Addis Ababa University
College of Business and Economics
Department of Accounting and Finance

Challenges and Prospect of E-Banking in Ethiopia

By

Mattewos Kinfe

A Research Project Submitted to Partial Fulfillment of the Requirement for the Award of Masters of Science Degree in Accounting & Finance

Advisor: Asmare Emire (Dr.)

January, 2016

Addis Ababa, Ethiopia

DECLARATION

I, **Mattewos Kinfe**, declare that this study entitled as "**Challenge and prospect of E-banking service in Ethiopia"**, is my own work. I have carried out the research work independently with the guidance and support of the research advisor. This study had not been submitted to any degree/diploma in this or any other institution. It is done in partial fulfillment of MSc Degree in Accounting and Finance.

Name of student: Mattewos Kinfe Signature: _____

Place: Addis Ababa, Ethiopia Date: Jan.22, 2016

CERTIFICATE

This is to certify that **Mattewos Kinfe** has carried out his research work on the topic entitled "**Challenges and prospect of E-banking service in Ethiopia".** This work is original in nature and is suitable for submission to the award of MSc. in Accounting and Finance.

Name of advisor: Asmare Emire (Dr.) Signature: _____

Place: Addis Ababa, Ethiopia Date: _____

ABSTRACT

Despite the growth of e-banking adoption worldwide, Ethiopian banks continue to conduct most of their banking transactions using traditional methods. The general objective of the study was assessment of the current extent and practices, benefits realized by banks, driving forces, opportunities and challenges for the adoption of e-banking service in Ethiopia. From this general objective, five specific issues were explored. An exploratory research design was employed to conduct this study. Both primary and secondary qualitative data were collected for the purpose of this study from the E-banking Department of each bank at the head office level and bank web sites respectively. The collected data was analyzed by using descriptive analysis such as tables and percentages.

From the analysis of the collected data, the findings revealed that: balance inquiry, cash withdrawal, funds transfer within same bank, statement printings are some the major practice of e-banking in those banks that are providing the service to their customer. The different e-banking channels by which banks are using to provide these services to their customers are ATM, debit card, Internet banking and Mobile banking. In addition to this some banks start to provide different type of card services. On the View point of the bank Cost reduction, coverage of wide geographical area, customer satisfactions are some of the benefits of using E banking. The driving forces that initiate banks to adopt e-banking services are : existence of high competition in the banking industry, desire to improve organizational performance, desire to reduce transaction cost, desire to cover wide geographical area, and desire to build organizational reputation are among others. Chances of risk, Lack of suitable legal and regulatory framework, absence of financial networks that links different banks, Low level of internet penetration and poorly developed telecommunication infrastructure, high cost of internet, security concerns are among the major challenges of e-banking service in the country. However, late adopter opportunities, improvement in the banking habit of the society, commitment of the government to facilitate the expansion of ICT infrastructure and willingness among banks to cooperate in building infrastructure are the major opportunities for the adoption of the system in the banking industry.

TABLE OF CONTENT

Page

Chapter Three

Methodology

Chapter Four

Result and Discussion

Chapter Five

Conculusion and Recommendation

ACKNOWLEDGMENTS

First and foremost, I would like to thank the **Almighty God** to give me the courage through his endless love and blessings that helped me to finalizing the study. And I would like to thank his mother **Saint Mary**. She pray, bless, protect and intercede for us.

Secondly, it gives me a great pleasure to extend my sincere gratitude for the help I received to complete this paper. I would like to acknowledge Dr. Asmare Eemire for his unreserved and valuable advice on each step of the research paper. Special thanks go to the employees of the selected banks who provide all the necessary information about e -banking.

I would like also to express my gratitude to my friends, for their unlimited advisory as well as moral support starting from the beginning up to the end. Finally, I would like to thank all people involved directly or indirectly for the accomplishment of this paper.

Mattewos Kinfe

ACRONYMS

ATM	Automated teller machine
AIB	Awash international bank
CBE	Commercial bank of Ethiopia
DB	Dashen bank
DR	Disaster Recovery
E-banking	Electronic banking
EFTPos	Electronic fund transfer at point of sales
ETC	Ethiopia Telecommunication Corporation
ICT	Information communication technology
L/C	Letter of credit
MCB	Multi-channel banking
NBE	National Bank of Ethiopia
NIB	Nib international bank
NGN	Next generation network
NNOC	National network Operation center
SSL	Secure sokate layer
SWIFT	Society for Worldwide Inter-bank Financial Telecommunication
PC	Personal computes
PDA	Personal Digital assistant
POS	Point of sale
UB	United bank
WB	Wegagen bank
ZB	Zemen bank

LIST OF TABLES

Page

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The increasingly competitive environment in the financial service market has resulted in pressure to develop and utilise alternative delivery channels. The most recently delivery channel introduced is online or electronic banking also known as e-banking (Daniel & Storey, 1997). Online or electronic banking systems give everybody the opportunity for easy access to their banking activities. These banking activities may Include but not limited to: retrieving an account balance, money transfers between a users accounts, from a users account to someone elses account, retrieving an account history. Some banks also allow services such as stock market transactions, and the submission of standardized accounting payment files for bank transfers to third parties (Claessens etal. 2002). It had been projected that more than 32 million households globally were banking online by 2003 (Simpson, 2002). Banks and other financial institutions have moved to e-banking in their efforts to cut costs while maintaining reliable customer service (Kolodinsky and Hogarth, 2001).

It is evident that banks and other financial institutions in developed and developing countries are embracing e-banking. As technology evolves, different kinds of electronic banking systems emerge, each bringing a new dimension to the interaction between user and bank. They include Automated Teller Machine (ATM), mobile and Internet (online) banking, electronic funds transfer, direct bill payments and credit card (Gikandi and Bloor, 2010; Liaoa and Cheung, 2002). The use of these facilities is on the increase. For example, in Kenya and Singapore a recent survey indicates that there is steady increase in use of E-banking technologies such as Automated Teller Machine (ATM), mobile and Internet (online) banking, electronic funds transfer, direct bill payments and credit card (CBK 2008; Liaoa & Cheung, 2002). Among these E-banking facilities, the Automated Teller Machine (ATM) is the first well-known and widely adopted system that was introduced to facilitate the access of the user to his banking activities (Nyangosi et al. 2009; Claessens et al., 2002)

In Ethiopia, Online banking is in its infant stage. Even though, the concept of online banking implimented in Ethiopia with a single service of SMS message during late 2008, It doesnot show that much improvement as its age. Now a day som banks are adopting e-banking system which is the state - of- the art. In addition, many banks are making what seem like huge investments in technology to maintain and upgrade their infrastructure, in order not only to provide new electronic information based services, but also to manage their risk positions and pricing. The earliest forms of electronic and communications technologies used mainly in Ethiopian banking offices were automation devices. However, Telephones, telex and facsimile were employed to speed up and make more efficient the process of servicing clients.

1.2 Statement of the problem

In a relatively short period of time, the Internet has moved from an occasional tool to one of the principal ways we communicate, entertain ourselves, and do work. And all that time we spend online has to come at the expense of something else. One main advancement technology has brought to us is the introduction of online banking or E-banking. Traditional banking is characterized by physical decentralization, with branches scattered around populated areas to give customers easy geographical access (Ainin et al., 2005). E- Banking does away with the need for most visits to the bank. However, according to Locket & Littler (1997), physical banks assure customers that their banks has substantial resource and guarantee the security of their savings. A study indicated that electronic banking has been available in the UK since the early 1980s.

It is not clear whether all customers want or are comfortable with electronic banking (Daniel & Storey, 1997). Technology is changing at a rapid pace making it difficult for both the customer and the bank to determine the best approach. Particular problems arise with trying to integrate new channels with legacy channels. It is for these reasons that academic research is needed in this newly emerging delivery channel (Daniel & Storey, 1997).

Similarly, in Ethiopia, most banks practicing online banking are also facing challenges such as customer preference of the online banking facility, Very poor Connection, Trust of the people in the moder tools, convenience of clients to utilize and adopt

online banking facilities. While numerous studies have been undertaken to examine issues in the wider context of Economic and Financial implication online banking, problem and prospect, comprehensive research in the area of online banking issues in the specific context of Ethiopia has been rather limited. This study attempted to identify prospects and influencing challenges inhibiting acceptance of online banking in Ethiopian Commercial Banks.

1.3 General Objective

The main objective of the study is to determine the prospect and challenges of e banking in Ethiopia.

1.4 Specific Objectives

The specific aims of the study are:

1. To explore the current practice and extent of adoption of e-banking service in Ethiopia.
2. To find the benefits realized by banks in the adoption and practice of e-banking to compliment their service delivery channels.
3. To determine the driving forces towards the adoption of e-banking service in the banking industry.
4. To identify the major challenges for the adoption of e-banking service in Ethiopia.
5. To find the existing opportunities for the adoption of e-banking service in Ethiopia.

1.5 Research Questions

Based on the above stated objectives, the following research questions will answered:

1. How looks like the current practices and extent of e-banking service in Ethiopia?
2. What are the benefits of adopting e-banking service from the viewpoint of the bank?

3. What are the driving forces towards the adoption of e-banking service in the banking industry?
4. What are the major challenges for the adoption of e-banking service in Ethiopia?
5. What are the existing opportunities for the adoption of e-banking service in Ethiopia?

1.6 Justification of the Study

Commercial banking is undergoing rapid change, as the international economy expands and advances towards institutional and market completeness. A major force behind these developments is technology, which is breaching geographical, industrial and regulatory barriers, creating new products, services and market opportunities, and developing more information and systems-oriented business and management processes (Liaoa & Cheung, 2002). One of the products of global technological changes is the advent of online banking (E-banking). Online banking has become prevalent and employed by many financial institutions to reduce costs associated with having personnel serve customers physically, shorten processing periods, increase speed, improve flexibility of business transaction and provide better service in all (Shih & Fang, 2004). It has been identified as the fastest growing area for business (Aladwani, 2001) and many banks are improving on use of their online banking facilities to move along with global trend.

Much documentation on online banking services has been carried out elsewhere (Daniel and Storey, 1997; Liaoa & Cheung, 2002; Claessens et al., 2002). However, in Ethiopia, there is little or no information concerning online banking usage. Even those commercial banks to which start using online banking is connect some of its own branches. Cross bank transaction using online banking is a monster idea for Ethiopian Commercial banks. This paper tries to identify prospect and challenges of online banking. This assessment would enable the banks to render better online banking service to their customer, adopt new strategies to cope with challenges and meet customer needs in the use of these online banking facilities.

1.7 Scope of work

The studies were conducted at five selected commercial banks in Addis Ababa. The Banks are Commercial Bank of Ethiopia, Dashen Bank, Awash International Bank, Zemen Bank and Wegagen Bank. The banks are selected under the assumption that it has a better application of online banking than other commercial banks in Ethiopia. The study is involve staff from the selected banks, staffs from national bank of Ethiopia, staffs from Internet Network security Agency (INSA) The study laid emphasis on Challenges and prospect of online banking in Ethiopia.

1.8 Organization of the study

The research report is organized into five chapters: Chapter one focuses on the background of the study, problem statement, objectives and justification of the study. In chapter two, a range of literatures review capture there to gather relevant information concerning online banking. In chapter three, detail of methodology follow to achieve result outline. It is including the study design, sampling, sampling technique and data analysis. Chapter four contain results and discussion from the study supported with findings from other research works. Chapter five focuses on main findings, conclusions and recommendations of the study.

CHAPTER TWO

REVIEW OF RELATED LITRATURE

2.1 Terms and Concepts

The definition of Electronic banking (E-banking) varies amongst researchers partially because Electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone (Daniel, 1999; Mols; 1998; Sathye, 1999). Different authors have defined it in different ways based on their understanding of the application of electronic banking. According to Daniel (1999), electronic banking is electronic connection between the bank and customer in order to prepare, manage and control financial transactions. Sathye (1999) also asserted that electronic banking can be defined as a variety of the following platforms: (a) Internet banking (or online banking), (b) telephone banking, (c) television-based banking, (d) mobile phone banking, and (e) PC banking (or offline banking). In the opinion of Daniel (1999), E-banking is online banking (or Internet banking) which allows customers to conduct financial transactions on a secure website operated by their retail or virtual bank, credit union or building society. This implies that E-banking is a service that allows an account holder to obtain account information and manage certain banking transactions through a personal computer via the financial institution web site on the internet.

For many consumers, electronic banking means 24-hour access to cash through an Automated Teller Machine (ATM) or Direct Deposit of pay checks into checking or savings accounts (FTC, 2006). But electronic banking now involves many different types of transactions.

Electronic banking, also known as Electronic Funds Transfer (EFT), is simply the use of electronic means to transfer funds directly from one account to another with out the physical involvement of the bank personnel, rather than by cheque or cash. By using Electronic fund transfer an account holder can use:

- Salary deposited directly into bank or credit union account
- Withdraw money from account through an ATM machine with a personal identification number (PIN), at any convenience, day or night

- Settle utility bills and other regular payments
- Transfer money between accounts
- Order payment to government offices like tax and pension
- Conduct transactions at the point-of-sale, using a credit/debit card rather than cash, credit or a personal check
- Use computer and personal finance software to coordinate total personal financial management process, integrating data and activities related to income, spending, saving, investing, recordkeeping, bill-paying and taxes, along with basic financial analysis and decision making.

2.2 Importance of E-banking

Electronic banking systems provided easy access to banking services. The interaction between user and bank has been substantially improved by deploying ATMs, Internet banking, and more recently, mobile banking (Claessens et al. 2002). Electronic banking (E-banking) reduces the transaction costs of banking for both Small and Medium Enterprises (SMEs) and banks. SMEs need not visit banks for banking transactions, providing round the clock services (Cheng, 2006). Customers prefers E-banking for conveniences, speed, round the clock services and access to the account from any parts of the world (Cheng, 2006). E-banking offers benefits to banks as well. Banks can benefit from lower transaction costs as E-banking requires less paper work, less staffs and physical branches (Cheng, 2006). E-banking leads to higher level of customers' satisfaction and retention (Poatoglu & Ekin, 2001).

E-banking reduces loan processing time as borrowers loan application can be viewed by loan processing and loan approval authority simultaneously (Smith & Rupp, 2003). Typically, loan applications received at branch level and send to head office for approval. This documents transfer to and from branch to head office consume much time and delay loan sanction period (Riyadh et al., 2009).

The benefits of E-banking identified from the current literature are classified in two main categories - tangible and intangible.

Tangible benefits

- Increase automation process
- Transformation of traditional market chain
- Retained and expand customer base
- Reduced operational costs
- Acquisition of each market
- Increase business efficiency

Intangible benefit

- Enhance well being and education of customers
- Competitive advantage
- Convenient banking

2.3 Benefit from the Bank's point of View

According to a survey by booz, Allen and Hamilton, an estimated cost providing the routine business of a full service branch in USA is $1.07 per transaction, as compared to 54 cents for telephone banking, 27 cents for ATM (Automated Teller Machine) banking and 1.5 cents for Internet Banking(Nathan 1999; Pyun et al., 2002). In Nordea, Finland, one online transaction costs the bank an average of just 11 cents, compared to $1 for a transaction in a brunch (Echikson, 2001). Average payment in internet bank or via direct debit cost 4 times less than payment in brunch. On actual cost side (cost side in the bank point of view) direct debit payment cost 16 times less and payment in internet bank 7 times less than payment in brunch. This indicate that E banking contribute a significant financial benefit to banks to which implement E banking. In addition to this E banking reduce the capital expenditure and staff coust of the bank.

2.4 Benefit from the customer point of View

The main benefit from the bank customer's point of view is significant saving of time by the automation of banking service processing and introduction of an easy maintenance tools for managing customer's money. The main advantages of E banking for corporate customers' are

- Reduce costs in accessing and using the banking service
- Increased comfort and time serving

- Transaction can be made even after banking hour without the physical interaction of the bank 24 hours a day. This increase the productivity of both the bank and the company
- Quicq and continuous access of information and corporation will have easier access to information as, check multiple accounts at the click of a button, better cash management (Bank Away! 2001; Gur_u, 2002).

2.5 Economic Benefit

The impact of the new economy on the entire economy growth has been studied in several research projects. For example (Pohjola, 2002) shows that the contribution of the use of information communication technology to growth of output in the Finnish market sector has increased from 0.3 percent in early 1990's to 0.7 percent in late 1990's. Similarly, research conducted in Estonia (Arm and Vensel, 2001), bank customers use bank office on average 1.235 times per month, and wait in queue in bank office on average for 0.134 hours. Simple calculation shows that making payments using E banking facilities rather than in the banks office create overall economy savings in the amount of 0.93% of GDP (average distance to nearest bank office is 4.14 km (Arma and Vensel, 2001), which takes approximately 0.21 hors to travel.

2.6 Types of E-banking

Over the past years, two types of electronic banking services have emerged in the banking sector; internet and telephone banking (Adriana, 2006)

2.6.1 Internet banking

Internet banking is a new age banking concept. It uses technology and brings the bank closer to the customer. Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of banks website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations (Thulani et al, 2009). For those that have access to the internet and a

computer all you need to do is proceed to your banks website and login. From there you have access to all of your accounts that you have at that bank. Transfer funds between your accounts with ease. You can also use online banking to see how much money you have in your accounts and where the money you have spent has gone. Broadly, the levels of banking services offered through internet can be categorized in to three types:

1. The Basic Level Service is the banks‟ websites which disseminate information on different products and services offered to customers and members of public in general. It may receive and reply to customers‟ queries through e-mail.

2. In the next level are Simple Transactional Websites which allows customers to submit their instructions, applications for different services, queries on their account balances, etc, but do not permit any fund-based transactions on their accounts.
3. The third level of Internet banking services are offered by Fully Transactional Websites which allows the customers to operate on their accounts for transfer of funds, payment of different bills, subscribing to other products of the bank and to transact purchase and sale of securities.

The above forms of Internet banking services are offered by traditional banks as an additional method of serving the customer. There are also banks that deliver banking services primarily through Internet or other electronic delivery channels. Some of these banks are known as virtual banks or Internet- only banks and may not have any physical presence in a country despite offering different banking services (Adriana, 2006).

2.6.1.1 Advantages of Internet Banking

1. It removes the traditional geographical barriers as it could reach out to customers of different countries / legal jurisdiction.
2. It has added a new dimension to different kinds of risks traditionally associated with banking, heightening some of them and throwing new risk control challenges.

3. It poses a strategic risk of loss of business to those banks who do not respond in time, to this new technology, being the efficient and cost effective delivery mechanism of banking services.
4. A new form of competition has emerged both from the existing players and new players of the market who are not strictly banks.
5. Another advantage of Internet banking is that it is cost-effective. Thousands of customers can be dealt with at once. There is no need to have too many clerks and cashiers. The administrative work gets reduced drastically with Internet banking. Expenditures on paper slips, forms and even bank stationery have gone down, which helps raise the profit margin of the bank by a surprisingly large number.

2.6.2 Telephone Banking (Tele banking)

Tele banking (telephone banking) can be considered as a form of remote or virtual banking, which is essentially the delivery of branch financial services via telecommunication devices where the bank customers can perform retail banking transactions by dialing a touch-tone telephone or mobile communication unit, which is connected to an automated system of the bank by utilizing Automated Voice Response (AVR) technology (Balachandher et al., 2001). It allows consumers to phone their financial institutions with instructions to pay certain bills or to transfer funds between accounts (FTC, 2006).

2.7 Delivery channels of E-banking

E- Banking services are delivered through various electronic means collectively called electronic delivery channels. Electronic Banking is really not one technology, but an attempt to merge several different technologies. Each of these evolved in different ways, but in recent years different groups and industries have recognized the importance of working together (Abor, 2004). The various delivering channels for E-banking are discussed as follows:

2.7.1 Automated Teller Machines (ATMs)

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

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

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

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

2.7.2 Personal Computer Banking Services

PC-Banking is a service which allows the bank's customers to access information about their accounts via a proprietary network, usually with the help of proprietary software installed on their personal computer. Once access is gained, the customer can perform a lot of retail banking functions. The increasing awareness of the importance

of computer literacy has resulted in increasing the use of personal computers. This certainly supports the growth of PC banking which virtually establishes a branch in the customers' home or office, and offers 24-hour service, seven days a week. It also has the benefits of Telephone Banking and ATMs (Abor,2004).

It offers consumers the convenience of conducting many banking transactions electronically using a personal computer. Consumers can view their account balances, request transfers between accounts and pay bills electronically from home.

2.7.3 Electronic Funds Transfer at Point of Sale (EFTPoS)

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

Increased banking productivity results from the use of EFTPoS to service customers shopping payment requirements instead of clerical duties in handling cheques and cash withdrawals for shopping. Furthermore, the system continues after banking hours, hence continual productivity for the bank even after banking hours. It also saves customers time and energy in getting to bank branches or ATMs for cash withdrawals which can be harnessed into other productive activities (Abor, 2004). Some banks issued international cards (such as Visa, MasterCard etc.) to their customers. Such cards can be used wherever accepted, and payment on the cards can only be done through an ordinary domiciliary account of the cardholder, or any other account that may be permitted. Some of these cards are credit or debit cards.

2.7.4 Credit Cards

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

2.7.5 Debit Cards

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

In many countries the use of debit cards has become so widespread that their volume of use has overtaken or entirely replaced the cheque and, in some instances, cash transactions. Like credit cards, debit cards are used widely for telephone and Internet purchases and, unlike credit cards, the funds are transferred immediately from the bearer's bank account instead of having the bearer pay back the money at a later date. Debit cards may also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash and as a check guarantee card.

2.8 Characteristics of E-banking

E-banking includes the systems that enable bank customers to access accounts, transact business, or obtain information on financial products and services through a public or private network, including the Internet. Customers access E-banking services using an intelligent electronic device, such as a Personal Computer (PC), Personal Digital Assistant (PDA), Automated Teller Machine (ATM), telephone (Ibrahim et al 2006).

2.9 Challenges of E-banking

Banking organizations have been delivering electronic services to consumers and businesses remotely for years. Electronic funds transfer, including small payments and corporate cash management systems, as well as publicly accessible automated machines for currency withdrawal and retail account management, are global fixtures. However, the increased world-wide acceptance of the Internet as a delivery channel for banking products and services provides new business opportunities for banks as well as service benefits for their customers (BCBS, 2001). Notwithstanding the significant benefits of E-banking and its capabilities, it carries risks and challenges as which are recognised and need to be managed by banking institutions in a prudent manner.

The speed of change relating to technological and customer service innovation in E-banking is unprecedented. Historically, new banking applications were implemented over relatively long periods of time and only after in-depth testing. Today, however, banks are experiencing competitive pressure to roll out new business applications in very compressed time frames, often only a few months from concept to production. This competition intensifies the management challenge to ensure that adequate strategic assessment, risk analysis and security reviews are conducted prior to implementing new e-banking applications (BCBS, 2001).

E-banking increases banks' dependence on information technology, thereby increasing the technical complexity of many operational and security issues and furthering a trend towards more partnerships, alliances and outsourcing arrangements with third parties, many of whom are unregulated. This development has been leading to the creation of new business models involving banks and non bank entities, such

as Internet service providers, telecommunication companies and other technology firms (BCBS, 2001).

The Internet is ubiquitous and global by nature. It is an open network accessible from anywhere in the world by unknown parties, with routing of messages through unknown locations and via fast evolving wireless devices. Therefore, it significantly magnifies the importance of security controls, customer authentication techniques, data protection, audit trail procedures, and customer privacy standards (BCBS, 2001). Other E-banking related problems are user error, bad internet connections, access problems and security issues. Most of these problems happen less to outweigh its benefits.

2.9.1 E-Banking Fraud

Convenience is the key reason of why millions of people are opting out of traditional banking for online banking. Banks also enjoy providing the option of online banking because they can save on operating costs. Most internet banking fraud occurs in a two-step process. Firstly, the offender must get their hands on the customer's account information, like their username and password. Secondly, the offender will use that information to move his victim's money to another account or withdraw it to make fraudulent purchases. For the first step, offenders often employ one of the many popular fraud schemes to obtain personal information. These fraud schemes include, but are not limited to:

- “Over the shoulder looking” scheme: involves the offender observing his potential victim making financial transactions and recording the personal information used in the transaction.
- "Phishing" scheme: stems from the two words "password" and "fishing." It entails sending e-mail spams and mail supposedly from the consumer's bank as a way to obtain the consumer's personal information, social insurance number, and in this case their online banking username and password (Kaleem & Ahmed, 2008).
-

2.9.1.1 Security Measures to Avoid E-banking Fraud

Kaleem and Ahmad (2008) argued that in undertaken E-banking transactions, customers are always concerned about hackers and anti-social elements. Hacking enables the unethical hackers to penetrate the accounts of online bankers, and spend their money. Availability of confidential information which is just secured by a user name and password makes it vulnerable to such threats. Most of the banks try to make their sites secured by implementing latest network security software. Learn to keep your cards, documents and passwords safe, and monitor your accounts to safeguard yourself from bank fraud committed through identity theft. Most importantly, find out how to protect your personal information to avoid identity theft from happening to you (BSP,2006).

E-bankers should install virus scanners and keep them and their systems up-to- date especially PC banking. They should avoid practices that easily lead to security hazards in particular they should not start up arbitrary executable attachments received via electronic e-mail. Users should check fingerprints of certificates against the fingerprints that are (should be) given by the bank on official paper documents (Claessens et al., 2002; BSP, 2006).

2.10 Banking in Ethiopia

2.10.1 Banking History in Ethiopia

A reference to the Ethiopian history reveals that the first bank in the country, Bank of Abyssinia was founded during the regime of Emperor Menelik II in February 1905. Due to a foreign domination of its management (mainly the British), the then Bank of Abyssinia was forced to dissolve and in its place was established the Bank of Ethiopia in 1931 whose management was still left to foreigners due to the then lack of skilled manpower in the country. The Bank of Ethiopia was later replaced by the State Bank of Ethiopia soon after the war with Italy. The latter was the first bank in the country fully controlled and owned by the Ethiopian government. In the mean time, however, a number of foreign banks had opened their branches in the country, most of them with an interest to have control over the nation's economy. It was the State Bank of Ethiopia that gave rise to the present Commercial Bank of Ethiopia (CBE) and National Bank of Ethiopia (NBE). During the Dergue reign, CBE had remained as the only participant in the country's commercial banking sector.

However, following the 1991 takeover by the present government and accompanying encouragement of private investment, a number of private banks have emerged in the country's financial sector. Accordingly, Monetary and Banking proclamation No.83/1994 and the Licensing and Supervision of Banking Business No.84/1994 laid down the legal basis for investment in the banking sector. Consequently, shortly after the proclamation the first private bank, Awash International Bank was established in 1994. (NBE, 2009).

2.10.2 Review of Commercial Banking Practices in Ethiopia

In Ethiopia, 16 private and three state owned banks are operating til the end of Nov.2015 Despite a rapid increase in the number of financial institutions since financial liberalization, the Ethiopian banking system is still underdeveloped compared to the rest of the world. The use of checks is mostly limited to government institutions, NGOs and some private businesses. The common banking functions provided by public and private banks in Ethiopia are deposit mobilization, credit allocation, money transfer and safe custody. Banks in Ethiopia are unable to improve customer service, design flexible and customized products, and differentiate themselves in a market where product features are easily cloned. Ethiopian banking is unable to come from long way of being sleepy to a high proactive and dynamic entity.

The Ethiopian banking industry as a whole has a net work of 2,502 branches (Birittu, No.120), which is the lowest compared to the size of the country (1.1milion square km) and number of population (more than 90 million) and this shows that the number of population being served by a single branch stood at around 34,373(Birittu No. 120) With such highly scattered branch network and disintegrated working system it is hard to ensure efficient flow of financial resources and optimize the contributions of the entire financial system to the development processes. 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 information websites, which can help them to provide at least the information on financial services offered by them (NBE ,

2008/09). The gaint state owned commercial bank of Ethiopia had been issued only 1,806,876 debit cards, and has mobile banking user of 290,383 and internate banking user 9,781.00 till Dec. 2014(Birittu no. 120). This is a very samll number compared to the population size of the country and very scatterd physical branch of the banks. According to IMF data Ethiopia lag far behind from sub- Saharan African countries in terms of access of finance. (Birittu No.120)

Product of the Ethiopian Banking sector did not fully benefit from the current thecnology advancement. Out of ninteen fully oprating commercial banks there are only six of them comence mobile banking as per the directive No FIS/01/2012. This show that how far the banking indestry in Ethiopia backwarded in comparisen with the current world banking indestry advancement and outlate offerings.

2.10.3 Technologies Used in the Banking Sector

Nowadays, banks can use advanced technologies and internet, networks, payment cards, Automated Teller Machine (ATMs) and so on. This is one is of the prospects that enables banks to increase the efficiency and productivity.

The banking business has continued realizing the advantages of the cutting-edge information and communication technology. It has become essential to effectively implement the appropriate technology to have faster decision support and effective data integration in the financial intermediary process and also to look for other avenues to augment income.

Concerning the sectoral outlook, there are emerging initiatives to invest in electronic multi-service channels and also a tendency to optimally utilize the available resources in a consortium, which partly supports the effective implementation of the envisaged national payment system. Additionally, the ongoing efforts of emplacing the electronic laws focusing on the retail banking business are expected to have a positive effect on the growth of the payment card business. These are other opportunities for banks to expand their activities and ultimately realize a second-generation reform in the Ethiopian financial sector (Dashen, 2009/10)

In this regard, commercial Banks are still at the early stage to implementing modern banking technology and value-added service provision. Withstanding the prevailing long attachment of branch-based service channel, which is perceived to lead the society to

only value human interaction, Dashen Bank are succeeding in effectively implementing both the branch-based and impersonal banking service channels. Though the bank have gone through various challenges in popularizing and penetrating the market through electronic delivery channels, we are now at the level of encouraging recognition and flexibility to adopt the new habits as alternate service channels. The bank is able to reap better returns by way of increasing non-interest income from diversified service offerings and total solutions to the customers. (Dashen, 2009/10)

Anticipating a further reduction in the processing time and upholding service efficiency, Dashen bank attempting to continue introducing modern banking services and further leverage our technologies to provide the highest level of customer services and convenience, while keeping cost of access to the minimum. The bank resolutely pursue taking unique initiatives to reach for all relevant modern financial services and to up-hold the delivery of convenience banking on a 24/7 base.

Ethiopian banking system is one of the most underdeveloped compared to the rest of the world. In Ethiopia cash is still the most dominant medium of exchange and electronic-banking is not well known, let alone used for transacting banking business. 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. But unlike other E banking delivery channales all most all banks has installed ATMs at convenient locations for their cardholders. Currently, debit service only gives for Visa and master cards and clients of respective banks can withdraw cash and can buy goods and services by using the debit card. (Worku, 2010).

To realize high quality service delivery standards, Dashen Bank has kept on playing a leading role in the adoption of appropriate modern banking technologies. Accordingly, the Bank has launched its mobile banking service ‘Modbirr’. The service will entitle customers to conduct banking transactions using their mobile phones anytime, anywhere. (Dashen, 2009/10). In addition to dashen bank, Commercial bank of Ethiopia, Wegagen bank, united bank also implement Mobile banking. Commercial bank of Ethiopa starts internate banking to its customers in 2012 with the service of veiw report, check balalnce and print report. Till date this service does not have any improvement.

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. Currently most of the commercial banks in Ethiopia start to offer some of the futers of E banking to its customers. Even the internate banking offerd by the commercial bank of Ethiopa serve only with in the banks branch. Still cross bank transaction through E banking not yet starts in Ethiopia. But there is a start in relation to ATM service which offers by five private commercial banks jointly.

2.10.4 Challenges and prospects of E-Banking

2.10.4.1 Challenges

According to M. M. Rahman (2008) in Bangladesh despite huge demand from the business community as well as the retail customers particularly the urban customers, electronic banking (e-banking) is still at a budding state due mainly to a number of constraints such as unavailability of a backbone network connecting the whole country; inadequacy of reliable and secure information infrastructure especially telecommunication infrastructure; sluggish ICT penetration in banking sector; insufficient legal and regulatory support for adopting e- banking and so on. The concept of e-banking includes all types of banking activities performed through electronic networks. It is the most recent delivery channel of banking services, which is used for both business-to-business and business-to-customer transactions. However, in true sense, e-banking includes activities like payment of bills and invoices, transfer of funds between accounts, applying for a loan, payment of loan installments, sending funds to third parties via emails or internet connections regardless of where the client is located. Leow, Hock Bee (1999) state that the terms PC banking, online banking, Internet banking, telephone banking or mobile banking refers to a number of ways in which customer can access their banks without having to be physically present at the bank branch. Therefore, e-banking covers all these ways of banking business electronically. Since e-banking offers some smart services benefiting both banks and customers compared with traditional banking system, it has become imperative to make necessary room for banks to flourish e- banking. Among others, attractiveness of e-banking includes: it lowers

transaction cost; provide 24- hour services; ensure increased security and control over transactions; reduces fraud risk; performs higher volume of transactions with less time; increases number and volume of value payment through banks; allows remote transactions facilities that replace physical presence of a customer in a bank branch and; increases transaction speed and accuracy. On the other hand, traditional banking is time-consuming and more costly and therefore, e-banking is replacing traditional banking all over the world.

In addition, an exploratory study that was conducted in Zimbabwe by Chitura Tofara (2008) indicated that incompatibility with the existing system, cost of implementation, security concerns, lack of expertise, inadequate legislation and consumer acceptance are the major challenges of e-banking in the countries banking industry. The same chalges may also face by Ethiopian banking indestries to impliment the E banking facilites. But the good thing is that the benefite out weghted the chalenges in many parametres. Specially country like Ethiopia which have a huge potential customers for such service copled with a fast growing economy will be the main advantages of the banking service to offer different products with the helep of technology to their customers.

In addition, as investigated by Alhaji Ibrahim H. (2009) using exploratory study, the following are among the critical challenges of e-banking.

- **Lack of Technological Infrastructure** – the implementation of e-payment is been impeded by unavailability of ICT infrastructure. Most rural areas where majority of small and medium scale industries are concentrated have no access to internet facilities and ICT Equipment
- **Costs –** where available, the cost of ICT is a critical factor relative to per capital income. This makes the cost of entry higher compared to developed countries.
- **Regulatory and Legal Issues** – inexistence of proper legal and regulatory framework.
- **Non-readiness of banks and other stake holders (acceptability)** – even though some have shown impressive willingness, some banks are still not fully ready to for this new payment regime.

Resistance to changes in technology among customers and staff due to:

- Lack of awareness on the benefits of new technologies
- Fear of risk among banks
- Lack of trained personnel in key organizations and
- Tendency to be content with the existing structures

People are resistant to new payment mechanisms;

- Security – where disclosure of private information, counterfeiting and illegal alteration of payment data may be rampant.
- Frequent connectivity failure in telephone lines
- Frequent power interruption
- Wide spread Problem of internate connection

2.10.4.2 Prospects of E-Banking

According to M.s, M Rahman (2008) in Bangladesh e-banking is now a global phenomenon. Apart from the developed countries, the developing countries are experiencing strong growth in e-banking. The government's emphasis on setting up ICT park, raising allocation for developing ICT infrastructure, waiving taxes on computer peripherals and other measures including the automation program of banking sector and competition among the scheduled banks in improving customer services have accelerated the prospects of e-banking.

The fact that the over all commercial banks branch in Ethiopia compared to the size of the population and the area of the country is very minimal, it creats a good advantage to expand E banking facilities and reach the wide spread population of the country through vertual banking system.

CHAPTER THREE
METHODOLOGY

This chapter discusses the processes and techniques used in carrying out the study. It also gives a description of the respondents including information on the study population, the number of respondents and how they were selected. It also provides an outline of research design and the instruments for data collection. The methods adopted in the administration of the research instrument, data collection procedure, data analysis and measures used to ensure validity of the instrument used.

3.1 Study Area

The study was carried out in five selected commercial Banks in Adiss Ababa namely, Commercial bank of Ethiopia, Dashen Bank, Awash bank, Wegagen bank, and Zemen bank. These banks were chosen because various E-banking facilities or products including ATM services, mobile Banking, Internate Banking and the likes are available. Furthermore, they are closer to the researcher and access to information is also easy. The banking service has different departments which rely on the services of E-banking in a way to carry out their jobs.

3.2 Research Design

Research design is usually a plan or blue print which specifies how data relating to a given problem should be collected and analysed. It provides the procedural outlines for the conduct of any investigation.

In this study, the researcher adopted a qualitative study approach because it provided in- depth information to address the objectives. In all, 22 questionnaires were administered to the interviewees from the selected banks to solicit information concerning the E-banking. Part of the information was also gathered from reports in the bank concerning E-banking services.

An exploratory research design was considered the most suitable approach in view of the nature of the problem being investigated. According to Zikmund (2000), exploratory research is conducted to clarify and research a better understanding of

the nature of the problem. Consequently, it is appropriate to use when there is little prior knowledge of the problem being researched. Saunders & Thornhill (2003) argue that exploratory research is advantageous because it is flexible and adaptable to change.

3.3 Target Population

In research methods, population is the entire aggregation of items from which samples can be drawn. The populations of the present study consist of Head office of the selected banks.

3.4 Sampling and Sampling Technique

Sixteen (16) representative respondents were interviewed in each selected bank. They are from The E bankinh department of respective banks including the director of the department. The questionnaires were self administered to the respondents. Purposive sampling technique was used for staff in the IT department of the banks whiles simple random sampling technique was employed for other respondents. An informal interview was also conducted with some officers to gather information needed for the study.

3.5 Sources of Data

The study used data from primary sources. Primary sources of data included questionnaire administered to selected staff of the Head Offices of all sellected banks. The questionnaire was developed in consultation with the supervisor. The items were subsequently edited and vigilantly selected bearing in mind the research questions.

A total of 81 respondents out of a sample of 90 employees completed and returned their questionnaires. A copy of the questionnaire is attached as Appendix 1.

3.6 Data collection instruments

The researcher relied on primary data sources. The primary sources involved self-

administered questionnaires. The questionnaire was used because the researcher considered it to be more convenient as respondents could answer at their convenience (See Appendix 1). The questionnaire was developed by the researcher based on the research questions and the literature. Open-ended and closed – ended questions were used. The questionnaire began with an introductory statement, which specified the purpose of the research as purely academic. Respondents were encouraged to be objective in their responses since they were assured of confidentiality.

3.7 Data collection procedure

The consent of all respondents was sought before they were included in the study. At each staff category, convenient sampling was used to select respondents for the study. Each respondent was made to answer each question and then the appropriate answer ticked. Where the researcher is not sure of an answer, the researcher probed until answer provided is consistent. This procedure was repeated for each junior and senior staff respondents. To clear any doubts in the minds of respondents the purpose of the study was made known to respondents.

3.8 Data Analysis

Data from the structured self administered questionnaire was properly organized through data coding, cleaning and entering. Data processing was by statistical package for social sciences (SPSS). Descriptive statistics by percentages, figures and tables were generated from the software to establish relationship among variables. The relevant information was obtained in a standard form using tables, frequencies and percentages to analyze and interpret the information. The results were finally presented in tables. These were used to ensure easy understanding of the analyses.

3.9 Limitations

Collection of data in Ethiopia is very difficult. Problems such as the swearing of an oath of secrecy in the bank, indifference on the part of interviewees and respondents limited the objectives of the study. The absence or inaccessibility of

reliable records and reports on E-banking data for the past years also limited the research investigation.

Chapter Four

Results and Discussion

4.1 Introduction

To find the major out puts of the study and to give important recommendations, the collected data should be analyzed and discussed, accordingly the analysis and important findings from the collected data are discussed below.

4.2 Analysis and discussion related to Objective I

Table 1: Demographic characteristics of selected respondents

Bank	Year of establishment	Job position	experience	gender	Educational Status
Commercial Bank of Ethiopia	1963	Director of E banking	10+	F	2nd Degree
Awash international	1994	E banking Head	3	M	First Degree
Dashen bank(DB)	1995	Head E banking	5+	M	2nd Degree
Wegagen Bank(WB)	1997	E banking Manager	12	M	First Degree
Zemen Bank(ZB)	2008	Coordinater	2.5	M	First Degree

Source:From questionnaire

As shown in the above table almost all the banks except the single branch Zemen bank have an age of more than 15 years. As the researcher purposely selects, all the

respondents are from the department of E banking and at managerial position of the respective bank. Except two of the respondants all these respondents have an experience of more than five years. In addtion to the above listed respondants the questioner also distributed to additional Eighty five respondantes to each bakand in total it was 90 questioners was distributed.The non responsing rate out of the total questioner is 10%. The sampl saize giving a full picture about the current status of E banking status in Ethiopia. As mentioned erleayer the servey condacted in the Head offices of sellected banks which show the over all status of the bankinging activity through out the country.

Table 2: classification of banks according to their adoption of e-banking

Banks providing E-banking service	Year of commencement
Commercial bank of Ethiopia	2001
Wegagen Bank	2014
Dashen Bank	2006
Awash Bank	Under process
Zement bank	2009

Source:From Questionnaire

As reported in the above table among banks that are currently in operation in the country, four banks are providing banking products to their customer through electronic channels, the remaing awash Bank is under prossess to implement E banking to its customer in a full capacity. Even though awash bank is not providing e-banking, it gives ATM service only to its customer.Currently there are 16 private commercial banks and 3 state owend banks including the gainet commercial bank of Ethiopia are oprating in Ethiopa. Even though, the number of commercial banks in ethiopa is not that much many, the capacity and implimentaion of current technology in the industry is very insignificant compared to other banks in the worled in general and sub saharan countries

in particular.

In addition, the table also indicated that e-banking service is in an infant stage in the country since most banks are not yet adopted the system and even those banks that are currently providing the services are commenced the system after 2006 and are not fully adopted the technology because of different challenges.

Table 3: Current Practices and Extent of e-banking service in Ethiopia

Service offered	**CBE**	**Dashen**	**Zemen**	**Wegagen**	**Awash**
Balance enquiry	1	1	1	1	1
View account history	1	1	1	1	1
Order Pin code	0	0	1	0	0
Fund transfer with in the bank	1	1	1	1	0
Settel utility bills	0	0	0	0	0
Print accoun t statement	1	1	1	1	0
Send Message	1	0	0	0	0
Applay for loan	0	0	0	0	0
Open new account	0	0	1	0	0
Applay for credit card	0	0	0	0	0
Applay for insurance	0	0	0	0	0
Fund transfer across bank	0	0	0	0	0
Cash withdrawal	1	1	1	1	1
Applay for debit card	0	0	0	0	0

Source: From Questionnaire

- 0 for no
- 1 for yes

As shown above, Only Zemen bank offered 50 % of the listed services through its e banking chanales. Even the gainet satet owned commercial bank of Ethiopia offered only

six services out of listed 14 services. This implied that after all this year the banking indestry in Ethiopia still not strong enough to impliment the state of technology which aviliable to current banking indestries. Specialay in the current status of globalization which products are easly cloned the copitance of financial services in Ethiopia are questionable. Even zemen bank which is considered as modern and bank of the sate of technology offered only 7 services. As all of us know zemen bank was a single branch bank and it was considered as a vertual branched beank. Even thoug the bank open its second branch recently, its vision was renedered technological sepported service with its single branch.

Awash bank the largest and poiners of private bank is provied ATM service only. Undeniably, the largest state-owned bank, Commercial Bank of Ethiopia, is the pioneer in introducing ATM service for local users in 2001 with its fleet of eight ATMs located in Addis Ababa. Moreover, CBE has had Visa membership since November 14, 2005. However, due to lack of appropriate infrastructure, it failed to reap the fruit of its membership.

Despite, being the pioneer in introducing ATM based payment system and acquired Visa membership, CBE lagged behind Dashen Bank, which worked aggressively to maintain its lead in electronic payment systems. Dashen bank, a forerunner in introducing e-banking in Ethiopia, has installed ATMs at convenient locations for its own cardholders.

The younger single-branch Zemen Bank launched multi-channel banking (MCB) services in Ethiopia, which includes ATMs, Internet Banking, Banking through Call Centre and SMS banking. These services introduced October 22, 2009, makes Zemen Bank the first in Ethiopia to introduce fully IT supported and 24/7 customers services to local bank customers. It is currently the only bank in the country offering ATM; call Centre, SMS and internet banking services all at the same time. Zemen's new services would enable customers of the bank to get the services listed in the above table.

The launch of MCB is perfect for business owners, individuals and even local and national institutions. Whether it's monitoring business account activities while away on a business trip, personal finance management at any time of the day, or the need to be informed with alerts/notifications based on one's account activities, bank users need to have more accessible ways of communicating with their bank.

The Multi-Channel Banking services were designed for bank customers that require easy access to the bank's facilities while they are On-The-Go. Zemen Bank designed and equipped each of the new services with a user friendly Amharic and English language support. Zemen Bank customers can access their account from their PC/Laptop, Mobile Phone, ATM, and through a direct phone call to the dedicated and customer friendly Zemen Bank Call Centre. The Multi-Channel Banking Services are free of charge to all Zemen Bank customers. ATM cards are also issued immediately and free of charge to all customers who open an account with Zemen Bank (Business in Ethiopia, 2009).

Finally, with respect to service charge, as per Dashen and Commercial bank of Ethiopia, customers being charged minimal amount based on amount of transaction on ATM service and point of sale terminals. However, all the services are free of charge at Zemen Multi channel banking services.

In general, as shown in the above table the most dominant e-banking channel among those banks, which are currently providing the service is ATM card, which is the first generation of electronic banking channel, so from this it is possible to conclude that even banks that are providing the service did not sufficiently adopted the latest e-banking channel such as internet and mobile banking

Table 4: operational issues related to e-banking service

S.No	Operational Issues		Banks			
		CBE	Dashen	Awash	Wegag	Zeme
1	Are links and interactive program's check for accuracy and functionality?	1	1	1	1	1
2	Are security measures in place to prevent the web site information from being altered?	1	1	1	1	1
4	Does the bank have procedures in place for when there is an interruption in service of e- banking for customers?	1	1	1	1	1
5	Is electronic banking training provided to employees?	1	1	1	1	1
6	Are any policies and procedures in place to address activities beyond the traditional trade area?	1	1	1	1	1
7	Doe the bank have a target market or trade area for e-banking.	1	1	1	1	1

Source: From Questionnaire and Interview

- 1 stand for Yes
- 0 stand for No

The above operational issues listed in the table related to e-banking service are discussed below:

As per the data collected among banks that are currently providing the service, all banks are checking their links and interactive programs periodically for its accuracy and functionality since this helps banks to take corrective measures as soon as an

operational error is happened in the system.

To prevent the web site information from being altered, security measures like firewall and secure socket layer (SSL) are taking by all banks.Even though, it is not satisfactory to make use of their passbook and checkbook are the procedures in place for when there is an interruption in the service of e-banking for customers. In wegagen bank there is a file over DR (disaster recovery) site when ever service is interapted from the pirmary source it will swicth to the DR Site. The DR Site is a file soureces which work ofline and update it selef whenevre the service resium.

Providing basicand refreshment training to employees help banks to provide quick, up to date and secured services to the customer. With this regard, even if it is not sufficient as explained by the respondents during interview, all banks are providing e-banking training to their employees. Some of the staff do not have sufficent knowldge about e banking.

Addressing banking activities beyond the traditional trade area is one among the different driving forces of delivering banking products to the customer through electronic channels. With this regard, all banks have policies and procedures in place to address this activity. Using internet and mobile as a channel of service delivery is the implication of this activity because these channels can able banks to provide service for the customer at any place rather than branch based traditional service.

Finally, with respect to target market or trade area, all banks have target market area for their service. This can easly checked by the location to which Atm machine located and types of card offerings by the banks to different social group based on different status. In addition to this when each bank impliment a given E banking service, it have a targate social group to whom expected to use a given service. For this Mobile and agent banking is one indication.

Table 5.Upseling of Banking service using E banking Facility

	Strongly agree	Agree	Nutral	Disagree	Strongly Disagree
Paying utility Bills	30%	0%	5%	60%	5%
Credit card	30%	0%	5%	40%	25%
Online Account Review	60%	30%	0	5%	5%
Application for Loan	10%	5%	5%	50%	30%
Fund transfer	80%	10%	5%	5%	0%
Customer loyality Program	30%	5%	55%	10%	0%

Sources: From Questioneri

The above table shows that the respondats that wether e banking has a rol to expand the bank service and increase its customer. As indicated above Internate banking has minimal impact to expand services like paying utility bill, credit card facility, Loan aplicattion and customer loyality program whereas for online account review and Fund transfer services expand along with the implimentaion of internate banking.

In conection to opraetional cost, E banking reduce oprational as well as branch eration costs. On this regard all respondants agree with that e banking is cost efficent than paper based banking.

4.3 Analysis and Discussion Related to Objective II

Table 6: Benefits realized by banks from the adoption of e-banking service

CBE	Enhanced image, improvement of organizational efficiency, and load reduction
DB	Attracting high value customers , enhanced image, improvement of organizational efficiency, high foreign currency earning, low risk of cash management and load reduction

Wegagen	Attracting high value customers , enhanced image, and improvement of organizational efficiency
ZB	Attracting high value customers, enhanced image, larger customer coverage, improvement of organizational efficiency, better monitoring of their customer base, and load reduction

Source:From Questionnaire

As reported in the above table, all of the banks (100%) believe that providing banking products to the customer by using electronic channels have the benefit of building good image, load reduction that enables bank employees to focus on strategic issues instead of focusing on traditional activities and improvement of organizational performance through cost reduction (by avoiding paper work and by reducing the number of employees required). In addition, adopting e-banking service as a means of service delivery have also the benefits as stated by each respective bank in the above table. In general, according to the respondents' response as listed in the above table, it is possible to conclude that delivering banking products through electronic channels made the bank benefited.

Even though, those banks that are currently providing e-banking service to their customer can get the different benefits as listed in the above table, the assumption of perceived relative advantage, perceived organizational performance, perceived customer relationship and perceived ease of use are the major perceived advantages of e-banking adoption among those banks which are not yet adopted the technology but are planned to adopt the system in the near future.

4.4 Analysis and Discussion Related to Objective III

Table 7: Driving forces that initiate banks to adopt e-banking services

Bank	Driving
CBE	Rapidly changing customers' needs and preferences, desire to improve organizational performance. desire to improve the relationship with customers, desire to reduce transaction cost, desire to cover wide geographical area, desire to build organizational reputation and desire to satisfy customers
DB	Existence of high competition in the banking industry , desire to improve organizational performance, desire to improve the relationship with customers, desire to reduce transaction cost, desire to cover wide geographical area, desire to build organizational reputation, desire to satisfy customers, to keep the international banking standard and rapidly changing customers' needs and preferences
WB	Desire to improve organizational performance, desire to improve the relationship with customers, desire to reduce transaction cost, desire to cover wide geographical area, desire to build organizational reputation, desire to satisfy customers
ZB	Existence of high competition in the banking industry, desire to improve organizational performance, desire to improve the relationship with customers, desire to reduce transaction cost, desire to cover wide geographical area, desire to build organizational reputation, desire to satisfy customers and rapidly changing customers' needs and preferences

Source: From Questionnaire

As depicted in the above table, even though there are some sort of difference regarding

the driving forces that initiate for the adoption of e-banking service in each bank, the existence of high competition in the banking sector, rapidly changing customers' needs and preferences, desire to improve organizational performance, desire to improve the relationship with customers, desire to reduce transaction cost, desire to build organizational reputation and desire to satisfy customers are the major common driving forces that initiate banks for the adoption of e-banking as a means of service delivery to their customers.

Therefore, from this it is possible to conclude that it is due to the existence of some driving forces in which banks are initiated to provide modern banking services to the customer. In addition, the table also implied that there are common driving forces that lead all banks to provide e-banking services.

4.5 Analysis and Discussion Related to Objective IV

Table 8: Challenges of e-banking service in Ethiopia

Bank	Major
AIB	Chances of risk, lack of suitable legal and regulatory framework, lack of government initiation or lack of government prioritization, absence of financial networks that links different banks, low level of internet penetration and poorly developed telecommunication infrastructure, high cost of internet and security issues

WB	High installation cost, chances of risk , lack of suitable legal and regulatory framework, high rate of customer illiteracy, non-readiness of banks to adopt the system, lack of government initiation or lack of government prioritization, absence of financial networks that links different banks, low level of internet penetration and poorly developed telecommunication infrastructure, high cost of internet and security issues
CBE	Chances of risk , lack of trained and efficient staff in e-banking context, lack of suitable legal and regulatory framework, absence of financial networks that links different banks, low level of internet penetration and poorly developed telecommunication infrastructure , high cost of internet and security issues
DB	Chances of risk , lack of trained and efficient staff in e-banking context, lack of suitable legal and regulatory framework, absence of financial networks that links different banks, low level of internet penetration and poorly developed telecommunication infrastructure, high cost of internet and security issues
ZB	security issues, lack of public awareness on the use of e-banking service

Source: From Questionnaire and Interview

According to the above table even though there is some sort of difference among the challenges in each bank, chances of risk (such as **operation, security and reputation risk** as stated by all banks), Lack of suitable legal and regulatory framework that govern and regulate e-banking transaction in the country, absence of financial networks that links different banks, Lack of government initiation or lack of government prioritization , high cost of internet, Low level of internet penetration and poorly developed telecommunication infrastructure are the major common challenges for the adoption of e-banking service in the country's banking

industry. Especially with respect to ICT infrastructure, even though ETC is expanding its internet and mobile network services, The quality and sestanabilty of the network system is still very poor. The net work access in Ethiopia is limited to majour city. More than 80% of the country population is an agrarian population and located in the country side rural raeas. In those areas the aviliability and effecency of network is very very limited. This problem copled with low computer illitraecy rate has a negative impact on the spred and development of E banking in the Ethiopain banking Indestries.

Since the Ethiopian banking system is heavily dependent on the state-owned ETC to perform transactions and connect branches to their main office, Ethiopia Telecommunications Corporation's (ETC) failure to offer efficient services, is limiting banking services.

Finally, even though it may be temporary, frequent power interruption is another challenge that affects the provision of e-banking service among those banks that are currently providing the service. Therefore, from the above discussion it is possible to conclude that there are challenges for the adoption of e-banking service among those banks that are not yet adopted the system and for the sufficient adoption of the service from the viewpoint of those banks that are currently providing the service in the country.

4.6 Analysis and Discussion Related to Objective V

Table 9: prospect of e-banking services

Bank	Opportunitie
CBE	Late adopter opportunities, commitment of the government to facilitate the expansion of ICT infrastructure, improvement in the banking habit of the society , sustainable economic growth in the country, increment of tourist inflow to Ethiopia and willingness among banks to cooperate in building infrastructure

DB	Late adopter opportunities, commitment of the government to strengthen the banking industry, commitment of the government to facilitate the expansion of ICT infrastructure, improvement in the banking habit of the society, sustainable economic growth in the country, increment of tourist inflow to Ethiopia and willingness among banks to cooperate in building infrastructure
ZB	Late adopter opportunities, commitment of the government to strengthen the banking industry, commitment of the government to facilitate the expansion of ICT infrastructure, improvement in the banking habit of the society, sustainable economic growth in the country, increment of tourist inflow to Ethiopia and willingness among banks to cooperate in building infrastructure
WB	Late adopter opportunities, commitment of the government to facilitate the expansion of ICT infrastructure, improvement in the banking habit of the society, sustainable economic growth in the country, increment of tourist inflow to Ethiopia and willingness among banks to cooperate in building infrastructure
AIB	Late comers opportunities, commitment of the government to strengthen the banking industry, commitment of the government to facilitate the expansion of ICT infrastructure, improvement in the banking habit of the society, sustainable economic growth in the country, increment of tourist inflow to Ethiopia and willingness among banks to cooperate in building infrastructure

Source: From Questionnaire and Interview

The above table indicated the existence of some difference among the respondent of each bank regarding the different existing opportunities in the country for the

adoption of e- banking. But late adopter opportunities, improvement in the banking habit of the society, sustainable economic growth in the country, increment of tourist inflow to Ethiopia, commitment of the government to facilitate the expansion of ICT infrastructure and willingness among banks to cooperate in building infrastructure are common to all banks. With respect to cooperation among banks, the memorandum of understanding signed by three private commercial banks to launch an Automated Teller Machine (ATM) and Point of Sale terminal (POS) network in February 2009 is welcoming strategy to improve electronic payment system in Ethiopia.

The agreement is the first significant cooperation between competing banks in Ethiopia, which others should be encouraged to follow as there is no single bank in Ethiopia that can afford to provide extensive geographical coverage and access. In addition, the commitment of the government to strengthen the banking industry is a good opportunity for the adoption of e-banking service in the country because currently the national bank of the country is developing a project in cooperation with the World Bank in order to modernize the payment system of the country (Abiy D., 2008).

ETC has been exerting utmost efforts toward expansion of Next Generation Network (NGN) Information and Communication Technology (ICT) in the country.
Expansion of the NGN Information and Communication Technology will enable the Corporation provide efficient and modern telecom services to the society and accelerate the development of school-net, woreda-net, agri-net, distance education, e-banking, e-medicine, dependable TV broadcasting, and other related services in Ethiopia. In addition, in order to cope with the fast growth in the complexity of networks, services and their customer base, ETC has realized the need of a centralized National Network Operation Center (NNOC) that can improve the network performance and lower the time needed to locate and maintain faults. Furthermore, it is able to ensure customers experience service quality and perceive the value of delivered service, and it also improves operational readiness for short time-to-

market of new innovative services (Ma Zhiyong, Tewodros Hailemeskel, Li Xiaojin, 2008).

Therefore, from the above discussion it is possible to conclude that there are good opportunities for the adoption of e-banking service in Ethiopia.

Chapter Five

Conclusion and Recommendation

5.1 Introduction

Information technology is considered as the key driver for the changes taking place around the world. Due to a pervasive and steadily growth of information and communication technology, the world banking industry is entering into new phenomena of unprecedented form of competition supported by modern information and communication infrastructure. The rate at which e-banking technology is adopted by banks constitutes an important part of technological change. With this regard currently, our banks are in an infant stage

This chapter as a whole presents the concluding remarks for the main findings in chapter four and important recommendations as per the main problems investigated in this research study respectively.

5.2 Conclusions

Based on the analysis made in chapter four the following conclusions are made on the assessment of the opportunities and challenges for the adoption of e-banking service in Ethiopia.

ATM, Credit Card and debit card services, internet banking, mobile banking and other electronic payment systems are at infant stage. The most dominant e-banking channel among those banks, which are currently providing the service is ATM card, which is the first generation of electronic banking channel, so from this it is possible to conclude that even banks that are providing the service did not sufficiently adopted the latest e-banking channel such as internet and mobile banking.

In view of the extent of e-banking adoption, majorities of the banks have not adopted this technology and are using traditional services to reach and serve their clients. In general, banks in Ethiopia are trailing behind in acquiring the required quality of banking services to effectively compete in the global market.

The main practice of e-banking among those banks that are providing the service have been for, balance inquiry, cash withdrawal, statement printing, PIN change, purchase goods or services, accessing his/her accounts 24*7 and funds transfers among others.

Adoption of e-banking service have the benefit of attracting high value customers, enhanced image, larger customer coverage, improvement of organizational efficiency, and load reduction etc from the view point of the bank.

Important perceived benefits of using e-banking among those banks that are not currently providing the service but are planned to adopt the system were relative advantage, organizational performance, customer relationship and perceived ease of use.

As per the findings, the major driving forces that initiate banks to deliver banking services to the customer using electronic channels are existence of high competition in the banking industry, rapidly changing customers' needs and preferences , desire to improve organizational performance, desire to improve the relationship with customers, desire to reduce transaction cost, desire to cover wide geographical area, desire to build organizational reputation, desire to satisfy customers and to keep the international banking standard among others.

Chances of risk, lack of trained and efficient staff in e-banking context, lack of suitable legal and regulatory framework, absence of financial networks that links different banks, low level of internet penetration and poorly developed telecommunication infrastructure, high cost of internet and security issues are the main

challenges for adoption of e-banking in Ethiopia. In addition, lack of customer awareness regarding the service is another challenge in order to provide the service. Therefore, from this, it is possible to conclude that there are challenges for the adoption of e-banking service among those banks that are not yet adopted the system and for the sufficient adoption of the service from the viewpoint of those banks that are currently providing the service in the country.

Finally, Late adopter opportunities, commitment of the government to facilitate the expansion of ICT infrastructure, improvement in the banking habit of the society, sustainable economic growth in the country, increment of tourist inflow to Ethiopia and willingness among banks to cooperate in building infrastructure are among the major opportunities for the adoption of e- banking in the country. Therefore, from this, it is possible to conclude that there are good opportunities for the adoption of e-banking service in Ethiopia.

5.3 Recommendation

As per the findings from the analysis of the collected data; the following recommendations are forwarded in order to promote and develop viable e-banking service in Ethiopia. .

Ongoing efforts by the Ethiopia telecommunication corporation to expand ICT infrastructure should be encouraged by the government and gradually the corporation should try to reduce the service charge.

The lack of legal and regulatory framework for e-banking services has discouraged banks from introducing these innovative payment instruments or where they have introduced, has put them at legal risk. Electronic payments are not recognized in Ethiopia legal system. Thus, government should issue laws that govern electronic payment. This helps financial service providers introduce innovative products currently in use around the world which are cost effective, efficient and safe.

The only Directive which deal with E bankining is a directive which is issued by the National bank of Ethiopa which is “Agent and Mobile banking service Directive # FIS/01/2012” There fore the national bank of Ethiopia should come up with a better and advanced regulations and directives to facilitate the advancement of banking technology in the country.

The National Bank of the country should prepare various capacity building activities for banks regarding e-banking operation and provide incentives for banks to invest rigorously on ICT and use of e-banking.. .

Security risk is the major challenge for the adoption of e-banking service in the banking industry. Therefore, the national bank of the country in collaboration with all banks in the country should prepare typical security technologies applicable to control system networks such as firewall, intrusion detection and prevention etc.

Banks that are currently providing the service should promote the system in order to raise public awareness on the use of e-banking service.

REFERENCES

- Abiy D. (2008, March, 17). Capital, weekly news paper, Addis Ababa
- Abor, J. (2004). *Technological Innovations and Banking in Ghana*: *An evaluation of customers' perceptions*. Accra, University of Ghana, Legon.
- Adriana, C. (2006). Forms of electronic banking. *Journal of internet banking*, Vol. 16(6), Bank of Slovenia, Narodna
- Ainin, S., Lim C.H., & Wee, A. (2005). Prospect and Challenges of E-banking in Malaysia. *The Electronic Journal on Information Systems in Developing Countries*. . 3:1, pp. 5-19.
- Aladwani, A. M. (2001). *Online banking: a field study of drivers, development challenges and expectations.* International Journal of Information and Management, 2 (1), 213–225.
- Balachandher K., G., Santha V., Norhazlin I., & Rajendra P., (2001). *Electronic banking in Malaysia*: A note on Evolution of Services and Consumer Reactions.

  banking. Internet Research, 10, 1:7–18.
- Basel Committee on Banking Supervision (2001). *Risk management principles for electronic banking.* Bank for International Settlements.
- BSP, (2006). *Electronic banking consumer awareness program for internet products and services.* Circular No. 542, Appendix C.
- Business in Ethiopia, Dashen bank payment news, Dashen bank (www.dashenbanksc.com), retrieved on April, 2010,
- Business in Ethiopia, Zemen Bank Launches Multi-Channel Banking in Ethiopia, Zemen bank (www.zemenbank.com), retrieved on April, 2010,
- CBK. (2008). Payment Systems in Kenya: Central Bank of Kenya annual financial report for the year 2008, Kenya.
- Cheng, T. C. E., (2006). *Adoption of internet banking:* An empirical study in Hong Kong." Decision Support Systems, vol. 42, pp. 1558-1572.
- Chorofas, D. N. (1988). *Electronic funds transfer*. Butterworth's, London, UK.
- Claessens, J., Dem. V., De Cock, D., Preneel, B. & Vandewalle. J. (2002). *On the security of todays online electronic banking systems*. Computers & Security Vol. 21:3:257-269
- Daniel, E., & Storey, C. (1997). *On-line banking: Strategic and management challenges pergamon.* PII: 4-5 (S0024-63010007).

- Federal Trade Commission, FTC, (2006) FTC Facts for Consumers.
- Gikandi J. W., & Bloor, C. (2010). *Adoption and effectiveness of electronic banking in Kenya: Electronic commerce research and applications.* 9: 277–282 helpwithmybank.org/dictionary/index.html accessed on 30/3/2011
- Ibrahim, E.E., Joseph, M & Ibeh, K.I.N (2006). Customers‟ perception of electronic service delivery in the UK retail banking sector. *International Journal of Bank Marketing*, Vol. 24, No. 7, pp. 475-493.
- Kaleem, A & Ahmad, S. (2008). Bankers‟ Perceptions of Electronic Banking in Pakistan. Journal of Internet Banking and Commerce, Vol. 13, No.1.
- Kolodinsky, J., & Hogarth, J. M. (2001). The adoption of electronic banking technologies by American consumers. Consumer Interests Annual, 47, 3: 1–9.
- Liao, Z., & Cheung, M.T. (2002). *Internet-based e-banking and consumer attitudes: an empirical study*. Information & Management 39: 283–295
- Lockette, A. & Littler, D. (1997). *The adoption of direct banking services*. Journal of Marketing Management. 13:791-811
- Ma Zhiyong, Tewodros Hailemeskel, Li Xiaojin (2008). National Network Operation Center for Ethiopian Telecommunications Corporation
- Mavri, M & Ioannou, G. (2006). Consumers‟ Perspectives on Online Banking Services. *International Journal of Consumer Studies*, Vol. 30 (6), pp.552–560. Mols, N. P. (2000). *The internet and services marketing*: *The case of Danish retail*
- Nyangosi, R., Arora, J. S., & Sing, S. (2009). The evolution of e-banking: a study of Indian and Kenyan technology awareness. *International Journal of Electronic Finance*. 3, 2: 149–169.
- Riyadh A. N., Akter S. M., & Islam N. (2009). *The Adoption of E-banking in developing countries:* A Theoretical Model for SMEs. International Review of Business Research Papers (6) 5, Pp.212-230.
- Rose, P. S. (1999). *Commercial bank management,* ($4^{t)}$ ed)., Irwin/McGraw-Hill, Boston, USA.
- Shih, B. & Fang, K. (2004). *The use of decomposed theory of planned behaviour to study internet banking in Taiwan.* Internet Research, 3(14), 213-223
- Simpson, J. (2002). *The impact of the internet in banking: Observations and evidence from developed and emerging markets.* Telematics and Informatics.19, 4, 315– 330.
- Thulani, D., Tofara, C & Langton, R. (2009). Adoption and Use of Internet Banking in

Zimbabwe: An Exploratory Study. *Journal of Internet Banking and Commerce*, Vol. 14(1).

Annex 1

QUESTIONNAIRE

Addis Ababa University, Collage of Business and Economics

Department of Accounting and Finance

MSc in Accounting and Finance Final Thesis Questionnaire.

The researcher is a student of the Addis Ababa Univercity, pursuing a master's degree programme in Finance. I am undertaking a dissertation on the topic: E ***banking In Ethiopia Chalenge and prospect.***

Important Note: Information supplied by you will be treated as strictly confidential. Identity of position will not be revealed. Information will be used for only academic work. . I greatly appreciate your co-operation.

Student Name: Mattewos Kinfe

Thesis Title: *Challenges and prospect of E Banking in Ethiopia*

Bank Name: _____

Position: _____

Year of Estabilishment: _____

Work Expriance: _____ years

Educational status

College Diploma □ First digree □ Second degree (Masters) □ PHD □

1. Does your bank offer Internet or online banking facilities to customers?

Yes □ No □

2. What year did your bank commenced the use of Internet banking?

_____

_____

3. What banking activities does your bank offer via online banking?

	Yes	No
1. Check Balance	☐	☐
2. Veiw account historical records	☐	☐
3. Order Pin code,	☐	☐
4. Transfer Fund with in the same bank	☐	☐
5. Transfer Fund across banks,	☐	☐
6. pay bills,	☐	☐
7. Order/print account statement,	☐	☐
8. Send message,	☐	☐
9. Applay for loan,	☐	☐
10. Open account,	☐	☐
11. Applay for credit/debit cards,	☐	☐
12. Applay for Insurance	☐	☐

4. Was huge investment involved in providing Internet banking services to your customers?

- One Time Investment _____
- Running cost (Estimated yearly average) _____

5. Will you say Internet banking has made it possible for your bank to expand its services to other areas of operations the bank was not initially offering?

	Stgly agree	agree	nutral	disagree	St. disagree
- Paying utility Bills	☐	☐	☐	☐	☐
- Credit Card	☐	☐	☐	☐	☐
- Online account review	☐	☐	☐	☐	☐
- Application for Loan	☐	☐	☐	☐	☐
- Fund transfer	☐	☐	☐	☐	☐
- Customer loyality program	☐	☐	☐	☐	☐

6. In terms of operations and transaction costs, would you say Internet banking has increased or decreased costs?

_____

_____

_____

_____

7 What do you think are the factors influencing adoption of E-banking in E t h i o p i a ?

	Stgly agree	agree	nutral	disagree	St.

	disagree				
- IT infrasrtractures	☐	☐	☐	☐	☐
- Attitude of the socity towards E banking	☐	☐	☐	☐	☐
- The legal frame work of the country	☐	☐	☐	☐	☐
- Economical development of the country	☐	☐	☐	☐	☐
- Capacity of financial institiutions	☐	☐	☐	☐	☐
- Computer litrecy rate	☐	☐	☐	☐	☐

Tick Yes or No

8. Has the data made available to the bank by Internet banking helps the bank?

	Yes	No
a. To tailor services to customers' needs?	☐	☐
b. To easy and facilitates loan processing procedure to customers?	☐	☐
c. Help to increase loan provision to customers?	☐	☐
d. Reduce cost for adverts since services offered are always available on the WWW page?	☐	☐

9. If your organization started offering electronic banking services (or if you say yes for the above question):

A. Are links and interactive programs checked for accuracy and functionality?

A. Yes B. No if no, why?

_____

_____

B. Is security measures in place to prevent the web site information from being altered?

A. yes B. no if yes, what are they?

_____

_____

C. does the bank have procedures in place for when there is an interruption in service of e- banking (internet banking) for the customer?

A. yes B. no if yes, describe the procedures

_____

_____

D. Is electronic banking training provided to employees?

A. yes B. no

E. does the bank has a target market or trade area for e-banking?

A. yes B. no if yes what is it?

_____

_____

F. is any policies and procedures in place to address activities beyond the traditional trade area?

A. yes B. no if yes what are they?

G. what are the different benefits does the bank is realized by using e-banking channels?

	Stgly agree	agree	nutral	disagree	St. disagree
I. Attracting high value customers	□	□	□	□	□
II. Enhanced image	□	□	□	□	□
III. Increased revenue	□	□	□	□	□
IV.Larger customer coverage	□	□	□	□	□
V. Cost reduction	□	□	□	□	□

VI. Improvement of organizational efficiency □ □ □ □ □

VII. Better monitoring of their customer base □ □ □ □ □

Others (explain)

_____

_____

H. If there is a difference in the implimentation of e-banking service among the branches, what is the reason behind?

_____

_____

I. What are the different electronic channels through which the bank is delivering the service to its customers? You can choose more than once!

	Yes	No
A. Internet	□	□
B. ATM	□	□
C. Tele banking	□	□
D. Mobile or SMS	□	□

E. Others _____

J. What are the different ATM and other cards available? You can choose more than once.

	Yes	No
A. Credit Card	□	□
B. Salary Card	□	□

C. Visa Card	☐	☐
D. Student card	☐	☐
E. Master card	☐	☐
F. Debit card	☐	☐
G. Other _____		

K What options are available to the customer once they have accessed e-banking? You can choose more than once!

	Yes	No
A. Fund transfer	☐	☐
B. New account set-up	☐	☐
C. Insurance premium payment	☐	☐
D. Credit application	☐	☐
E. Balance inquiry	☐	☐
F. Bill presentment and payment	☐	☐
G. Cash withdrawal	☐	☐
H. Purchase of goods and services	☐	☐
I. Utility payment	☐	☐
J. Others/ mention it		

L. Do you think that the bank has sufficiently implimented the system?

A. Yes B. No

M Rate the risks which involved because of adopting /using electronic channels for delivering banking services ?

	Very Low	Low	Average	High	Very High
A. Transaction/oprational Risk	☐	☐	☐	☐	☐
B. Security Risk	☐	☐	☐	☐	☐
C. Compliance/legal risk	☐	☐	☐	☐	☐
D. Reputation Risk	☐	☐	☐	☐	☐
E. Strategic Risk	☐	☐	☐	☐	☐
F. Others _____					

N - What measures you are taking to minimize this risk?

_____

_____

_____

_____

_____

Thank you!

Annex 2

Interview Questioneri for National Bank oF Ethiopia

1. Is there any guiding ruel to commercial banks to adopt E-banking?
2. What is the Pre set goal to adopt E-banking?
3. How to control transaction made in E-banking specialy in connection of Money Laundery?
4. What is the main advantage to which expected to get by adoption of e-banking?
5. How the legal frame works in financial sector facilitate the adoption of E-banking?
6. Why the service of E-banking not developed as its age in Ethiopia?
7. Is there any faverable ground to adopt E-banking in ethiopia?
8. Do you Belive that the exsiting IT infrastracture is enough to provide E-banking without interaption?
9. Is there any major reported security breach in connection with E-banking?

Annex 3

Interview Questioneri for Selected commercial Banks

1. Do you offer E-banking service to your customer?
2. Why? Why not?
3. What benefite the bank can maximize by offering E-banking service
4. How do you evaluate the legal ground towards E- banking service?
5. Do you belive E-banking is safer than paper based banking?
6. Which E-banking outlet you offer to your customer?
7. Does E banking bring the benefit that you aspire from it?
8. What is the majour chaleng to E-banking?
9. What possible opportunities are there to E banking?
10. Do you think there is enough infrastracture to offer E banking service in Ethiopia?