ST.MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

THE PRACTICE OF ELECTRONIC BANKING IN ETHIOPIA

BY
MEAZA WONDIMU

DECEMBER, 2013
ADDIS ABABA

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Abebe Yitayew (Ass. Professor). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

_____ _____

Name Signature& Date

ENDORSEMENT

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

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Advisor Signature & Date

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List of abbreviation

ACCH	Automatic cheque clearing house
ATM	Automated teller machine
ATS	automated transfer system
AVR	Automated voice response
CBE	Commercial bank of Ethiopia
CSFs	Critical success factors
E-banking	Electronic banking
E-commerce	Electronic commerce
ECX	Ethiopian commodity exchange
EFT	Electronic fund transfer
E-payment	Electronic payment
ICT	Information communication technology
IT	Information technology
NBE	National bank of Ethiopia
NPS	National payments system
PC	Personal computer
PDA	Personal digital assistance
POS	Point of sale
PSS	Premium Switch Solution
RTGS	Real-time gross settlement
PIN	Personal identification number
SME	Small and Medium enterprise
SMS	Short message service
SPSS	Statistical package for social science
TA	Technology associates
TAM	Technology acceptance model
TOE	Technology organization environmen

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Abstract

Ethiopian banking system is still underdeveloped compared to the rest of the world. In Ethiopia Cash is still the most dominant medium of exchange and electronic payment systems are at an embryonic stage. This study is aimed to assess the main practice and challenges of E-banking in Ethiopia. The study was conducted based on the data gathered from five banks in Ethiopia; four private banks (Dashen bank, Zemen bank, Wegagen bank, and Awash international bank) and one state owned bank (commercial bank of Ethiopia).

Qualitative and quantitative research approach was used to answer the research questions that emerge through the review of existing literature and the experiences of the researcher in respect of the E-banking system in Ethiopia. The study statistically analyses data obtained from the survey questionnaire and interview. The study used descriptive statistics and Data was analyzed using a statistical package for social sciences (SPSS).

Result of the study indicated that recently the E-banking practice is growing in a significant level and NBE is also trying to support such activity by introducing different payment infrastructure. The study also identified basic benefit E-banking for the customers, banks and for the economy which helps to enhance other banks to engage in such activity. it also indicated that the major barriers Ethiopian banking industry faces in the practice of Electronic banking are, Absence of skilled man power, absent well organized ICT infrastructure, Cost incurred during the purchases of the software and the device, lack of Support from government, absence of legal frame work, High rates of illiteracy, frequent power interruption, fear of risk and unavailability of competent and skilled employee.

The study suggests a series of measures which could be taken by the banking industry and by government to address various challenges identified in the thesis. These measures include: Establishing a clear set of legal frame work on the use of technology in banking industry, supporting banking industry by investing on ICT infrastructure and banks needs to be focused on technological innovation competition rather than traditional bases of retail bank competition.

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the study

Technological innovations play a crucial role in banking industry by creating value for banks and customers, that it enables customers to perform banking transactions without visiting a brick and mortar banking system. On the other hand E-banking has enabled banking institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space (Turban 2008).

Electronic Banking has been widely used in developed countries and is rapidly expanding in developing countries. In Ethiopia, however, cash is still the most dominant medium of exchange, and electronic payment systems are at an embryonic stage. In the face of rapid expansion of electronic payment systems throughout the developed and the developing world, Ethiopia's financial sector cannot remain an exception in expanding the use of the system.

All banks in Ethiopia are too late to move with technological advancement and they should clearly chart out the time schedule for their integration and technological advancement. Some of the banks even today do not have their own websites which can help them to provide at least the information on financial services offered by them.

In order to improve the practice of E-banking in developing countries, a better understanding of the challenges and practices of e banking 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. Therefore, this study is designed to examine, understand and recommend some basic solution about challenge and practice of E-banking in Ethiopia and to address the current gap in the literature.

1.2. Statement of the problem

Certainly the banking industry in Ethiopia is underdeveloped and therefore there is an all immediate need to embark on 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 import-export businesses, and increased international trades and international relations, the current banking system is short of providing efficient and dependable services and therefore all banks operating in Ethiopia should recognize the need for introducing electronic banking system to satisfy their customers and meet the requirements of rapidly expanding domestic and international trades, and increasing international banking services.

Considering the low extent of development of ICT infrastructure in developing countries, when compared with the developed countries E-banking has not really been able to diffuse into society given the low rate of internet access (Banji& Catherine 2004).

Therefore this study intended to identify what are the major practice available in Ethiopia and what are the major challenges which hinder the effective application of E-banking in Ethiopia and to comprehend the extent use of E-banking in the country and identify the possible factors responsible for shifting growth of this service based on the research problems discussed above.

The study is beneficial for it will identify the problems related to delivering of E-banking service, which will be useful to banks to fine tune their operation. It will be useful to policy makers (NBE) to device strategies that will enhance use of ICT in banking business. Besides to researcher knowledge, there is very little information availed on this issue by previous attempts. Hence this research is undertaken to fill the knowledge gap.

1.2.1 Research questions

Based on the problem stated in this study, researcher develops the following research questions.

Main question: What are the basic challenges and practices of E-banking in Ethiopia?

To gain a comprehensive understanding of the phenomenon under investigation, and in order to be able to provide a sufficient justification for answering that question, the following three questions needs to be addressed. For the purpose of the present research, these questions are:

1) What are the basic practices of E-banking techniques available in Ethiopia?
2) What are the benefits of E-banking?
3) What kind of problems are there in implementing E-banking?
4) What are the basic challenges of E-banking?
5) What possible interventions should be undertaken by the government to promote the development of this service

1.3 Objective of the study

1.3.1 General objectives

The Ethiopian banking industry is one of the service industries crucial to the growth of its emerging economy. Banking is important in the role it plays in capital mobilization and granting of financial facilities that is crucial to business development and growth. As business always need to find ways of improving its products and service deliveries, it will be useful to understand how different factors affect the practice of E-banking system and in which way the technological innovations can benefit the banking industries to provide service to customers. Therefore, the purpose of this study is to assess the challenges and practice of E-banking in Ethiopia.

1.3.2 Specific objective

- To describe and differentiate different E-banking methods available in Ethiopia
- To identify the basic challenges and opportunities of E-banking
- To indicate the benefits of E-banking
- To indicate the gap which need the intervention of government to fill the gap

1.5 Scope and limitation of the study

The study is confined itself to surveying, interviewing and documentary analysis of the purposely selected banks, five commercial banks are purposely selected, one state owned bank & four private banks and it excluded other financial institutions to explore the intent of the study. Those banks will select from the total population; based on their familiarity with technological innovations in Ethiopia. Any way the purposive sampling procedure decreases the generalize ability of findings and this study might not be generalize able to all areas of financial institutions. In addition to this this paper is trying to discuss the challenges and benefits of E-banking from the supply side only.

1.6 Significance of the study

The outcomes and results of this research will have potential value to financial institutions, particularly banks to understand the challenges and opportunities related with the practice of E-banking and its advantages in providing service to their customers. In addition, this study expected to help other researchers who will be interested to conduct further study regarding the issue under investigated by providing use full information. Finally based on the factors found to be influencing bankers' decision on E-banking system, the study may provide recommendations for banks about changes needed to accelerate the practice of the system to deliver service to customers through technological innovation.

1.7 Organization of the paper

The research paper is divided into five chapters. Chapter one presents the introduction part, which contains, back ground of the study, statement of the problem, research questions, objectives of the study, research method adopted, scope & limitations of the study and significance of the research paper. Chapter two presents the literature review, Chapter three presents research methodology, the research results and discussion is presented in chapter four. The final part chapter five summarizes the findings, concludes the paper, and forwards some recommendations.

CHAPTER TWO

2. REVIEW OF LITERATURE

The world is changing at an astounding rate and technology is considered to be the key driver for these changes around us. An analysis of technology and its uses show that it has permeated in almost every aspect of our life. Many activities are handled electronically due to the acceptance of information technology at home as well as at workplace. The ATM and the Net transactions are becoming popular. But the customer is clear on one thing that he wants net-banking to be simple and the banking sector is matching its steps to the march of technology. E-banking or Online banking is a generic term for the delivery of banking services and products through the electronic channels such as the telephone, the internet, the cell phone etc. The concept and scope of e-banking is still evolving. It facilitates an effective payment and accounting system thereby enhancing the speed of delivery of banking services considerably.

2.1 Definition of E-banking

E-banking has a variety of definitions all refer to the same meaning, the following section show some of these definitions. 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).Electronic banking is one of the truly widespread avatars of E-commerce the world over.

2.3 Types of E-banking

E-banking can 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). According to Alghaeband, there are different types of E-banking and some of the basic are discussed as follow:

1. Automated Teller Machines (ATM) - It is an electronic terminal which gives consumers the opportunity to get banking service at almost any time. To withdraw cash, make deposits or transfer funds between accounts, a consumer needs an ATM card and a personal identification number (PIN).
2. Point-of-Sale Transfer Terminals (POS) - The system allows 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 account of debit card holder to the store's account (Malak 2007).
3. Internet / extranet banking- It is an electronic home banking system using web technology in which Bank customers are able to conduct their business transactions with the bank through personal computers.
4. Mobile banking- Mobile banking is a service that enables customers to conduct some banking services such as account inquiry and funds transfer, by using of short text message (SMS).

2.4 Need for E-banking

One has to approach the branch in person, to withdraw cash or deposit a cheque or request a statement of accounts. In true e-banking, any inquiry or transaction is processed online without any reference to the branch (anywhere banking) at any time. Providing e-banking is increasingly becoming a "need to have" than a "nice to have" service. The net banking, thus, now is more of a norm rather than an exception in many developed countries due to the fact that it is the cheapest way of providing banking services. Banks have traditionally been in the forefront of harnessing technology to improve their products, services and efficiency. They have, over a long time, been using electronic and telecommunication networks for delivering a wide range of value added products and services. The delivery channels include direct dial-up connections, private networks; public networks etc. and the devices include telephone, Personal Computers including the Automated Teller Machines, etc. With the popularity of PCs, easy access to Internet and World Wide Web (WWW), Internet is increasingly used by banks as a channel for receiving instructions and delivering their products and services to their customers. This form of banking is

generally referred to as Internet Banking, although the range of products and services offered by different banks vary widely both in their content and sophistication. (Singer, Daniel, Douglas Ross and Albert Avery, 2001)

2.5 Benefit of E-banking system

Business organizations are trying to uncover the new technologies coming from the E-commerce applications which has a lower transaction cost resulted to eliminate association in distributing channels (Salman &Kashif 2010). The cost can be reduced to zero in some services like information and manufactured goods information. Transaction of low cost and easiness provides to adopt the new trend of technology to trade information among different groups and business parties. Information and Communication technology transformed business to go from local and global. However it has been said that E-banking is vital in the banking sector of developing countries (Polatoglu and Ekin 2001). The online payment system is quite new in banking institutions and dispersion of these innovations can result in more competent online banking systems which resulted in lots of changes in the technologies of the banking sector. Generally E-banking has a benefits for banks, customers and for the economy.

2.5.1 Benefit of E-banking for Banks

It should be noted that E-banking can bring about various benefits for banks and their customers as well. It is obvious that cost savings, efficiency, gaining new segments of customers, improvement of the banks reputation and better customer services and satisfaction are primary benefits to banks (Jayawardhena& Foley, 2000).

Under the view of Robinson (2000), relevant costs for conducting a banking transaction via online are much lower than via a brick and mortar branch. Moreover, Sheshunoff (2000) contends that one of the most important factors influencing the practice of E-banking by banks is the need to build up strong barriers to customer exiting. Under the view of the author, once customers become familiar with the utilization of full service E-banking, it is unlikely that they will change to another financial institution.

Specifically, banking industry has also received numerous benefits due to growth of E-Banking infrastructure. There are highlighted below: Mols (1998).

- The growth of E-banking has greatly helped the banks in controlling their overheads and operating cost
- Many repetitive and tedious tasks have now been fully automated resulting in greater efficiency, better time usage and enhanced control.
- The rise of E-banking has made banks more competitive. It has also led to expansion of the banking industry, opening of new avenues for banking operations.
- Electronic banking has greatly helped the banking industry to reduce paper work, thus helping them to move the paper less environment.
- Electronic banking has also helped bank in proper documentation of their records and transactions.
- The reach and delivery capabilities of computer networks, such as the Internet, are far better than any branch network

2.5.2 Benefit of E-banking for Customers

The benefit of E-banking is not limited to banks but also to their customers. Thanks to the emergence of the Internet, banking transactions are no longer limited to time and geography. It is very easy for consumers throughout the world to access to their bank accounts 24 hours per day and seven days a week. Customers can enjoy a variety of services, especially services which are not provided by traditional bank branches (Pham 2010).It is argued that one of the greatest benefits that E-banking brings about is that it is not expensive or even free for customers to utilize E-banking products/services. However, some people believe that prices appear to be one factor that is impedimental to the diffusion of E-banking (Sathye 1999). The price debates often revolve around geographical differences and disparities between costs of Internet connections and telephone call pricing. It has also been believed that E-banks have been changing to respond to customers‟ increasingly changing demands (Pham 2010). There has been a tendency that customer don't want to travel to or from a bank branch to conduct some banking transactions. In other words, they want to utilize E-banking to save time and money. E-banking can bring about convenience and accessibility, which will have positive effects on customer satisfaction and loyalty (Pham 2010). It is totally possible for customers to manage their banking transactions whenever they want and to enjoy improved privacy in their interactions with the bank. In

addition, customers can enjoy more benefits at lower cost levels by utilizing E-banking (Mols 1998).

It is contended by Turban (2008), that E-banking is really beneficial to customers such as:-

- Convenience – By e-banking, customers can carry out their banking activities whenever you want. E-banking is a 24 hour service, so customers are no longer tied to the branch's hours. On top of that, they don't have to take the time to travel to the branch and wait in the inevitable lines, thus giving you more time to do what you want.
- Mobility – e-banking can be done from anywhere, as long as customers have an Internet connection.
- No Fees – Because an e-bank doesn't have to worry about funding an actual bank location with all of those additional costs, fees can be reduced and are often non-existent. Those checking and savings accounts that are offered by completely online banks usually have no fees at all.
- Online Statements – Most online banks try to be as paper-free as possible. Most statements and correspondence is done online, reducing the amount of paper used and sent out to you. This again will help reduce the costs of the online bank. As an added bonus, this makes online banking a great environmental choice. Be warned, some banks do charge if you do want a paper copy of something.
- Direct Deposit – With any incoming money, such as salary, customers can arrange for it to be directly deposited into the bank account by the company sending the money. This is actually a double benefit, as customers don't have to take the time to deposit the check, plus the money goes into customers account faster allowing them to earn interest that much quicker.
- Automatic Bill Paying – With automatic bill paying, customers can automate paying their monthly bills.
- Real Time Account Information – Because customers can access their accounts anytime, they can get up to date, real time information on the money in your accounts.
- Transfers – Transfers between accounts with the same financial institution online can be done almost instantaneously. Not only is there no hold on the money being moved around, you can do it whenever you like and from wherever.

2.5.3 Benefits to General Economy

Electronic Banking as already stated has greatly serviced both the general public and the banking industry. This has resulted in creation of a better enabling environment that supports growth, productivity and prosperity. Besides many tangible benefit in form of reduction if cost, reduced delivery time, increased efficiency, reduced wastage, e-banking electronically controlled and thoroughly monitored environment discourage many illegal and illegitimate practices associated with banking industry like money laundering, frauds and embezzlements. (Pham 2010).

Benefits from the economical' point of view E-banking served so many benefits not only to the bank itself, but also to the society as a whole. (Pham 2010).

E-banking made finance economically possible:

i. Lower operational costs of banks
ii. Automated process
iii. Accelerated credit decisions
iv. Lowered minimum loan size to be profitable.

Potentially lower margins:

i. Lower cost of entry
ii. Expanded financing reach
iii. Increased transparency.

Expand reached through self-service:

i. Lower transaction cost
ii. Make some corporate services economically feasible for society
iii. Make anytime access to accounts and loan information possible.

2.6 Factors influencing Banks to practice E-banking system

There are different factors that affect the practice and adoption of technological innovation in general and specifically E-banking. For the adoption and practice of new technology there are two well-known models which describe the factors which affect the adoption and practice of E-

banking such as Technology-organization-environment (TOR) and Technology acceptance model (TAM). 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. Technology Acceptance Model(TAM) (Davis, 1989), which posit 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'

2.6.1 Technology- organization- Environment (TOE) framework

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. Even though theses paper is trying to assess the practice of e-banking it is also including the implementation and adoption of e-banking. Typical characteristics of technology considered in technology adoption studies are based on the assumption of Roger's diffusion of innovation (Rogers 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. Details of factors considered in this study are discussed below.

2.6.1.1 Technological Factors

It appears that there is a lack of consensus on what factors belong to this context. For example, one study (Salwani 2009) includes technology competence covering existing technology infrastructure and skills to utilize the technology in this context, while other studies (Ellias 2009 & Chang 2007) consider some relevant characteristics of technology. To avoid overlapping between technology and organizational contexts, researcher chooses two basic factors related to technology competence, which have relevant to the organizational factors, i.e perceived benefits and perceived risks are considered in this study from the technological factors.

1. Perceived benefits: - Perceived benefits of E-banking cover both direct and indirect benefits for the banking industry as well as for the consumers. Direct benefits include the savings 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 et al. 2005; Kuan&Chau 2001 &Iacovou 1995)
2. Perceived risks: - One of the important risks faced by banking institutions in offering E-banking services is the customers' resistance to use the services which significantly hinder the growth of E-banking (Zhao et al. 2008 &Laforet 2005). Issues related to security have always been a concern when dealing with technologies related to online transactions such as E-banking (Chang 2007 & Rogers 2003). Therefore, the perception of the risks regarding E-banking is expected to influence its adoption and further growth.

2.6.1.2 Organizational Factors

Organizations are different in their preference to adopt technological innovation (Iacovou 1995 & Grover 1993) influenced by a number of factors, like firm size, top management support and financial and human resources. In the framework for this study, researcher uses one basic organizational factor as discussed below.

Financial and human resources: - Financial resources are an important factor in facilitating innovation adoption for any organization and they are often correlated with the firm size (Kuan

2001 &Iacovou 1995).Therefore, it is expected that the availability of financial resources within the adopting firms is important for E-banking practice. 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.

2.6.1.3 Environmental factors

Researcher identified factors related to the environmental context that play a crucial role in technology adoption and some factors in this category are arguably more influential than others, especially when countries under study have an authoritative government leadership. The Four factors relevant for E-banking adoptions included in this study are:-

1. Legal Frameworks: - The existence and maturity of E-commerce legal frameworks within a country influence the diffusion of online transactions including E-banking as demonstrated in various studies (Tan & Wu 2002; Martinson &Trappey 2001).
2. The National ICT infrastructure: - National ICT infrastructure is a major factor that supports the adoption of E-banking as the case for other E-commerce initiatives. Without an adequate development level and quality of a nation's ICT infrastructure, E-banking adoption and use cannot do well (Efendioghu 2004 &Scupola 2003).
3. 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 system. As implied in previous studies (Quaddus & Hofmeyer 2007; Gibbs, Kraemer &Dedrick 2003).
4. Government Support:-Government can either directly or indirectly affect the adoption of E-banking in terms of creating a favorable environment and impetus for banking institutions and their customers so that the services can be diffused with the community (Kuan 2001 &Iacovou 1995)

2.6.2 Technology Acceptance model (TAM)

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.

1. Perceived ease of use: - refers to the degree to which a person that using a particular system would be free from effort (Davis 1986).
2. Perceived usefulness: - refers to the degree to which an organization that using a particular system would enhance or improve its job performance.

According to Masrom and Hussein (2008) the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system.

TAM was developed to explain and predict particular IT usages. However, this particular Model has been using by many researchers in studying adoption and diffusion of various IT technologies. For this study researcher uses two basic factors of TAM, i.e., perceived ease of use and Perceived usefulness to analyses the perception of users on the adoption of E-banking system in Ethiopia.

The frameworks discussed above have their own advantage and disadvantages based on the nature of the study. In this study, Technology-organization-environment framework and technology acceptance model were used to have a more precise forecast on the challenge and practice of E-banking system in Ethiopian banking industry.

2.8 Empirical studies related with E-banking

Some related studies are conducted by different researchers in different parts of the world. Gardachew (2010) conducted research on the opportunities and challenges of E-banking in Ethiopia. The aim of his study was focused on analyzing the status of electronic banking in Ethiopia and investigates the main challenges and opportunities of implementing E-banking system. The author conducted a survey on the existing operating style of banks and identifies some challenges of using E-banking system, such as, lack of suitable legal and regulatory frame works for E-commerce and E- payments, political instability in neighboring countries, high rates of illiteracy and absence of financial networks that links different banks. According to Gardachew (2010), Opportunities offered by ICT through e-learning programs and Commitment of the governments on development of ICT infrastructures is considered as drivers of using E-commerce and E-payment systems.

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.

Ram and Sheth (1989) argue that consumer resistance to the innovation is caused by functional barriers and psychological barriers. Functional barriers can be divided into three: the usage barrier, the value barrier and the risk barrier, whereas psychological barriers can be divided into tradition barrier and image barrier. According to Ram and Sheth (1989) functional barriers arise when consumers perceive changes would take place when adopting innovation and the psychological barriers are caused by consumer's beliefs. On the other hand Khanfar et al (2006) conducted study on the customer satisfaction with internet banking web site in the Arab Bank. The study identified some factors which can determine customer's satisfaction in the use of internet banking service. Such as; customer supports, security, ease of use, digital products/services, transaction and payment, information content, and innovation. Researchers employ a survey questionnaire to gather data and their results showed that there is a narrow-based satisfaction with internet banking in all factors through a multi-regression; the researchers

found out that all factors have an impact on the customer satisfaction, and they have found that the relation was positive.

In general, Review of Empirical studies shows that understanding the practice of E-banking in Ethiopia, Africa and in the other worlds. The study mostly deals about the opportunities and challenges of E-banking practice. Some studies are also deals about the critical success factors (CSFs) in E-banking is important for banking industries because it would potentially help them improve their strategic planning process. The main obstacles and barriers that oppose E-banking practice are the concerns of security, privacy of information and technology investment cost. Also the literature review indicates that according to the customers there are different factors that influencing the practice of E-banking such as, perceived advantages and other factors related to the services itself & how to be accepted and used by the customers, which differ from country to country, reflecting the economic and technological development in each country. This study will generally tried to assess the general practice, benefits of e-banking for the banks, customers and general economy. Problems related with the implementation of E-banking and also the practice of E-banking by customers. And also try to assess the possible intervention by the government that will promote the development of this service.

CHAPTER THREE

In the previous chapter, the literature review, which shows the factors affecting the practice of E-banking system and review of issues related with barriers and benefits of E-banking, has been presented. This chapter presents the detail methodology, showing the logical frame work that discusses research purpose, research approaches, Research strategy, data collection and data analysis method (research method adopted). For the purpose of understanding all the content of this chapter, it is arranged as follows. 3.1 research purpose, 3.2 research approach, 3.3 research strategy, 3.4 research method, 3.5 method of data analysis

3. RESEARCH METHODOLOGY

Many researchers have written extensively on research methodology. The underlying factor in most studies on research methodology is that the selection of methodology is based on the research problem and stated research questions. Methodologies cannot be true or false, only more or less useful (Silverman, 2001). Nachamias et al. (1996) for instance states that methodologies are considered to be systems of explicit rules and produced, upon which research is based, and against which claims for knowledge are evaluated. Conducting any type of research should be governed by a well-defined research methodology based on scientific principles. Eldabi (2002) suggested that a series of steps as a research paradigm to be followed in a methodology part of a research. Based on this suggestion researcher follows the basic framework of research paradigm developed by Foster.

3.1 Research purpose

There are three types of academic researches depending on the problem area and the nature of the phenomenon that it studies. The purpose of the research can be Exploratory which deals with unknown problem, Descriptive in which there is an awareness of the problem and Explanatory, where the problem is clearly defined (Ahmed 2011).

The purpose of this thesis is to conduct descriptive research in order to gather as much information as possible concerning the practice of E-banking in Ethiopia. Specifically, these were in respect of the perspective of banking institution in Ethiopia. This research were focused on describing the current situation of the problem and answer the research questions which are in the form of "what", and to highlight the most important factors that can negatively or positively affect the practice of E-banking in Ethiopia Therefore, Descriptive research was being used in to fulfill this approach.

3.2 Research approach

Research approach is selected by researcher(s) based on the research purpose, the nature of the research, the problem area, and research questions (Alhamdani et al. 2006).The research approach in this study is chosen based on the purpose and the research questions set out to be addressed. According to Creswell (2003, p.13-15)

In order to achieve the objective of this study and answer the research questions researcher adopts both qualitative and quantitative research approach to assess the main practice of E-banking in Ethiopia and explore the basic challenges which hinder the practice of E-banking in Ethiopian banking industry to converge across qualitative and quantitative methods (triangulating data sources). Employing this approach is used to neutralize or cancel the biases of applying any of a single approach and a means to offset the weaknesses inherent in a single method with the strengths of the other method (Creswell 2003). This research approach pose the researcher to the challenges that need for extensive data collection, the time-intensive nature of analyzing both text and numeric data, and the requirement for the researcher to be familiar with both quantitative and qualitative forms of research (Creswell, 2003; pp. 210).

3.3 Research strategy

The most important condition for differentiating among the various research strategies is to identify the type of research question being asked (Creswell, 2003; Hair et al. 2006; Leedy, 1989; McNabb, 2004; and Yin, 1989). It is possible to identify some situations in which all research strategies might be relevant and other situations in which two strategies might be considered equally attractive. We can also use more than one strategy in any given study. To this

extent, the various strategies are not mutually exclusive. But we can also identify some situations in which a specific strategy has a distinct advantage (Yin, 1989; p. 20).

According to Yin (1994), there are five strategies to collect data and get results: experiment, survey, archival analysis, history and case study. In addition, there are three criteria to determine the research strategy: types of research questions, control over behavioral events, and focus on present events. But it is important to notice that boundaries among the above methods are not completely clear, they may overlap each other.

In this study, Survey approach is chosen, because the research questions are focused on: What are the basic practices of E-banking techniques available in Ethiopia? , What are the benefits of E-banking? What kind of problems are there in implementing E-banking? What are the basic challenges of E-banking? What possible interventions by the government that will promote the development of this service? So the types of questions are in the form of "what". This research does not require control over behavioral events but it focuses on current issues.

3.3.1 Study Area

This section describes the banking environment in Ethiopia with respect to the policy and legal framework under which the banking industry operates. The banking industry in Ethiopia is controlled by the National bank of Ethiopia (NBE) acting as the central bank of the country. There are 19 commercial banks registered under the NBE up to 2013, these comprises 3 state owned banks and 16 other private commercial banks. Five banks are selected for this study and they are found in the capital city of the country, Addis Ababa.

3.3.2 Type of Data

Primary data was used in this study. The data was collected through, interviews, and questionnaires. This gives specific responses to the research questions. Primary data is recognized as data is gathered for a specific research in response to a particular problem through interviews and questionnaires. Additional data were obtained by examining various documents, including, banks annual reports, local and international newspaper related with issues of E-banking system, Research reports, books and journal articles.

3.4 Research Method

This research paper intended to assess the main practice and challenges of E-banking in five (5) purposely sampled banks of both state owned and private commercial banks. To undertake this research, the specific methods of data collection used were survey, semi-structured interview and document sources. Survey for the quantitative strategy was used through distributing self-administered questionnaires. Questionnaires were distributed to all E-payment departments' professional staff of the selected banks. Those respondents were selected because, they are deemed to be knowledgeable about E-banking system and could provide important perspectives on its practice.

3.4.1 Survey design

Questionnaires were distributed to the purposely sampled commercial bank staffs, and semi-structured interview was conducted with the management (E-payment/IT managers) of the sampled commercial banks and with the bank supervision manager at NBE to get more evidence regarding the theme.

The questionnaires were divided into two sections. Section I captured basic demographic information of the respondents such as age and educational back ground, Section II captured information about the challenges and practice of E-banking services and sought to determine the perceived benefits of using E-banking system.

3.4.2 Sample Design

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). Commercial banks have been operated and the additional banks which make an initial public offering to begin their operation were taken as population, and purposely draw a sample from the total to get rich evidence. The total number of Commercial Banks which is operated in the year 2012 is 16 private banks and 3 state-owned banks. However, to undertake this research paper, the researcher purposely sampled five banks, which are currently, practiced some technological innovation. Those banks are Commercial bank of Ethiopia (CBE), Dashen Bank (DB), Awash International Bank (AIB), Zemen Bank (NIB) and Wogagen Bank (WB).

The procedures used for drawing the samples from the available lists were based on the banks currently use different technological instruments to deliver service to customers (or based on their familiarity with technology). Thus, this research paper used purposive sampling method to draw the sample from the population and simple random sampling to select the respondents from purposively sampled banks.

The banking industry in Ethiopia were categorized in to two main blocks i) Three State owned banks, and ii) 16 Private-owned commercial banks, From each category five banks were used as a sample units that can be based on the practice of E-banking and the total of 200 bank staff, and 5 managers it means at least one manager per branch would sampled to see their intention on the challenges and benefits of E-banking practice in Ethiopia and one payment and settlement department manager from NBE. The researcher chooses to take 5 banks; one state owned bank and four private banks as a sample. Hence samples are chosen to represent the relevant attributes of the whole population.

3.4.3 Method of data collection

In order to collect sufficient data that can answer the research questions, researcher designed two surveys; the first was a questionnaire to get quantified results. The second survey was interviews aimed to collect data from E-payment/IT managers. In addition to questionnaire and interview, data collected from different published and unpublished materials has been also used.

3.4.3.1 Questionnaires

As indicated in the above, the staffs of the purposely sampled five commercial banks were included in the survey. A questionnaire was distributed to all 200 professional staffs of five purposely sampled commercial banks. Questions present in the form of affirmative statements, relating to the concepts on E-banking and to identify their intention on the challenge and opportunities of using electronic banking system, in such a way to enable measurement of the respondent's opinions.

The questionnaires were structured in close-ended type and responses to the questions were measured on a five Likert rating scale where: Strongly Agree (SA) = 1; Agree (A) = 2; Neutral (N)=3, Disagree (D) = 1; and Strongly Disagree (SD) = 5; The use of Likert scale is to make it

easier for respondents to answer question in a simple way. In addition, this research instrument was permitting an efficient use of statistics for the interpretation of data. Moreover, the central issue to argue that likert scales is that it produce ordinal data. Johns (2010) noted that in statistical terms the level of measurement of the likert response scale is ordinal rather than interval: that is, we can make assumptions about the order but not the spacing of the response options. Thus, the permissible descriptive statistics that can perform on ordinal data is mean (or average response) and mode (or more frequent responses) (Hole 2011).

3.4.3.2 Interviews

In the qualitative strategy, semi-structured interview was conducted with one managers from each of the five chosen banks to have sufficient information regarding the research problem and with the relevant body at National Bank of Ethiopia (NBE). The major purpose of this interview was to corroborate certain facts that the investigator already thinks have been established (Yin, 1989; pp. 89). Therefore, the semi-structured interviews were conducted to enhance and supplement the results of questionnaires.

3.5 Method of data Analysis

Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Yin, 1989; pp. 105). The researcher analyzed the data collected through survey to statistical population concerning the practice of E-banking system. The data collected via questionnaires was analyzed with descriptive statistics using statistical package for social scientists (SPSS). Furthermore, Wolcott (1994) cited in Creswell (2003; pp. 184), suggested that qualitative research is fundamentally interpretative i.e. the researcher makes an interpretation of the data. Thus, the data that was collected from the interview and reviews of documents were interpreted qualitatively. To sum, the analysis of quantitative data and interpretation of qualitative data combines to seek convergence among the results (Creswell, 2003).

CHAPTER FOUR

4. RESULTS AND DISCUSSION

As it is discussed in the methodology part of this study, data collected by using different techniques were analyzed in this chapter by using triangulation approach. A total of 250 questionnaires were distributed to five purposely sampled commercial bank staffs, one state owned bank (commercial bank of Ethiopia) and four private banks namely, Dashen Bank (DB), Awash International Bank (AIB), Nib International Bank (NIB) and Wogagen Bank (WB). Out of the total 200 questionnaires, 158 Useable questionnaires were obtained (79% response rate). In addition to questionnaire, the researcher conducted an interview with only E-payment/IT managers for the reason that it was not well-situated to interview all bank managers; and reviews some bank documents regarding E-banking system. In order to analyses the collected data, Statistical Package for the Social Sciences (SPSS) software is used.

4.1 Practice of E-banking in Ethiopia

E-banking system in Ethiopia is at an infant stage. With a growing number of import-export businesses, and increased international trades and international relations, the current banking system is short of providing efficient and dependable services, therefore all banks operating in Ethiopia should recognize the need for introducing electronic banking system to satisfy their customers and meet the requirements of rapidly expanding domestic, international trades, and increasing international banking services. But recently there are a good progress and activities related with the system.

The state owned Commercial Bank of Ethiopia is the first bank to introduce electronic payment system by installing ATM in 2001 using a total of 7 ATMs limited to the capital, Addis Ababa, by accepting both international visa and master cards. In addition to this, the bank starts internet banking and SMS banking at the end of 2011 and 2012 respectively at the end of June 30, 2013 the bank has above 300 ATM and 200 POS in all over the country, through this network it has around 100,000 customers who can withdraw up to 6,000 birr only per day. As per the interview made with CBE payment department manager, almost all customers of the bank are the user of

mobile (SMS) banking. And according to her, the bank planned to start agent banking in the near future.

Table 4.1:- E-banking in CBE

Item	Number
Number of ATM	300
Number of POS	200
Number of customers	100,000
Transaction per day	6,000
Charge per transaction	0.25

Survey result, 2013

The private one, Dashen Bank, introduce ATM and POS in 2004 by providing only debit card service for Visa cardholders and in 2008, the bank has got the membership license from MasterCard and has begun accepting MasterCard in addition to Visa card. Dashen bank clients are allowed to withdraw up to 3,000 birr in one transaction.

Connecting its leadership with advanced banking technology, Dashen Bank signed an agreement with iVery, a South African electronic payment technology company, for the introduction of mobile commerce in April 21, 2009. According to the agreement, iVeri Payment Technologies has licensed its Gateway and MiCard e-payment processing solution to Dashen Bank. This would make Dashen Bank the first bank in Ethiopia to acquire e-commerce and mobile merchant transactions. On June 30, 2013 the bank has 132 ATM and 850 POS with 250,000 numbers of customers through ATM and POS and 7000 customers for mobile banking. For the consumption of ATM service Dashen bank charges 0.25 cents/ hundred. By using E-banking service the bank can additionally generate 55.7 and 63.7 million birr 2011/2012 and 2012/2013 respectively. According to the interview made with the payment department manager, the bank planned to introduce agent banking and waiting the response of NBE.

Table 4.2:- E-banking in Dashen Bank

Item	Number
Number of ATM	132
Number of POS	850
Number of customers	257,000
Transaction per day	6,000
Charge per transaction	0.25

Survey result, 2013

On the other hand, Wegagen Bank has signed an agreement with Technology Associates (TA), a Kenyan based IT firm, for the development of the solutions for the payment system and installation of a network of ATMs and also gets a member ship of international card system with master card on December 30, 2008. At the end of June 30, 2013 the bank has 70 ATM and 108 operational POS with 50,150 customers. On the coming year, 2014, the bank planned to have additional 100 ATM and the total number of ATM will be reached 170. In the past fiscal year, 2012, the bank collects 18 million dollar from the international card and generates 9.5 million birr income from E-banking. For the consumption of ATM and POS service Wogagen bank do not charge any fee.

Table 4.3:- E-banking in Wogagen Bank

Item	Number
Number of ATM	70
Number of POS	108
Number of customers	50,150
Transaction per day	6,000
Charge per transaction	0

Survey result, 2013

The technology driven and a unique bank which work without widening branch network but introducing new products to the industry, Zemen Bank, introduce ATM, Internet and telephone banking at the beginning of 2011 with 15 ATM but at the end of the fiscal year the bank acquired additional 10 ATM and working with a total of 25 ATM. Dashin and zemen banks make an agreement of partnership to work together with their ATM through the "Q-Link" network, the first such ATM partnership active in Ethiopia which make the customers of Zemen and Dashen Bank benefit from the network which are available throughout Addis Ababa and several other cities. At the end of June 30, 2013 the bank has a total of 25 ATM with a total of 9,520 customers for ATM and 6,125 for telephone banking, and the bank is under process to introduce POS. The ATM service is not charging withdrawal fees for Zemen Bank customers.

Table 4.4:- E-banking in Zemen Bank

Item	Number
Number of ATM	25
Number of POS	0
Number of customers	15,370
Transaction per day	6,000
Charge per transaction	0

Survey result, 2013

United Bank was the first to introduce telephone and Internet banking systems - including text messages (SMS) - by the end of 2008

Premium Switch Solutions S.C. (PSS) is a consortium formed by three private banks: Awash International bank, Nib International Bank and United Bank to provide electronic banking operations. PSS commenced operation officially on July 5, 2012 with 165million Birr capital. On June 27, 2013 Berhan bank enter in to the consortium. 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. There will be one ATM at every branch of the consortium banks, all domestic airports serviced by commercial service, shopping complexes and merchants. Through such network at the end of June 30, 2013, the banks have a total number of 60 ATM. Specifically, Awash International bank have 16 ATM, United bank 16 ATM and Nib international bank have 16 ATM at their branch location and at hotels, universities, and buildings the company have 12 ATM. The customers of these banks do not required to pay any fee during using the ATM but they have to pay 50 birr when they began to use the service which is just like a registration fee.

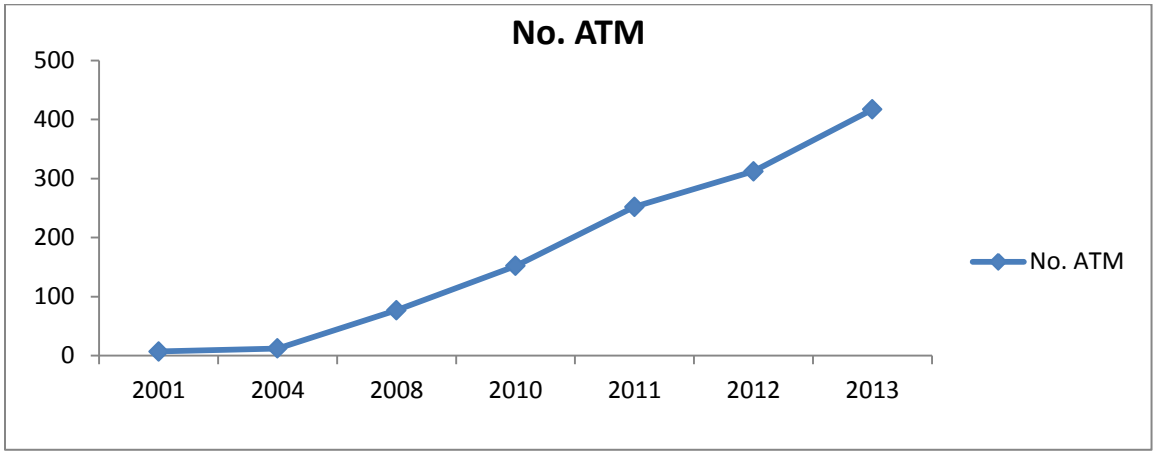
Table 4.5:- E-banking for the PSS group banking

Item	**Number**
Number of ATM	60
Number of POS	0
Number of customers	0
Transaction per day	6,000
Charge per transaction	0

Survey result, 2013

Generally, the number of ATM device available in the country was growing through a very slow pace since 2001; then the number of ATM which provide service for customers increase steadily with the entrances of other banks in to the market since 2010. And after 2010 the growth of ATM becomes increase at an alarming rate and reaches 487 at the end of June 30, 2013

Chart 4.1: Growth of Number of ATM per year

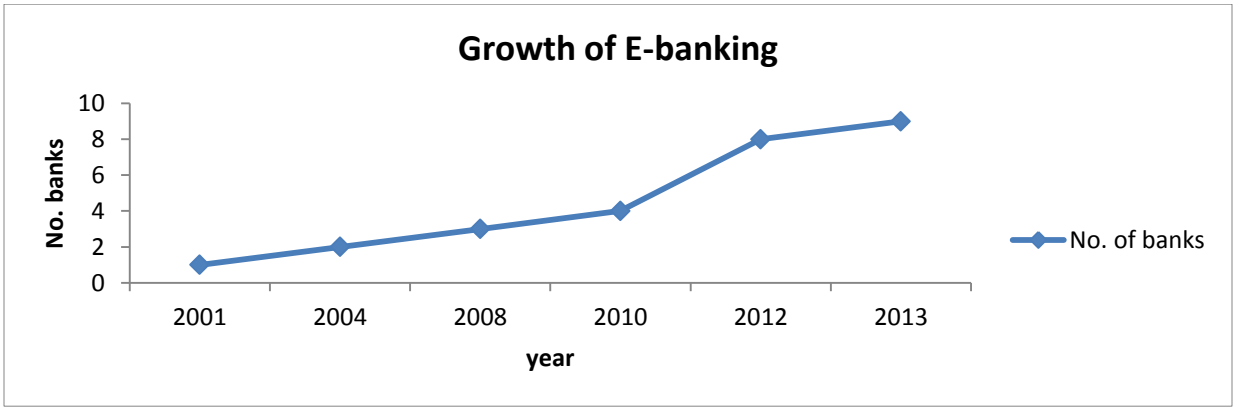


Year	2001	2004	2008	2010	2011	2013
NO. of ATM	7	32	102	162	187	487

Survey result, 2013

Like the growth of the number of ATM, the number of banks which provide E-banking service increase step by step. The number of banks which deliver E-banking service is increase gradually up to 2011 and reaches 4. Surprisingly, on June 2012, 3 banks enter in to the market with consortium which makes the provider of E-banking service to 7. And at the end of 2013, Berhan international bank joined group and makes the provider of E-banking service in to 8.

Chart: 4.2: Growth of E-banking provider banks



Year	2001	2004	2008	2011	2012	2013
NO. of banks	1	2	3	5	8	9

Survey result, 2013

On the other hand, in order to implement modern payment system (replacing the old manual system); NBE is automating its payment system. All electronic interbank money transactions are to be integrated into NBE's new national payment system (NPS). All banks would need CORE banking solutions to be able to transact with it, as of June 2011, and were ordered by the central bank to install it by that time.

Following this order, Oracle Flex, the leading information technology consultancy firm, was contracted by Dashen Bank, Zemen Bank, United Bank, and Abay Bank to set up their CORE banking systems. Along with CBE, Bank of Abyssinia (BoA), Nib International bank and Construction and Business Bank (CBB) purchased software from Temenos Group, the world's third largest international software provider. Wegagen Bank has purchased the core banking software from Infrasoft Tech. To date, almost all banks, except Enat, Addis, Bunna, and Debub Global bank have connected all of their branches with a core banking system.

On the beginning of 2011, NBE introduced a system called automated transfer system (ATS) which is the back bone of any payment infrastructure such as ATM, POS, mobile banking and internet banking. ATS enables to automate any transactions with different channels such as cash to cash, card to card, and swift between two banks or customers. Moreover, NBE is gone with its automatic cheque clearing house (ACCH) and real-time gross settlement (RTGS) services. These services clear cheques by recording the deposits in real time, which eliminated the practice of physically taking cheques collected from the bank's branches to the central bank to manually clear them. Using the NPS, both high value and low volume transactions are cleared and settled right away while low value and high volume transactions are cleared and settled in the next clearing cycle. The above instruments facilitate payment system generally and E-payment system specifically which helps the growth and improvement of E-banking system in the country. Recently a new proclamation which is related with payment system is issued which states about the electronic image could be considered as legal document. It also enhances the E-payment as well as E-banking system.

In a national level an ICT company called ETH switch is under establishment with a motive of profit generation. The shareholders of the company will be all Ethiopia private and public banks including national bank of Ethiopia. The company enables all types of different bank card

holders to use a given ATM. Moreover it also provides payment switch, get way for international payment system, Card print, card issue and switch for mobile and internet banking.

4.2 Demographic information of the respondents

The study participants on survey questionnaire have different personal information; besides these differences they introduce different responses towards E-banking benefits, and the factors that influence E-banking practice. The demographic profile of respondents, participated in this study was shown in table 4.1 as follow

Table 4.6: Respondents' Demographic profile

Variable	Classification of variables	Frequency	Percentage
Gender	Male	95	60%
	Female	63	40%
Age	20-30	97	61%
	31-40	31	20%
	41-50	21	13%
	51-60	9	6%
Education level	Diploma	12	8%
	Bachelor of art	118	71%
	Master degree	46	21%
	PHD	0	0%
Employer	State owned bank	47	30%
	Private bank	111	70%

Survey result, 2013

As it is shown on the above table, the highest percentage of participants in this study was males who represent 60% of respondents. In the case of classification of respondents by age 61% of the respondents are young (20-30 years old). Regarding the educational level of the study 81% of the respondents are BA degree holders. The largest percentage of participants was selected from the private banks that form 70% of total respondents. On the other hand, 76% of the respondent has monthly income ranges between 3001 to 6000 Eth birr.

4.3 Benefits of E-banking

An advantage that is expected to be gained from the practice of E-banking covers both direct and indirect benefits for the banking industries, customers and for the economy. Direct benefits include savings on operational cost, improved organizational functionality, productivity gain,

improved efficiency, saving of time 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 2005; Kuan 2001 &Iacouou 1995).

In order to access E-banking services, it is important that bank should have ICT infrastructure and internet facility available to facilitate their customers with all kinds of E-banking services. Pikkarainen et al. (2004) argued that bank must have an official website which facilitates customers to perform all kinds of E-banking transaction so that, It saves customer cost and time as adopting E-banking system. Customer can make transactions from their home. Polatoglu et al. (2001) suggests many benefits associated with E-banking. Customer can pay their bills, can pay their loans, credit and debit card facilities. In other words it provides freedom from location, saves time and cost. This research wants to approve such global truth are also working for the case of Ethiopia.

4.3.1 Benefits of E-banking for customers

The benefit of E-banking for customers can be seen in respect with its easiness to use, convenience, accessibility, using the service with low price or cheap, speed, and getting information in real time base and easily and improve the service quality which they get from banks. Regarding ease of use as a benefit of introducing E-banking system, respondents were asked whether they `strongly agreed, Agreed, Neutral, and Disagreed or strongly disagreed". Mean and Mode value is 2.98 and 2 respectively, Which indicates the largest percent of (73%) respondents agreed that E-banking makes banking activity easy and 17% of the respondents are strongly agreed that E-banking make banking activity easy, and the rest 10% of them neutral on the issue.

From the perspective of convenience, where the mean and mode of the question related with convenience is1.68and 1 respectively.47% of respondent strongly agreed that E-banking is convenient for customers than traditional banking and 24% of them agreed that E-banking is a convenient way of getting banking service, which shows E-banking is a very convenient instrument for banking activity as compared with traditional banking.

Customers can get banking service at lower costs compared with traditional banking service, because, it is cheaper to make transaction over Electronic fund transfer. Similarly, the study of, Balachandher et al. (2010), noted that, online banking fees have reduced over the years and less expensive when compared with traditional system. Moreover, the survey result regarding cost factor is shown on table 4.7 as follows. The mean and the mode of the response are1.83 and 2 respectively the largest number of respondents (59%) agreed that e-banking service has low cost or has cheap price as compared to traditional banking

Information is power; it is also required to convey decisions taken to the people responsible for implementing the decisions taken, and for monitoring the actual results achieved as the work progresses. All Standard Bank customers should contact the relevant department to request access to their own information. Any Standard Bank customer who wishes to be given access to information that belongs to another customer of the bank must follow the request for access to information procedure. On the bases of this concept the respondents were asked that whether E-banking provides information on real time base, the mean and the mode value of the respondent are1.7 and 2, thatimplies47% of the respondent agreed that E-banking increase information access to customers by providing information at real time base.

On the other hand, the mean and the mode value of the question related with E-banking make banking activity quick is 1.44 and 1 respectively.48% of the respondent strongly agreed that E-banking such as, Internet banking, Mobile banking, ATM and POS services are enables users to complete banking activities more quickly. In regard to the accessibility the mean and mode value the respondent is 1.56 and 1 respectively, this implies 58% of the respondents strongly agreed that E-banking is more accessible to users than visiting a bank.

On the other hand customers can get banking services without visiting bank office, where the mean and mode value for question related with accessibility is 1.56 and 1 respectively. 58% of the respondent states that provision of E-banking service make the banking service accessible to customers.

It is generally observed that, 88% of the respondents strongly agreed that E-banking Improve customer service. It is also supported by the interview result, which states that one of the basic benefits considered in the practice of E-banking system, is that it saves time to accomplish

banking activities both for customers. Using the system to get banking service is fast and Available 24 hours a day and 7 days a week. This were in line with the study of Karjaluoto et al. (2002), which identifies time saving as a major benefit of E-banking. Regarding time saving as a benefit of E-banking system for customers, respondents were asked whether they are strongly agreed, Agreed, Neutral, disagreed or strongly disagreed. The largest number of respondents agreed that E-banking services are enables users to complete banking activities quickly.

Table 4.7: Benefit of E-banking for customers

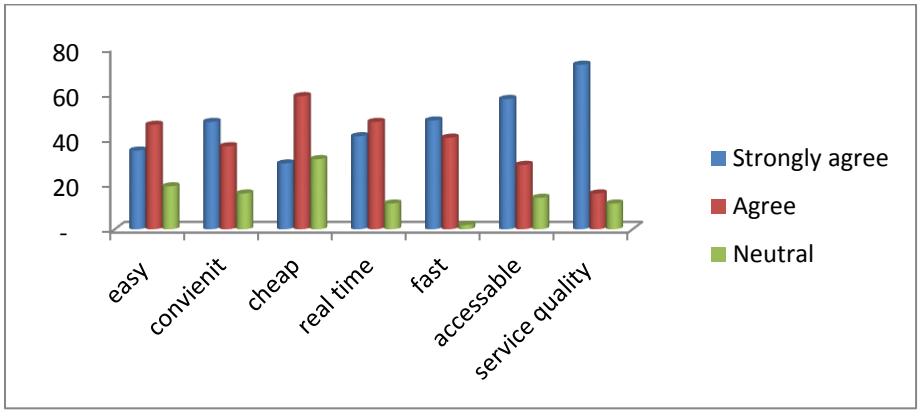
Item	No.	Missing	Mean	Mode
E- banking makes it easier for customers to do banking activities	158	0	2.98	2
E-banking is highly convenient for customers than traditional banking	158	0	1.68	1
The amount of fee paid by customers for the E-banking is lower than traditional banking	158	0	1.83	2
E-banking increase information access to customers by providing real time information on the money in their accounts	158	0	1.70	2
E-banking services are enables users to complete banking activities quickly	158	0	1.44	1
E-banking is more accessible to users than visiting a bank	158	0	1.56	1
Improve customer service	158	0	1.39	1

Note: N-Number of responses; Response measurements, 1-strongly agree, 2-Agree, 3-Neutral, 4-Disagree and 5-Strongly disagree.

Table 4.7, shows that the mean and mode value for question, E-banking is considered as improving of customers service were 1.51 and 1 respectively. This result implies that, by using the system banks can improve customer satisfaction. The largest number of the respondents (85%) strongly agreed that E-banking improve customer satisfaction. Moreover, an interview result are also support this idea, that one of the key factor that push banking industry to introduce E-Banking is to enhance customer satisfaction.

Generally, almost all respondents agreed that the basic benefit of E-banking for customers are convince, accessibility, ease of use, and low cost of using banking activity, providing real time information and getting quality service.

Chart 4.3:- Benefits of E-banking for customers



Survey result, 2013

4.3.2 Benefits of E-banking for banks

It should be noted that E-banking can bring about various benefits for banks as well. According to some literature the basic benefit of E-banking for the bank are cost savings, efficiency, gaining new segments of customers, improvement of the banks reputation and better customer services and satisfaction are primary benefits to banks (Jayawardhena& Foley, 2000).

Table 4.8: Mean of Benefit of E-banking for banks

Item	Number	Missing	Mean	Mode
From the bank perspective it is easy to use E- banking such as ATM, Mobile banking, Tele banking, POS and the like to accomplish banking tasks.	158	0	1.83	2
Using E-payment system (like debit card, salary card, ATM or visa card) simplify the activity of workers to deliver service	158	0	1.95	2
Reduce the long queue available banking hall	158	0	1.32	1
E-banking gains new segments of customers for the bank	158	0	2.10	2
E-banking Improve customers satisfaction	158	0	1.96	2
E-banking is Cost saving and cost efficient	158	0	1.26	1

Note: N-Number of responses; Response measurements, 1-strongly agree, 2-Agree, 3-Neutral, 4-Disagree and 5-Strongly disagree.

Cost minimization is an important goal for business organization in addition to profit maximization. we can see cost minimization as an advantage of using the system from two perspectives, first from the bank perspectives, by using E-banking system like, ATM, internet banking, mobile banking and others, banks save a lot of costs. In the long run a bank can save

money by not paying for tellers or for managing branches. This way of cutting transaction cost results in higher profit margin for the banks. D'Souza (2002) noted that, the combination of higher technology and higher skills have posted a higher turnover for banks as they have been able to provide better. The mean and mode value of the respondent in relation with the question that E-banking makes banking activity cost efficient and effective is 1.26 and 1 respectively. 81% of the respondents agreed that it is a cost efficient and cost effective ways of providing banking service. In addition to the above point, the interview result also depicts that one of the very important benefit is that, E-banking is the cost efficient and effective way of undertaking banking transaction.

Similarly the mean and mode value for the question which is asked whether E-banking makes easy to accomplish banking tasks is1.83 and 2.00 respectively; it indicates that using of E-banking system helps bank staff to perform banking activity quickly by employing a low amount of resources. 60% of them is also agrees that the work of employees are simplified by using E-banking rather than traditional banking.

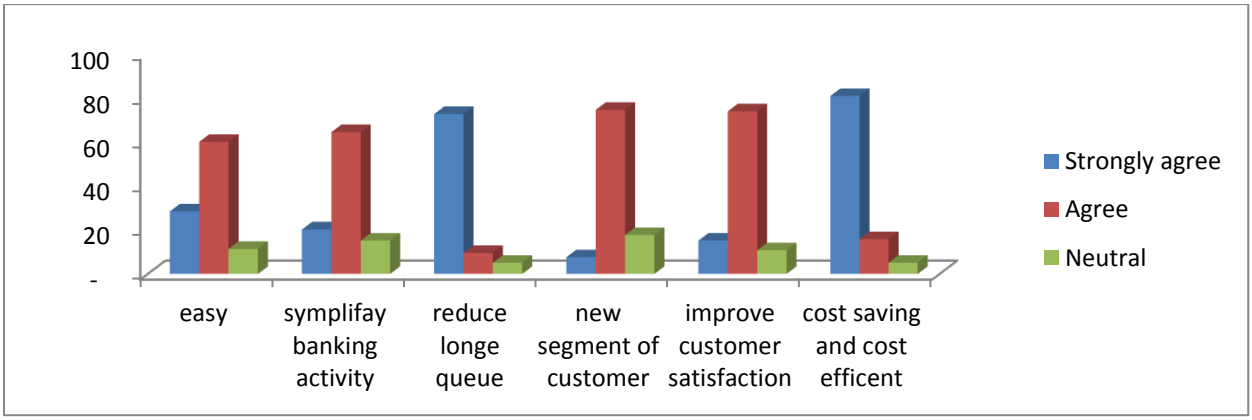
If banks can use sufficient technological tools to deliver service, such as ATM, Internet, Mobile and POS terminal, it would not be limited by geographical location to get banking service. So, it can reduce number of customers come to banking hall compared with traditional banking system. And according to the respondents whether E-banking minimizes the long queue available in the banking hall, the mean and the mode value of the respondents is 1.32 and 1 respectively. The largest number of the respondents,(73%) is strongly agreed that by using E-banking the bank can minimize the long queue created by customers that minimize the satisfaction of customers.

Banks can get new segment of customers by using different strategy, the basic instrument which helps the bank to get new segment of customers is introducing new product. On the bases of the above point the respondents asked whether E-banking really helps the bank to get new segment of customers. The mean and the mode value of this question is 2.1 and 2 respectively. The largest number of the respondents (75%) agreed that E-banking helps the bank to gain new segments of customers. This result is also supported by the interview results made with the sample banks payment department managers. The mean and mode value of the questions in relation with increasing customer satisfaction is 1.96 and 2 respectively. And 74% of the respondents agreed

that E-banking improve customer satisfaction therefore banks can satisfy the existing customers and attract a new one.

On the bases of the above view Almost all respondents agreed that banks have got different kinds of benefits by using E-banking such as it simplify works of employees, reduce costs, reduce long queue, improve customer satisfaction and gain new segment of market. This implies that the benefit which recognizes internationally is also applicable for the case of Ethiopia.

Chart 4.4 benefit of E-banking for banks



Survey result, 2013

In addition to the above, as per the interview made with CBE, Zemen, Dashen, Awash and Wogagen bank Payment and card department manager, NBE payment and settlement directorate, the basic benefit of the bank from E-banking are increase customer bases and satisfaction, additional revenue stream, good image building, minimize service delivery time, helps the bank to concentrate on corporate customers which is 20% of customers that helps the bank to generate 80% of profit.

4.3.3 Benefits of E-banking for the Economy

The benefits of E-banking for the economy could be measured with the parameter such as speed and efficiency, productivity, increase reliability and accessibility, create better relationship among banks and clients, and used as better information tool.

Respondents asked that whether E-banking increase speed and efficiency, the mean and mode value of their response is 1.84 and 2, the largest number of the respondents (72%) agreed that E-banking can increase speed and efficiency. On the other hand for the questions stated that E-banking can maximize productivity, the mean and mode value is 1.39 and 1 respectively, 61% of the respondents are strongly agreed that it maximize productivity for the financial institution as well as for the economy. In addition to increasing the productivity of bank, the system also increase reliability and accessibility of banking services, were the mean and mode value for the question related with reliability and accessibility as a benefit for the economy are 1.93 and 2.00, respectively and 78% of the respondents strongly agreed that E-banking increase or maximize the reliability and accessibility of financial service. Moreover, E-banking system create better relationship between banks and clients, were the mean and mode value for this question is 1.97 and 2 and 44% of the respondents agreed that E-banking improves the relationship between banks and customers.

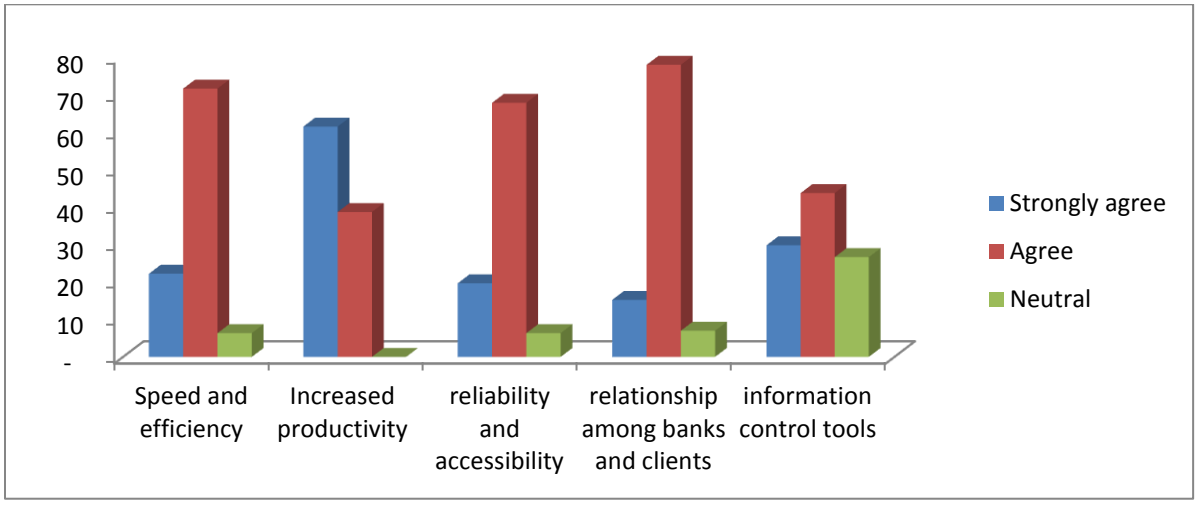
Table 4.9 benefit of e-banking for the economy

Item	Number	Missing	Mean	Mode
Increase Speed and efficiency	158	0	1.84	2
Increased the productivity of bank	158	0	1.39	1
Increase reliability and accessibility	158	0	1.93	2
Create better relationship among banks and clients	158	0	1.92	2
Used as better information control tools	146	12	1.97	2

Note: N-Number of responses; Response measurements, 1-strongly agree, 2-Agree, 3-Neutral, 4-Disagree and 5-Strongly disagree.

In line with the interview made E-banking benefits the economy through the reduction of cost of printing cash notes and its related distribution, enhance an aggregate deposit, banking the unbanked, increase the potential of hard currency generation and used as better information control tool, Which generally increase speed and efficiency, reliability and accessibility, productivity of the country.

Chart 4.5:- benefits of E-banking for the economy



Survey result, 2013

4.4 Challenges of E-banking practice

Although there are many associated benefits with the practice of E-banking, there are many reasons which obstruct implementation of the system. In case of Ethiopian banking industries, many privates banks are using old banking system and don't have access to take advantage from electronic banking facilities. Wondwossen & Tsegai (2005) observed the following reasons which may be considered as hindrance factors for the use of electronic payment system in Ethiopia. These hindrance factors include, lack of appropriate infrastructure for E-payment, lack of internet facilities with customer and learning how to interact with bank website. Moreover, factors that can affect practice of E-banking in the country regarding the technological factor, organizational factor and Environmental factor were analyzed in the following sections.

4.4.1 Problems of E-banking in the introduction stage

Basically banks got challenges in relation with E-banking on introduction stage and after introduction on the practice of the service. During introduction different literatures states that there are different challenges such as ICT infrastructure, lack of skilled man power, lack of suitable legal environment and cost of the software as well as the device.

Despite the recent improvements made by Ethiopian government on the national infrastructure, the overall ICT infrastructure in Ethiopia remains inadequate. Card-based payment systems in Ethiopia have been growing fast in recent years. Eight commercial banks in the country have introduced wider use of debit or ATM cards. Commercial banks in Ethiopia also cited plans to use new technologies for remittance transfers, including mobile-phone transfers and remittance-linked financial products such as prepaid cards. However, significant challenges to these plans include, lack of adequate financial and telecommunications infrastructure for the new technologies (Alemayehu& Jacqueline 2011). More over the questionnaire result in this study presents questions to examine the perception of bank staff on the issue. The mean and score value of the respondent provided for the basic challenges which affect E-banking on introduction stage such as ICT infrastructure is, 1.3 and 1 respectively the largest number of respondent (75%) strongly agreed that the basic challenges in Ethiopia is ICT infrastructure problem.

A skilled worker is any worker who has some special skill, knowledge, or (usually acquired) ability in their work. Or, a skilled worker may have learned their skills on the job. To perform any activity in a company and make the work done the company need a skilled worker. In Ethiopia, there is a shortage of skilled man power in any field and specifically in ICT field. This study also supports the above idea, the mean and mode value of the respondents for the question in relation with the shortage of lack of skilled man power is 1.92 and 2 respectively this implies that the largest percent of the respondents 69% agreed that the basic problem of E-banking in the introduction stage is Shortage of skilled man power.

Lack of legal framework may thus hinder the introduction of cost effective modern electronic payment instrument such as ATMs, credit and debit cards, mobile/telephone/internet banking. The study of Gardachew (2010) revealed that lack of legal frame work is one of the challenges for E-banking system in Ethiopia. In contrary the study of Wondwossen and Tsegai (2005) revealed that an adequate legal structure and security framework could encourage the use of E-payments in Ethiopia. However, the result of survey presented in table 4.10 depicted that the mean score value of the respondent in relation to legal frame work is 1.63 and 1; the largest percentage of the respondents (73%) strongly agreed that legal frame work is the basic challenges of E-banking practice. Since there is no legal frame works on the introduction of E-banking at central bank, Ethiopian banking industry cannot be enforced to implement E-banking

system. So lack of legal frame work for the implementation of E-banking system is one of the basic barriers for Ethiopian banking industry. The finding of this study were also consistent with the study of Tan and Ouyang (2002), they found that lack of legislation is an initial barrier that influence E-banking practice in china. The above results were also supported by an interview script received from all respondents, which indicates that there are no directives and acts for E-banking in general and more specifically for card payment, internet banking, international card, local card and the like except mobile banking, which delimited banks to introduce E-banking service.

Since most of our banks are at infant stage and they are not strong enough financially, cost of the software could also be a factor that affect the introduction of E-banking. The mean and mode value of respondent related with the issue is 1.51 and 1 respectively; this implies the largest number of the respondents (65%) is strongly agreed that cost of software is the basic challenge of banks to introduce E-banking.

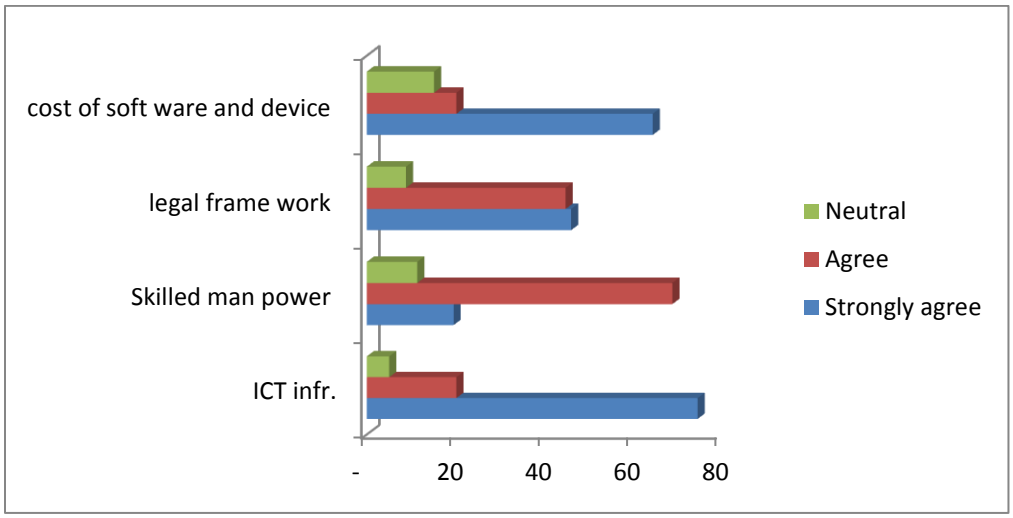
Table 4.10:- Problems in implementation of E-banking

Item	Number	Missing	Mean	Mode
telecommunication infrastructure challenge the implementation of E-banking	158	0	1.30	1
Lack of technical and managerial skills on the use technological innovation	158	0	1.92	2
Lack of skills man power to implement E-banking system make costly to introduce the system	158	0	1.46	1
It is difficult to perform E-banking because of Lack of suitable legal and regulatory framework for e-commerce and e-payment	158	0	1.63	3
High cost of the software and Devices limits banks not to practice the E-banking service	158	0	1.51	1

Note: N-Number of responses; Response measurements, 1-strongly agree, 2-Agree, 3-Neutral, 4-Disagree and 5-Strongly disagree.

All the above responses are supported the interview collected from the respondents, according to them the basic challenges of banks during the introduction of E-banking are Absence of skilled man power, well organized ICT infrastructure, lack of Support from government, Cost incurred during the purchases of the software and the device, absence of directive which guides the practice of E-banking and even the existing policies and procedures are limited the banks to perform their activity in the effective way.

Chart 4.6: Problems in implementation of E-banking



Survey result, 2013

4.4.2 Challenges of E-banking after the introduction of the service

Different literature stated that the challenge of e-banking after introduction or in practice stage are absence of legal frame works, less penetration of internet and strong ICT infrastructure, competitive pressure and government support, high rates of illiteracy, culture of the society, existence of cash based society, power interruption problem, and the like. The result obtained from survey, interview and questionnaires are presented in the following sections.

Table 4.11: Challenges of E-banking practice

Item	Number	Missing	Mean	Mode
High rates of illiteracy affect the easy practice of E-banking service	158	0	1.86	2
Low level of internet penetration and poorly developed infrastructure	158	0	1.36	1
lack of suitable legal and regulatory framework for e-commerce	158	0	2.02	2
Frequent power interruption seriously affect the practice of E-banking practice	158	0	1.77	2
Customers of our bank fear risk to E-banking	158	0	1.85	2
Lack of confidence with the security aspects considered as barrier for the practice of E- banking system	158	0	2.03	2
Lack of trust is considered as barriers for the practice of E-banking system in Ethiopia.	158	0	1.88	2
The culture of the society also affect the customers to use E banking easily	158	0	1.05	4
Lack of sufficient government support will affect customers willingness to use technological innovation	158	0	1.03	4
Customers of our bank were not familiar with service provided though E-banking	158	0	1.81	2
unavailability of competent and skilled employee	158	0	1.89	2

Note: N-Number of responses; Response measurements, 1-strongly agree, 2-Agree, 3-Neutral, 4-Disagree and 5-Strongly disagree.

Results reported on table 4.11,the mode and mean values show for the question which states about high rates of illiteracy affect the easy practice of E-banking service were 1.86and 2 that means, the largest number of respondents 112 or (71%) out of the total respondents were strongly agreed that high rate of illiteracy affect the practice of E-banking. Likewise, the mean and mode value for the question in relation with low level of internet penetration and poorly developed infrastructure affect the smooth practice of E-banking were 1.36 and 1 respectively, largest number of respondents 112 or 71% were agreed that Low level of internet penetration and poorly developed infrastructure affect the practice of E-banking. This implies that ICT infrastructure in Ethiopia for internet access is not sufficient to use E-banking service. Similarly, the interview script received from the respondents indicates that the poor quality of telecommunication network service is a major obstacle for all banks in Ethiopia to effectively deliver E-banking service. Therefore, one of the major obstacle factor identified in this study is lack of ICT infrastructure, to use E-banking service, such as internet banking, mobile banking, ATM and others. On the other hand an interview conducted with IT managers /E-payment

manager of sample banks stated that, unavailability of well-functioning ICT infrastructure and poor internet service affect the smooth functioning E-banking service. But recently, Ethiopian government were doing on improvement of national infrastructure, it will encourage our bank to practice different technological innovation

The mean and mode value of respondents for the question related with regulatory framework for E-banking is 2.02 and 2, which implies, 113 or 73% of the respondents are agreed that lack of suitable legal and regulatory framework for E-banking affect the practice of E-banking. Similarly, an interview conducted with one of the payment and settlement department manager at national bank of Ethiopia (NBE) also prove that, Ethiopia does not have special rule on the use of E-banking system or it is not yet included in the banking regulation except the regulation related with mobile banking.

As it is depicted on the above table, respondents were asked whether, frequent power interruption seriously affect the practice of E-banking practice in Ethiopia and the mean and mode value gives 1.77 and 2.00 respectively. By looking the mean value of 1.77, the largest number of respondents 98 or 63%out of the total agreed with the idea that frequent power interruption seriously affects the practice of E-banking practice.

The result presented in the above table shows that, the respondents asked whether customers of banks fear risk to use E-banking, and the descriptive statistics result gives mean and mode of 1.85 and 2.00 respectively, that means the largest number of 62% (98) respondent were agreed on the issue, therefore fear of risk is one of the factor that hinder the practice of E-banking system in the country. Similarly the result shown on the above table revealed that lack of confidence with the security issue is considered as barrier for the practice of E-banking system, were mean and mode value for the question is 2.03 and 2.00 respectively, that implies 131 (83%) of the respondents agreed that confidence related with security issue is the main barriers of customers to use -banking.

Also the result shown on the above table indicated that lack of trust on the use of technological facility provided by bank is another factor that can hinder practice of E-banking by Ethiopian banking industries. Large number of respondents 121 out of the total 158 or about 77% of the respondents with mean and mode of 1.88 and 2.00 respectively agreed with the idea that trust is

one basic factor in the practice of E-banking system. This result confirms the finding of Sathye (1999) which suggests; the basic challenge among the electronic banking sector is winning the trust of customers in the issue of security or perceived security risk as a key inhibitor in the practice of E-banking.

As it is depicted on the above table, respondents were asked whether, lack of government support is an inhabiting factor for the practice of E-banking in Ethiopia and the mean and mode value gives 3.13 and 4.00 respectively. By looking the mode value of 4.00, the largest number of respondents 83 or 53% out of the total did not agreed with the idea that lack of government support affects practice of E-banking system in Ethiopia. For the question related with Customers unfamiliar with service provided though ATM, Internet banking, telephone and mobile phone, the mean and mode value is 3.24 and 4.00 respectively, it implies that unwillingness of customers to accept E-banking system is not considered as barrier for the practice of technological innovation.

Since most of the societies in Ethiopia are cash based society, they do not give value for electronic money to made different transaction like paper or coin money. On the bases of this concept the respondents were asked whether such culture affect the customers to use E banking practice easily.

The result of the finding attested that the mean and mode values is 3.25 and 3 respectively, which implies that the largest number of the respondents (55%) were not agreed that the culture of the society affects the practice of E-banking.

In relation with the banking system, well established banking system is a very important instrument for the practice of E-banking. To implement modern payment system by replacing the old manual system; NBE is automating its payment system. In regard to this, the respondents are asked whether the existing banking system negatively affect the practice of E-banking. The mean and mode value of the respondents are 1.91 and 2, which implies 83% of the respondents were agreed that Inadequate banking system challenges the practice of e-banking. On the other hand shortage of skilled man power is also another basic obstacle to practice E-banking. According to the respondents 83% of them were agreed that there is a shortage of skilled manpower to practice E-banking and make the service flowed through any challenge.

The interview depicts that the basic challenges of E-banking after introduction are High rates of illiteracy, low level of internet penetration, poorly developed infrastructure, lack of suitable legal and regulatory framework for e-banking, frequent power interruption, fear of risk and unavailability of competent and skilled employee.

CHAPTER FIVE

5. SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATION

This study intended to assess the practice of E-banking system in Ethiopia, through adopting mixed research approach. On the other hand, the purpose of this chapter is to delineate the summary of findings in section 5.1, followed by conclusion in section 5.2 and presents some recommendations forwarded in section 5.3.

5.1 Summary of findings

Based on the analysis and interpretation made in the previous chapter, the major findings are summarized as follows.

- E-banking was first introduced by commercial bank of Ethiopia (CBE) in 2001 and at the end of June 30, 2013there are 8 banks which start E-banking service. (CBE, Dasen Bank, Wogagen bank, Zemen Bank, Awash International Bank, Nib International Bank, United Bank and Birhan international bank)
- At the end of June 30, 2013such banks have 487 ATM and 1158 POS with 485,520number of customers
- NBE is automating its payment system. NBE introduced a system called automated transfer system (ATS) which is the back bone of any payment infrastructure. Moreover, NBE has started with its automatic cheque clearing house (ACCH) and real-time gross settlement (RTGS) services. All electronic interbank money transactions are to be integrated into NBE's new national payment system (NPS). Almost all banks, except Enat, Addis, Bunna, and Debub Global bank have connected their branches with a core banking system.
- In a national level an ICT company called ETH switch is under establishment with a motive of profit generation. The company enables all types of different bank card holders to use a given ATM. Moreover it also provides payment switch, get way for international payment system, Card print, card issue and switch for mobile and internet banking.
- The study also indicated that, the basic benefits of E-banking available in the world also work for the case of Ethiopia. The benefits of E-banking for customer are convenience,

accessibility, ease of use, low cost of using banking activity, providing real time information and getting quality service.

- Most of the respondents agreed that the benefits of E-banking for banks is simplification of banking task, simplify works of employee, reduce costs per transaction, improve customer satisfaction, attract new segment of customers, additional revenue stream, and provide good image for the bank.
- On the other hand, the majority of the respondents agreed that the basic benefits of E-banking for the economy are: increase speed and efficiency, increase productivity, increase reliability and accessibility of financial service and also information control tool for governments. According to the respondents, E-banking minimize cost of printing cash notes and its related distribution, Enhance an aggregate deposit, Banking the unbanked, Increase the potential of hard currency generation and used as better information control tool, Which generally related with speed and efficiency, reliability and accessibility, and productivity of the country.
- The majority of the respondent agreed that the challenge of E-banking in introduction stage are absence of skilled man power, absent well organized ICT infrastructure, Cost incurred during the purchases of the software and the device,lack of Support from government, absence of directive which guides the practice of E-banking and even the existing policies and procedures are limited the banks to perform their activity in the effective way.
- After the phase of introduction, on the practice stage, a majority of respondents agreed that the basic challenge of E-banking practice are high rates of illiteracy, low level of internet penetration and poorly developed infrastructure, lack of suitable legal and regulatory framework for e-banking, frequent power interruption, fear of risk and unavailability of competent and skilled employee.

5.2 Conclusion

Based on the main findings above, the following conclusions are drawn.

The study identified that up to June 30, 2013, there are 8 banks which provides E-banking service with 487 ATM, 1158 POS and a customer of 485,520. NBE introduced a system called automated transfer system (ATS), automatic cheque clearing house (ACCH) and real-time gross settlement (RTGS) services which helps to automating its payment system. Almost all banks, except Addis, Bunna, and Debub Global bank have connected all of their branches with a core banking system.

In addition to this in a national level an ICT company called ETH switch is under establishment which enables all types of different bank card holders to use a given ATM, provides payment switch, get way for international payment system, Card print, card issue and switch for mobile and internet banking. This all are helps to enhance banks to use E-banking system.

It is approved that Basic benefits of E-banking for the customers are convenience, accessibility, ease of use, low cost of using banking activity, providing real time information and getting quality service. It also identified that the basic benefits of E-banking for banks are simplifying works of employee, reduce costs per transaction, improve customer satisfaction, attract new segment of customers, additional revenue stream, and provide good image for the bank.

On the other hand, the study approves that; increasing speed and efficiency, productivity, reliability and accessibility of financial service and also acts as information control tool for governments are the benefits of E-banking for the Economy. E-banking system, such as ATM, mobile banking, internet banking and others are not well practiced by Ethiopian banking industry. This is due to low level of ICT infrastructure and lack of legal frame works at NBE, Absence of skilled man power, Cost incurred during the purchases of the software and the device.

After the introduction of E-banking, banks get different challenges to practice E-banking effectively because of High rates of illiteracy, low level of internet penetration and poorly developed ICT infrastructure, lack of suitable legal and regulatory framework for E-banking, frequent power interruption, fear of risk and unavailability of competent and skilled employee.

In general, the findings of this study offer additional insights into the current E-banking situation and its implications for E-banking growth in Ethiopia as an example of a developing country. Furthermore, the understanding of the challenges of E-banking introduction and practice as well as benefits identified in this study may help to identify the best course of actions to promote its development. It will also be valuable to all banking industries of the country to increase their awareness and understanding of E-banking benefits.

5.3 Recommendations

E-banking system is a new financial evolution in Ethiopia, but it's an important issue, because it has a great impact on the whole banking system, at the same time it's difficult and need a lot of efforts to be implemented and practiced by the banking industry, so it need a lot of efforts to succeed. Based on the above conclusion, the researcher recommends the following points:

- Since E-banking has a wide range of benefits to the customers, the bank and for the Economy NBE should have to facilitate E-banking practice by creating a well-organized legal framework. NBE should urgently establish a clear set of legal frame works and directives on the use of E-banking in banking sector.
- For the successful implementation as well as practice of E-banking system, ICT infrastructure is a major prerequisite and hence the government should support banking sector by investing on ICT infrastructure development.
- Ethiopia is on the way to be a member of world trade, and other strong competitors or foreign banks will get involved in Ethiopian banking industries therefore banks have to strengthen their capacity by shifting the manual banking to electronic banking.
- In addition to the above, Ethiopian banking industry need to move away from traditional bases of retail bank competition to a new technology based form of competition by focusing on cost reduction, customer retention, awareness, credibility, security, ease of use, and wider scope of products and services.
- To exploit the benefit of E-banking system, banking industry operated in Ethiopia as well as NBE should have to create awareness for customers to familiarize the service and enjoy the benefit.
- Banks should pay special attention to deliver service to customers by using E-banking system, which can easily be accessible, convenience, reliable and which in turn maximize the satisfaction of customers

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Appendix

Questionnaire

Dear Sir/Madam

My name is MeazaWondimu, a student of MBA at St Marry University Collage. The aim of this questionnaire is to assess the practice of E-banking in Ethiopian banking industries. The information you provide in response to the items in the questionnaire will be used as part of the data needed for a study of the practice of E-banking. The results of the study are anticipated to supply to the understanding of the basic Practice, challenges and benefits of E-banking in delivering of service to customers in commercial banks of Ethiopia. I would like to assure you that the information you provide will be used only for the purpose of achieving academic award. Your involvement is regarded as a great input to the quality of the research results. Hence, I believe that you will enlarge your assistance by participating in the study. Your honest and thoughtful response is invaluable.

Thank you for your participation

Best regards,

MeazaWondimu,

MBA student at St Marry University College

General Instruction

This questionnaire contains two sections and 3 pages that will be expected to take approximately 10 to 15 minutes to complete. Please provide your responses to the questions based on the instructions under each section. If you have comments or if you want to provide further explanations, please use the space provided at the end of the questionnaire.

Section I: Demographic profile of respondents

Please indicate the following by ticking (√) on the spaces in front of the response options:

1. Gender: ☐ Male ☐ Female
2. Age: ☐ 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-60
3. Educational level: ☐ Diploma holder ☐ First degree holder ☐ Master degree
4. Employer: ☐ State owned bank ☐ Private bank
5. Monthly income (in Eth. Birr): ☐ 800-1400 ☐ 1401-2000 ☐ 2001- 3000 ☐ 3001-4000 ☐ above 4000

Section II: Questionnaires related with barriers and drivers of adopting Electronic banking system.

Instruction: Below are lists of statements pertaining to practice of E-banking. Please indicate whether you agree or disagree with each statement by ticking (√) on the spaces that specify your choice from the options that range from 1= strongly agree to 5= strongly disagree. Each choice is identified by numbers ranged from 1 to 5.

Note: SA- Strongly Agree, A- Agree, DA- Disagree, N- Neutral, SD- Strongly Disagree

Part one: Questions related with the benefits of E-banking system in Ethiopia.

	The following are some of the benefits derived from the practice of E-banking system, please indicate your choice.	**SA**	**A**	**N**	**D**	**SD**
		1	**2**	**3**	**4**	**5**
Benefits of E-banking for customers						
1	E- banking makes it easier for customers to do banking activities					
2	Customers can easily use ATM and POS					
3	E-banking is highly convenient for customers than traditional banking					
4	The amount of fee paid by customers for the E-banking is lower than traditional banking					
5	E-banking increase information access to customers by providing information any time, real time information on the money in their accounts					
6	E-banking such as, Internet banking ,Mobile banking, ATM and POS services are enables users to complete banking activities more quickly and easily					
7	E-banking such as, Internet banking ,Mobile banking, ATM and POS are convenient, in terms of 7 days and 24 hours					
8	E-banking is more accessible to users than visiting a bank					
9	Improve customer service					
Benefits of E-banking for banks						
10	From the bank perspective it is easy to use E- banking such as ATM, Mobile banking, Tele banking, POS and the like to accomplish banking tasks.					
11	Using E-payment system (like debit card, salary card, ATM or visa card) simplify the activity of workers to deliver service					
12	The transactions in E-banking are at a lower price, or at no cost					
13	Reduce the long queue available banking hall					
14	E-banking gains new segments of customers for the bank					
15	E-banking Improve customers satisfaction					
16	E-banking is Cost saving and cost efficient					
Benefits of E-banking for the economy						
17	Increase Speed and efficiency					
18	Increased the productivity of bank					
19	Increase reliability and accessibility					
20	Create better relationship among banks and clients					
21	Used as better information control tools					
22	Increase Speed and efficiency					
23	Increased the productivity of bank					

Other benefit, please specify

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Part two: Questions related with the challenges of E-banking system

	The following are some barriers and challenges during the introduction of E-banking system; please indicate level of your choice.	SA	A	N	D	SD
		1	2	3	4	5
problems in the introduction of E-banking						
24	telecommunication infrastructure challenge the implementation of E-banking					
25	Lack of technical and managerial skills on the use technological innovation					
26	Lack of skills man power to implement E-banking system make costly to introduce the system					
27	It is difficult to perform E-banking because of Lack of suitable legal and regulatory framework for e-commerce and e-payment					
28	High cost of the software and Devices limits banks not to practice the E-banking service					
problems in the practice of E-banking						
29	High rates of illiteracy affect the easy practice of E-banking service					
30	Low level of internet penetration and poorly developed infrastructure					
31	lack of suitable legal and regulatory framework for e-commerce					
32	Frequent power interruption seriously affect the practice of E-banking practice					
33	Customers of our bank fear risk to E-banking					
34	Lack of confidence with the security aspects considered as barrier for the practice of E- banking system					
35	Lack of trust is considered as barriers for the practice of E-banking system in Ethiopia.					
36	The culture of the society also affect the customers to use E banking easily					
37	Lack of sufficient government support will affect customers willingness to use technological innovation					
38	Customers of our bank were not familiar with service provided though ATM, Internet banking, telephone and mobile phone					
39	Inadequate banking system challenges the practice of e-banking					
40	unavailability of competent and skilled employee in related with e banking is the challenge for banks to practice e-banking					

Other challenges, please specify

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_____

Interview

Section one: Interview questions designed for the managers of the four selected banks.

1. What type of Electronic banking service do you provide? ATM, Internet banking, mobile banking or others? Please
2. When do you start e banking service?
3. With what software and device provider company does your bank purchase its software/device?
4. How many customers do you have who use e banking? specify by type
5. How many ATM devise, POS and agent does your bank have?
6. What is the basic benefit of E-banking?
7. In your opinion what are the key challenges in your institution to practice E-banking
8. Do you think that government policy have impact on the practice of E- banking system? (Please Specify/explain)
9. What sort of support would you expect from the government in relation to the E-banking improvement in Ethiopia?
10. if you have a comment

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    _____

Section two: Interview questions designed for the NBE

11. As your opinion what are the barriers and opportunity of adopting new technological innovation?
12. Is there any legal frameworks at central bank to enforce banking industries to use E-banking system, such as ATM/debit card, telephone/mobile banking/internet banking?
13. If yes is it on the favor of the bank. Or is it encouraging them to use E-banking?
14. Is there any special rule that guide banking industries in implementation of E- banking system?
15. Why Ethiopian government did not allow foreign banks to operate in the country? Do you think it discourage Ethiopian banking industry, from the adoption of technological innovation and compete with foreign banks?
16. Is there any motivation factor which is set by government to start E-banking service?
17. if you have a comment

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