance and development in general if they are handled with the positive attitudes, employees complaints means nothing but the voice of the observers who see things not being perfumed accordingly and infact most of these complaint suggest the way or solution towards handling of the problems.
These findings are also supported by the finding of Lemon (2011) as cited in the literature review and one of his comprehensive study on role of complaints in shaping the behaviour of the Banco Bank where by it was revealed that there has been all good services provided through BC terminals installed in business centers after the introduction of Information Technology which allowed the customer to easily comment and give their opinions complaints about the banks and all of these resulted to the flourish of the banks in a short period of time.

Figure 4.9 describes respondent’s awareness towards customer’s complaints on online services issued by the bank.

**Figure 4.9: Complaints of Customers**

![Complaints of Customers](image)

Source Researcher’s (2013)

### 4.4. Importance of IT

Under objective number three which states that “to find out how banks can take advantages of opportunities brought in by technological changes” revealed the following:

#### 4.4.1 Importance of Information Technology to Bank’s Performances

The researcher had wanted to find out if there was any relation between information technology and bank performance, the findings involved 40 respondents where by
all 40 (100.0%) of the respondent argued that there is a direct relation between performance and information technology.

The findings signifies that for the bank to perform at its best it should incorporate the information technology in all of its operational areas such as online banking, ATM’s making of the transaction cards, computerized banking and of the related. The finding shows that the relationship of the two is very strong and no respondent has objected it and therefore the bank ought not to ignore it at any cost. The findings also signifies that the ignorance of the IT means the declining of the banks performance as currently the world is changing to a more modern science and technology where by all the competition would focus on the IT advancement.

IT improves targets or rather customer regardless of the financial status, it cater throughout, from low income customers to big and corporate customer who are believed to be the back bone of the Banks, Online banking ensures the proper administering of the companies as well as good integration, all of these can be made through training and controlling of the companies which are ready to work with the Bank as partners.

These findings are supported by the study of Martins (2012) as cited in the literature review that KCB used some of its branches to target low-income individuals and enterprises which in the end showed that information technology has enabled correspondents’ network-administering companies. The finding above are also supported by a recent study by Otieno (2012) who analyzes the performance of the convectional banking versus the modern banking in the Kenyan market and find that there is direct effects of Information Technology impacts available to all start-ups.

Woherem (1997) discovered that Nigeria banks since 1980s have performed better in their investment profile and use of ICT systems, than the rest of industrial sector of the economy. An analysis of the study carried out by African Development Consulting Group Ltd. (ADCG) on IT diffusion in Nigeria shows that banks have invested more on IT, have more IT personnel, more installed base for PCs, LANs,
and WANs and a better linkage to the Internet than other sectors of the Nigerian economy. However, he pointed out that whilst most of the banks in the west and other parts of the world have at least one PC per staff, Nigerian banks are lagging seriously behind, with only a PC per capital ratio of 0.18 (Woherem, 2000). Figure 4.10 explains respondent’s feelings towards the importance of IT in banking performance.

**Figure 4.10: Importance of IT**

![Importance of IT](image)

Source Researcher’s (2013)
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter presents a summary of the findings of the study, conclusions and recommendations for further research.

5.2 Summary of the Study
The purpose of this study was to evaluate effectiveness of online banking technology in Tanzanian banking industry. A Case of FBME Bank Ltd

Study objectives includes, to determine the level of user awareness towards online banking in the banking industry of Tanzania, to determine the level of online banking systems reliability, to find out how banks can take advantages of opportunities brought in by technological changes research questions were formulated to guide data collection and analysis. They focused the awareness towards online banking, level of banking system reliability and lastly how bank is benefit from technological advancement.

The study collected primary data through employment of a case study where a questionnaire was personally administered to employees of the organization Authority. Collected data was computer-analyzed using Microsoft Excel spreadsheet and presented in descriptive statistics. The following is a summary of findings: Majority of the respondent were aware of the online banking establishment in Banking industry, more than 90% of the respondent showed that the online banking is deepening its roots in today’s Banking industry

The study establishes that the online banking is very effective however there are some areas that needed to be improved, and this was evidenced by few employees who argued that there were some complain against the bank after the introduction of Online Banking.
The study also establishes that there is very direct and strong relationship between an online banking, IT and performance of the bank, it was said that the whole world is adopting this new technology and so is the FMBE bank.

5.3 Conclusions

Arising from the findings discussed in the previous section and the data analyses in chapter 4, this study makes the following conclusions;

The Management is sensitive and active over the new technological advancement which is being adopted by all banks in the country ‘On-Line Banking”. Apart from the bank itself the individual employee and the customer are aware of the technological changes which are taking place and so they are as flexible as the technology changes itself since it has been so easy for them to adopt to new changes.

The Online Banking has several weaknesses which if the bank take some serious measures as soon as possible the bank would rip the fruits of establishing the Online banking but also the bank ought to compete with other rival banks such as CRDB which have been doing great after the establishment of Online Banking.

The bank does have a tendency of updating their security measure and it takes short long time for them to update their security measures as for new or changing technology hence keeping on using the updated, current and efficient security measure this keeps the bank free of risky.

Information Communication Technology is an evolving technology particularly in third world countries, staffs need to be ready to advance their skills due to changes in nature and when banking institutions adopt new technologies, and they need to put more effort on customer awareness and not on profitability organization with more investment.

Generally it has been observed that there is direct relationship between the Online Banking and the performance of the banks not only of the FMBE bank but in
Banking Industry in general, and we can learn that as the world is changing in a more competitive world of science and technology therefore the banks should be quick in adopting the new changes so as to be able to compete with other banks accordingly. The study have discovered that there is delay in adopting the newly introduced science and technology, however the study could not establish if the delay has any impact in the performance of the banking sector. Further studies in this area could establish the relationship between this delay and the performance of the banking sector.

Response from the questionnaires issued to the respondents has indicated complaints on the online banking channel and how organizations respond to customers. The research however did not go further to determine the extent of customer complaints’ impact on organizations performance.

5.4 Recommendation

The banks should be creative in establishing their model and strategies of how to run the banks profitably instead of lagging behind waiting for the western countries to establish their new strategies and then be implemented in Africa.

Updating the security measures every time due to the fact that technology is changing that would cause for some to easily discover the solution for your outdated security measures and get access toward your confidential data.

Community education on the ICT awareness must also concentrate on customer awareness since this is the initial stage of ICT adoption they should not concentrate on profitability issues only rather more promotion of this service should be carried out to attract customer towards online banking, and to make them familiar with online banking tools in order to eliminate any reservations that Tanzanian customers might have in banking online.

A public awareness campaign aimed at all levels of the Tanzanian society should be initiated by banks to increase the level of knowledge of utilizing online banking services, especially the security and safety aspects of these services.
There is a need for bankers to invest more resources in ICT technologies to assist on combating fraud as well as to give room for more online banking products to reduce overcrowding in banking halls and increase banking solutions.

The government of Tanzania should lay down strict legislative frameworks that enable online banking to be conducted in a safe environment that is safeguarded against all unauthorized access so as to manage the structural integrity of the system as a whole.

Mobile banking is still a relatively new service and those customers adopting mobile banking today are highly attractive for banks – they are both younger and wealthier than non-adopters. Any bank offering a well-designed mobile banking service soon stands a chance to grab a disproportionate share of this attractive customer segment.

5.4 Areas for Further Studies

The findings obtained from these few branches were used in generalizing and reaching the conclusion and therefore a wider area of coverage can be considered so as to get more in depth findings to enable reaching the general conclusion to cutter the whole industry.

Another study should be conducted in finding out if the delay in adopting the newly introduced science and technology has any impact in the performance of the bank sector.

Another study should be conducted to find out to what extent are the complaints given by the customer over the newly established science and technology effective in changing the performance of the organization when the organization treat these complaints accordingly.
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https://www.fbme.com/services-products/FBME-DiRECT-Features/ accessed on 23/08/2013 at 9:40

FBME manual of policies and procedures – banking operations

FBME IT group Policies
APPENDICES

Appendix1: Questionnaire

Please answer the following questions by filling in the relevant information.
The purpose of the study is to evaluate effectiveness of online banking technology in Tanzanian banking industry. Please respond according to provided instructions Kindly note that your name is not required on any of the answer sheets.

PART A: Please write the letter of the most correct answer for each question

1. Age Group (Years)
   (i). 18-25
   (ii). 36-45
   (iii). 26-35
   (iv). 46-55
   (v). 56 and above

2. Your occupation
   (i). Banker
   (ii). Accountant
   (iii). Lawyer
   (iv). Entrepreneur
   Others .................................................................

3. Education Status
   (i). Secondary Education
   (ii). Certificate and Diploma
   (iii). Undergraduate Degree
   (iv). Postgraduate Degree

5. What is the category of your working experience?
   (i). below one year
(ii). between 1 year and three years ( )
(iii). Three years and above

PART B: Please write the letter of the most correct answer for each question

1. Is there any specification to who are legible to register to online Banking?
   (i). YES
   (ii). NO
   (iii). I DON’T KNOW ( )

2. To what extent is online banking service acceptable to all the banks customers?
   (i). Very adequately
   (ii). Adequately
   (iii). Moderately ( )
   (iv). Inadequately
   (v). Very Inadequate

3. Are you competent on online banking services available to banks customers?
   (i). Very Competent
   (ii). Competent
   (iii). Moderately Competent ( )
   (iv). Incompetent
   (v). Very Incompetent

4. How many days in a week is the Online Banking accessible to customer?
   (i). 4 days a week
   (ii). 5 days a week
   (iii). 7 days a week ( )

5. Is there frequency of customers complaining on the online services provided by the Bank?
   (i). Yes
6. Is the bank spending much in promotion and advertisement of the online services offered by the bank? Strongly Agree
   (i). Yes
   (ii). No ( )
   (iii). I don’t know

7. How many customers do register for online banking in a month?
   (i). 5 – 10 customers
   (ii). 10 -20 customers ( )
   (iii). Above 20 customers

8. To what extent do you agree online services are effectively facilitating transactions faster?
   (i). Strongly Agree
   (ii). Agree
   (iii). Moderately Agree ( )
   (iv). Disagree
   (v). Strongly Disagree

9. Are you comfortable with the language used in online services?
   (i). Yes
   (ii). No ( )

10. How many hours are the ATM machines accessible?
    (i). 6 Hours
    (ii). 8 Hours
    (iii). 12 Hours ( )
    (iv). 18 Hours
    (v). 24 Hours
11 How do you value the importance of IT to the bank?