ST.MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

ASSESSMENT OF CHALLENGES AND BENEFITS OF ADOPTING ELECTRONIC BANKING SYSTEM IN ETHIOPIA

(CASE STUDY COMMERCIAL BANK OF ETHIOPIA AND DASHEN BANK)

BY

ABE GELETA

JUNE, 2016

ADDIS ABABA, ETHIOPIA

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(ID# SGS/0243/2007A)

ADVISOR ALEM HAGOS (PhD)

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APPROVED BY BORRD OF EXAMINERS

Dean, Graduate Studies	**Signature & Date**
Advisor	**Signature & Date**
External Examiner	**Signature & Date**
Internal Examiner	**Signature & Date**

DECLARATION

I Abe Geleta declare that this research study is my original work, prepared under the guidance of Alem Hagos (PhD). All sources of material used for the thesis have been duly acknowledged. I further confirm that the thesis has not been presented for a degree in any other university

_____ _____

Name Signature

St. Mary's University, Addis Ababa **May, 2016**

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate studies for examination with my approval as a university advisor.

Alem Hagos_____ _____

Advisor Signature

St. Mary's University, Addis Ababa May, 2016

Abstract

The purpose of this study is to identify factors that affect adoption of E-banking and benefits of adopting E-banking in the Ethiopian banking industry. The study was conducted based on the data gathered from two banks one private bank (Dashen Bank) and one state owned bank (Commercial Bank of Ethiopia).This study used questionnaire, interview and secondary data as instrument of data collection. Stratified sampling method was used to select samples from the target population. The research framework developed based on technology-organization-environment model (TOE).The study employed quantitative survey research designed to gather data from a total of 200 employees. Semi structured interview was also used to gather the qualitative information from the CBE E-payment manager and team leader of Dashen bank to find out the management view on adoption of E-banking system. After the required data are collected descriptive (i.e. frequency, percentage) analysis were used to analysis the data using SPSS version 20. The results of the study indicated that adopting E-banking has a lot of benefits to the banks, to the customers and to the economy. The result of the study is also indicated that the major challenges of Ethiopian banking industry faces in the adoption of Electronic banking are: limited knowledge of customers on E-banking services, security risk, Lack of availability of ICT infrastructure, lack of trust, lack of legal and regulatory frame work, and absence of competition between local and foreign banks. Therefore, the researcher suggests some recommendations such as to successfully facilitate E-banking services in Ethiopia, National Bank of Ethiopia (NBE) needs to establish a clear set of legal framework, supporting banking industry by investing on ICT infrastructure and effective cooperation among banks has to be developed, Ethio-telecom should also make different effort in order to improve network services to increase E-banking services and also to enhance the confidence of the adopters of E-banking system in Ethiopia. Generally, this study needs the attention of the government and the management of the banking industry.

***Keywords**: E-banking, E- banking Adoption, internet banking Adoption, Mixed research approach, Mobile banking, Technology- organization -environment frame work (TOE)*

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LIST OF ACRONYMS AND ABRIVATIONS

ATM=Automated Teller Machine

CBE=Commercial Bank of Ethiopia

DB=Dashen Bank

(EFTPoS)=Electronic Funds Transfer at Point of Sale

ICT=Information and Communication Technology

IT=Information Technology

NBE=National Bank of Ethiopia

PC=Personal Computer

PEOU=Perceived Ease of Use

POS=Point of Sale

PU=Perceived Usefulness

SPSS=Statistical Package for Social Scientists

TAM=Technology Acceptance Model

TOE=Technology organization Environment

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CHAPTER ONE

INTRODUCTION

1.1BACK GROUND OF THE STUDY

The evolution of E-Banking started from the use of Automatic Teller Machines (ATMs) and Finland is the first country in the world to have taken a lead in E-banking Mishra and Kiranmai(2009). Electronic banking has been widely used in developed countries and is rapidly expanding in developing countries. The adoption of electronic banking is strategic issue for many banks due to the growing and changing demand of consumers towards a fast, flexible and convenient mode of banking for 24 hours services anywhere at their convenience.

Statistics show that Africa is lagging behind in the adoption of E-commerce. However, according to Jensen (2003), most countries in Africa, except South Africa, have Internet infrastructure only in their major cities. Most rural areas in Africa, where the majority of small and medium businesses are concentrated, have no internet facilities and thus are unable to engage in E-commerce activities. Lack of suitable legal and regulatory framework for E-commerce and E-payment is another barrier for the adoption of new technology in banking industry.

Banks all over the world have embraced innovative banking technologies and e-banking services in recent years. As a result of this, the diffusion and development of electronic banking has brought an array of opportunities for the global banking sectors as well as consumers. Electronic banking has also allowed banks to be more responsive to the growing and diversified demand of consumers. As an alternative channel of distribution, it offers a flexible, convenient, fast and secured mode of payments, allowing a 24 by 7 banking hours, which is almost impossible with the traditional branch based banking approach. International electronic banking enables global payment services on a 24 hours basis in different currencies across different countries. This is particularly ensured by global payment networks through standardization and interoperability of electronic payment worldwide.

In Ethiopia, however, cash is still the most dominant of exchange, and electronic payment systems are at an embryonic stage. In the face of rapid expansion of electronic payment (E-

payment) systems throughout the developed and the developing world, Ethiopian's financial sector cannot remain an exception in expanding the use of the system (Gardachew 2010, p.2). The development of E-commerce, the adoption and diffusion of electronic banking (E-banking) system is not well developed in Ethiopia. Most, banks operated in Ethiopia provide service to customers by using traditional systems that is why every bank customer is highly dissatisfied by the disappointing status of financial development in Ethiopia. As it is stated in different E-banking literature some of the problems related with adoption of E-banking are: Low level of internet penetration and poorly developed telecommunication infrastructure. Ethiopia has not yet enacted legislation that deals with E-commerce concerns including enforceability of the validity of electronic contracts, digital signatures and intellectual copyright and restrict the use of encryption technologies and High rates of illiteracy. Low literacy rate is a serious impediment for the adoption of E-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-banking, they should not only know how to read and write but also possess basic ICT literacy (Gardachew 2010). But risks related with security issues, lack of competition between local banks and foreign banks and social awareness on the E-banking system were not addressed.

Commercial Bank of Ethiopia was established in 1963 and it is the first bank in Ethiopia to introduce modern banking system to the country (ATM service for local users) in the country when it launched proprietary ATM system in 2002. Over all CBE Plays a catalytic role in the economic progress & development of the country with the wing of government. Currently CBE has more than 11 million account holders. Now a day's the number of machines are growing quickly, with banks eager to ease access for their customers. On the other hand, the numbers of Mobile and Internet Banking users are reached more than 460,000 as of September 30, 2015. The numbers of ATM card holders are also greater than one million, and currently the total number of ATM 658, and 1,886 POS (Annual quarter meeting report of 2015 and E-payment procedure).
It has strong correspondent relationship with more than 50 renowned foreign banks like Commerz Bank A.G., Royal Bank of Canada, City Bank, HSBC Bank etc. CBE has a SWIFT bilateral arrangement with more than 700 others banks across the world and Pioneer to introduce Western Union Money Transfer Services in Ethiopia early 1990s and currently working with

other 20 money transfer agents like Money Gram, Atlantic International (Bole), Xpress Money etc. Beside to this, CBE combines a wide capital base with more than 22,000 talented and committed employees and has opened branch in South Sudan since June 2009. It serves more than 11million account holders customer within the country through different banking services by having more than 979 branches.(http://www.combanketh.et ,Annual quarter meeting report of 2015 and E-payment procedure, manuals and broacher **).**

Dashen Bank was established in 1995 and coined its name from the highest peak in the country, mountain Dashen, and aspires to be unparalleled in banking. Headquarter in Addis Ababa; the Bank is the biggest private Bank in Ethiopia. It operates through a network of 190 Area Banks, Having dedicated Forex Bureau, 220 ATMs and 873 plus Point of sale (POS) terminals spread across the length and breadth of the nation. Numbers of card holders are reached 367,569 and It has established correspondent banking relationship with 454 banks covering 70 countries and 166 cities across the world. Wherever business takes customers around the world, Dashen Bank is already there. Dashen is the most reputable brand in the domestic banking market; a reputation earned through consistent delivery of values and preeminence unmatched by its competitors. The bank also works in partnership with leading brands in the electronic payment industry (VISA, Master Card and Union Pay) and prominent money transfer operators(Western Union, Money Gram, Express Money and Dahabshiil).(Website.dashenbanksc.cm,20th Anniversary Magazine, Annual report of 2015).

Generally, CBE has had visa membership since November 14, 2005 but due to lack of appropriate infrastructure failed to reap the fruit of its membership. Despite being the pioneer in introducing ATM based payment system and acquired visa membership, CBE lagged behind Dashen bank, which worked aggressively to maintain its lead in E-payment system. As CBE continues to move at a snail's pace in its turnkey solution for Card Based Payment System, Dashen bank remains so far the sole player in the field of E-banking since 2006 Gardachew(2010).

In order to encourage further E-banking adoption in developing countries, a better understanding of the challenges and drivers impacting E-banking adoption is critical (Zhao *et al*. 2008). By gaining an in-depth understanding of the factors and conditions that influence developing country's ability to fully adopt and realize its benefits, strategic implications can be generated for the researchers and practitioners regarding how to promote the growth of E-banking in the developing countries. However, despite the importance of these adoptions, limited studies are currently available in developing countries, especially in Ethiopia. Therefore, more studies are still required to understand the relevance of E-banking in the country to identify areas in which the country lags behind that inhibit their E-banking adoption and diffusion. Therefore, to address the current gap in the literature, this study is designed to identify the E-banking adoption situation in Ethiopia

Therefore, as Ayana G.(2014) stated that more studies are still required to understand the relevance of E-banking in Ethiopia to identify areas in which the country lags behind that inhibit their E-banking adoption and diffusion. Hence, to address the current gap in the literature, this study is intended to assess the E-banking adoption situation in Ethiopia and specifically focusing on the investigation of challenges and benefits of adopting E-banking in Ethiopia and to recommend appropriate action to be taken to promote E-banking system in our country.

1.2 Statement of the Problem

The evolution of payments in recent history has gone from cash to cheques, and then to payment cards such as credit cards and debit cards (Batiz, 2005). Interestingly, debit cards are the most rapidly growing method of payments in several countries around the world (Pierce, 2001). Information and communication technology (ICT) has also provided new products and value added services to be delivered using the same electronic infrastructure (Abor, 2004). In order to remain competitive, most companies invest a lot of money in modern ICT infrastructure. ICT has also changed drastically the way businesses are done in these modern times. A number of studies have concluded that ICT has appreciable positive effects on banks productivity; banking hall

teller transactions, bank patronage and bank service delivery (Balachandler et al., 2001; Yasuharu, 2003).

One main advancement technology has brought to us is the introduction of electronic banking or E-banking. Traditional banking is characterized by physical decentralization, with branches scattered around populated areas to give customers easy geographical access (Ainin et al., 2005). E- Banking does away with the need for most visits to the bank. Particular problems arise with trying to integrate new channels with legacy channels. It is for these reasons that academic research is needed in this newly emerging delivery channel (Daniel & Storey, 1997).

In Ethiopia customers were missed to enjoy with the technological advancement in banking sector which has been entertained elsewhere in Africa and the rest of the world. This is due to lack of awareness or competition among banking industry. The modern E-banking methods like Automated teller machine (ATM), Debit Cards, Credit cards, Tele banking, Internet banking, mobile banking and others are new to the Ethiopian banking sectors. E-banking which refers to the use of the modern technology that allows customers to access banking services electronically wether it is to withdrawal cash, transfer funds and to pay bills or to obtain commercial information and advices are not well known in Ethiopia.

The banking industry in Ethiopia is not developed compared to the banking industry operated in developed country and therefore there is an all immediate need to embark capacity building arrangements and modernize the banking system by employing the state of the art technology being used anywhere in the world. With a growing number of export business, and increased international trades and international relations, the current banking system is short of providing efficient and dependable service (Gardachew, 2010).

With the low extent of development of ICT in developing countries, when compared with the developed countries E-banking has not really been able to diffuse into society. Banji (2004), Therefore, this study has been identified the major challenges and benefits of adoption of E-banking service based on the research problems stated above.

Accordingly, this paper tried to identify the challenges and benefits of adoption of E-banking service & also tried to answers the following questions.

1. What are the benefits of adopting E-banking system on the operations of Commercial Bank of Ethiopia and Dashen bank?

2. What are the challenges of adopting E-banking system in Commercial Bank of Ethiopia and Dashen bank?

3. What are the effects of challenges of E-banking on the operational performance of Commercial Bank of Ethiopia and DAshen bank?

4. How both banks are overcome challenges for adoption of E-banking and to what extent government of Ethiopia should provide support?

1.3 Objective of the study

1.3.1 General Objective of the study

The main objective of the study is to assess challenges and benefits of adopting E-banking in CBE and Dashen bank.

1.3.2 Specific objective of the study

On the basis of general objectives, the specific objectives of the study are:

1. To assess benefits of adopting E-banking system on the operations of Commercial Bank of Ethiopia and Dashen bank

2. To investigating the challenges of adopting E-banking system in Commercial Bank of Ethiopia and Dashen bank and seek solutions

3. To assess the effects of challenges of E-banking on the operational performance of Commercial Bank of Ethiopia and DAshen bank

4. To recommend both banks how to overcome challenges for adoption of E-banking and forward relevant suggestions to what extent government of Ethiopia should provide support

1.4 Significance of the Study

The finding of the study will be significant as it is expected to enhance the awareness of stakeholders with regard to the E-banking adoption, benefits and challenges of implementing electronic banking in Ethiopia. It is also used for Ethiopian banking industry to see the

knowledge gap among E –banking services and it would help to the banks what should take in order to be benefited from the opportunities of using E- banking services and how to overcome its challenges. The outcomes of this study also assisted other researchers for further study in the area of E-banking. Finally, the study can be used as a feedback for banks regarding E-banking adoption, benefits and challenges and provided some recommendations for banks about changes needed in order to speed up the adoption of E- banking in our country.

1.5 Scope of the study

In pursuance of the objective of the study, the research paper focuses only on examining benefits and challenges of adoption of E-banking at two banks one government owned bank and one private owned bank even though there are other banks using electronic payments due to the broadness and unmanageability. In order to conduct an empirical investigation in the implementation of electronic banking, the study examined the nature of electronic banking services in Commercial Bank of Ethiopia and Dashen bank.

1.6 Limitation of the study

This study is limited in scope and sample size. While conducting the study, the sample is taken only from two banks, one government owned bank and one private owned bank and it doesn't include the remaining commercial banks that are operating in the country. Hence the generalizations may not be applicable to them. It is also faced that respondents were not properly responded to the whole content of the questionnaire due to misunderstandings, lack of knowledge or commitment to the subject matter. However, to minimize these problems, the researcher used interceptive interviewing technique and some of the questionnaire which are distributed to the Bank's employee are selectively distributed for those individuals the researcher believe that they have the potential, ability and capacity to respond the questioner properly.

It is difficult to collect all desire information and interviewing all target respondents was not accessible or not available. Bank officials were too busy and also reluctant for interview and the study was only covers one city that is AA.

1.7 Organization of the paper

The study is divided into five chapters; Chapter One introduces the topic with the background of the study, statement of the problem, objective of the study, research questions as well as the significance of the study and organization of the study. Literature is reviewed in Chapter Two. Chapter Three deals with methodology, which includes research design, population, sample and sampling procedures, instruments, data collection procedure and data processing. Chapter Four, deals with results and findings. Chapter Five deals with summary of findings, conclusions and possible recommendations. Finally, reference, questioners, interview and appendix were present.

CHAPTER TWO

LITRATURE REVIEW

2.1 Introduction

This chapter was focus on the conceptual, theoretical and empirical literatures regarding to the **adoption of E-banking.** The primary purpose of this chapter is to get the theoretical understanding of the concept of E-banking, its challenges and benefits. Generally, it was discussing the definitions given by different scholars on the term E-banking.

2.2. Definition:

E-banking is a form of banking service where funds are transferred through an exchange of Electronic signal between financial institutions, rather than exchange of cash, checks, or other negotiable instruments (Kamrul, 2009). E-banking, also known as electronic funds transfer (EFT), is simply the use of electronic means to transfer funds directly from one account to another, rather than by check or cash (Malak, 2007)**.** The term of E-banking often refers to online banking/Internet banking which is the use of the Internet as a remote delivery channel for banking services (Furst & Nolle 2002, p.5). With the help of the internet, banking is no longer bound to time or geography. Consumers all over the world have relatively easy access to their accounts 24 hours per day, seven days a week. E-banking can be also defined as a variety of platforms such as internet banking or (online banking), TV-based banking, mobile phone banking, and PC (personal computer) banking (or offline banking) whereby customers access these services using an intelligent electronic device, like PC, personal digital assistant (PDA), automated teller machine (ATM), point of sale (POS), kiosk, or touch tone telephone (Alagheband 2006, p.11).

Daniel (1999) defines electronic banking as the distribution of information and services by banks to customers via different delivery platforms that can be used with a personal computer or other intelligent devices. According to Allen (2001), e-banking refers to the supply of information or services by a bank to its customers. Keivani et al., (2012) describes electronic banking as “an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution”. (BCBS, 1998).

2.3 Definition of Adoption:-

- Adoption is the acceptance and continued use of a product, services or idea. According to Rodgers and Shoemaker (1971) consumers go through a process of knowledge, decision, persuasion and confirmation before they are ready to adopt a product or services.
- **Implementation**: Mental information processing and decision making come to end, but the behavioral change begins.
- **Confirmation**: After adoption of innovation, the adopter keeps evaluating the results of his/her decision. If the level of satisfaction is significant enough, the result of innovation will continue; however, it is also possible that rejection occurs after adoption.
- Knowledge socio economic characteristic, personality variable and communication behavior all relate to innovativeness is the degree to which an individual or adoption unit is relatively early in adopting new ideas compared to other members of a system Rodgers(1995).
- **Decision**: An individual engages in activities that lead to adoption or rejection of the innovations.
- **Persuasion**: The potential adopter's attitude towards the innovation is formed in this stage. By anticipating and predicting future use of satisfaction and risks of adoption the potential adopter develop positive or negative attitudes to the innovation Rodgers,(1995).

2.4 Delivery channels of E-banking

E- Banking services are delivered through various electronic means collectively called electronic delivery channels. 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 (Abor,2004). The various delivering channels for E-banking are discussed as follows:

2.4.1 Automated Teller Machines (ATMs)

ATM is also called 24-hour tellers are electronic terminals which give consumers the opportunity to bank at almost any time (FTC, 2006). ATM banking is one of the earliest and widely adopted retail E-banking services in Kenya (Nyangosi et al., 2009).

It is described as a combination of a computer terminal, record-keeping system and cash vault in one unit, permitting customers to enter the bank□s book keeping system with a plastic card containing a Personal Identification Number (PIN) or by punching a special code number into the computer terminal linked to the bank□s computerized records 24 hours a day (Rose, 1999).

To withdraw cash, make deposits or transfer funds between accounts, a consumer needs an ATM card and a personal identification number. Once the customer login, access to transactions are displayed on the screen. It offers several retail banking services to customers. They are mostly located outside of banks, and are also found at airports, malls, and places far away from the home bank of customers. They were introduced first to function as cash dispensing machines (Abor, 2004). Some ATMs charge a usage fee for this service, with a higher fee for consumers who do not have an account at their institution. If a fee is charged, it must be revealed on the terminal screen or on a sign next to the screen Rose (1999).

ATM services have a lot of advantages. They include increase in productivity during banking hours if the service is available in addition to the human tellers. They are cost-effective way of achieving higher productivity per period of time. According to Rose (1999), an ATM transaction is an average of about 6,400 per month compared to 4,300 for human tellers. Furthermore, it saves customers time in service delivery as alternative to queuing in bank halls, customers can invest such time saved into other productive activities (Abor, 2004). In addition, ATMs continue to serve customers whiles human tellers in the banking hall have stopped work, thereby increasing productivity for the banks.

2.4.2 Electronic Funds Transfer at Point of Sale (EFTPoS)

An Electronic Funds Transfer at the Point of Sale is an on-line system that allows customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases (at purchase points). A POS uses a debit card to activate an Electronic Fund Transfer Process (Chorafas, 1988). Point-of-Sale Transfer Terminals allow consumers to pay for retail purchase with a check card, a new name for debit card. This card looks like a credit card but with a significant difference, the money for the purchase is transferred immediately from your account to the store's account.

Increased banking productivity results from the use of EFTPoS to service customers shopping payment requirements instead of clerical duties in handling cheques and cash withdrawals for

shopping. Furthermore, the system continues after banking hours, hence continual productivity for the bank even after banking hours. It also saves customers time and energy in getting to bank branches or ATMs for cash withdrawals which can be harnessed into other productive activities (Abor, 2004).

Some banks issued international cards (such as Visa, MasterCard etc.) to their customers. Such cards can be used wherever accepted, and payment on the cards can only be done through an ordinary domiciliary account of the cardholder, or any other account that may be permitted. Some of these cards are credit or debit cards.

2.4.3 Credit Cards

A credit card is a small plastic card issued to users as a system of payment. It allows its holder to buy goods and services based on the holder's promise to pay for these goods and services. The issuer of the card creates a revolving account and grants a line of credit to the consumer (or the user) from which the user can borrow money for payment to a merchant or as a cash advance to the user (Mavri & Ioannou, 2006). A credit card is different from a debit card in that it does not withdraw money from the users account after every transaction. The issuer lends money to the consumer to be paid to the merchant. Holders of a valid credit card have the authorization to purchase goods and services up to a predetermined amount, called a credit limit. The vendor receives essential credit card information from the cardholder, the bank issuing the card actually reimburses the vendor, and eventually the cardholder repays the bank through regular monthly payments. If the entire balance is not paid in full, the credit card issuer can legally charge interest fees on the unpaid portion.

2.4.4 Debit Cards

A debit card (also known as a bank card or cheque card) is a plastic card that provides an alternative payment method to cash when making purchases. Functionally, it can be called an electronic cheque, as the funds are withdrawn directly from either the bank account or from the remaining balance on the card. In some cases, the cards are designed exclusively for use on the internet, and so there is no physical card (Mavri & Ioannou, 2006).

In many countries the use of debit cards has become so widespread that their volume of use has overtaken or entirely replaced the cheque and, in some instances, cash transactions. Like credit

cards, debit cards are used widely for telephone and Internet purchases and, unlike credit cards, the funds are transferred immediately from the bearer's bank account instead of having the bearer pay back the money at a later date. Debit cards may also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash and as a check guarantee card.

2.5 E-BANKING - CONCEPTUAL FRAMEWORK

Remote banking, considered representative for the new economy, consists of electronic transactions between customers and their bank. Electronic banking, more commonly known as e-banking, is the newest delivery channel for banking services. The term had been defined in many ways by researchers mainly because electronic banking refers to several types of services through which customers can request information and execute transactions via telephone, digital television, computer or mobile phone. Daniel(1999)defines electronic banking as the distribution of information and services by banks to customers via different delivery platforms that can be used with a personal computer or other intelligent devices. According to Allen (2001), e-banking refers to the supply of information or services by a bank to its customers, via a computer or television. Keivani et al. (2012) describes electronic banking as “an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution”. Most specialists agree that e-banking ensures 24-hour-a-day, 7-day-a-week accessibility through a type of advanced information system. A common definition for electronic banking comes from the Basel Committee on Banking Supervision: “e-banking includes the provision of retail and small value banking products and services through electronic channels as well as large vale electronic payments and other wholesale banking services delivered electronically”(BCBS, 1998). E-banking, a term used for new age banking system, represents an automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. It is a service that provides customers the opportunity to gain access to their accounts, execute transactions, and obtain information on financial products and services through a public or private network, including the Internet. There are several terms used in the literature all referring to one form or another of electronic banking: personal computer (PC) banking, internet banking, virtual

banking, online banking, web banking, home banking, phone banking, remote electronic banking, mobile banking etc., but they are often used interchangeably. Electronic banking services have been around for quite some time in the form of automatic teller machines and telephone transactions. In more recent years, modern e-banking services such as internet and mobile banking has revolutionized banking services. The evolution of the e-banking industry can be traced to the early 1970s when banks began to look at these types of services as an alternative to some of their traditional bank functions. First, such a choice was considered appropriate since it ensures reduced costs as branches were very expensive to set up and maintain. Second,

E-banking products and services like ATMs and electronic fund transfer were an important qualitative element of differentiation for banks that used them (Mobarek,2007). Given that banks operate in a fiercely competitive industry, their ability to differentiate themselves on the basis of price is limited. Thus, in order to remain on the market it is imperative for banks to adjust their strategies in response to changing customers' needs and developments in technology. The term e-banking became popular in the early 1980's referring to using a computer to access banking service via a phone line. E-banking first appeared in New York in 1981, where it was offered by major banks in that city, such as Citibank, Chase Manhattan, Chemical and Manufactured Hanover. Banks from the United Kingdom started to adopt the concept in 1983 where the Bank of Scotland was the first to introduce it. The early electronic banking services were basic, covering services like viewing bank statements and paying bills online without being a full transaction banking service (Shannak, 2013). Electronic banking services have actually started to develop only since 1995, when the Maryland Presidential Bank, an American bank, allowed bank accounts to be opened online. In mid-2004, over 17% of Americans were already using electronic banking services.

2.6. The theoretical frame works are discussed briefly as follows:

Many researchers have been used different frame works in the study of adopting new technological innovation. Among frameworks that have been developed based on the past studies includes, the Technology-organization-Environment framework (TOE) (Tornatzky & Fleischer 1990), which identifies three basic Factors for the adoption of technological innovation, i.e, technological factors, organizational and environmental factors. TOE framework was proposed by Tornatzky and Fleischer; it is designed for studying the likelihood of adoption success of

technology innovations. This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani, *et al*, & Ellis 2009; Chang *et al.*, 2007; Zhu & Kraemer, 2006). According to Tornatzky and Fleischer (1990), technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context, and the external environment. Based on this, the researcher adopts the TOE framework to summarize possible key factors affecting E-banking adoption as shows in following:

. This framework is a comprehensive and well received frame work in the context of innovation adoption by organization and has been used in many studies Salwani,et al and Ellis (2009);Chang et al 2007, Zhu and Kraemer(2006). According to Tomatzky and Fleischer(1990), technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context and the external environment. The environment context refers to the external environment in which an organization operates and its condition for supporting the development of E-banking services, while the organizational context refers to the organization's characteristics that influence its ability to adopt and use of E-banking. The technological context refers to adopter's perception of E-banking attributes. Each factor was discussed as follows:

a. Technological factors

Technological context both the internal and external technologies relevant to the firm. This includes current practices equipment (Starbuck 1976), as well as the set of external to the firm. Thampson(1967),Khandwalla(1970),Hage (1980).

Typical characteristics of technology considered in technology adoption studies are based on Roger's diffusion of innovation theory Rodgers(2003) which include relative advantages (perceived benefits), and relative disadvantages (perceived risks).

Technological factors should consider both perceived and perceived risks as shown below:

- **Perceived benefits**:- Perceived benefits of E-banking cover both direct and indirect for the banking industry as well as for the consumers. Direct benefits include the saving on operational cost, improved organizational functionality, productivity gain, improved efficiency and increased profitability, indirect benefits include the opportunity or intangible benefits such as improved customer's satisfaction through improved services,

improved banking experience and fulfillment of their changing needs and lifestyle Lu(2007),Kun(2001) and Iaovaou(1995).

- **Perceived risks**:- One of the important risks faced by banking institutions in offering E-banking services is the consumers' resistance to use the services which significantly hinder the growth of E-banking Zhao (2008) and Laforet(2005). Issues related to security have always been a concern when dealing with technologies related to online transaction such as E-banking Chang (2007) And Rodgers (2003. Therefore, the perception of the risks regarding E-banking is expected to influence the adoption and further growth.

b. Organizational factors

Organizations are different in their preference to adopt innovation technology Iacovou(1995) and Graver(1993) influenced a number of factors, like firm size, top management support and financial and human resources. In the frame work for this study, the two basic organizational factors are discussed below.

- **Firm size**:-firm size has been widely recognized as an important factor determining on organization's ability to adopt a new innovation as well as capitalizing on its benefits Salwahi(2009); Andersen(2003) and Stockdale (2006).Typically, large organizations have the resources and skills to adopt new technologies and have enough business volume to justify the environment. Therefore, it is also expected to affect the adoption of E-banking by banking institutions.
- **Financial and human resources:**- financial and human resources are an important factor in facilitating innovation adoption for any organization and they are often correlated with the firm size Kuan(2001) and Iacovou(1995). Therefore, it is expected that the availability of financial resources within the adopting firms is important for E-banking adoption. These resources enable banking institutions to obtain human related resources including the required skills and expertise to develop and support provision of E-banking services.

c. Environmental factors

These factors are briefly stated below:

- **Competitive pressure:-** competitive pressure can strongly influence any bank to develop and adopt E-banking initiatives and it may affect the bank's perception towards E-banking service. As implied in privies studies Quaddus and Hofmeyer (2007) and Gibbs et al(2003).
- **Legal frameworks:-**The existence and maturity of E-commerce legal frameworks within a country influence the diffusion of online transaction including E-banking as demonstrated in various studies Tan(2002); Martinson and Trappey(2001).
- **The national IT infrastructure:-** National IT infrastructure is a major factor that support the adoption of E-banking as the case for other E-commerce initiatives. Without an adequate development level and quality of a nation's IT infrastructure-banking adoption and use control do well Efendioghu(2004) and Scupola(2003).

The ***technological factor*** refers to adopter's perception of E-banking attributes. Typical characteristics of technology considered in technology adoption studies are based on the assumption of Roger's diffusion of innovation (Rodgers 2003), Which include relative advantages (perceived benefits), and relative disadvantages (perceived risks).While the ***organizational factor*** refers to the organization's characteristics that influence its ability to adopt and use of E-banking system. The ***environmental factor*** refers to the external environment in which an organization operates and its condition for supporting the development of E-banking services. For each context, various factors have been identified from the literature but only those that are considered relevant for E-banking adoption are included in the framework.

2.7 Challenges Related to the Adoption of E-banking

There are a lot of reasons which hold back the popularity of E-banking services in spite of the fact that bankers and customers can get are from on line banking. The majority of private banks are still lacking behind the online banking channel. The reasons behind banks fear not using the online banking services are as follows:

a. Challenges to Employees of the Bank

E-banking has also posed other challenges to employees of banks engaged in technology adoption. Questions like what should be the code of conduct to be followed by employees and what should be the remuneration policy must be addressed in order to cope with internal forces which may affect the process of technology adoption. In the sphere of traditional, employees are required to sign a privacy and confidentiality agreement which the from disclosing the state of customers accounts with the advent of electronic banking several other issues like, use of internet, security, email access, access to and control of web browsing and transaction of customer data to outside service etc will have to incorporated in the confidentiality agreement. Taking in to account that electronic banking will use the latest technology and the staff operating the same should be people of integrity, possessing technical skills and motivation to save the institution, in times when their services are in tremendous demand elsewhere, banks as perquisites, bonus, incentive compensation, stock option and health and welcome schemes as part of competition packages for employees Verna (2006).

b. **Security**

One of the biggest challenges and the basic requirement of E-banking are ensuring its security. Securing the process in E-banking involves authenticating data of the customer and banker and protecting the information to be transmitted from interception.

According to Gardachew (2010), E-banking system must also take into account multilateral security key i.e, security needs of all participating parties in the E-banking system. An E-banking system that is not secured may not be trusted from its users. Trust is one of the crucial factors to ensure the acceptance of E-banking system by users Mrtina (2005) also indicated that E-banking application represent a security challenge as they highly depend on crucial ICT system that vulnerabilities in financial institutions businesses and potentially harm customers.

c. Regulatory and legal issues

According to Mishra(2009),virtual and global nature of E-payment also raises legal questions such as jurisdiction will be competent and about applicable laws in disputed cases, validity of electronic data, electronic contacts, and electronic signature.

Moreover, a legal and regulatory frame work that bids trust and confidence supporting technical efforts to meet the same is another important issue that needs to be addressed. In this regard

legislative support is essential for protecting the interests of customers and banks in various relating to E-banking and payment systems. Some of the main issues like liability for loss in case of fraud, allocation of loss in case of insolvency , cheque truncation (i.e fast and efficient payment in which paper checks are replaced with digital images in which checks are transferred electronically through system called check truncation), evidence and burden of proof, preservation of records, prevention of fraud, etc are to be cleared in the legislation(ECB,2002).This can be done by adopting model laws at global level such as model law on E-commerce (1996),UNCITRAL model law on E-banking Sgnatures(2001) and a regional level such as the SADC model law on Electronic Transaction and Data Protection Mishra (2009).

d. Infrastructure

The most common communication infrastructure for E-banking is computer network such as internet. According to Kumaga (2010), low level of internet penetration and poorly developed telecommunication infrastructure impede smooth development and improvement in E-commerce in developing countries. In this regards, a study made by microfinance Nigeria (2010) indicated that efforts made by the Nigerian Government and other financial and ICT stakeholders to move Nigeria's payment system from cash dependent platform to the global acceptance electronic – driven alternative ways is impeded by shortage of well developed telecommunication infrastructure. Another major problem that relates to E-banking system is frequent electric power interruption. This will create a lot of problem activities which are basically depending on power supply.

The other communication infrastructure available for E-banking users is the mobile network used for mobile phone. Automating the banking activities is another prerequisite for E-banking system.

e. Socio-Cultural challenges

According to Kumaga (2010) consumer's confidence and trust in the traditional payment system has made customers less likely to adopt new technologies. New technologies will not dominate the market until customers are confident that their privacy will be protected and adequate assurance of security is guaranteed. New technology also requires the test of time in order earn the confidence of the people, even if it is easier to use and cheaper than older methods.

Generally, a difference in the degree of the required security and efficiency among peoples of different cultures and level of development aggravates the problem Tadesse and Kidan(2005).

2.8 Other challenges

Other challenges that should be considered in E-banking system adopting standardization of software which is necessary to offer E-banking services proven high quality software is a must for high-tech banking services. For sophisticated types of services; the standardization of operating systems, systems software and application software through out the banking industry is a necessary condition, which may have to pursued Muvva and Sisay (2011). And also Husni and Noor (2011), stated that the provision of E-banking system require heavy investment costs. Because they have to buy and install the require systems and facilities which lead increased establishment expenses .As the same time they have to incur heavy maintenance costs. This problem might be difficult for new and small banks because they have to face financial problems at the initial stages.

2.9 Benefits of E-banking

Electronic banking systems provided easy access to banking services. The interaction between user and bank has been substantially improved by deploying ATMs, Internet banking, and more recently, mobile banking (Claessens et al. 2002). Electronic banking (E-banking) reduces the transaction costs of banking for both Small and Medium Enterprises (SMEs) and banks. SMEs need not visit banks for banking transactions, providing round the clock services (Cheng, 2006).Customers prefers E-banking for conveniences, speed, round the clock services and access to the account from any parts of the world (Cheng, 2006). E-banking offers benefits to banks as well. Banks can benefit from lower transaction costs as E-banking requires less paper work, less staffs and physical branches (Cheng, 2006). E-banking leads to higher level of customers satisfaction and retention (Poatoglu & Ekin, 2001). E-banking reduces loan processing time as borrowers loan application can be viewed by loan processing and loan approval authority simultaneously (Smith & Rupp, 2003). Typically, loan applications received at branch level and send to head office for approval. This documents transfer to and from branch to head office consume much time and delay loan sanction period (Riyadh et al., 2009). Beside to the above, the importances of E-banking services are as follows:

E-baking services are becoming the preferred way of making transactions in the developed world due to the fact that they understand the benefits very well through using them in their economy Dawd(2004), the benefits of having E-banking can be seen from different perspective as follows:

a. Benefits for customers

E-banking offers substantial advantages to customers in the form of convenience, time saving and easy access to the banking services. The customer can transact at any time and any where through the country or outside the country. There is no time and place restriction. The customers need not visit a branch for each and every transaction and no need to wait in the long queue. By this they save their time the customers can gain 24 hours a day and 7 days a week access to banking services at anywhere. With the help of E-banking, easy access to the banks will be another advantage of to the customers. Thus the E-Banking provides sophisticated services to the customers Devanmohan (2002).

Banking on the Internet not only allows the customer to have a full range of services available to them but it also allows them some services not offered at any of the branches. The person does not have to go to a branch where that service may or may not be offer. A person can print of information, forms, and applications via the Internet and be able to search for information efficiently instead of waiting in line and asking a teller. With more better and faster options a bank will surely be able to create better customer relations and satisfaction, **El, Amal (2002).**

b. Benefits for banks

The first benefit to the banks offering E-banking services is better branding and better responsiveness to the market. In this competitive world, E-banking helps the banks to attract more number of customers and tackle the competition from other banks.

According to Olga(2003), those banks that would offer such services would be perceived as leaders in technology implementation. Therefore, those banks that provide the service can enhance the customer satisfaction through sophisticated services.

By providing secured E-banking services, the banks can also avoid fraudulent activities. Banks can also save time and hence they can increase the number of transactions and business Devamohan(2002).

I. Price- In the long run a bank can save on money by not paying for tellers or for managing branches. Plus, it's cheaper to make transactions over the Internet.

II. Customer Base- the Internet allows banks to reach a whole new market- and a well off one too, because there are no geographic boundaries with the Internet. The Internet also provides a level playing field for small banks who want to add to their customer base.

III. Efficiency- Banks can become more efficient than they already are by providing Internet access for their customers. The Internet provides the bank with an almost paper less system.

c. Benefits for the Economy

The benefits of E-banking are immense for economic development of a nation, some of the economic development benefits of E-banking as indentified by Dawd(2009) are stated below.

I. Cost reduction for printing cash notes and its related distribution

In cash based economy, governments are required to invest a great deal of fund on printing of cash notes and distributing or manual transfer of such notes or currency between individuals is costly. But now a day's E-banking makes the life of each notes in minimal. in the case of E-banking system the transaction values are transferred from one account to another using E-banking means, making the need for cash notes distribution. Thus by encouraging acceptance of payment cards, government can achieve huge cost saving for their economy in terms of reducing cash notes printing and related expenditures Dad,I(2009).

II. **Increasing the potential for hard currency generation**

Especially in developing economies, earning of hard currency is very essential to manage a country's balance of payment. The payment card system can bring a good potential of enabling economies to earn more foreign currency. This can be realized by attracting tourist and by encouraging them to spend more in today's world, availability of E-banking infrastructure is one of the criteria that tourists set while they decide which country to visit .As a result, countries that maintain a developed E-banking system have a better potential of being visited by tourists than those which do not establish the E-banking infrastructure. Hence more tourists and increased hard currency as a result of diversifying payments card business Dawd,I(2009).

Technology Acceptance Model (TAM) Davis(1989), which put forward the two sets of beliefs, i.e., perceived ease of use (PEOU) and perceived usefulness (PU) to determine individual's acceptance of a technology.

PEOU refers to the degree to which an individual believes that using a particular system would be free of physical and mental effort, PU on the other hand is related to users' perception of the degree to which using a system will be beneficial Alsabbagh and Molla (2004).

PU According to Davis (1989) perceived usefulness is defined here as the degree to which a person believes that using a particular system would enhance his or her job performance.

2.10 Technology Acceptance Model (TAM)

Ideally one would a model that not only for prediction but also for explanation, so that researchers and practitioners can identify why a particular system may be un acceptable and pursue appropriate corrective action. A key of TAM, therefore, is to provide a base for tracing the impact of external factors on beliefs, attitude and awareness. For the reason, many researchers have widely used the Technology Acceptance Model (TAM) to help to predict and make sense of user acceptance of information technology Haghighinasab,K(2009) .

TAM was developed by Davis (1986) to explain the computer –usage behavior According to the model, in explaining the adoption of any information system, perceived ease of use(PEOU) and perceived usefulness(PU) are the two most important determinants.

- **Perceived Ease of Use: -** refers to the degree to wish a person believes that using a particular system would be free of effort. This follows from the definition of' ease' freedom 'from difficulty or great effort'. Extensive research over the past decide provides evidence of significant effect of perceived ease of use on usage intention, either directly or in directly through its effect on perceived usefulness Venkatesh(2000); Venkatesh and Morris(2000); Agarwal and Prasad(1999).
- **Perceived Usefulness**:-According to Davis (1989) perceived usefulness is defined here as the degree to which a person believes that using a particular system would enhance his or her job performance. This follows from the definition of the word 'useful' capable of being used advantageously. In an organization context, people are generally reinforced for good performance by raises, promotions, bonuses and other rewards Pfeiffer (1964). In many instances, there is also extensive research in the Information System (IS) community that provides evidence if the significant effect of perceived usefulness on usage intention. The proposed relationship between perceived usefulness and behavioral intention is based on the

theoretical argument found that perceive usefulness has a positive effect on behavioral intention to use the internet baking. in simple words, perceived usefulness has a significant relation on behavioral intention. That is perceived usefulness and perceived ease of use significantly determine behavioral intention. (I.e.Guriting and Nelson (2006); Venkatesh and Morris (2000); and Venkatesh and Davis (1996) to name a new.

2.11 Evolution of the E-Banking

. In more recent years, modern e-banking services such as internet and mobile banking has revolutionized banking services. The evolution of the e-banking industry can be traced to the early 1970s when banks began to look at these types of services as an alternative to some of their traditional bank functions. First, such a choice was considered appropriate since it ensures reduced costs as branches were very expensive to set up and maintain. Second, e-banking products and services like ATMs and electronic fund transfer were an important qualitative element of differentiation for banks that used them (Mobarek, 2007). Given that banks operate in a fiercely competitive industry, their ability to differentiate themselves on the basis of price is limited. Thus, in order to remain on the market it is imperative for banks to adjust their strategies in response to changing customers' needs and developments in technology.

The term e-banking became popular in the early 1980's referring to using a computer to access banking service via a phone line. E-banking first appeared in New York in 1981, where it was offered by major banks in that city, such as Citibank, Chase Manhattan, Chemical and Manufactured Hanover. Banks from the United Kingdom started to adopt the concept in 1983 where the Bank of Scotland was the first to introduce it. The early electronic banking services were basic, covering services like viewing bank statements and paying bills online without being a full transaction banking service (Shannak, 2013). Electronic banking services have actually started to develop only since 1995, when the Maryland Presidential Bank, an American bank, allowed bank accounts to be opened online. Electronic innovation in banking industry can be traced back to 1970, when the computerization of financial institutions gained momentum (Malak, 2007**)**, However; a visible presence of this was evident to the customers since 1980, with the introduction of ATM. Innovative banking has grown since then, aided by technological developments in the telecommunications and information technology industry. The early decade of the 1990s witnessed the emergence of automated voice response (AVR) technology. By using

the AVR Technology, banks could offer telephone banking facilities for financial services. With further advancements in technology, banks were able to offer services, through PC owned and operated by costumers at their convenience, through the use of intranet propriety software. The users of these services were, however, mainly corporate customers rather than retail ones (Sohail & Shanmugham, 2003). The security first network bank was the first Internet banking in the world that was built in 1995 in USA. After that some famous banks introduced their internet banking one after another, such as Citibank and bank of America.

2.12. E-Banking System in Ethiopian Banking Industry

The appearance of E-banking in Ethiopia goes back to the late 2002, when the largest state owned, commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users. In addition to eight ATM Located in Addis Ababa, CBE has had Visa membership since November 14, 2005. But, due to lack of appropriate infrastructure it failed to reap the fruit of its membership. Despite being the pioneer in introducing ATM based payment system and acquired visa membership, CBE Lagged behind Dashen bank, which worked aggressively to maintain its lead in E-payment system. As CBE continues to move at a snail's pace in its turnkey solution for Card Based Payment system, Dashen Bank remains so far the sole player in the field of E-Banking since 2006. (Gardachew, 2010) Dashen bank, a forerunner in introducing E-banking in Ethiopia, has installed ATMs at convenient locations for its own cardholders. This would make Dashen Bank the first private bank in Ethiopia to acquire E-commerce and mobile merchant transactions (Amanyehun, 2011). Although Dashen's new technology is one step ahead in that it allows transfer of funds from one's account to others, the first ever E-banking gateway was signed between Ethiopian Commodity Exchange (ECX) and Dashen Bank and CBE. The E-banking system being developed with both banks is designed to give a secure electronic data sharing gateway between clients, banks and ECX, by facilitating a smooth transaction **(**Abiy 2008) By the end of 2008 Wegagen Bank has signed an agreement with Technology Associates (TA), a Kenyan based information technology (IT) firm, for the development of the solutions for the payment system and installation of a network of ATMs on December 30, 2008.And Zemen Bank, the only Ethiopian bank anchored in the idea of single branch banking, by launching full-blown internet banking, a service which is new to Ethiopian banking industry in the year 2010. The bank tested the venture through its first phase of the online service, and now

it is already started the full-fledged version, which enable customers to make online money transfer freely. Previously, the online banking service, delivered by the bank, only gave access to bank statements and exchange rate information.(Asrat, 2010). The agreement signed by three private commercial banks to launch ATM and POS terminal network, in February 2009 is welcoming strategy to improve electronic card payment system in Ethiopia. Three private commercial banks - Awash International Bank S.C., Nib International Bank S.C. and United Bank S.C. have agreed in principle to establish an ATM network called Fettan ATM network. The agreement is the first significant cooperation between competing banks in Ethiopia, which others should be encouraged to follow as there is no single bank in Ethiopia that can afford to provide Extensive geographical coverage and access (Binyam, 2009).

Despite the growth of e-banking adoption worldwide, Ethiopian banks continue to conduct most of their banking transactions using traditional methods. The findings revealed that: balance inquiry, cash withdrawal, funds transfers, statement printing is among the major practice of e-banking among those banks that are providing the service to the customer. The different e-banking channels by which banks are using to provide these services to the customer are ATM card, debit card, credit card, salary card, visa card, master card, Internet banking and Mobile or SMS banking. Cost reduction, coverage of wide geographical area, customer satisfactions etc are among the benefits of adopting the system from the viewpoint of the bank. Among the different driving forces that initiate banks to adopt e-banking services: existence of high competition in the banking industry, desire to improve organizational performance, desire to reduce transaction cost, desire to cover wide geographical area, and desire to build organizational reputation are among others. Chances of risk, Lack of suitable legal and regulatory framework, absence of financial networks that links different banks, Low level of internet penetration and poorly developed telecommunication infrastructure, high cost of internet, security concerns are among the major challenges for the adoption of e-banking service in the country. However, late adopter opportunities, improvement in the banking habit of the society, commitment of the government to facilitate the expansion of ICT infrastructure and willingness among banks to cooperate in building infrastructure are the major opportunities for the adoption of the system in the banking industry. Date: 2010-06 Beza Muche (2010).

E-banking may allow banks to offer new products and services, to expand their markets for traditional activities and to consolidate their competitive position in offering available payment services, while ensuring operating costs cut for banks (BCBS, 1998).

2.13 Review of Empirical study in Adopting E-banking System

- The study of Kerem (2003) on the adoption of electronic banking: underlying consumer Behavior and critical success factors conducted in Estonia, was intended to study the further Understanding of, how consumers perceive electronic banking in the heyday of interactive channels in Estonia, as Estonia is internationally renowned for being a pioneer in the acceptance of new technologies. A series of an in depth interviews was conducted with leading industry experts in Estonia. The selection criterion for the respondent was mainly their involvement with the development of Internet banking systems from the early days of its emergence. The survey conducted for this research addressed six different issues influencing the adoption of Internet banking (Better prices, Recommendations, Better service, Marketing efforts, Better access and higher privacy). The most important factors in starting to use Internet banking are first and foremost better access to the services (convenience), better prices and higher privacy. Better service (i.e. preferring self service over office service) was also of above the average importance. Two factors that the respondents did not consider relevant to their adoption decision were banks' marketing activities and personal recommendations from friends and colleagues.

- Gerrard *et al.* (2006) in their study in Singapore identify risk to be an important factor for Internet banking adoption. All respondents who did not use Internet Banking services had a negative perception of the security in Internet Banking. The respondents perceived that there were many security risks when using the internet.
- The study of Shah *et al.* (2005) on critical success factors (CSF) in E-Banking conducted in United Kingdom, aims to determine the critical issues related to financial sector organizations when they establish businesses online. The survey method was used by researchers which target the financial sector in the UK. The study indicates that Understanding the CSFs in E-banking is important for senior management of banking related organizations, because it would potentially help them improve their strategic planning process. The analysis of the study indicates two major types of statistical analyses were conducted, descriptive statistical analyses

and factor analysis. In descriptive analyses, the factors (or variables) were ranked in order of their mean score, the highest score being the most important and so on. The top six factors in order of importance were: user-friendly website, systems security, support from top management, fast responsive customer service, promotion of electronic commerce within organization, and all time availability of services and rapid delivery of services. Factor analysis, which was done to group together, related variables to uncover factors (in terms of factor analyses), found the following factors to be critical for the success in E-banking. Issues related to organizational flexibility and speed of services delivery were found to be at the top of the importance list. Issues related to organizational flexibility and speed of services delivery were found to be at the top of the importance list. Business processes and systems integration and enhanced customer services were next in the list of importance.

- The other descriptive case study analysis conducted by Khalfan *et al* (2006) on 'Factors influencing the adoption of internet banking in Oman, aimed to identify the main potential factors or impediments that are currently inhibiting the incorporation or adoption of E-commerce applications in the Omani Banking sector. Data, used in their study were collected using semi structured interviews and survey questionnaire as well as reviewing some bank documents. The results of their study provide a Pragmatic picture about the adoption of E-Commerce applications in the core financial sector domain of Oman. One of the main findings is that security and data confidentiality issues have been a major barrier. The banking sector was reluctant to use E-commerce applications as they felt that transactions conducted electronically were open to hackers and viruses, which are beyond their control. Lack of top management support is the other inhibiting factor in the adoption of electronic commerce applications as per their finding.
- According to Tan Tao (2000) studied on the factor influencing the adoption of internet banking, some of the factors were relative advantage, internet experience, complexity government support, technology support, social norm and so on. The results revealed attitudinal and perceived behavioral control factors, rather than social influence play a significant role in influencing the intention to adopt internet banking. In particular, perceptions of relative advantage, compatibility, trial ability and risk toward using internet where found to influence intentions to adopt internet banking services. In addition, confidence

in using internet banking as well as perception for s of government support electronic commerce were also found to influence intentions.

- Another study conducted by Sathye (1999), on the adoption of internet banking by Australian used security, awareness of the service and its benefits resistance to change and availability of infrastructure as a basic factors in the study. The result shows that security concerns and lack awareness about internet banking and benefits out as being the obstacles to the adoption of internet banking in Australia.

- The study of Eriksson et al. (2004), on customer acceptance internet banking in Estonia using the factors of trust, perceived usefulness and its uses applied the model of technology acceptance. The finding suggests that internet banking increases in so far as customers perceive it as useful. The theory of perceived usefulness is central because it determines whether the perceived ease of internet bank use will lead to increased use of the internet bank. Put differently, a well designed and ease to use internet bank may not be used if it is not perceived as useful. They conclude that the perceived usefulness of internet banking is for banks, a key construct for customer use.

- Another study made by Wang (2003) on determinants of user's acceptance of internet banking based on the factors of trust. Perceived usefulness, ease of use and computer self efficiency. The result provides evidence of the significant effects of the individuals' difference variable that is computer self efficiency on behavioral intention through perceived ease of use, perceived usefulness and perceived creditability.

- The research studied by Suh Han(2002) shown the effects of trust on customer acceptance of internet banking found that trust is one of the most significant beliefs in explaining a customer's attitudes towards using internet banking. As suggested by the technology acceptance model, customer perception of the usefulness and ease to use also affects attitude significantly. This result implies that customers rely on that in on line environment processing sensitive information.

- Gardachew (2010) also concluded a research on opportunities and challenges of E-banking in Ethiopia. The aim of this study was focused on analyzing the status E-banking in Ethiopia

and investigates the main challenges and opportunities of implementing E-banking system. The author conducted a survey on the existing operating styles of banks and identifies some of the challenges of using E-banking system, such as lack of suitable legal and regulatory framework for E-commerce and E-banking political instability in neighboring countries high illiteracy and absence of financial networks that banks different banks.

Some related studies are conducted by different researchers in different parts of the world.

However, there are limited numbers of studies conducted in Ethiopia on the adoption of technological innovation.

- Wondwossen and Tsegai (2005) also studied on the challenges and opportunities of E-payments

in Ethiopia; their objective was studying of E-payment practices in developing countries, Africa and Ethiopia. The authors employs interview and on site observation to investigate challenges to E-payment in Ethiopia and found that, the main obstacles to the development of E-payments are, lack of customers trust in the initiatives, Unavailability of payment laws and regulations particularly for E-payment, Lack of skilled manpower and Frequent power disruption.

- On the other hand the study conducted by Daghfous and Toufaily (2007) on the success and critical factors in adoption of E-banking by Lebanese banks. The research was conducted on the factors that can lead to success the adoption of E-banking and the other factors that can constitute as barrier to its adoption, it focus on the organizational, structural and strategic factors which can accelerate or, on the contrary, slow the adoption of this electronic mode of distribution and communication by the banks, through analyzing the case of the Lebanese market. In order to test the validity of the theoretical framework, structured survey was used, interview questionnaire that was given to E-banking managers or to information technology managers of all the banks on the official list of institutions operating on the Lebanese market, with a total of 57 banks, 31 of them operate internationally and 26 are strictly local were used to gather data. The results of their study shows that the organizational variables (bank size, functional divisions, technical staff, technical infrastructure, perceived risks, decision makers` international experience and mastery of innovation) are variables which exert significant impact on the adoption of E-banking, among the structural characteristics, the result revealed that

internal technological environment of the bank is a very important factor in determining the adoption of E-banking, also the result shows that banks which are developing in the international scale are more likely to adopt E-banking innovations. Finally the result of the study indicated that extent of penetration of E-banking in the growth phase of an emerging market has an important correlation with the improvement of commercial performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This section describes the banking environment in Ethiopia with respect to adopting and using E-banking under which the banking industry operates. The banking industry in Ethiopia controlled by National Bank of Ethiopia (NBE) acting as the central bank of the country .There are 18 commercial banks registered under the NBE which comprises 2 government owned banks and 16 private commercial banks. It should be noted that since the researcher is planned to use stratified random sampling method to select samples from the target population. As it is mentioned in Kothari (Kothari, 2004) stratified sampling results in more reliable and detailed information and enables to get more representative samples. And two sampled banks are selected for the reason that the researcher has got willingness and cooperative banks and their staffs in providing the relevant information on electronic banking services that are found in the capital city of AA. Therefore, among these two broad categories Commercial Bank of Ethiopia and Dashen banks were selected as sample for this study. The reason the researcher selected these two banks is because of both banks started giving the services of E-banking earlier as compared to the rest commercial banks and both have good experience related to all the service given by E-banking.

Consequently, to recognize the challenges and benefits of adoption of E-banking and to create awareness on this area a research is necessary.

3.2. Research Design

Research designs are plans and the procedures for research that span the designs from broad assumptions to detailed methods of data collection and analysis **(Creswell, 2011, p. 3)**. It is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement, and analysis of data **(Creswell, 2011, p. 31).**

Since the research question mainly focus on what questions it is justifiable rationale for conducting descriptive and exploratory study and it is more likely to favor survey than others Yin(1989;pp,17-18), survey design provides a quantitative or numeric description of trends,

attitudes, or opinions of a population by studying a sample of that population. Its purpose is to generalize from a sample to a population so that inferences can be made and it is also economical and rapid turnaround in data collection Creswell (2003;pp'153-154). And it is typically not practical to include every member of the population of interest in a research study. Therefore, most researchers are forced to study a representative subset of the population of interest. Descriptive survey method was employed in this study for it is efficient to evaluate and determine the adequacy of a program under existing condition against the established standards (Best and Kohn, 1999).

3.3 Data sources and type of data

In order to carry out any research activity information was gathered from proper sources. Therefore, the achievement of the objective of this study was using both primary and secondary sources of data. The primary sources of the data serves as main sources of the study, it was collect from the staffs of the concerned department. This is because the study shall depend mainly on the opinion of staff on the issues of benefits and challenges related to adoption of E-banking services which make primary data sources to be more important than secondary sources. In addition, secondary data was also obtained from different sources like research paper, articles, magazines, published and unpublished materials, books, internet, web sites and different official reports.

3.4. Sampling Technique

In this research stratified technique was used. The researcher used this sampling technique because it helps to gather relevant information from the concerned department and since the population of the study was segmented in to different sections within a department of the two banks in the study, which was also advisable to come up with representative samples and generate the findings of the study. With regards to this, the total participants of target population of the study were 200 employees from both banks.

3.5 Sampling and Sample Design of the study

Sampling is the process of choosing, from a much large population, a group about which wish to make generalized statements so that the selected part represent the total group Leedy (1989; pp,

158).It would be impractical and unmanageable to include all population in the study. Therefore, to come up with representative samples and generate the findings of the study stratified sampling techniques used.

As it is mentioned in Kothari (Kothari, 2004) stratified sampling results in more reliable and detailed information and enables to get more representative samples. Sample was taken from E-payment employees of Commercial Bank of Ethiopia and Dashen banks found in Addis Ababa. The total sample size was selected from 400 employees of both banks working at E-payment of head office. Since the total size of population from both banks at E-payment department were 400 in number and from these, the total sample size selected or the numbers of participants in the study were only 200. Which were 150 participants were from CBE E-payment and 50 participants were from Dashen bank of E-payment employees found in AA and the reason to take more employees from CBE was large number of employees found at CBE E-payment department compared to Dashen bank. In this regard size of the sample was represented based on Yamane (1967:886) sited on Glenn D. (1992) and the researcher was select 200 employees by this formula.

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

$$n = \frac{400}{1+400(0.05^2)}$$

$$n = \frac{400}{1+1}$$

$$n = \frac{200}{}$$

Description:

n= required sample size
N= population size
e= margin of error at 5% (standard value of 0.05)

Finally, the reason that the researcher select employees of these departments from both banks were since they are important to this study and also the researcher found real data from those people because of he/she work in this department with different level and work experience.

3.6 Tools for Data Collection (instruments)

In order to achieve the intended objectives data collection instruments are very important. Thus, the instruments data collections for this study were questionnaires and interview with key informants. The questionnaire was designed in to two major parts, the first part is about personal characteristics of respondents such as, sex, position, age, qualification and so on, and the second part deals with the issue challenges and benefits of adoption of E-banking in Ethiopia. The study was adopted the descriptive approach (table, frequency, percentage) which uses quantitative method of data collection and analysis. Questionnaires were the main instrument used for the data collection and it was solicit from 200 respondents.

3.6.1. Questionnaire

The respondents of this study were from two commercial banks are included in the survey. Questionnaires were distributed to 200 respondents of the banks of E-payment department. Questions present in the form of affirmative statements, relating to the concepts on E-banking and to identify the intention on the challenges and benefits of adopting E-banking system, in such a way to enable measurement of the respondent's opinions. The respondents were asked to indicate their level of agreement on a five point Likert scale with the following rating.**''5''Strongly agree,''4'' agree,''3''moderate or neutral,''2''disagree, and ''1'' strongly disagree.** The questionnaire is close ended to get guided responses and for easy analysis and to obtain information, the respondents also requested to forward any suggestion so as to provide open ended responses if they have opinions which they feel the researcher would find useful.

Bearing in mind the sensitivity of the questions that ask, the questionnaire was simple and clear to ease the participant into the data gathering process. This would be done by asking the basic questions about the participants' demographic profiles at the beginning of questionnaire and more intrusive questions about the participants' activity at the end. The questionnaires were preparing in English language.

3.6.2. Interview

To obtain more detail and meaningful information on the topic an interview was took place within selected E-payment managers and team leaders (a minimum of 2 key informants) from both banks.

3.7 Data Processing and Analysis

3.7.1 Data Processing (editing, coding, ranking etc)

It involves the transformation of the raw data in to some processed form to facilitate analysis. Highlight the important characteristics of the data, facilitates comparisons and render it suitable for further statistical analysis and interpretations. In this, section the collected raw data was check and adjust to identify omissions; legibility, consistency, completeness, uniformity and accuracy of the response give by the respondents. Editing was take both at housing and filed to check completeness, consistency and questions answered out of order by respondents.

3.7.2. Method of Data Analysis (quantitative Vs qualitative tools)

In this section, raw data has been transformed into a form that was make them easy to understand and interpret; rearranging, ordering, and manipulating data to generate descriptive information.

In this research, both qualitative and quantitative methods of data analysis were used. The first stage of data analysis comprises the preparation of codebooks for the questionnaires. The questionnaires edited, coded, and analyzed using Statistical Package for Social Science (SPSS) version 20.0 software and relevant data analysis need to answer the research questions were carried out. The quantitative techniques utilized in this study were descriptive statics like % age, frequency and Tables were used to show the results of the analysis and to facilitate the interpretation of the data. In addition, the qualitative analysis describe in narrative way.

3.8. Ethical consideration

Sometimes the researchers undertake research without telling the truth about the purpose and nature of the research. This leads respondents mislead about the reality of the study because of fearing of lack of confidentiality. To avoid this problem the researcher was care for ethical aspects. So the participants in the study were brief about the purpose and nature of the research

study by the researcher. In relation to this, the participants are asking for their informed consent to participate in the study. To make the participant free from stress or anxiety the issue of confidentiality was promise for the information that they provide. The data would be collect from willing sample respondents without showing any unethical behavior or forceful action. The results or a report of the study was use for academic purpose only and response of the participants kept confidential and analyze in aggregate without any change by the researcher. In addition, the researcher respects the work of previous investigations or study and cites appropriately those works that used as a source.

CHAPTER FOUR
4.1 Data presentation, Analysis and Interpretation

This section of study deals with presentation, analysis and interpretation of data gathered through questionnaires as well as interviews. As it was indicated in the methodology, there are two (2) government owned banks and sixteen (16) private commercial banks operating in Ethiopia. Of the total of these eighteen (18) banks the researcher selected two (2) banks for the purpose of this study from the two broad categories which provide E-banking services currently.

Therefore, among these two broad categories Commercial Bank of Ethiopia and Dashen Bank were selected as a sample for this research. These two (2) banks are selected for the reason that the researcher has got willingness and cooperative individuals who can assist in providing the relevant information on E-banking services.

4.2 Results obtained from the Questionnaires

As it was stated earlier 200 respondents were participated in the questionnaire, of which 190 questionnaires filled by respondents were collected and analyzed by Statistical Package for Social Science (SPSS Version 20.0).

4.3 Respondents Characteristics

Understanding background of respondents is necessary to assess and associate, how educational status, work experience and age condition of them has its own effect for the system. Accordingly, below the study tried to analyze general Characteristics of respondents.

Table 4.1 Gender profile of the respondents

Gender	**Frequency**	**Valid Percentage (%)**
Male	105	55.3
Female	85	44.7
Total	190	100

(Source: Result of SPSS, 2016)

Based on the above table of respondents of gender classification, from the total 190 respondents 105 were males which represent 55.3 %; on the other hand 85(44.7%) of respondents were females. This is indicated that from total participants number of males were greater than number of females. Based on this indication, sex ratio of the respondents proportion of males working at E-payment are greater than females.

. **Table 4.2 Age character of respondents**

	Number of respondents	**Frequency**	**Valid Percentage (%)**
Age	Below 20	17	8.9
	From 20-30	141	74.3
	From 31-40	24	12.6
	From 41-50	5	2.6
	From 51-60	2	1.1
	Above 60	1	0.5
	Total	190	100

(Source: Result of SPSS, 2016)

The above table 4.2 age characteristics show that, 17 (8.9%) of respondents are found in the age of below 20, while 141 (74.3%) respondents are found between the age group of 20-30, on the other hand, 31– 40 age group of respondents are presented by 24 (12.6%) and 5(2.6%) of respondents are found between the age group of 41-50, 2 (1.1%) of respondents are found the age between 51-60, and finally 1(0.5%) of respondents are found above 60.Therefore, as it is indicated on the above table, the data age proportion of the respondents were show that most employees of E-payment were younger, which found between the age of 20-30 and represented by 141 (74.3%).

Table 4.3 Educational background of the respondents

Educational background	Number of respondents	Percentage (%)
10 complete	2	1.1
Certificate	3	1.6
Diploma	36	18.9
Degree	133	70.0
Master degree	16	8.4
Total	190	100

(Source: Result of SPSS, 2016)

Table 4.3 implies that based on their educational level, majority of the respondents were first degree holders which represented by 133 (70.0%), on the other hand, 10 complete respondents were only 2 (1.1%), and those with certificate were also few in number next to ten complete 3(1.6%), diploma holders were 36 (18.9%) and 16 (8.4%) respondents were master degree holders.

As shown in the above table most of the employees are degree holders (70%) which shows that almost all of the employees were educated and 16(8.4%) of employees were master degree holders which shows that currently some employees were engaged in to high educational level to become more competent.

4.3.1 Challenges of adopting E- banking system in banks

Table 4.4 challenges to the technology

S/No	Description		Strongly "Disagree" 1	Disagree "2"	Neutral "3"	Agree "4"	Strongly Agree "5"
1	High cost of ICT investment and lack of availability infrastructure are challenges for adopting E-banking	Frequency	10	20	29	93	38
		Valid percent	5.3	10.5	15.3	48.9	20.0
2	Security problem is consider as challenges the adopting of E-banking	Frequency	16	38	49	65	22
		Valid percent	8.4	20.0	25.8	34.2	11.6
3	Limited knowledge of customers on E-banking service is lead to fear risk in using new technology of E-banking	Frequency	3	14	22	105	46
		Valid percent	1.6	7.4	11.6	55.3	24.2

(Source: Result of SPSS, 2016)

The results on the above table indicated that the respondents of 38(20.0%) strongly agree, 93(48.9%) agree, 29(15.3%) neutral, 20(10.5%) respondents are disagree and 10(5.3%) strongly disagree on the issues. Thus lead that the largest percent of the respondents agreed that high cost of ICT investment and lack availability of infrastructure considered as a factor that can hinder the adoption of technological innovation.

The outcome of respondents in the above table received that lack of security is considered as challenges for the adopting of E-banking in Ethiopia, were 22(11.6%) of the respondents strongly agree, 65(34.2%) agree, 49(25.8%) neutral, 38 (20.0%) disagree and the rest of16 (8.4 %) respondents strongly disagree. It is possible to say that majority of the respondents indicated that technological challenges, such as security risk is hindrance factor for the adoption of E-banking in our country. This result is consistent with the study of Gardachew(2010) stated that E-banking system must also take into account multilateral security keys i.e., security needs of all participating parties in the E-banking system. An E-banking system that is not secured may not be trusted from its users.

The result presented in the above table shows that, the respondents asked whether bank customers fear risk in using E-banking and the result gives 46(24.2%)strongly agree, 105(55.3%) agree, 22(11.6%)neutral, 14(7.4%) disagree and 3(1.6%) of the respondents strongly disagree, that means the largest number of respondents were agreed on the issues. Therefore, Limited knowledge of customers on E-banking service is leading the customers to fear risk in using new technology of E-banking.

Table 4.5 Challenges to the Organization

S/No	Description		Strongly "Disagree" 1	Disagree "2"	Neutral "3"	Agree "4"	Strongly Agree "5"
1	In efficient government supports will affect banks willingness to adopt new technology	Frequency	9	40	51	71	19
		Valid percent	4.7	21.1	26.8	37.4	10.0
2	Skilled man power problem to implement E-banking system	Frequency	12	36	36	68	38
		Valid percent	6.3	18.9	18.9	35.8	20.0
3	E-banking is costly to do banking tasks than traditional bank services	Frequency	44	51	26	54	15
		Valid percent	23.2	26.8	13.7	28.4	7.9
4	Lack of awareness creation among customers before and after i	Frequency	7	13	21	102	47
		Valid percent	3.7	6.8	11.1	53.7	24.7
	implementation the adoption of E-banking						

(Source: Result of SPSS, 2016)

The basic issue related to with organizational challenges as shown on the above table were: lack of awareness creation, insufficient government support as well as skilled man power problem to implement the system. As they were discussed in the table, 47(24.7%) of the respondents were strongly agree, 102(53.7%) of respondents were agree, 21(11.1%) neutral, 13(6.8%) disagree and 7(3.7%) of respondents were strongly disagree on the issue of lack of awareness. On the other hand, the result on the above table also revealed that 19(10.0%) of the respondents were strongly agree, 71(37.4%) respondents were agree, 51(26.8%) of respondents were neutral, 40(21.1%) of respondents were disagree and 9(4.7%) respondents were strongly disagree on the issue of insufficient government support .And finally, 38(20.0%) of the respondents were strongly agree, 68(35.8%) agree, 36(18.9, %) neutral, 36(18.9%) disagree and 12(6.3%) respondents were strongly disagree on the issue of skilled man power problem. From this discussion regarding to the three challenges (lack of awareness creation, insufficient government support as well as skilled man power problem to implement the system) majority of the respondents were agreed on the issues that they were basic challenges on organization to implement E-banking system.

The results on the issue whether E-banking is costly to banking tasks than traditional bank services were 15(7.9%) of respondents were strongly agree, 54(28.4%) of respondents were agree, 26(13.7%) of respondents were neutral, on the other hand, 51(26.8%) of respondents were disagree and 44(23.2%) of the respondents were strongly disagree on the manner. Which indicated that majority of the respondents agreed that as compared with traditional banking system, using different E-banking technological innovation in banking industry is used to perform banking activities at lower costs. This finding is consistent with the finding of Rasoulina and Javaheri (2006) when suggests, cost, infrastructure, socio-cultural, time, information, legislation and regulation and economic as the most effective issues affecting the electronic banking activities.

Table 4.6 Challenges to the Environment

S/No	Description		Strongly "Disagree" 1	Disagree "2"	Neutral "3"	Agree "4"	Strongly Agree "5"
1	Have not trust on the adopting of E-banking (acceptance of new technology) within short time	Frequency	10	15	29	81	55
		Valid percent	5.3	7.9	15.3	42.6	28.9
2	In sufficient government regulation and legal frame works regarding to adopting new E-banking system in Ethiopia	Frequency	5	28	65	77	15
		Valid percent	2.6	14.7	34.2	40.5	7.9
3	Un able to compete with local and foreign banks regarding to E-banking service	Frequency	10	42	51	57	30
		Valid percent	5.3	22.1	26.8	30.0	15.8
4	unwillingness of Customers to accept E-banking service	Frequency	14	44	44	71	17
		Valid percent	7.4	23.2	23.2	37.4	8.9

(Source: Result of SPSS, 2016)

The results depicted on the above table deals with whether there is not trust for the adopting of E-banking in the country and that the respondents were strongly agree by 55(28.9%), 81(42.6%) of respondents were agree, 29(15.3%) of respondents were neutral, and 15(7.9) % of respondents were disagree and 10(5.3%) of the respondent were strongly disagreed on the issue. It indicates that more of the respondents were agreed that there is difficulties of adopting of E-banking due to most of the people are not trust and this is one challenges to adopt E-banking service in a country.

The above table also shows that 15(7.9%) of respondents were strongly agree, 77(40.5%) of respondents were agree, 65(34.2%) of respondents were neutral, 28(14.7%) respondent were

disagree and 5(2.6) of respondents were strongly disagreed on the issue. It indicates that more of the respondents were agreed that there is lack of government regulation and legal frame works regarding to adopting new E-banking system in Ethiopia

On the other hand, the result on the above table revealed that 30(15.8%) of the respondents were strongly agree, 57(30.0%) of respondents were agree, 51(26.8%) of respondents were neutral, 42(21.1%) of respondents were disagree and 10(5.3%) of respondents were strongly disagree on the issue whether the Ethiopian banks lacks of well competition with foreign banks. Thus means majority were agreed with the idea that bank of competition between Ethiopian banking sector and foreign banks is considered as challenges for the adoption of E-banking system. Therefore, Ethiopian banking industry did not consider about competition with foreign banks and such policies could discourage banking sector of the country from the adoption of E-banking system.

Finally, the result shows that unwillingness of Customers to accept E-banking service were: 17(8.9%) of the respondents were strongly agree,71(37.4%) of respondents were agree, 44(23.2%) of respondents were neutral, 44(23.2%) of respondents were disagree and 14(7.4%) of respondents were strongly disagreed, which implies that unwillingness of customers to accepts new E-banking system is considered as challenges for the adoption of technological innovation.

4.3.2 Benefits of adopting E-banking system

Table 4.7 Perceived Ease of Use (to make work easy)

S/No	Description		Strongly "Disagree" 1	Disagree "2"	Neutral "3"	Agree "4"	Strongly Agree "5"
1	E-banking service is more accessible to users than visiting a bank physically	Frequency	8	21	16	76	69
		Valid percent	4.2	11.1	8.4	40.0	36.3
2	Using E-payment system(like debit card, ATM or visa card) simplify the activity of workers deliver to	Frequency	2	11	18	76	83
		Valid percent	1.1	5.8	9.5	40.0	43.7

	customers						
3	In the case of mobile banking or internet banking, customers can simplify use banking services	Frequency	4	16	35	73	62
		Valid percent	2.1	8.4	18.4	38.4	32.6
4	E-banking services are adopted to disable and elder people who are lacking computer knowledge	Frequency	52	44	43	41	10
		Valid percent	27.4	23.2	22.6	21.6	5.3
5	Faster way of conducting banking transactions	Frequency	7	11	12	85	75
		Valid percent	3.7	5.8	6.3	44.7	39.5
6	Cost effective way of conducting banking transactions	Frequency	7	17	23	87	56
		Valid percent	3.7	8.9	12.1	45.8	29.5

(Source: Result of SPSS, 2016)

As shown in the above table in the subject manner, if E-banking service is more accessible to users than visiting a bank physically to get services, the result of respondents were 69(36.3%) of respondents were strongly agreed, 76(40%a) of respondents were gree,16(8.4%) of respondents were neutral, 21(11.1%) of respondents were disagree,8(4.2%) of respondents were strongly disagreed on the matter. This implies that the highest number of the respondents verify that E-banking is more accessible for users anywhere with no need of visiting the bank physically.

The result for using E-payment system like debit card, ATM or visa card simplifies the activity of bank workers to deliver services to customers were: 83(43.7%) of the respondents were strongly agree, 76(40%) of respondents were agree, 18(9.5%) of respondents were neutral 11(5.8%) of respondents were disagreed and 2(1.1%) of respondents were strongly disagreed on the issue. It implies that majority of respondents agreed with the idea that E- banking simplifies the activities of bank employees, which is a good factor for the ability to adopt E-banking system. This idea is supported by Giglio(2002) suggests that adopting online baking services reduces the workload over the banking staff and it's easy to have more satisfied customers.

As the above table is also depicts,62(32.6%) of the respondents were strongly agreed,73(38.4%) of respondents were agree, 35(18.4%) of respondents were neutral,16(8.4%) of respondents were disagreed and 4 respondents were strongly disagree or 2.1% were strongly disagreed in the issue whether customers of the bank can access banking services by using mobile banking or internet banking and simplifies banking activities. The result indicated that majority of the respondents were agreed that by using mobile banking or internet banking customers can access banking activities with simple manner.

The result of the respondents for which E-banking services are adopted to disable and elder people who are lacking computer knowledge were: 10(5.3%) of respondents were strongly agree, 41(21.6%) of respondents were agree,43(,22.6%) of respondents were neutral, on the other hand 44(23.2%) of respondents were disagree and 52(27.4 %) of respondents were strongly disagreed on the issue. These revealed that majority of the respondents were strongly disagreed on the issue and E-banking services are not simply adapted to disable and elder people who are lacking computer knowledge.

As the above table depicts, 75(39.5%)of the respondents were strongly agreed,85(44.7%) of respondents were agree,12(6.3%) of respondents were neutral,11(5.8%) respondents were disagreed and 7 respondents were strongly disagree or 3.7 % were strongly disagreed in the issue whether customers of the bank can access the banking transactions in the manner of faster way and it implies that since majority of the respondents were agreed on the issue, using E-banking services can help customers to conducting banking transactions easily without visiting a bank physically.

As the above table depicts,56(29.5%)of the respondents were agreed strongly,87(45.8%) of the respondents were agree,23(12.1%)of respondents were neutral,17(8.9%) of respondents were disagreed and 7 respondents are strongly disagree or 3.7 % of respondents were strongly disagreed on the issue as majority of the respondents were agree that using E-banking service could be cost effective for banking transactions and to simplify the loading transactions at branches.

4.3.3 Usefulness of adopting E-banking system

Table 4.8 Usefulness of adopting E-banking system

S/No	Description		Strongly "Disagree" 1	Disagree "2"	Neutral "3"	Agree "4"	Strongly Agree "5"
1	E-banking is convenient in terms of 7 days and 24 hours services	Frequency	7	17	19	78	69
		Valid percent	3.7	8.9	10.0	41.1	36.3
2	To improve customers service	Frequency	4	4	11	98	73
		Valid percent	2.1	2.1	5.8	51.6	38.4
3	Reduce number of customers come to the banking hall	Frequency	2	8	11	81	88
		Valid percent	1.1	4.2	5.8	42.6	46.3
4	E-banking increases the productivity of the bank	Frequency	4	4	15	86	81
		Valid percent	2.1	2.1	7.9	45.3	42.6
5	Internet banking is convenient in terms of time saving	Frequency	7	5	7	84	87
		Valid percent	3.7	2.6	3.7	44.2	45.8
6	Customers think that using E-banking service saves their time and money	Frequency	**7**	**17**	**25**	**71**	**70**
		Valid percent	**3.7**	**8.9**	**13.2**	**37.4**	**36.8**
7	Enhancement of customer services Efficiency in service delivery	Frequency	**6**	**7**	**27**	**88**	**62**
		Valid percent	**3.2**	**3.7**	**14.2**	**46.3**	**32.6**

(Source: Result of SPSS, 2016)

The result shown in the table whether E-banking is convenient in terms of 7days and 24hours services and 69(36.3%) of respondents were strongly agree, 78(41.1%) of respondents were agree, 19(10 %) of respondent were neutral, 17(8.9%) of respondents were disagree and 3.7% or

7 respondents were also strongly disagreed on the issue. These results indicated that most respondents were agreed that E-banking service is more convenient in terms of saving time and delivering of bank service to customer 24 hours and 7 days a week in which E-banking service is save the time. It is supported by the study of Devamohan(2000) give explanation in there is no time and place restriction to get the services of E-baking. The customers need to wait in the long queue. By this they can save their time. The customers can gain 24 hours a day and out of 7 days a week access to banking services at anywhere. With the help of E-banking provides sophisticated services to the customers.

The above table shows that whether the outcome of respondents concerning E-banking helps for the improvement of customer service and 73(38.4%) of respondents were strongly agree, 98(51.6%) of respondents were agree, 11(5.8%) of respondents were neutral, 4(2.1%) of respondents were disagreed and 4 as well as strongly disagree on the issue. It implies that as majority of the respondents were agreed on the issue by using the E-banking system banks can improve customer satisfaction. The above result is consistent with Kuan(2001) and Lacou(1995) explained that one of the indicate benefits of E-banking includes the opportunity or intangible benefits such as improved customer's satisfaction through improved services, improved banking experience and fulfillment of their changing needs and lifestyle.

The result shown on the table revealed that 88(46.3%) of respondents were strongly agree,81(42.6%) of respondents were agree, 11(5.8%) of respondents were neutral, 8(4.2%) of the respondents were disagreed and 2 respondents or 1.1% were strongly disagreed in which E-banking can reduce number of customers coming to the bank hall as compared to traditional banking system. The result shows that due to majority of the respondents strongly agreed on the issue E-banking can reduce number of customers coming to the bank hall as compared to traditional banking system.

The above table revealed whether E-banking increases the productivity of banks and that is 81(42.6%) of respondents were strongly agree, 86(45.3%) of respondents were agree, 15(7.9%) of respondents were neutral, 4(2.1%) of respondents were disagreed as well strongly disagree in the subject manner. This means most of the respondents agreed that E-banking has a benefit to increase the productivity or profitability of banks.

The response of respondents in terms of E-banking is convenient for time saving were, 87(45.5%) of respondents were strongly agree, 84(44.2%) of respondents were agree, 7 (3.7%) respondents were neutral or strongly disagreed and only 5(2.6%) of respondents were disagreed on the matter. It means that the largest number of respondents agreed that using E-banking such as internet banking, mobile banking, ATM and other services enables users to complete banking activities more quickly and easily. As it was stated by Devamohan,(20002) banks can also save time and hence they can increase the number of transaction and business as well.

The result of respondents whether customers think that using E-banking service save their time and money which were 70(36.8%) of respondents were strongly agree, 71(37.4%) of respondents were agree, 25(13.2%) of respondents were neutral, 17(8.9%) of respondents were disagreed, and only 7(3.7%) of the respondents were strongly disagreed on the issue.

This finding is consistent with the previous studies of Dawd(2009) in which the majority of the respondents found time saving and cost minimization as important factors of the benefits of electronic banking services.

The above table revealed whether E-banking service enhance customer services Speed or efficiency in service delivery of banks that 62(32.6%) of respondents were strongly agree, 88(46.3%) of respondents were agree, 27(14.2) of respondents were neutral, 7(3.7%) of respondents were disagreed and 6(3.2%) of respondents were strongly disagree in the subject manner. This means most of the respondents agreed that E-banking has enhanced customers service speed or efficiency of service delivery of banks.

4.3.4 Effects of challenges of E-banking on the bank performance

Table4.9 Effects of challenges of E-banking on the bank performance

S/No	Description		Strongly "Disagree" 1	Disagree "2"	Neutral "3"	Agree "4"	Strongly Agree "5"
1	Decreasing number of customers to use E-banking service and loose of commission from transactions	Frequency	29	47	51	53	10
		Valid percent	15.3	24.7	26.8	27.9	5.3
2	Discourage customers loyalty on the bank service	Frequency	36	59	53	35	7
		Valid percent	18.9	31.1	27.9	18.4	3.7
3	Encourage customers shift to private banks	Frequency	44	51	51	37	7
		Valid percent	23.2	26.8	26.8	19.5	3.7

(Source: Result of SPSS, 2016)

The results on the above table indicated that the respondents of 10(5.3%) were strongly agree, 51(26.8%) of respondents were agree, 53(27.9%) of respondents were neutral, 47(24.7%) of respondents were disagreed and 29(15.3%) of respondents were strongly disagree on the issues. Thus lead that the largest percent of the respondents were neutral that effects of challenges of E-banking on bank performance or to Decreasing number of customers to use E-banking service and loose of commission from transactions.

The outcome of respondents in the above table indicated that the respondents of 7(3.7%) were strongly agree, 35(18.4%) of respondent were agree, 53(27.9%) respondents were neutral, 59(31.1%) respondents were disagreed and 36(18.9%) of respondents were strongly disagree on the issues. And the largest respondents were neutral and this implies that effects of E-banking challenges on Discouraging customers loyalty on the bank service is less or no more effects on discouraging customers loyalty on bank service.

The result presented in the above table shows that, the respondents asked whether challenges of E-banking encourage customers shift to private banks and the result gives7 (3.7%) of respondents were strongly agree, 37(19.5%) of respondents were agree, 51(26.8%) of respondents were neutral, 51(26.8%)of respondents were disagree and 44(23.2%) of the respondents were strongly disagree, that means the largest number of respondents were disagreed as well as neutral by the same percent on the issues. Therefore, challenges of E-banking were not encourage customers shift to private banks.

4.3.5 To improve E-banking service and overcome its challenges

Table 4.10 To improve E-banking service and overcome its challenges

S/No	Description		Strongly "Disagree" 1	Disagree "2"	Neutral "3"	Agree "4"	Strongly Agree "5"
1	Creation of awareness on customers of using E-banking service technology	Frequency	4	11	9	78	88
		Valid percent	2.1	5.8	4.7	41.1	46.3
2	make network availability reliable by investing high cost	Frequency	5	12	25	75	73
		Valid percent	2.6	6.3	13.2	39.5	38.4
3	more secured the service of E-banking	Frequency	6	3	22	76	83
		Valid percent	3.2	1.6	11.6	40.0	43.7
4	less charging to use E-banking service	Frequency	10	15	29	78	58
		Valid percent	5.3	7.9	15.3	41.1	30.5
5	More emphasis on the operating of 24 hours service	Frequency	5	9	9	79	88
		Valid percent	2.6	4.7	4.7	41.6	46.3

(Source: Result of SPSS, 2016)

The results on the above table indicated that the respondents of 88(46.3%) were strongly agree, 78(41.1%) of respondents were agree,9(4.7of respondents were neutral, 11(5.8%) of respondents were disagree and 4(2.1%) of respondents were strongly disagree on the issues. Thus lead that the largest percent of the respondents were strongly agreed that creation of awareness on customers of using E-banking service technology in order to overcome challenges of E-banking and to improve E-banking service was the solution of to overcome the challenges.

The outcome of respondents in the above table shows that 73(38.4 %) of the respondents were strongly agree, 75(41.1%) of respondents were agree, 25(13.2%) of respondents were neutral, 12(6.3%) of respondents were disagree and the rest of 5(2.6%) respondents were strongly

disagree. It is possible to say that majority of the respondents indicated that make network availability reliable by investing high cost to overcome challenges of E-banking and make sure the good service of E-banking as majority of the respondents were agreed on the issue.

The result presented in the above table shows that, the respondents asked whether more secured the service of E-banking is solution to overcome challenges and the result gives 83(43.7%) of respondents were strongly agree, 76(40%) of respondents were agree, 22(11.6%) of respondents were neutral, only 3 (1.6%) of respondents were disagree and 6(3.2%) of the respondents were strongly disagree, that means the largest number of respondents were strongly agreed on the issues. Therefore, to make more secured the service of E-banking is the major solution to overcome those challenges of E-banking adoption.

The result presented in the above table shows that, the respondents asked whether less charging to use E-banking service is solution to overcome challenges and the result gives 58(430.5%) of respondents were strongly agree, 78(41.1%) of respondents were agree, 29(15.3%) of respondents were neutral, 15(7.9%) of respondents were disagree and 10(5.3%) of the respondents were strongly disagree, that means the largest number of respondents were agreed on the issues. Therefore, make less charging for E- banking service would be good for the adoption of E-banking and to overcome those challenges of E-banking adoption.

Finally, the result presented in the above table shows that, the respondents of 88(46.3%) were strongly agree, 79(41.6%) of respondents were agree, 9(4.7%) of respondents were neutral or disagree and only 5(2.6%) of the respondents were strongly disagree, that means the largest number of respondents were strongly agreed on the issues. Therefore, more emphasizing on the operating of 24 hours service of E-banking system is the other alternative of encouraging customers to adopting E-banking service and solution to overcome those challenges of E-banking adoption.

4.4 Results obtained from interview

The interview is conducted for CBE E-payment operational managers who working around 15 years in different position within the bank **("Respondent 1")**, The other respondent**("respond 2")** is team leader of E-payment at Dashen bank who has been working for eight years with the 3 years of team leaders. The researcher also tried to include employees of National Bank of

Ethiopia in the interview in order to get current information concerning to legal and regulatory frameworks with E-banking but they are not voluntary to be interviewed.

The results of the interviews are summarized as follows:

- What are the reason and objectives of adopting E-banking in Ethiopia? This is to obtain the reason why bank involved in such a business and what benefits it get from the service.

The respondents are giving different opinion regarding to asked questions. As both respondents are mentioned, the main reason and objectives of adopting E-banking is to create cash less societies, to increase customer satisfaction and to provide self –services in order to minimize the load or burden at branch level and to make cost effective services. The other point is E-banking service provides indispensable advantage or benefits to customers in the form of different facilities like time saving, easy to access, and convenience to the banking services compared to traditional banking system. They are also stated that it make life easy for people in terms of 7 days and 24 hours services.

Respondent of E-payment operational manager also added that E-banking can eliminate the problems of waiting at branches for long time to be served, printing cash notes, cheques like traditional banking services. The other reason and objectives of adopting E-banking are the future banking trend which will gives availability of services to customers and managed resource utilization to the bank, reduced administrative expense, increase customers satisfaction.

- What are the major challenges faced in adopting E-banking in Bank?

  Respondent "**1**" explained that currently the major challenges for banks regarding to adoption of E-payment services are the problem of awareness creation, insufficient network connection and instability of electric power and the role of NBE specially regarding to large volume cash related transactions like transaction of Pos and ATM is based on National Bank directives, and also proper infrastructure is necessary to provide a quality service with E-banking system. In addition to this, Security issue is also another challenges because of highly exposed to fraud due to those highly educated with concerned field of study, lack of skilled man power and poor knowledge of the customers on the system.

Both respondents are mentioned that there is no proper policy for deployment of E-banking services. Due to this reason National Bank of Ethiopia (NBE) should be responsible to develop

all necessary frameworks (regulatory frame work) for the successful of implementation of E-banking system in Ethiopian banking industries. So as to the National bank responsible to develop regulatory framework, the law can protect the banks and customers from different fraudulent risk. Lack of awareness upon staff, internal and external customers about the product of E-payment which affects the effectiveness and confidence building for customers to use E-payment product, specially the technology is not properly communicated to branches.

- What are the major pull alternative advantages or opportunities in the future to provide the service effectively and efficiently? This question will help to assess the main factors for the attractiveness of the business

Respondent "1" said the major pull alternative advantages or opportunities in the future, due to globalization coming with new innovation technology and since CBE is state owned Bank most customers have high trust on it and this could make having large number of customers in using E-banking products and services, financial position of the bank in the near future as compare to private banks which helps to mobilize essential amount of deposits and to generate hard currency from tourists (foreigners) through forex ATM machine.

- What are your customers attitude towards the e-payment service the organization provide

  Respondent "2" said that most of the time banks do not provide the technical assistance even if the banks announce that our service is 24 hours with technical supports. Regarding to the new products of E-payment there is no awareness; customers need the service without any problems with latest technology

  Respondent "1" stated that within a day there are so many complain with the service of E-banking but there is a problem of providing adequate information specially employees of at branches are not give proper and further explanation to customers due to they are engaged and busy with other branch works.

- Do your customers lack of confidence in using the E-banking system as a payment method? If yes why?

  Both respondents are stated that most of the customers are engaged with lack of confidence in using E-banking system; this is due to lack awareness creation among both illiterate and literate customers of the banks, fearing that they would not get in return the

money deducted from their accounts and also fear of security regarding to their password as well as error of transactions due to network problem and power interruption.

- In case of E-payment what are the problems the bank encounter from technical, operational and infrastructure aspects?

  Respondent “1” stated that limitation of technical and operational support at each branch, lack of co-integration among each department since they are far way to each other, not having enough skilled man power, limitation of internal server, societies having insufficient knowledge, insufficient infrastructure in ICT are the main problems that bank encounter

CHAPTER FIVE

Summary, Conclusions and Recommendations

This chapter deals with the summary of major findings, conclusions and recommendations. The recommendations part on the other hand suggests possible solutions to the major findings the study.

5.1 Summary of the findings

As presented in result section or based on the discussions, analysis and interpretation, the study was assessed Benefits and Challenges of adopting of E-banking system in the case study area. The survey question provided to assess Benefits and Challenges of adopting of E-banking system in to two parts in the first part the questions assessed the employee educational background as well as their age and gender variation. In the second part the questions were provided to assess challenges and benefits adopting E-banking system by using different types of questions and the major findings were presented as following.

- The study carried out to identify challenges and benefits of adopting E-banking in Ethiopia in two selected banks (Commercial Bank of Ethiopia and &Dashen bank) found in AA. The researcher used the review of the related literatures, questionnaires and interviews with the selected banks mentioned earlier.
- In this study, the researcher tries to use the basic frameworks, Technology-Organization-Environment (TOE).
- The result of these questionnaire and interviews conducted by the researcher indicates that the banks faced challenges related to lack of awareness on benefits of newly adopted E-banking technologies, and lack of awareness and a tendency of looking for better new E-banking technologies.
- The findings of the study have shown adopting E-banking have many benefits both for banks, customers and for the development of the economy. For banks to attract more customers and to enhance the customer satisfaction through sophisticated services. The benefits of E-banking to customers discussed in the form of convenience, time saving and easy access to the banking services. Customers can transact at anytime and anywhere without the support of teller. There is no time and place restriction. Some of the economic

development benefits are a reduction of the cost for printing cash notes and its related distribution, increasing the potential for hard currency generation.

- E-banking has its own challenges in adopting E-banking like the security, infrastructure, and regulatory frameworks and socio-cultural challenges. The study also revealed that fear of risk ,in efficient government support for the adoption of E-banking, lack of ICT infrastructure, lack of suitable legal and regulatory, lack of competition between local and foreign banks, skilled man power problem, frequent power interruption and security issues are the main challenges for developing E-banking in Ethiopia.

- The study also revealed that the infrastructure required for successful adopting and implementation of E-banking system is under developed. In general perceived ease of use is one of the basic benefits for E-banking in which it enables banks and customers to perform banking activities in simple way. The other benefits for the adoption of E-banking are perceived usefulness in which a study was considered as a great potential for banks to improve their public image.
- The result of the analysis identified that limited knowledge of customers on E-banking service which leads customers to fear risk in using new technology of E-banking is the major hindrance against the development of E-banking system in Ethiopia.
- The study recognized that there is no proper policy development of E-banking services in Ethiopia. In this regard National Bank of Ethiopia (NBE) will be responsible to develop regulatory frameworks for the success implementation of E-banking system. And this law can protect customers and banks from fraudulent risk that might arise from E-banking services.
- As it is indicated on the above in part two questionnaire, types of E-banking service among ATM, MB, IB, POS and TOP UP the respondents were used in large proportion ATM. This proportion is shows that the employees were not having equal interested and awareness among all services. And this implies that the customers of the bank those who having E-banking services are not equally aware of the service, equally knowing and interested the service. Generally, this is one of the challenges to adopt E-banking service.
- As the findings shows, the major Challenges for adopting of E-banking in Ethiopia is limited knowledge of customers on E-banking service and lack of awareness creation among customers.

5.2 Conclusions of the Study

The following conclusions are discussed from the study about benefits and challenges of E-banking system. The study area based on the review of the related literature and data obtained from respondents and secondary data. All conclusions and recommendations are presented as per the research objectives of this study.

- In the study area majorities of the respondents were males as compared to the females ratio, and majorities them were younger and found at higher level of educational status which helps the two banks in the near future to provide the system in good manner to the customers.
- To undertake this research, both descriptive and exploratory study was conducted by using stratified sampling method for which both primary and secondary data are used to investigate all necessary information and in order to know the major findings.
- Primary data are collected from banks employees through questionnaire and interviews, where as secondary data was collected from different sources for the study of research area. The analysis was done using Statistical Package for Social Science (SPSS: Version20.0) in order to put each results by percentage, frequency, to simply judge the major findings and recommend it.
- The study is aimed to respond the proposed research questions. These are to identify the challenges and benefits of adopting E-banking system in Ethiopia. Information technology is key device for the changes taking place around the world. Due to a constant and stability growth of information and communication technology, the world banking industry is entering into new phenomena of unique form of competition supported by modern information and communication infrastructure.
- The researcher used both qualitative and quantitative research approach in order to analysis the data gathered for further findings.
- In general Ease of use is one of the basic benefits for E-banking in which it enables employees of the bank to perform E-banking activities in simple way and it is more accessible to users without visiting the bank branches physically. The other main benefits by adopting E-banking system is time saving, cost reduction and helps bank to improve productivity or profitability.

- There were different major benefits gained through adopting E-banking system to simplify the activity of workers deliver to customers and enhancement of customer services Efficiency in service delivery to satisfy the customers demand than traditionally provided services.
- On the other hands there were also major challenges of adopting E-banking system in Ethiopia specially Limited knowledge of customers on E-banking service which leads customers to fear risk in using new technology of E-banking which discourage the two banks to implement the E-banking system throughout the country as possible as wanted .
- The major effects of challenges of adopting E-banking on the Banks performance is decreasing number of customers to use E-banking service and loose commission from transactions.
- The best solution to overcome challenges of adoption E-banking system in Ethiopia were creation of awareness on customers of using E-banking service technology, more emphasis on providing the operating of 24 hours service with enough assistance, more secured the service of E-banking.
- To supports the banking industry for the adopting of E-banking the major action taken by Ethiopian government should be encouraged to initiate suitable steps to remove legal and regulatory challenges for adopting E-banking services.
- Generally, the finding of this study offer additional alarming into the current E-banking adoption situation and its implications. Furthermore, it is valuable to all banking industries of the country to increase their awareness and understanding of E-banking benefits. The understanding of the challenges to E-banking adoption identified in this study may help to identify the best course of actions to promote the development E-banking system in Ethiopia.

5.3 Recommendations

The review indicated that even though there were less encouraging undertakings by the banks and government of Ethiopia, further attention of government, banks and all concerned stakeholders are very important. Accordingly, the study forward the following recommendation

- Making proper customers awareness about E-banking services and to establish a strong link with customers by focusing on advantages of E-banking which are convenience, low cost and time saving through different forms of multi media and advertising such as TV, Radio, magazine, brochures, web pages, etc. Furthermore, since it is the duty of the concerned staff to provide all information to its customers, they should provide all materials to customers that demonstrate how to use electronic banking. Furthermore, the two banks need to arrange successive training programs for enhancing the awareness level of individuals of customers and staffs. These actions might aid to attract new customers to use electronic banking.
- In order to successfully facilitate E-banking services in Ethiopia, National Bank of Ethiopia (NBE) needs to establish a clear set of legal framework to protect customers from fraudulent risks that might arise from using E-banking transactions.
- For the successful implementation of E-banking system, telecommunication infrastructure is a major prerequisite. Therefore, the government should support the electronic banking sector by investing on telecommunication infrastructure development.
- Without technology it is impossible for banks to compete and provide quality services. It is also very important that existing IT employees of the two banks should learn new skills. And hire well trained and experienced IT professionals to handle the business and capable of solving the problems.
- Both banks should always build availability and reliability of online transactions for the purpose of building customers confidence in order to improve the trustworthiness and reputation of banks.

- In order to strengthen the trust of customers on technology, two banks should ensure to their customers that the delivering accurate transactions within the required time so as customers rely on it; which in turn motivated them to make electronic based transactions without any hesitation.
- Ethio-Telecom should make different effort in order to improve network services to increase E-banking services and also to enhance the confidence of the adopters of E-banking system in Ethiopia.
- All banks those either private banks or government banks operated E-banking system in Ethiopia should have to make collaboration of E-banking in order to improve efficiency and to having common settlement and clearing system.
- In order to make security of the service more secured and to control, all top management of two banks should give priority and to be encourage security awareness throughout the bank.
- The Ethiopian government should have to minimize the problem of frequent power interruption and net work problem by focusing and following those concerned body. Beside to this, the two banks should take the responsibility to solve continuous system failures.

5.4 Suggestions for further Research

Adoption of E-banking in the country depends on the benefits and challenges of the system as well as on customers awareness. Therefore, there are factors to hinder the adoption of E-banking system in the country. Moreover, the study area in Adopting E-banking system can be conducted in the context of other countries, so that the findings of the study can be replicated. In addition in the future research can also be carried out by using more variables.

Moreover, researchers can find a better result by applying additional statistical techniques and by increasing the validity of the research.

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Appendix - 1

St. Mary's UniverSity

A questioner to be completed by respondents

St. Mary's UniverSity

School of Graduate Studies

Master of Business Administration Program

Questionnaire to be filled by Bank Employees

Dear participants:

The questionnaire is prepared by Master of Business Administration (MBA) graduate student **Abe Geleta** for the purpose of writing thesis on **challenges** and **benefits** of adoption of E-Banking system **in Ethiopia.** Your honest response is very much important input to my thesis. I want assure you that your privacy for responding to this questionnaire is completely kept in secret. I know that your time is valuable, and I hope that you take the time to complete the questionnaire. Please attempt to answer all the questions and click one appropriate box that best suits your perspective for each statement. Finally it is not mandatory to write your name on the questionnaire. Thank you very much for your time and assistance.

Part 1: General profile (please *Choose the suitable answer and tick* (√) *in the box given for each question).*

1. Gender: Female [ ] Male [ ]

2. Age: Below 20 years [ ] 20-30 years [ ] 31-40 years [ ] 41-50 years [ ] 51-60 yrs [ ] above 60 [ ]

3. Education back ground: 10 complete [ ] certificate [ ] Diploma [ ] Degree [ ] Postgraduate [ ] others (Please Specify) ……

4. Employer: Government owned bank [ ] Private bank [ ] Own Business [ ] others (Please Specify) ……

5. Monthly income Below Birr 1000-3000 [ ] Birr 3001-5000 [ ] Birr 5001-7000 [ ] Birr 7001-9000 and above 9000 [ ]

Part 2

1. Work experience: below One year [ ] 1year to 2 years [ ] 2 year to 5 years [ ] 6 year to 9 years [ ] 10 year to 15 years [ ] 15 years and above [ ]

2. How long had the bank adopted E-banking services? 1year to 4 years [ ] 5 year to 7 years [ ] 8 year to 10 years [ ] 11 year to 15 years [ ] above 15 years [ ]

3. What type of E-banking service do you have or use? ATM [ ] mobile banking [ ] internet banking [ ] Pos [ ] Top up [ ]

4. When did you start using the E-banking services? < one year [ ] 1- 2 years [ ] 3- 4 years [ ] 4-5 years [ ] > 5 years [ ]

Part 3

Please **circle** the number that best describe your opinion with the following statements, **1=strongly disagree, 2=disagree, 3=neutral, 4= agree and 5=strongly agree**

		Strongly "Disagree" 1	**Disagree "2"**	**Neutral "3"**	**Agree "4"**	**Strongly Agree "5"**
	Challenges of Adopting E-banking					
	Technological factor					
1	High cost of ICT investment and lack of availability infrastructure are challenges for adopting E-banking	**1**	**2**	**3**	**4**	**5**
2	Security problem is consider as challenges the adopting of E-banking	**1**	**2**	**3**	**4**	**5**
3	Limited knowledge of customers on E-banking service is lead to fear risk in using new technology of E-banking	**1**	**2**	**3**	**4**	**5**
	Organizational factor					
1	In efficient government supports will affect banks willingness to adopt new technology	**1**	**2**	**3**	**4**	**5**
2	Skilled man power problem to implement E-banking system	**1**	**2**	**3**	**4**	**5**
3	E-banking is costly to do banking tasks than traditional bank services	**1**	**2**	**3**	**4**	**5**

4	Lack of awareness creation among customers before and after implementation the adoption of E-banking	**1**	**2**	**3**	**4**	**5**
	Environmental factor					
1	Have not trust on the adopting of E-banking (acceptance of new technology) within short time	**1**	**2**	**3**	**4**	**5**
2	In sufficient government regulation and legal frame works regarding to adopting new E-banking system in Ethiopia	**1**	**2**	**3**	**4**	**5**
3	Un able to compete with local and foreign banks regarding to E-banking service	**1**	**2**	**3**	**4**	**5**
4	unwillingness of Customers to accept E-banking service	**1**	**2**	**3**	**4**	**5**
	Benefits of E-banking					
	Perceived Ease of Use					
1	E-banking service is more accessible to users than visiting a bank physically	**1**	**2**	**3**	**4**	**5**
2	Using E-payment system(like debit card, ATM or visa card) simplify the activity of workers deliver to customers	**1**	**2**	**3**	**4**	**5**
3	In the case of mobile banking or internet banking, customers can simplify use banking services	**1**	**2**	**3**	**4**	**5**
4	E-banking services are adopted to disable and elder people who are lacking computer knowledge	**1**	**2**	**3**	**4**	**5**
5	Faster way of conducting banking transactions	**1**	**2**	**3**	**4**	**5**
6	Cost effective way of conducting banking transactions	**1**	**2**	**3**	**4**	**5**
	Perceived Usefulness					
1	E-banking is convenient in terms of 7 days and 24	**1**	**2**	**3**	**4**	**5**

	hours services					
2	To improve customers service	**1**	**2**	**3**	**4**	**5**
3	Reduce number of customers come to the banking hall	**1**	**2**	**3**	**4**	**5**
4	E-banking increases the productivity of the bank	**1**	**2**	**3**	**4**	**5**
5	Internet banking is convenient in terms of time saving	**1**	**2**	**3**	**4**	**5**
6	Customers think that using E-banking service saves their time and money	**1**	**2**	**3**	**4**	**5**
7	Enhancement of customer services Efficiency in service delivery	**1**	**2**	**3**	**4**	**5**
	Effects of challenges of E-banking on the bank performance					
1	Decreasing number of customers to use E-banking service and loose of commission from transactions	**1**	**2**	**3**	**4**	**5**
2	Discourage customers loyalty on the bank service	**1**	**2**	**3**	**4**	**5**
3	Encourage customers shift to private banks	**1**	**2**	**3**	**4**	**5**
	To improve E-banking service and overcome its challenges					
1	Creation of awareness on customers of using E-banking service technology	**1**	**2**	**3**	**4**	**5**
2	make network availability reliable by investing high cost	**1**	**2**	**3**	**4**	**5**
3	more secured the service of E-banking	**1**	**2**	**3**	**4**	**5**
4	less charging to use E-banking service	**1**	**2**	**3**	**4**	**5**
5	More emphasis on the operating of 24 hours service	**1**	**2**	**3**	**4**	**5**

If there are any other benefits and challenges associated with E-banking services not captured above and solution to overcome challenges of E-banking, please fill in blank space below----------

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Thank you very much for filling out this questionnaire, your help is appreciated!

Appendix - 2

St. Mary's University

School of Graduate Studies

Master of Business Administration Program

Interview questions for both CBE E-payment manager and Dashen bank team leader

Dear respondents:

The objective of this interview is to secure and relevant first hand information that may be helpful to conduct a research on the topic of challenges and benefits of adopting E-banking in Ethiopia in partial fulfillment of the requirement for MBA in General management.

Here I kindly request you to attempt all the questions in interview to meet the aim of the study. Whatever information is provided confidentially and strictly to be used for academic purpose only.

Abe Geleta

(Graduating Student)

1. For what reason and Purpose banks adopting E-banking services in Ethiopia? This is to for the purpose of obtain the reason why banks involved in such a business and what benefits it get from the service

2. What are the major challenges banks faced in adopting E-Banking? This is target to regarding security government support, legal and regulatory frame work, ICT infrastructure, , and socio cultural issues concerning E-banking.

3. What are the pull factors or opportunities in the future to provide the service effectively and efficiently? This question will help to assess the main factors for the attractiveness of the business

4. What are your customers attitudes towards the e-payment service that the organizations provide?

5. Do your customers lack of confidence in using the E-banking system as a payment method? If yes why?

6. In case of E-payment what are the problems the bank encounter from technical, operational and infrastructure aspects?