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***An Assessment of E-Banking Service and Accessibility: the case of
Commercial Bank of Ethiopia North Addis Ababa district, Addis Ababa
District***

BY

YOHANNES ZINGER GETANEH

ADVISOR

ELIAS BERHANU (PH.D)

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This is to certify that this thesis is prepared by Yohannes Zinger Getaneh.”*An Assessment of E-Banking Service and Accessibility: The Case of Commercial Bank of Ethiopia*” with special reference to *North Addis Ababa District*, Addis Ababa City Government Administration, Ethiopia and submitted in partial fulfillment of the requirement for the Degree of Masters of Art in Public Management and Policy (MPMP), complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

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Name Yohannes Zinger Getaneh

Signature student_____

Date_____

ID. No._____

This thesis entitled” *An Assessment of E-Banking Service and Accessibility: The Case of Commercial Bank of Ethiopia North Addis Ababa District*” by Yohannes Zinger Getaneh submitted for defense with my approval as his research advisor

Signature

Advisor’s name

Date

Abstract

With technological advancement, it was imperative that banks and their customers switch to the new ways of banking called e-banking. This study therefore investigated the challenges of adopting the use of e-banking by customers. Using a descriptive study, this study collected primary data from 235 respondents from the banking sector in Commercial Bank of Ethiopia. The respondents were selected using a purposive sampling technique. It was concluded that making information available would increase the number of customers using e-banking. The researcher therefore recommended that Banks embark on information dissemination on the use of e-banking, benefits and cost of e-banking and that though security did not significantly affect e-banking usage, the bank should guarantee security of the accounts.

Some of the opportunities that initiate E-Banking technology are Commitment of the government to strengthen the banking industry; to Support green development strategy, the presence of high demand from customers; Improvement in the banking habit of the society and Commitment of the government to facilitate the expansion of ICT infrastructure.

As a whole, to make the banking industry better service provider and accessible in all geographical locations technically equipped and experienced professionals play pivotal role by creating a conducive atmosphere between CBE and its customers, between the bank and the government bodies for legal purposes and to expand its infrastructure with least cost and better networking.

Key words:-Banking industry, E-banking service & accessibility, Mobile Banking, ATM, POS, Internet Banking

Table of Contents

Abstract	i
ACKNOWLEDGEMENTS	iv
List of Tables	v
1. INTRODUCTION	1
1.1. Background of the study	1
1.2. Statement of the Problem	5
1.3. Research questions	6
1.4. Objectives of the study	6
1.4.1. General objectives	6
1.4.2. Specific objectives	7
1.5. Significance of the Study	7
1.6. Scope of the Study	8
1.7. Organization of the final research report	8
CHAPTER TWO	9
2. LITERATURE REVIEW	9
3. RESEARCH METHODOLOGY	30
3.1. Introduction	30
3.2. Research Design	30
3.3. Research Approach	31
3.4. Data Collection Method	31
3.5.2. Sampling frame and sampling location	32
3.5.3. Sampling technique	32
3.5.4. Sample Size Determination	32
3.6. Source of Data Collection	34

3.7.	Data Collection Instrument	35
3.8.	Variable and Measurement.....	35
3.9.	Data Collection Procedure	36
3.10.	Data Analysis Method	36
3.11.	Validity and Reliability	36
3.11.1.	Validity-	37
3.11.2.	Reliability	37
3.12.	Ethical consideration	38
4.	RESULTS AND DISCUSSIONS.....	39
4.1.	Overview	39
4.2.	Demographic Information of the Respondents	40
4.3.	Descriptive statistics analysis of e-banking service and accessibility.....	41
4.3.2	The Potential Strength Affect of E-Banking Service and Accessibility With Regard to Technology	42
5.4	<i>Suggestions for Further Studies</i>	59

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List of Tables

<u>Table 1. Functionalities of ATM</u>	13
<u>Table2. Proportion of sample distribution and collection(Source: AtoTegegnwork Wolde-Human Resource officer at CBE}</u>	34
<u>Table3.The research related questions (Closed ended and open ended questioners) have four directions</u>	36
<u>Table 4. The reliability test Cronbach’s Alpha coefficient for the questioners</u>	38
<u>Table5. Demographic characteristics of the respondents (Source: Primary Data, Collected by the Researcher, 2020, + = above)</u>	40
<u>Table6. The potential strength affect of e-banking service and accessibility with regard to technology</u>	42
<u>Table 7 The potential strength affect of e-banking service and accessibility with regard to Organizational factors</u>	43
<u>Table 8. The potential strength affect of e-banking service and accessibility with regard to Organizational factors</u>	44
<u>Table 9 The potential strength affect of e-banking service and accessibility in operational benefits</u>	46
<u>Table 10. The Assessment of E-banking service and accessibility in service benefits (Source: Primary Data, Collected by the Researcher, 2020, + = above)</u>	48
<u>Table 11. The driving forces for assessment of E-banking service and accessibility (Source: Primary Data, Collected by the Researcher, 2020, + = above)</u>	50
<u>Table 12. The Opportunities in the country that initiates the assessment of E-banking service and accessibility (Source: Primary Data, Collected by the Researcher, 2020, + = above)</u>	53
<u>The following Conclusions have been drawn based on the findings of the study.</u>	57

ABBREVIATIONS AND ACRONYMS

AB	Attitude towards the behavior
ATM	Automated Teller Machine
AVR	Automated Voice Response
BA	Bachelor of Arts
BI	Behavioral Intention
CBE	Commercial Bank of Ethiopia
EFT	Electronic Funds Transfer
IB	Internet Banking
ICT	Information Communication Technology
IDT	Innovation Diffusion Theory
IS	Information System
IT	Information Technology
MA	Masters of Art
MB	Mobile Banking
MCI	Motivation to Comply Intention
MICR	Magnetic Ink Character Recognition
NBI	Normative Beliefs Intention
PEOU	Perceived Ease of Use
PC	Personal Computer
POS	Point of Sale
PU	Perceived Usefulness
SAN	Storage Area Networks
SN	Subjective Norm

SPSS	Statistical Package for Social Science
TAM	Technology Acceptance Model
TOE	Technology-Organization-Environment
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
WAP	Wireless Application Protocol
WIG	Wireless Internet Gateway

CHAPTER ONE

1. INTRODUCTION

To conduct any research successfully, a working plan or a blueprint of the research is a requirement. Therefore, here below a proposal of the study that is going to be used and referred throughout the whole research work is presented. It contains different components of a research proposal like background of the study, statement of the problem, objectives of the study, research questions, significance of the study, research methodology, scope of the study and the expected format or structure of the final research report.

1.1. Background of the study

The term “Electronic Banking” or “Internet banking” is defined as a remote banking services provided by the authorized banks, or their representatives through devices operated either under the bank’s direct control or management or under the outsourcing agreement. In other words, e-banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a branch and also includes the systems that enable customers of banks, individuals or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network, including the Internet.

While financial institutions took steps to implement e-banking services in the mid-1990s, many consumers were hesitant to conduct monetary transactions over the web. It took widespread adoption of electronic commerce, based on trailblazing companies such as America Online, Amazon.com and eBay, to make the idea of paying for items online widespread. By 2000, 80 percent of U.S. banks offered e banking. Customer use grew slowly. In 200, Bank of America became the first bank to top 3 million online banking customers, more than 20 percent of its customer base. In comparison, larger national institutions, such as Citigroup claimed 2.2 million online relationships globally, while J.P. Morgan Chase estimated it had more than 750,000 online banking customers. Technological innovations play a crucial role in banking industry by creating value for

banks and customers, that it enables customers to perform banking transactions without visiting a brick and mortar banking system. On the other hand E-banking has enabled banking institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space (Turban 2008). E-banking is a fully automatic service for traditionally banking customer's products based on information technology platforms. E-banking services provide customer access to accounts, the ability to move their money between different accounts or making payments via e-channels.

The advantages generated by this services have determined an accelerate developing of this industry over the entire world. This paper examines some of the advantages of electronic banking products together with the characteristic management issues generated by the implementation of this new channel for financial services delivery.

The banking sector has become highly competitive. To survive & grow in the changing market scenario banks are opting for best in class & latest technologies. Introduction of IT has changed the banking industry from paper & branch banks to digitize & network based banking services.

E-banking refers to performing basic banking transactions by the customers round the clock globally through electronic media by sitting at their office or at homes through PC or LAPTOP. The customers can access the banks website for viewing their account details and perform the transactions on account as per their requirement. Modern banking is more information based speedy & boundary less due to the impact of E-Revolution. 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, rather than by cheque or cash.

E-banking is a broad term used to describe the various banking products and services that require the use of digital, Internet and mobile technology (Kim et al, 2011 : 76). E-banking technology denotes a variety of different services ranging from automatic teller machines (ATMs), telephone banking, banking using a personal computer, television-base banking, Internet banking and, more recently, mobile banking (Parker & Parker,

2008 : 20). These technologies are increasingly prevalent in the banking sector and are used to provide better services to convenience seeking and technology savvy customers and to reduce the operational costs of banks (Nasri, 2011: 143).

The following terms all refer to one form or another of electronic banking: personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking.

E-banking service reduce the cost with traditional banking by decreasing processing time, quick transaction, improving the flexibility of banking transaction and proving better customer service through electronic banking (Zhang, 2013).

The information technology revolution in the banking industry service delivery channels began in the early 1970s with the introduction of the credit card, Automated Teller Machine (ATM). Electronic banking is thus a result evolutionary innovation whereby the application of internet has brought a radical transformation in a way of banking.

Electronic banking was used mainly as information presentation medium in which banks marketed their products and services on their websites. Many Internet banking services have been initiated such as e-banking centers, e-ATMS, e-phone banking, e-cash cards, and e-saving account etc. Internet bank has evolved into a “one stop service and information unit” That promises great benefit to both banks as well as consumers (Margaret & Thompson, 2000). Growth of electronic banking in a given country depends on many factors, such as success of Internet access, customer’s awareness as well as educational status, new online banking features, household growth of Internet usage, legal and regulatory framework. Electronic banking can offer speedier/efficient service, quicker and dependable services to the customers for which they may be relatively satisfied than that of manual system of banking. Electronic banking (such as ATM, POS, mobile banking and Internet banking, home banking, personal computer banking) provide customers with opportunity to establish broad electronic banking transactions by a lower administrative cost and more promptly through bank website, without any temporal and spatial limitation (Pikkarainen, Pikkarainen, Karjaluoto, & Pahlila, 2004).

Electronic funds transfer has been described as the third of the great ages of payment, the first being payment by cash (notes and coins) and the second being paper based payment (for instance, cheques) (Kilonzo, 2007). E-payment systems refer to the automated processes of exchanging monetary value among parties in business transactions and transmitting this value over the Information and Communication Technology (ICT) networks. The common E-banking channels include the payment cards (debit or credit), online web portals, Point of Sales (POS) terminals, Automated Teller Machines (ATM), mobile phones, Automated Clearing House (ACH), direct debit/ deposit and Real Time Gross Settlement System (RTGS) (Nnaka, 2009).

E-banking has many advantages and interesting diversities including more number of customers, services in higher quality and lower price, preservation and enhancement of share in market, unlimited space for market, concentration in new distribution, making competition between commercial brands, concentration on expenses and improvement of revenue, providing extensive services, improvement in management system, decreasing the expenses of contractions, close intra banking connection, controlling ecological pollution, etc.(Farshad Havasi1 et al., 2013).

E-banking are closely related systems with huge interactions and their development needs social identity, a reliable legal system, well-built communication network, and strong government support (Zheng, et al., 2009). Since there can be many potential problems related with E-banking system, it is necessary to develop a sound atmosphere for E-banking like strengthen the construction of the network infrastructure, improve risk mitigation mechanisms, develop skill man power, suitable legal and regulatory framework for E-commerce and E-payment that deals with e-commerce including enforceability of the validity of electronic contracts, nurture more practitioners in this area and finally strengthen communications with government for policy support (Zheng, et al., 2009). Most banks in developed and some in developing parts of the world are now offering E-banking services with various levels of sophistication (Ackah, 2014). Hence, given the almost complete adoption of E-banking technology in developed countries, the reason for slow adoption of E-banking technology in developing countries like Ethiopia is an important research that is to be addressed by this paper.

1.2. Statement of the Problem

E-banking has been widely used in developed countries and is rapidly expanding in developing countries. Nevertheless, in Ethiopia cash is still the most dominant medium of exchange, and electronic payment systems are observed late to move with rapid expansion of electronic payment systems throughout the developed and the developing world, Ethiopia's financial sector remain behind in expanding the use of the technology. Even though modern technology-based banking service has offered many advantages over the traditional systems, E-banking usage in developing countries is very poor (Natasha, Faiza, Maryum, & Atta, 2014). Like other developing countries, customers' intention to involve in and use E-banking services in Ethiopia is still very poor. Kindie (2016) analyzed that customers of CBE pay no attention for its newly deployed mobile banking services. Zeleke (2016) also mentioned that Ethiopian Banks' customers are not yet entertaining the benefits of E-banking technologies. Moreover, Muche (2017) strengthen the above idea by mentioning the stage of E-banking as infant in the Ethiopian banking industry.

With a growing number of import-export businesses, and increased international trades, increase the demand of the customers and international relations, the current banking system is short of providing efficient and dependable services (Gardachew, 2010).

However, Lai (2007) suggested that E-banking technologies are highly interrelated to each other that required comprehensive study of technology adoption. Since ATM and Mobile banking are the most widely used E-banking services in Ethiopia and Internet banking is the promising future prospect, comprehensive study of E-banking adoption that includes these three channels will help to have more general idea than study conducted independently.

Different factors in the adoption of E-banking have been taken as the main factors of the adoption of new technology by different researchers such as environmental factors (like lack of suitable legal and regulatory framework for e-commerce, poor ICT infrastructure, lack of competitive pressure in the industry), organizational factors (Lack of skilled man

power, resistance to changes in technology among staff) and technological factors (security risk and functionality).

However, despite the importance of these adoptions, development, impact customers satisfaction of E-banking, very limited number of research has been done on the assessment of E-banking service and accessibility.

The study is important in which it identified the problems related to accessibility of E-banking service, which would be useful to banks to fine tune their operation, reduce environmental pollution for the environment, reduce the spread of contagious disease for health, and also policy makers (NBE) to design strategies that enhanced use of ICT in banking business.

1.3. Research questions

To gain a comprehensive understanding of the phenomenon under investigation, and in order to be able to provide a sufficient justification for answering that question, the following questions needs to be addressed. Based on the problem stated in this study, the researcher develops the following research questions.

1. What are the basic practices of E-banking service and accessibilities available in Ethiopia?
2. What are the benefits of E-banking?
3. What is the main strength for e-banking service in Ethiopia?
4. How does the bank promote e-banking service and accessibility in Ethiopia?

1.4.Objectives of the study

1.4.1. General objectives

- The general objective of the study is to assess E-banking service and accessibility in commercial banks of Ethiopia.

1.4.2. Specific objectives

The specific objectives of the study will be able:

- To analyze practice of electronic banking at commercial bank of Ethiopia.
- To indicate the benefits of E-banking.
- To identify the strength of E-banking and service accessibility is facing.
- To show the promotion and enhancement of the E-banking and service accessibility in commercial banks of Ethiopia.

1.5. Significance of the Study

The study will have significance for academicians, public and private commercial banks in Ethiopia and the country in general. The output of the study could be used as an input to spread their e-banking and service accessibility in public and private commercial banks in Ethiopia in their endeavor on retaining E-banking users as well as acquiring new customers. As the e-banking service is highly valuable particularly for the rural area it will be import for the country's social and economic interactions. Lastly, the study would add value to the general body of knowledge. This study also seeks to address the lack of studies on E-banking adoption in developing countries such as Ethiopia. In addition, the study will also provide input for further research on the area, especially with respect to the challenges and opportunities related with the adoption and provision of E-banking services to customers or the public at large. Provide an opportunity for decision-makers and managers of the Bank's to consider and evaluate the opportunities and problems observed in the existing practices, in order to take appropriate corrective measures in the area or to accelerate the positive factors (if any) for the promotion of E-banking service practices. The finding will provide a framework for the Banks for the design of their future directions and to adjust their goals and objectives as per real opportunities and challenges.

The study will enables government organizations and trade associations to develop banks E-banking assistance programs that are designed to address the factors identified by this research. This study would also assist all stakeholders in the banking industry identify and formulate strategies that will promote E-banking.

1.6. Scope of the Study

The scope of this research is limited to E-banking Services and accessibilities at Commercial Bank of Ethiopia North Addis Ababa district. From E-banking the researcher focuses on (Automated Teller Machines) ATM, Mobile Banking (MB), Internet Banking (IB) and Point-of-Sale (POS).

With the limited time and resource that the researcher has, the study will focus only on Commercial Bank of Ethiopia. Moreover, since branches are many in number, only one district and 25 branches are selected for this study.

1.7.Organization of the final research report

This study is organized into five chapters. In the first chapter, the general background of the study, statement of the problem, research questions, general and specific objectives, significance of the study, scope and limitations of the study were included. In the second chapter, review of related literature was incorporated. In the third chapter, the methodology part of the study. In the fourth, chapter the result & discussion were presented. Lastly in the fifth chapter, conclusion & recommendations of the study was presented consecutively.

CHAPTER TWO

2. LITERATURE REVIEW

2.1.Introduction

This chapter will discuss the relevant literature that has been reviewed in the area of e-banking service and accessibility. The issues discussed include the theoretical review on e-banking and the empirical study on e-banking service and accessibility. The chapter also will present the conceptual framework that is adapted previously in conducting the study and the variables under the study.

2.2. Definition of e-banking

Electronic banking has been defined as the provision of information or services by a bank to its customers, described as an electronic connection between bank and its customers in order to prepare, manage and control financial transactions. Similarly, Daniel [3] described electronic banking as the provision of banking services to customers through internet technology. E-Banking is also defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels.

E-banking is a form of banking service where funds are transferred through an exchange of electronic signal between financial institutions, rather than exchange of cash, checks, or other negotiable instruments (Kamrul; 2009). E-banking, also known as electronic funds transfer (EFT), is simply the use of electronic means to transfer funds directly from one account to another, rather than by check or cash (Malak; 2007). Electronic banking is one of the truly widespread avatars of E-commerce the world over. The terms which are used to describe the various forms of e-banking are, personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking and remote electronic-banking. E-banking also involves phone banking and the use of automated teller machines (ATMs).

According to Singh & Malhotra; 2004, E-banking can be defined as the deployment of banking services and products over electronic and communication networks directly to customers.

E-banking can be also defined as a variety of platforms such as internet banking or (online banking), TV-based banking, mobile phone banking, and PC (personal computer) banking (or offline banking) whereby customers access these services using an intelligent electronic device, like PC, Personal Digital Assistant (PDA), Automated Teller Machine (ATM), Point of Sale (POS), kiosk, or touch tone telephone (Alagheband; 2006).

The information technology revolution in the banking industry service delivery channels began in the early 1970s with the introduction of the credit card, Automated Teller Machine (ATM). Electronic banking is thus a result evolutionary innovation whereby the application of internet has brought a radical transformation in a way of banking. Davis developed the (D.Davis, 1985) TAM to which users' adoption of a computer system depends on their behavioral intention to use, in which it depends on their attitude and two beliefs, that is perceived ease of use and perceived usefulness (Wang, 2003). The TAM mainly used model for predicting the acceptance and use of information systems and has recently also been applied in order to predict internet adoption. TAM is derived from Theory of Reasoned Action (TRA) by Fishbein and Ajzen; 1975. In essence, the TAM suggests that perceived usefulness and perceived ease of use decides an individual intention to use a system (D.Davis, 1985).

Electronic banking was used mainly as information presentation medium in which banks marketed their products and services on their websites. Many Internet banking Services have been initiated Such as e-banking centers, e-ATMS, e-phone banking, e-cash cards, and e-saving account etc. Internet bank has evolved into a "one stop service and information unit" that promises great benefit to both banks as well as consumers (Margaret & Thompson; 2000). Growth of electronic banking in a given country depends on many factors, such as success of Internet access, customer's awareness as well as educational status, new online banking features, household growth of Internet usage, legal and regulatory framework. Electronic banking can offer speedier/efficient service,

quicker and dependable services to the customers for which they may be relatively satisfied than that of manual system of banking. Electronic banking (such as ATM, POS, mobile banking and Internet banking, home banking, personal computer banking) provide customers with opportunity to establish broad electronic banking transactions by a lower administrative cost and more promptly through bank website, without any temporal and spatial limitation (Pikkarainen, Karjaluoto, & Pahlila; 2004).

The tools/channels use in executing e-banking include plastic cards (debit cards, credit cards, pre-paid cards), personal computers, telephone, mobile phones, internet, ATM's, POS or point of interaction machines (Morufu and Taibat; 2012).

2.3.E- Banking features

A. A bank customer can perform non transactional task through online banking by :

- a) Viewing account balances.
- b) Viewing last transactions.
- c) Downloading bank statement.
- d) Viewing images of cheques paid.
- e) Requesting for the issuance of new cheque book.
- f) Downloading periodic account statements.
- g) Downloading applications for mobile banking, electronic banking etc.

B. Bank customers can perform banking task through online banking by:

- a) Transferring funds between the customers linked account, national transfers and international transfers.
- b) Purchasing and selling of investments.
- c) Loan applications and transactions, such as repayments of enrolments.
- d) Credit card transactions.
- e) Registering and payments of utilities bills.

C. Beside the above banking task a bank customer can also perform other task such as:

- a) Financial institution administration.
- b) Management of multiple users having varying levels at authority.

2.4. The Evolution and Historical background of E- Banking System

E-banking business model started back in the 1980's, (Shannak; 2013) and it evolved through four main phases that can be summarized as follows:

1st The Eighties: The early beginning on Modern e-banking first appeared in New York in the early 1980's, where it was offered by major banks in that city, such as Citibank and Chase Manhattan. The United Kingdom banks started to adopt the concept in 1983 where the Bank of Scotland was the first to introduce it. Back then it required a computer terminal, a monitor, and a telephone line. It was also offered through a numeric keypad on a telephone enabling sending messages to the bank. The early services were very basic ones such as viewing your bank statements and paying your bills online. It was not a full transaction banking service; however, it paved the way for the more comprehensive and sophisticated e-banking services that we see today (Shannak; 2013).

2nd The Nineties: Modern Internet Banking In the 1990's, the use of internet evolved when more people owned computers were connected to the dial-up home internet. The first bank to offer the most comprehensive e-banking services was the Stanford Federal Credit Union bank in 1994. This technological evolution and the spread of home internet usage meant customers enjoyed 24/7 e- banking services. On the other hand, many customers during the 1990's didn't trust the concept enough to make serious and substantial monetary transactions and did not think the internet banking is safe enough. This triggered a massive effort and investment by the offering banks to develop more security features for their online banking services and promoting them in the market (Shannak; 2013)

3rd The 2000's: The growth and acceptance the first bank to reach three million online banking customers was the Bank of America in 2001. Throughout the 2000's online banking started to grow and become more acceptable by customers. It covered most of the banking services range. We also had our first "on-line only" banking firms that offered better interest rates and more features to their clients taking advantage of the cost savings achieved by the "Digital Firm" business model (Shannak, 2013)

4th The 2010's: The emergence of online Banking Models: In this phase online banks and banking firms emerge and virtual money or digital banking or money with bit coin and other virtual currencies, transactions and banking gaining grounds in the world including Africa and Cameroon. Also a notable achievement in the phase is that some banks start offering e-loans typically in Turkey and in the USA.

2.5. Forms of e-banking

A. Automated Teller Machines (ATM):

ATM is a computerized telecommunications device that provides the customer of a financial institution with space to financial transaction in a public space without the need for a human clerk or bank teller. Using an ATM, customers can access their bank accounts in order to make cash withdrawals and check their account balance. ATM's rely on authorization of a financial transaction by the card issuer or other authorizing institution via the communications network. Many banks charge ATM usage fees for transactions (Ibid). ATM means neither "avoids traveling with money" nor "any time money," but certainly implies both. Automated teller machine or automatic teller machine (ATM) also known as an automated banking machine (ABM) ,Cash point, cash machine or sometimes a hole in the wall. ATM is a computerized telecommunication self service technology (SST) which enables a customer to have access to their bank account via a secure communication network and with no personal contact between the bank teller and the customer.

Table 1. Functionalities of ATM

Financial	Non- financial
Cash withdraw	Pin change
Fast cash	Balance inquire
Fund transfer /account to account transfer	Mini statement
Currency exchange	

B. Point-of-Sale Transfer Terminals (POS) - Is an electronic device used to process card payment at retail business, hotels, groceries etc. The system allows

consumers to pay for retail purchase with a check card, a new name for debit card. This card looks like a credit card but with a significant difference. The money for the purchase is transferred immediately from account of debit card holder to the store's account (Malak; 2007). According to Colton EFT/POS involves the use of plastic cards in terminals on merchant's premises. It actually comprises two distinct mechanisms:

- Debit-card transactions: - These were a new form of value-transfer, whereby an account holder authenticated by the presentation of a token (a data-bearing card) and the keying of a PIN, uses a terminal and network to authorize the transfer of value from their account to that of a merchant.
- Credit-card transactions: these represent the automated capture of data about purchase against a revolving credit account, replacing what have hitherto been 'flick flack' generated hard copy vouchers (W.Colton; 1980).

C. Mobile Banking (MB)

Mobile banking refers to the use of a smart phone or other cellular device to perform online banking tasks while from your home, such as monitoring account balances, transferring funds between accounts and other. (Tojib and Tsarenko; 2012) notes that Mobile services are more attractive than current online services due to service quality, a unique characteristic exclusive to the mobile environment. On the other hand John proposed that mobile banking also known as m-banking or SMS banking .Normally mobile banking packages include the following packages: money transferring, term deposits, access to loan statement ,mini-statements and checking account history ,access to card statements, mutual funds/equity statements, insurance policy management, pension plan management status on cheques, stop payment .

There are two main types of technology available for use in mobile banking: WAP (Wireless Application Protocol) and WIG (Wireless Internet Gateway). The first one is an application environment and set of communication protocols for wireless devices build to enable manufacturer, vendor and platform independent access to the internet and

advanced telephony services. The other one (WIG) is a SMS-based service in which a menu of banking services options is downloaded from the bank to the phone. This enables the user to browse to all bank services options and thru their accounts and to conduct specific tasks. Mobile-banking can be defined also as an account management tool which can be accessed through the mobile phone. This modern service appeared on the market as an alternative to electronic banking and internet banking services and it facilitates access to accounts and banking operations through the mobile phone. This service can be easily used whether in the home country or abroad. If a client is abroad and wants to access his/her bank account, that can be done through the mobile phone operator. The bank is accessed by Internet (through the WAP service which allows reading Internet pages directly on the mobile phone display) or by SMS through the local operators. Mobile banking is a fast, secure and efficient service. It offers up-to-date information on the status of the clients' bank accounts, whatever the location of clients or the schedule of the bank.

D. Internet Banking

Internet banking is an electronic service provided by the Bank to allow customer to perform transactions, informational services etc over the Internet - through a bank's secure website. Allow customers to access their accounts online. Customers connect to a bank portal and thus can check their accounts and do bank transfers from any computer connected to the Internet. For authentication, a customer code and a password are provided. Internet technology can make significant contribution to a company's value chain, provides a powerful platform for corporations to market and advertise their products and services. It is important also to mention some of the problems of internet medium: overload, security & privacy problems, rapid technology change, high initially cost and uncertainly about information reliability. Internet banking is a service which concerns individual and companies who are customers of a certain bank and have access to the Internet. This service allows them to access their bank accounts through a web browser connected to the site of the bank. As there is no need for special software, the only costs customers pay are the Internet connection and the fees.

Currently, there are many Internet banking solutions on the market. They have been usually developed by specialized software companies or in house, due to the specificity for the data security. This service is provided to individuals, physical persons, and small and medium enterprises.

2.6. Innovation of e-banking service

Electronic innovation in banking industry can be traced back to 1970, when the computerization of financial institutions gained momentum (Malak; 2007), however; a visible presence of this was evident to the customers since 1980, with the introduction of ATM. Innovative banking has grown since then, aided by technological developments in the telecommunications and information technology industry. The early decade of the 1990s witnessed the emergence of automated voice response (AVR) technology. By using the AVR Technology, banks could offer telephone banking facilities for financial services. With further advancements in technology, banks were able to offer services, through PC owned and operated by customers at their convenience, through the use of intranet propriety software. The users of these services were, however, mainly corporate customers rather than retail ones (Sohail & Shanmugham; 2003). The security first network bank was the first Internet banking in the world that was built in 1995 in USA. After that some famous banks introduced their internet banking one after another, such as Citibank and Bank of America.

Asghar stated that, science and technology are anxious to render more facilities through research and innovation in all fields of life. In today's world internet is one of the methods which facilitates and become an essential part of life. In particular internet has been a key driving force behind the change in the banking industry. In banking industry electronic innovation was traced back to 1970 when the computerization of financial institutions gained momentum. However; a visible presence of this was evident to the customer since 1980 with the introduction of ATM (Automated Teller Machine). As Bultum; 2014 stating that the innovation of banking is continuing, this is backed by technological advancement in telecommunications and information technology industry. The beginning of electronic banking era was to be considered as the basic conversion ever faced by the banking industry. The beginning of 1990s testified the emergency of automated voice

response (AVR).By using this technology banks started to render telephone banking facilities for financial services. With continuous technological development enable banks to provide service through PC which was accessible to customers via the use of internet (Kondabagil; 2007). Jayaram in his study stated electronic banking supported by the advancement of telecommunication technology namely ATM (Automated Teller Machine), mobile banking, internet banking, and POS. The acceleration of Internet gave a genuine raise in electronic banking and shifts the banking services from back-end implementation to customer centric front ends.

2.7. E-banking risk

2.7.1 Strategic risk:

Before implementing e-banking the banks management should aware the risk that may results from e-banking. Applying poor e-banking planning and decision to invest on it can increase a financial institution's strategic risk. Since e-banking is relatively new service the senior management may be in difficulty to recognize the risk and its potential advantage and its implication. Most of the time in banking industry, it is common to get staffs with technological, but not banking skills. This will result disconnected and gradual growth of the bank .They can be costly and unable to get back their cost. Additionally they considered as loss leaders .They fail to attract more customer which is disadvantage for bank and this is beyond banks expectation. To tackle this risk bank should definitely plan a strategy that supports the effect of e-banking when it is important.

2.7.2 Operational risk:

It is a risk which resulted from deception, system failure, transaction mistake and other unexpected events which arises from company's capacity to render services or products.

2.7.3 Technology risk:

This kinds of risk is associated with fail in processing disruption of system flaw in performance inefficient capacity, defective software, exposed network, lack of control, hacking incident, Inefficient recovery ability.

2.7.4 Reputational risk:

This risk results from customer dissatisfaction. Which is identified by customer complains on our service is bad or good.

2.7.5 Conceptual frame work

Researchers have been used different frameworks in the study of e-banking service and accessibility in new technological innovation. Among frameworks that have been developed in different studies includes. Technology-Organization-Environment (TOE) framework, Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), Innovation Diffusion Theory (IDT) and Theory of Reasoned Action (TRA).

A. Technology- Organization- Environment (TOE) Framework.

TOE framework was developed by Tornatzky and Fleischer; it is designed for studying the likelihood of adoption success of technology innovations. This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani, et al.; 2009, Ellis; 2009, Chang et al.; 2007, Zhu & Kraemer; 2006). According to Tornatzky and Fleischer; 1990, technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context, and the external environment.

The technological factor refers to adopter's perception of E-banking attributes. Typical characteristics of technology considered in technology adoption studies are based on the assumption of Roger's diffusion of innovation Which include relative advantages (perceived benefits), and relative disadvantages (perceived risks). Technological factors include complexity, compatibility, relative advantage, ease of use and usefulness. The technological factors are related to challenges to technology adoption and its perceived benefits. The perceived benefits for manager could be direct, such as cost savings or income generation, or indirect, such as potential opportunities in new market, marketing, or publicity (Rogers; 2003).

The organizational factor refers to the organizations characteristics that influence its ability to adopt and use of E-banking system. The organizational factors that have been mostly cited in literature include: Information Technology (IT) users' community; organizational structure; firm's process; firm size; technological capabilities of the

organization's members; the technological and financial resources available; process of selecting and implementing the IT; management backing and support for the project (Harrison; 2012).

The environmental factor refers to the external environment in which an organization operates and its condition for supporting the development of E-banking services. Environmental factors relating to IT adoption (and specifically the adoption of internet technologies) includes pressure from competitors, customers or suppliers; the role of government (incentives); partners, alliances; technological infrastructure; technology consultants; image of internet technology; and users expectations (Harrison; 2012).

B. The technological acceptance model (TAM)

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

1. Perceived ease of use: - refers to the degree to which a person that using a particular system would be free from effort. Perceived ease of use (PEOU) is defined as the degree to which a potential user thinks that using a particular system would be free of effort. The word 'ease' means, freedom from difficulty, hardship or effort. In short, ease of use means 'user-friendliness' of IS (Davis; 1989).
2. Perceived usefulness: - refers to the degree to which an organization that using a particular system would enhance or improve its job performance. Perceived usefulness (PU) is defined as the degree to which a potential user thinks that using a particular system would increase his/her job performance. The term usefulness is derived from the word 'useful', which means the advantage of using particular IS.

According to Masrom and Hussein (2008) the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system. TAM was developed to explain and predict particular IT usages. However, this particular Mode has been using by many researchers in studying adoption and diffusion of various IT technologies. For this study

researcher uses two basic factors of TAM perceived ease of use and Perceived usefulness to analyses the perception of users on the adoption of E-banking system in Ethiopia.

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

Technological Acceptance model has widely been used to help predict and explain user acceptance of information technologies.

C. Theory of Planned Behavior (TPB)

TPB is developed originally based on the theory of reasoned action (TRA) which explains almost any human behavior. In predicting and explaining human behavior across various application contexts, it has been proven successful. According to TRA, a person's behavioral intention guides his actual behavior of performing some certain action and where subjective norm and attitude toward the behavior determine the behavioral intention (Liao et al., 2007).

According to Ajzen (1991) quoted in Liao et al., (2007, p. 2809), "behavioral intention is a measure of the strength of one's willingness to try while performing certain behaviors". As in the original model of TRA, there are some limitations when dealing with behavior for which there is incomplete volitional control of people. Therefore, TPB is proposed to eliminate these limitations; and in fact, TPB differs from TRA because of the addition of perceived behavior control, which potentially effects behavioral intention. According to Ajzen (1991), the theory of planned behavior proposes three independent determinants of intention which are attitude towards the behavior, subjective norm and perceived behavioral control. Attitude as defined by Fishbein and Ajzen (1975) quoted in Liao et al., (2007, p. 2809), is "the degree of one's favorable or unfavorable evaluation of the behavior in question". The attitudes are developed reasonably from one's beliefs about object of the attitude. Subjective Norm refers to "the perceived social pressure to perform or not to perform the behavior"(Ajzen, 1991 quoted in Liao et al: 2007). It can be said that it is related to the normative beliefs about other people's expectations on either to

perform or not to perform the behavior. Perceived behavioral control refers to “people’s perception of ease or difficulty in performing the behavior of interest” (Ajzen, 1991 quoted in Liao et al., 2007, p. 2809) and is assumed to reflect past experiences as well as the predicted difficulties and barriers. The construct of the perceived behavioral control in the TPB is added to cope with the situations in which people may lack the complete volitional control over the behavior of interest. Perceived behavioral Control is directly connected to the beliefs of the control factors that can facilitate or hinder the performance of the behavior (Ajzen, 2002 quoted in Liao et al: 2007). Control factors can be referred to as the internal or external constraints where internal constraints are related to self efficacy and external constraints to the environment (Ajzen, 1991 quoted in Liao et al., 2007).

Generally speaking, the more favorableness and un-favorableness of the attitude, subjective norm and the higher perceived behavior control are directly proportional to the strength of one’s intention to perform the behavior under consideration (Ajzen; 1991).

D. Innovation Diffusion Theory (IDT)

According to Rogers;1995, innovation is defined “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”, whereas diffusion is defined as “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 1995, p. 5). Therefore, Innovation Diffusion Theory (IDT) states how new ideas, concepts or technologies spread or become common in a society and adopted by users. Innovation Diffusion Theory (IDT) includes five characteristics. These characteristics as defined by Rogers; 1995 are: Relative Advantage: “The degree to which an innovation is perceived to be better than the idea it supersedes”.

Compatibility: “The degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters”.

Complexity: “The degree to which an innovation is perceived as relatively difficult to understand and use”.

Trialability: “The degree to which an innovation may be experimented with on a limited basis”. Observability: “The degree to which the results of an innovation are visible to others”.

The above mentioned characteristics, defined by Rogers; 1995, greatly influence adoption.

According to Chen et al.; 2000, among five characteristics of IDT, relative advantage, compatibility and complexity are the only attributes, which are consistently related to innovation adoption.

E. Theory of Reasoned Action (TRA)

The theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen; 1975 quoted in Belleau et al.; 2007) is based on the assumption “that individuals are rational and make systematic use of information available to them”.

According to theory of reasoned action, behavioral intention (BI) of an individual is a measure of the strength of one's intention to perform a specified behavior. BI is determined by two factors:

1) Attitude towards the behavior (AB), which is a function of beliefs (BI) that performing the behavior possesses certain attributes and the evaluation of those beliefs (EI).

2) Subjective Norm (SN), which is the perception of social groups i.e. what specific individuals or groups think that a person should or should not perform (Belleau et al: 2007). “An individual's Subjective Norm (SN) is determined by a multiplicative function of his or her normative beliefs intention (NBI), i.e., perceived expectations of specific referent individuals or groups, and his or her motivation to comply intention (MCI) with these expectations” (Fishbein and Ajzen, 1975, p. 302 quoted in Davis et al: 1989).

Apart from the above mentioned factors, Ajzen and Fishbein (1980) quoted in Belleau et al: 2007) mentioned that some external variables might also have influence on behavioral intention, for instance, demographics, traditional attributes towards targets and personality traits. Some researchers have proposed additional external variables, which

could be included in the model for predicting the behavior. Those variables are: past behavior, past experience or involvement (Bagozzi, Wong, Abe, & Bergami, 2000; Bunce & Birdi, 1998; Shim et al., 1989 quoted in Belleau et al., 2007). According to Fishbein and Ajzen (1975) quoted in Sheppard et al., (1988) “a behavioral intention measure will predict the performance of any voluntary act, unless intent changes prior to performance or unless the intention measure does not correspond to the behavioral criterion in terms of action, target, context, time-frame and/or specificity”. TRA model predicts consumers’ intention and behavior very well. (Armitage and Conner: 2001) quoted in Belleau et al., (2007); state that behavior that is comparatively straightforward i.e. under volitional control can be predicted adequately by theory of reasoned action. As it is understood that an intention to buy a product is volitional and few constraints are associated with it, so the usage of theory of reasoned action can lead to valid prediction of purchase intention.

However, there is a constraint associated with the TRA model regarding the distinction between a goal intention and a behavioral intention, which has also been acknowledged by Fishbein and Ajzen. The limitation is that they established their model to cope with behaviors, for example, taking weight loss pill, applying for a loan or purchasing a new car; but not with outcomes that result from behaviors, for example, losing 10 pounds, getting a loan or owning a brand new car. Moreover, only those behaviors are dealt by model that is under an individual’s volitional control. The conditions of the model can’t be fulfilled, whenever the performance of some action needs resources, knowledge, skills or environmental hurdles need to be overcome (Sheppard et al: 1988).

In this study, Technology-organization-environment framework was used to have a more precise forecast on the service and accessibilities of e-banking technology in Commercial Bank of Ethiopia.

2.8 E-Banking components

The purpose of technology in underpinning the e-banking operation has become highly sophisticated. The possible components and procedure seen in a normal institution that work together to provide e-banking services are given below (Kondabagil, 2007).

- 1) Operational processes: For different products and services offered; for example, net banking and aggregation services.
- 2) ICT infrastructure: Servers for net-banking, email, and internal networks
Communication systems Storage area networks (SAN) Item processing equipment such as MICR (Magnetic Ink Character Recognition) coders ATMs
- 3) Application: Operating systems, applications, core banking processing system, e-banking applications such as bill pays automated decision-support systems, system performance monitoring and intrusion detection systems.

Operational: Aspects programming support network administration security management. Firewall configuration and management configuration management. Service providers' website design and hosting disaster recovery services

2.9 Benefit of E-banking

2.9.1 E-Banking Benefits to the Customers

E-banking is a form of banking service where funds are transferred through exchange of other negotiable instruments. In this competitive world, E-banking helps the banks to attract more number of customers and tackle the competition from other banks. Therefore, those banks beyond the benefit they acquire from provision of the service, they provide variety of benefits to their customers that uses the e-banking services.

The benefit of E-banking is not limited to banks but also to their customers. Thanks to the emergence of the Internet, banking transactions are no longer limited to time and geography. It is very easy for consumers throughout the world to access to their bank accounts 24 hours per day and seven days a week. Customers can enjoy a variety of services, especially services which are not provided by traditional bank branches (Pham 2010). It is argued that one of the greatest benefits that E-banking brings about is that it is not expensive or even free for customers to utilize E-banking products/services. However, some people believe that prices appear to be one factor that is impedimental to the diffusion of E-banking (Sathye 1999). The price debates often revolve around geographical differences and disparities between costs of Internet connections and telephone call pricing. It has also been believed that E-banks have been changing to

respond to customers' increasingly changing demands (Pham 2010). There has been a tendency that customer don't want to travel to or from a bank branch to conduct some banking transactions. In other words, they want to utilize E-banking to save time and money. E-banking can bring about convenience and accessibility, which will have positive effects on customer satisfaction and loyalty (Pham 2010). It is totally possible for customers to manage their banking transactions whenever they want and to enjoy improved privacy in their interactions with the bank. In addition, customers can enjoy more benefits at lower cost levels by utilizing E-banking (Mols K. 1998).

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

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

- Automatic Bill Paying - With automatic bill paying, customers can automate paying their monthly bills.
- Real Time Account Information – Because customers can access their accounts anytime, they can get up to date, real time information on the money in your accounts.
- Transfers – Transfers between accounts with the same financial institution online can be done almost instantaneously. Not only is there no hold on the money being moved around, you can do it whenever you like and from wherever.

2.9.2 Benefits of e-banking to the bank

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

Under the view of Robinson (2000), relevant costs for conducting a banking transaction via online are much lower than via a brick and mortar branch. Moreover, Sheshunoff (2000) contends that one of the most important factors influencing the practice of E-banking by banks is the need to build up strong barriers to customer exiting. Under the view of the author, once customers become familiar with the utilization of full service E-banking, it is unlikely that they will change to another financial institution. Specifically, banking industry has also received numerous benefits due to growth of E-Banking infrastructure. There are highlighted below: Mols (1998).

E-banking is use of information and communication and technology and electronic means by a bank to conduct transaction and have interaction with stake holders. Understanding e banking service is also very important for several stakeholders, since it helps them to derive Benefits from it. Many banks and other organizations have already implemented e banking. Because of the numerous potential benefits associated with it.

- The growth of E-banking has greatly helped the banks in controlling their overheads and operating cost.

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

2.9.3 Benefits to General Economy

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

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

 E-banking made finance economically possible:

- a) Lower operational costs of banks
- b) Automated process
- c) Accelerated credit decisions
- d) Lowered minimum loan size to be profitable.

 Potentially lower margins:

- a) Lower cost of entry
- b) Expanded financing reach
- c) Increased transparency.

 Expand reached through self-service:

- a) Lower transaction cost
- b) Make some corporate services economically feasible for society
- c) Make anytime access to accounts and loan information possible.
- d) Ensure green economy (social responsibility).

2.10 E-banking Challenges in Ethiopia

Banking and Finance is an important sector for establishing e-commerce. There are some roles of banking sector in ecommerce such as, online corporate banking, electronic fund transfer, automated teller machines (ATM), debit card, credit card etc. Bank is the only authorized organization which can store and transact money. Technological developments in banking sector make trading activities much easier and cheaper for customers. It provides convenience in terms of the capital, labor, time and all the resources needed to make a transaction (Uppal; 2008). Banking in Ethiopia faces numerous challenges to fully adopt E-banking. Research result studied by Wondwossen & Tsegai (2005) forward the following challenges:

Low level of internet penetration and poorly developed telecommunication infrastructure:

Lack of infrastructure for telecommunications, Internet and online payments impede smooth development and improvements in e-commerce in Ethiopia.

Lack of suitable legal and regulatory framework for e-commerce and e-payment:

Ethiopia has not yet enacted legislation that deals with ecommerce concerns.

High rates of illiteracy: Low literacy rate is a serious impediment for the adoption of E-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-banking, they should not only know how to read and write but also possess basic ICT literacy.

High cost of Internet: The cost of Internet access relative to per capita income is a critical factor. Compared to the developed countries, there are higher costs of entry into the e-commerce market in Ethiopia. These include high start-up investment costs, high costs of computers and telecommunication and licensing requirements.

Absence of financial networks that links different banks (Banks are not yet automated): Most of the banking-transactions currently taking place use credit and debit cards supplied by Visa and MasterCard. For conducting E-banking, the use of credit or debit cards is mandatory thus requiring the need for specialized systems which are not currently available.

Frequent power interruption: Lack of reliable power supply is a key challenge for smoothly running E-banking in Ethiopia

2.11 Attitude Gap

Much documentation on E-banking services has been carried out elsewhere. However, in developing countries like Ethiopian, there is little evidence concerning E-banking. As far as E-banking is concerned, a lot of researches on internet banking, mobile banking and modern service delivery channels have been done in different countries in the world. As per the knowledge of the researcher only a very limited number of researches have been done on E-banking in Ethiopian Banking like that of (Ayana; 2012), (Gardachew:2010), (Wondwossen and Tsegai: 2005), (Meaza Wondimu: 2015), (Eyerusalem Shewaye:2015), and (Kassahun Girma: 2016). Therefore, more studies are still required to assess services and accessibility of E-banking in the country to identify areas in which the country lags behind their E-banking service and accessibility. The previous studies focused on factors influencing adoption and challenges of E-banking technology. This study focuses on the assessment of service and accessibility in e-banking technology in Commercial Bank of Ethiopia.

Secondly, this study also will conduct e-banking products like ATM, POS, MB and IB at Commercial Bank of Ethiopia. This study is, therefore, intending to fill the gap by describing the accessibility and service deliveries of e-banking technology at Commercial Bank of Ethiopia.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

The study of the assessment of E-Banking service and accessibility were conducted to answer the research questions and research problem to fulfill the objective in banking system in Ethiopia. It also provides an overview about research study, description of the instrument used for data gathering, targeted population, sampling procedures, and source of data used and method of data analysis, validity, reliability, ethical consideration, presentation and interpretation of the data.

3.2. Research Design

Research design is the general plan of how the research questions would be answered and it is the conceptual structure with which research is conducted (Saunders et al., 2007). In other words, it is a master plan specifying the methods and procedures for collecting and analyzing the needed information. It ensures that the study is relevant to the problem and that it uses economical procedures. The types of research design, namely exploratory (emphasizes discovery of ideas and insights), descriptive (concerned with determining the frequency with which an event occurs or the relationship between variables) and explanatory (concerned with determining the cause and effect relationships).

According to Kothari (1990), descriptive research design is employed for detail description of the findings that would be displayed in tables, charts and determining the frequency with which an event occurs or relationship between variables while explanatory research design is used to explain ,understand, predict and control the assessment of e-banking service and accessibility.

Therefore, the researcher employed descriptive research design to analyze the assessment of E-banking service and accessibility. The data was obtained from 235 sample employees who are currently working in eighteen branches North Addis Ababa district of commercial bank of Ethiopia.

3.3. Research Approach

This study used both qualitative and quantitative approaches (mixed method approach). The core argument for a mixed methods approach is that the combination of both forms of data provides a better understanding of a research problem than either quantitative or qualitative data by itself cannot provide. Mixed methods designs are procedures for collecting, analyzing, and mixing both quantitative and qualitative data in a single study or in a multiphase series of studies (John W. Creswell, 2014). Hence, by applying the mixed method approach, the researcher would ensure the strength of the findings towards its objective and helps to generalize to the entire population.

3.4. Data Collection Method

For this study, survey type of research method has been chosen where both close and open ended questions were used to collect the data. The reliabilities of the survey result depend on whether the sample of people from which data has been collected is free from bias and sufficiently large to explain about the population.

3.5. Sampling design

3.5.1. Target Population

Commercial Bank of Ethiopia North Addis Ababa District Human Resource report as of December 31, 2019 shows that, the number of employee who are currently working in North Addis Ababa District are 3263 in 118 branches which are managed by the district in the North direction of Addis Ababa city. So, the target population for the study consisted of 569 employees, who are working in this district. The employees used as target population in the respective branch are 21 employee from Amist Killo branch, 12 from Jan Meda branch, 18 from Ras Mekonnen branch, 18 from Yekatit 12 branch, 19 from Atse Minilik branch, 24 from 41 Eyesus 41 branch, 26 from Arbegnoch branch, 26 from Hamle 19 branch, 23 from Kebena branch, 22 from Menberepatriarich branch, 28 from Abware branch, 28 from Berehanenaselam branch, 32 from Sebara Babur branch, 51 from Sidist killo branch, 48 from Kidiste Mariam branch, 38 from FerensayLegasion branch, 74 from AratKillo branch and 61 from Sillassie branch.

3.5.2. Sampling frame and sampling location

The sampling frame sets of sources of materials from which the sample is selected and its purpose is to provide a means for choosing the particular members of the target population that are to be included in the survey (Anthony 2003). However, sampling location is a place where a research is conducted. In this research, source of materials consisted of 235 clerical employees who are working in different branches under the North Addis Ababa District.

3.5.3. Sampling technique

Sampling is the process of selecting a sufficient number of elements from the target population so that by studying the sample, and understanding the properties or the characteristics of the subjects, the researcher is to generalize the properties to the population elements. The researcher has employed convenient sampling technique to select sampling location, which is North Addis Aababa district and research participants as representative of commercial bank of Ethiopia for the study. This is because; North Addis Ababa District is the largest district among other district of Commercial Bank of Ethiopia with high number of employees, and large number of customers.

3.5.4. Sample Size Determination

To enhance the results and reliabilities of the study, the researcher used large number sample size of the total population. The researcher has also tried to calculate the sample size after determining the target population. In addition, the size of target population, purpose of the research, size of population, the level of precision or sampling error, the level of confidence or risk level and the degree of variability or the distribution of attributes in the population determine the appropriateness of the sample size (Miaoulis and Michener, 1976).

In order to determine the sample size for the study, an attempt is made to use the following simplified formula to calculate the sample sizes. Sample size was determined based on Yamane (1967) sample size determination formula, because he is a famous Japanese statistician who has had great contribution in developing sampling methods and

this Yamane sample size calculation is one of his achievements. His sample size determining formulae was applied when the population is finite and the population size is known. He also recognized that if the target population is large, his sampling method with an error of 5% in which the true value of the population estimated and confidence coefficient of 95% in which 95 out of 100 sample will have the true population value within the range of precision. As the result, the researcher has determined the total sample size as follows.

$$n = \frac{N}{1+N(e)^2} = \frac{569}{1+569(.5)^2} = \frac{569}{1+569*.0025} = 235$$

Where;

- n is the sample size,
- N is the target population size, and
- e is 5% the level of precision.
- 95% confidence level

Using the above formula, the sample size was determined as 235 clerical employees who are working at North Addis Ababa District. According to Kothari (1990), proportional allocation was used to distribute the questioners based on the determined sample size to 18 branches. The researcher distributed questionnaires for 235 participants and collected all of them as shown in the following table.

S.N o.	Bank	District	Branch	Target Populat ion	Sample distribution	Data Collection	Percentage of Distributions and collections
1	CBE	North	Amst Killo	21	9	9	3.69
2	CBE	North	Jan Meda	12	5	5	2.11
3	CBE	North	RasMekonnen	18	7	7	3.16
4	CBE	North	Yekatit 12	18	7	7	3.16
5	CBE	North	AtseMinilik	19	8	8	3.34
6	CBE	North	41 Eyesus	24	10	10	4.22
7	CBE	North	Arbegnoch	26	11	11	4.57
8	CBE	North	Hamle 19	26	11	11	4.57
9	CBE	North	Kebena	23	9	9	4.04
10	CBE	North	MenberePathriaric	22	9	9	3.87
11	CBE	North	Abware	28	12	12	4.92
12	CBE	North	BerehannaSelam	28	12	12	4.92
13	CBE	North	Sebara Babur	32	13	13	5.62
14	CBE	North	SidistKillo	51	21	21	8.96
15	CBE	North	Kidiste Mariam	48	20	20	8.44
16	CBE	North	FerensayLegasion	38	16	16	6.68
17	CBE	North	AratKillo	74	31	31	13.01
18	CBE	North	Sillassie	62	25	25	10.72
Total				569	235	235	100

Table2. Proportion of sample distribution and collection(Source: Ato Tegegnwork Wolde-Human Resource officer at CBE}

3.6.Source of Data Collection

Both primary and secondary data were used as sources of data. The primary data sources were collected through Close and open ended questionnaires. while the secondary data

sources were collected from books, different published and unpublished journals, manuals, reports, research papers and internet sources.

3.7.Data Collection Instrument

In order to obtain relevant information the researcher collected data from both primary and secondary sources. Primary data were collected using questionnaires based on the mentioned research questions. The major advantages of questionnaires are that they can be administered to groups of people simultaneously, and they are less costly and less time-consuming than other measuring instruments. The structured questionnaire comprised close and open ended questions were the main method of gathering the relevant data in this study. The design of close ended question comprised of 5 point Likert Scale ranging from (1=strongly disagree to (5=strongly agree) questions and open ended questions were included.

The secondary data sources were collected from different published and unpublished materials such as reviewing different files, company manuals, brochures, reference books, company reports, annual reports, National Bank report and especially from journal article that help to fill the knowledge gap and understand the concepts, definitions and theories related to CBE service and accessibility.

3.8.Variable and Measurement

The questionnaire used in this study was developed by the researcher based on literature review about the E-banking service and accessibility. The questionnaire was four pages which are divided into two parts. All sections of the questionnaire were developed in English language since all employees are clerical and able to comprehend it without any difficulty.

Part one: Demographic information of the respondent: The first part of the questionnaire requires information about personal and demographic data of respondents.

Part two: Research related questions about the E-Banking service and accessibility. The research related questions (Closed ended and open ended questioners) have four directions and indicated as follow:

S/No.	Directions	Items	Scales
1	The strength of E-banking service and accessibility	17	Five-Point Likert
2	The benefit of E-banking service and accessibility	13	Five-Point Likert
3	The driving forces for E-banking service and accessibility	8	Five-Point Likert
4	The opportunity of E-banking service and accessibility	5	Five-Point Likert

Table3.The research related questions (Closed ended and open ended questioners) have four directions

3.9.Data Collection Procedure

Close and open ended questions as a tool of data collection were developed based on literature review of E-banking service and accessibility. The questions were regarding the assessment focused on the strength, benefit, driving forces and opportunities of E-banking service and accessibilities for the development of banking industries. Thirty questionnaires were distributed to test reliability for Yared branch. The test process was done after the questioners were collected. After reliability test, the final questionnaires were distributed to 235 sample employees who are working in North Addis Ababa District in different branches of CBE in Addis Ababa area and collected accordingly.

3.10. Data Analysis Method

After the questionnaires were collected, the researcher cleared it, organized analyzed them using Statistical package for social science (SPSS 20) and interpreted accordingly. Description was also employed for the data analysis process. The descriptive statistics includes frequencies, percentages and table.

3.11. Validity and Reliability

The analysis of data would be sufficiently adequate to reveal its significance and the methods of analysis used should be appropriate. The validity and reliability of the data

were checked carefully. Validity and reliability of scores on instruments, additional standards for making knowledge claims, lead to meaningful interpretations of data.

3.11.1. Validity-

Validity refers to the extent to which the measurement instrument actually measures what it intended to measure. It is used to suggest determining whether the findings are accurate from the standpoint of the researcher, the participant, or the readers an account (John W. Cresswell, 2014). In order to ensure the quality of this research design content validity of the research questions were checked. The questioners were verified by the advisor Dr. Elias Berhanu, who looks into the appropriateness of questions and the scales of measurement. Peer discussion was also conducted with other researchers and experts such as G/Egziabher Beneber who is the Manager of building administration at CBE, to check the appropriateness of the questions. This is done to find out whether the developed questions measure what it is meant to measure and also to check the clarity, length, structure and wording of the questions. This test helps the researcher to get valuable comments to modify some questions.

3.11.2. Reliability

Reliability has to do with the accuracy and precision of a measurement procedure. Cronbach alpha is a coefficient of reliability. It is commonly used as a measure of the internal consistency or reliability of the instrument. According to statistical interpretation, the closer the reading of Cronbach's Alpha to digit 1, the higher the reliability is in internal consistency. In general, reliabilities less than 0.60 are considered to be poor, those in the 0.70 range are acceptable and those over 0.80 are good. (Hence Cronbach's Alpha will be utilized and calculated to test the accuracy or dependability or, as we usually call it, reliability of the instrument (Taber, 2016). In this research each statement rated on a 5 point Likert response scale. The reliability test was made with the sample of 30 employees who are working at Yared branch as respondent and the Cronbach's Alpha coefficient for the questioners.

Variables	Cronbach's Alpha	No of Items
The strength of E-banking service and accessibility	0.801	17

The benefit of E-banking service and accessibility	0.892	13
The driving forces of E-banking service and accessibility	0.844	8
The opportunities of E-banking service and accessibility	0.766	5
Over all variables	0.884	43

Table 4. The reliability test Cronbach's Alpha coefficient for the questioners.

The research Questioners were developed from related studies and conceptualizing based on research questions and objectives, and hence the questioners' are consistent with the objective of the study and are also reliable.

3.12. Ethical consideration

With regard to ethical issues, the researcher will be governed and strictly bound by the research code of ethics. Hence respondents privacy be maintained, their personal values also be kept confidential. Respondents will not be asked to write their names, their telephone numbers and their specific address so that their private secrets never been disclosed

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

4.1.Overview

The main objective of the study was to investigate the assessment of e-banking and accessibility in Commercial Bank Ethiopia North Addis Ababa District. Therefore, this chapter would present a discussion of the final results and the process through which the results were obtained. The statistical methods of analysis, which included a descriptive analysis such as frequencies, percentages, means and standard deviation and the inferential statistics (correlation and regression analysis).

The statistical analysis was made through statistical package for social science (SPSS version of 20.0) to assess the service and accessibility of e-banking. Tables, graph and charts were also be used to ensure easily understanding of the analysis.

A total of 235 questionnaires were distributed to the sampled professional respondents for Commercial Bank of Ethiopia North Addis Ababa district in eighteen selected Addis Ababa city branches. The name of the branches are Selassie, AratKillo, Ferensay Legasion, Kidiste Mariam, Sidist Killo, Sebara Babur, Berehanna Selam, Abware, Menbere Pathriaric, Kebena, Hamle 19, Arbegnoch, 41 Eyesus, Amist Killo, Atse Minilik, Yekatit 12, Ras Mekonnen and Jan Meda.

The researcher had collected all 235 questioners from all branches and respondents at the mid of March, 2020 by making high effort. The total response rate was 100 %. As a result, the analysis of this research is based on the number of questionnaires collected. In addition to the survey questionnaire, the researcher reviews some available bank documents regarding banking industry.

The research findings are related to the results those have prepared to assess the strength, Benefit, driving force and opportunity of e-banking and accessibility is determined and scrutinized based on detailed elements of the measurements.

4.2. Demographic Information of the Respondents

Demographic profiles of Commercial Bank of Ethiopia professional employees who participated in the study were analyzed using descriptive analysis with the help of SPSS.

The result of the survey is shown in Table 4.1 as follows

Variable	Category	Frequency	Percentage
Gender	Male	131	55.7
	Female	104	44.3
	Total	235	100
Age	21-30	127	54.0
	31-40	93	39.6
	41-50	15	6.4
	51-60	0	0.0
	≥ 60	0	0.0
	Total	336	100
Educational Level	Diploma	9	3.8
	BA	174	74.0
	MA	52	22.1
	Total	235	100
Working Experience	1-3 Years	87	37.0
	4-6 Years	112	47.7
	7-10 Years	28	11.9
	≥ 10	8	3.4
	Total	235	100

Table5. Demographic characteristics of the respondents

(Source: Primary Data, Collected by the Researcher, 2020, += above)

The overall findings indicate that 131(55.7 %) of the respondents are male whereas 104 (44.3%) of the respondent are female respondents. This shows that, the total number of male respondents are greater than female respondents. In addition, the study depicted that male and female employees are not proportionate in the banking industry.

As far as the age of respondents is concerned, 127 (54.0 %) of the respondents are in the range of 21-30 years; 93 (39.6 %) of the respondents are in the range of 31-40 years; 15 (4.4 %) are in the range of 41-50 years and from 51-60 years there is no respondents. This study depicted that the majority of the respondents are young and within the productive age range.

With regard to educational level, Diploma are 9 (3.8%) of the respondents; BA (BSC) are 174 (74.0%), Masters of Art holders are 52 (22.1%) % of the respondents. It can be said from the survey that most of the bank employee are degree holders. The smallest number of respondents are diploma holder and all most all the professionals 226 (96.1 %) of the respondents are qualified first degree and above. This implies that the service they provide better service to the sampled district.

When we come to overall work experience of the respondents in the bank, 87(37 %) of the respondents have 1-3 years of work experience, 112 (47.7 %) of the respondents have 4-6 years of work experience, 28 (11.9 %) have 7-10 years of work experience, and 8(3.4%) have > 10 years work experience. From this it is possible to understand that, most of the respondents have 4-6 work experience in the bank or Business Banking Operation (BBO level employee and lowest number of respondents were worked 10 years and above in the bank .This indicate that in this bank there are low number of experienced or expertise employee which facilitate the banking operation in this competitive banking industry in Ethiopia and there is low skill and capacity sharing practice from experienced employee.

4.3. Descriptive statistics analysis of e-banking service and accessibility

In this part, descriptive statistics in the form of frequency and percentage were presented to illustrate the level of agreement of the respondents in CBE North Addis Ababa District after collecting and encoding the data using SPSS. The responses for the variables indicated below were measured on five point Likert scale with: 1=strongly disagree, 2=disagree, 3 = neutral, 4= agree and 5= strongly agree.

4.3.2 The Potential Strength Affect of E-Banking Service and Accessibility With Regard to Technology

Table 6. The potential strength affect of e-banking service and accessibility with regard to

S/No.	Item	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%ge	F	%ge	F	%ge	F	%ge	F	%ge
1	full of confidence with the security aspects;	20	8.5	40	17.0	40	17	112	47.7	23	9.8
2	crimes like money laundering and other financial are not easily facilitated through e- banking;	17	7.2	41	17.4	79	33.6	77	32.8	21	8.9
3	Users have trust by E-banking technology provided by banks;	7	3.0	33	14.0	88	37.4	88	37.4	19	8.1
4	Don't have risk to use E-banking technology assume by Customer;	21	8.9	32	13.6	80	34.0	86	36.6	16	6.8

technology

(Source: Primary Data, Collected by the Researcher, 2020, + = above)

From the table above, it can be noted that most of the respondents 135(57.7%) of them agreed that they are confident enough on the security aspects of E-banking service and accessibility, 40(17%) of them are neutral and 60(25.5%) of them are disagreed on the potential strength affect of E-banking technology.

According to the respondents, criminal acting such as money laundering is not easily facilitated in providing service and accessibility using E-banking technology. In this regards, 98(41.7%) of them agreed on the point whereas 79(33.6%) of them are neutral and 58(24.6%) of them disagreed on the same point.

Regarding customers trust on the use of E- banking technology, 107(45.5%) of the respondents agreed that they have the trust on the technology. Whereas 88(37.4%) of them are neutral and 40(17%) of them do not have the trust on the potential strength affect of E-banking service and accessibility through the use of technology.

Many of the respondents, 102(42.8%) of them, agreed that the use of E-banking technology to make the service deliverable and accessible without risk whereas, 80(34.0) of them are neutral and 53(22.5%) of the customers agreed that E-banking service delivery and accessibility through the use of technology is at risk.

In general, from the above table it can be summarized that the potential strength affect of e-banking service and accessibility through the use of technology helps users develop confidence on security issues, decreases criminal acting's, builds trust on the users and with minimal risk.

4.3.3 The Potential Strength of E-Banking Service and Accessibility With Regard to Organizational Factors

SN	Item	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%ge	F	%ge	F	%ge	F	%ge	F	%ge
1	Well developed customer awareness about E-banking products;	18	7.7	36	15.3	90	38.3	71	30.2	20	8.5
2	Well technical and managerial skills in implementation and use of E-banking technology ;	13	5.5	26	11.1	80	34.0	95	40.4	21	8.9
3	Low cost of implementation of E-banking. (such as cost of ICT equipment and network, software and reorganization;	10	4.3	38	16.2	66	28.1	90	38.3	31	13.2

Table 7 The potential strength affect of e-banking service and accessibility with regard to Organizational factors

(Source: Primary Data, Collected by the Researcher, 2020, + = above

From the above table, it can be depicted that 91(39%) of the respondents have agreed that the customers awareness for E-banking products are well developed, 90(38.3%) of them have neutral about the customers awareness for E-banking products and 54(23%) of them are disagreed about customers awareness for E-banking products. This indicated that the customers of the bank have awareness about E-banking products.

With regard to the implementation and use of E-banking technology, 116(49%) of the respondent have agreed, 80(34%) of the respondent have neutral and 36(16.6%) of the respondent are disagreed. This implies that most of the respondents are capable in technical and managerial competencies to implement as well as to use E-banking technologies in the bank.

On the issue of the cost of E-banking implementations are low in the bank, 121(52%) of the respondents have agreed, 66(28.1%) have neutral and 48(20.5%) have disagreed. This implies that the cost particularly cost of ICT equipment's, network, soft-ware and reorganization to implement E-banking products are not very expensive.

4.3.4 Potential strength of Affect E-Banking Service and Accessibility With Regard To Environmental Factor

SN	Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%ge	F	%ge	F	%ge	F	%ge	F	%ge
1	There is government role to support customers' willingness;	15	6.4	32	13.6	79	33.6	88	37.4	21	8.9
2	Have better legal framework for E-banking;	11	4.7	22	9.4	85	36.2	93	39.6	24	10.2
3	Have law mandating the bank to access E-banking technology.	4	1.7	28	11.9	94	40.0	93	39.6	16	6.8
4	Sufficient network infrastructure and internet related support services;	24	10.2	38	16.2	74	31.5	78	33.2	21	8.9
5	Have experience by computer literacy;	15	6.4	39	16.6	82	34.9	80	34.0	19	8.1
6	No limitation of ICT infrastructure ;	18	7.7	43	18.3	71	30.2	81	34.5	22	9.4
7	Have well adequate strong coordination, interaction and cooperation between banks and other decision making centers in E -banking context;	9	3.8	46	19.6	88	37.4	73	31.1	19	8.1
8	Present of financial networks that links different banks;	16	6.8	31	13.2	69	29.4	89	37.9	30	12.8
9	Frequent power has not disruption;	14	6.0	38	16.2	78	33.2	77	32.8	28	11.9
10	Uniform Platform by Banks i.e. law mandating the banks to use common software platform;	11	4.7	31	13.2	85	36.2	84	35.7	23	9.8

Table 8. The potential strength affect of e-banking service and accessibility with regard to Organizational factors

(Source: Primary Data, Collected by the Researcher, 2020, + = above)

From the above table, it can be depicted that 99(39%) of the respondents have agreed that the sufficiency of E-banking infrastructure such as internet related support service and networking, 74(31.5%) of them have neutral on this ideas for E-banking products and 64(26.4%) of them are disagreed about the point for E-banking products and services infrastructures. This indicated that the internet related support service and networking infrastructure are available for the development of E-banking products and services in the bank though they have their own limitations.

Concerning the role of government to support E-banking in many instance, 109(46.3%) of the respondents have agreed, 79(34%) have neutral and 47(20%) have disagreed. This implies that the government policy and strategies have great role for the expansion of E-Banking products.

Regarding the legal framework on E-Banking, 117(49.8%) of the respondents have agreed, 85(36.2%) have neutral and 33(14.1%) have disagreed. This implies that there is a conducive legal framework to improve E-banking products and service implementations in the bank.

On the idea of legal mandating to access E-Banking documents, 109(46.4%) of the respondents have agreed, 94(40%) have neutral and 32(13.6%) have disagreed. This implies that the bank have a right to have legal ground to check E-banking service.

On the issues of computer literacy experience to utilize E-banking product and service, 99(42.1) of the respondents have agreed, 82(34.9%) have neutral and 44(23%) have disagreed. This implies that computer skills to utilize E-banking product and service are developed in the bank.

Concerning the limitation of ICT infrastructure for E-Banking product and service, 103(43.9%) of the respondents have agreed that there is no ICT infrastructure limitation, 71(30.2%) have neutral and 61(26%) have disagreed. This implies that the there is no ICT infrastructure limitation for the expansion of E-Banking products and services in the bank.

Regarding the degree of coordination, interaction and cooperation between the banks and decision maker centers about on E-Banking products and services, 92(39.2%) of the respondents have agreed, 88(37.4%) are neutral and 54(23.4%) have disagreed. This implies that the banks and other decision maker's stakeholders have strong and adequate level of cooperation, interaction and coordination for the implementation of E-Banking product and services.

On the idea of the presence of financial network that link different banks, 119(50.7%) of the respondents have agreed, 69(29.4%) have neutral and 47(20%) have disagreed. This

implies that most of the respondents have agreed that there is a strong financial link among commercial banks.

On the point that the disruption of power, 105(44.7%) of the respondents have agreed that the absence of frequent power disruption, 78(33.2%) have neutral and 52(22.2%) have disagreed. This implies that most of the respondents have agreed that there is no frequent fluctuation of power as the result there is smooth operation of E-banking service and products practice in the bank.

Regarding the legal platform to use common software platform, 107(45.5%) of the respondents have agreed, 85(36.2%) have neutral and 42(17.9%) have disagreed. This implies that most of the respondents have agreed that the practice of legal platform to use software platform for E-Banking product and service implementation, operation and improvement.

4.3.5 The Assessment of E-banking service and accessibility in operational benefits.

SN	Items	Str Disagree		Disagree		Neutral		Agree		Str Agree	
		F	%ge	F	%ge	F	%ge	F	%ge	F	%ge
1	Reduced paper work;	17	7.2	17	7.2	24	10.2	131	65.7	46	19.6
2	Low transaction cost;	11	4.7	11	4.7	69	29.4	112	47.7	32	13.6
3	Enhance productivity in the banking industry;	11	4.7	12	5.1	54	23.0	116	49.4	42	17.9
4	Enhance foreign currency generation;	6	2.6	21	8.9	54	23.0	114	48.5	40	17.0
5	Increase reliability and error free transaction;	7	3.0	17	7.2	66	28.1	99	42.1	46	19.6

Table 9 The potential strength affect of e-banking service and accessibility in operational benefits

(Source: Primary Data, Collected by the Researcher, 2020, + = above)

From the above table, it can be depicted that 177(85.3%) of the respondents have agreed that E-banking reduce paper work, 24(10.2%) of them have neutral on this ideas for E-banking products and 34(14.4%) of them have disagreed about the point for E-banking products and services on operational benefit that reduce paper work. This implies that most of the respondents have believed that E-banking reduce paper work.

On the issues of E-banking make low transactional cost, 144(61.3) of the respondents have agreed, 69(29.4%) have neutral and 22(9.4%) have disagreed. This implies that most of the respondent believed that E-banking reduce transactional cost.

Concerning the E-banking service and accessibility increase productivity in banking industry, 158(67.3%) of the respondents have agreed that E-banking service and accessibility increase productivity, 54(23%) have neutral and 23(9.8%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility increase productivity in the banking industry.

Regarding the E-banking service and accessibility increase foreign currency earning, 154(65.5%) of the respondents have agreed that E-banking service and accessibility increase foreign currency earning, 54(23%) have neutral and 27(11.5%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility increase foreign currency earning.

On the point that E-banking service and accessibility increase reliability and reduce error free transaction, 145(61.7%) of the respondents have agreed that E-banking service and accessibility increase reliability and error free transaction, 66(28.1%) have neutral and 24(10.2%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility increase reliability and error free transaction.

The above result indicated that there are operational benefits being the banking operations are supported by E-banking service and accessibility in the banking industries. The operational benefits that have earned from E-banking service and accessibility are reduced paper work, reduced paper work, enhance productivity, enhance foreign currency generation and increase reliability and error free transaction.

4.3.6 The Assessment of E-banking service and accessibility in service benefits

S/No.	Items	Strongly	Disagree	Neutral	Agree	Strongly
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		Disagree								Agree	
		F	%ge	F	%ge	F	%ge	F	%ge	F	%ge
1	Facilitates development of new products and new business in the banking industry;	8	3.4	13	5.5	60	25.5	112	47.7	42	17.9
	convenient, in terms of 7/24 hours services, accessibility; i.e. No time limit to access bank account and information	10	4.3	12	5.1	56	23.8	110	46.8	47	20.0
2	Enhance accessibility of the bank's services(in terms of place);	15	6.4	19	8.1	59	25.1	98	41.7	44	18.7
3	Improve customers service delivery;	10	4.3	28	11.9	54	23.0	103	43.8	40	17.0
4	Improving transaction speeds	12	5.1	19	8.1	39	16.6	113	48.1	52	22.1
5	Reduce queues in the banking hall;	9	3.8	12	5.1	71	30.2	97	41.3	46	19.6
6	Create better relationship among banks and clients;	9	3.8	12	5.1	70	29.8	88	37.4	56	23.8
7	Encourages price transparency;	7	3.0	25	10.6	68	28.9	106	45.1	29	12.3

Table 10. The Assessment of E-banking service and accessibility in service benefits (Source: Primary Data, Collected by the Researcher, 2020, + = above)

From the above table, it can be depict-banking service and accessibility facilitate the development of new products and new business in banking industry, 154(65.6%) of the respondents have agreed, 60(25.5%) of them have neutral and 21(8.9%) of them have disagreed about the point. This implies that most of the respondents have believed that E-banking service and accessibility in banking industry developed new products and service of E-banking and create new business.

On the issues of E-banking make convenient in terms of 7/24 hours services and accessibility; i.e. No time limit to access bank account and information, 157(66.8) of the respondents have agreed, 56(23.8%) have neutral and 22(9.4%) have disagreed. This implies that most of the respondent believed that because of E-banking service and accessibility in the bank has been create that the service has been convenient in terms of 7/24 hours services and accessibility; i.e. No time limit to access bank account and information.

Concerning the increase of banking service accessibility, 142(60.4%) of the respondents have agreed, 59(25.1%) have neutral and 34(14.5%) have disagreed. This implies that most of the respondents believed that E-banking service and products increase the accessibility of banking service to the customers.

Regarding the improvement of customer service delivery, 143(60.8%) of the respondents have agreed that E-banking service and products improve customer service delivery, 54(23%) have neutral and 38(16.2%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility improve the delivery of customer service.

On the issue that the improvement of transaction speed, 165(70.2%) of the respondents have agreed that E-banking service and products improve transaction speed, 19(16.6%) have neutral and 31(13.2%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility improve transaction speed.

On the point that E-banking service and accessibility reduce queues (backlogs) in the banking hall, 143(60.9%) of the respondents have agreed that E-banking service and accessibility reduce queues (backlogs), 71(30.2%) have neutral and 21(8.9%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility reduce queues (backlogs) in the bank.

Regarding the creation of E-banking service and accessibility makes the relationship between the bank and its client, 131.4(61.2%) of the respondents have agreed that E-banking service and accessibility that create relationship between the bank and its clients, 70(29.8%) have neutral and 21(8.9%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility create relationship between the bank and its customers.

Concerning E-banking service and accessibility with price transparency, 135(57.4%) of the respondents have agreed, 68(28.9%) have neutral and 22(13.6%) have disagreed. This implies that most of the respondents believed that E-banking service and products transparent on price to the stakeholders.

The above result indicated that there are attractive service benefits being the banking operations are supported by E-banking service and accessibility in the banking industries. The service benefit that have earned providing banking operation through E-banking service and accessibility are new product and service and new business development, convenient and accessibility in terms of 7/24 hours services, accessibility, no time limit to access bank account and information, improve customers service delivery, improve transaction speeds, reduce queues (backlogs), create better relationship between banks and clients and encourages price transparency.

4.3.7 The driving forces for assessment of E-banking service and accessibility

S/No.	Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%ge	F	%ge	F	%ge	F	%ge	F	%ge
1	Desire to improve organizational performance and productivity;	14	6.0	15	6.4	27	11.5	135	57.4	44	18.7
2	Desire to improve the relationship with customers;	10	4.3	14	6.0	40	17.0	136	57.9	35	14.9
3	Desire to cover wide geographical area;	10	4.3	23	9.8	51	21.7	105	44.7	46	19.6
4	Desire to build organizational reputation;	6	2.6	21	8.9	77	32.8	90	38.3	41	17.4
5	Desire to reduce transaction cost;	7	3.0	16	6.8	56	23.8	105	44.7	51	21.7
6	Desire to improve customer service;	9	3.8	13	5.5	37	15.7	120	51.1	56	23.8
7	Desire to satisfy rapid change of customer needs and preferences	8	3.4	8	3.4	77	32.8	101	43.0	41	17.4
8	Legal frame works that enforce banking industries to expand technological innovation	7	3.0	18	7.7	51	21.7	116	49.4	43	18.3

Table 11. The driving forces for assessment of E-banking service and accessibility (Source: Primary Data, Collected by the Researcher, 2020, + = above)

From the above table, it can be depicted that E-banking service and accessibility facilitate the desire to improve organizational performance and productivity, 179(76.1%) of the respondents have agreed, 27(11.5%) of them have neutral and 29(12.4%) of them have disagreed about the point. This implies that most of the respondents have believed that E-banking service and accessibility facilitate the desire to improve organizational performance and productivity.

On the issues of E-banking make the desire to improve the relationship with customers, 171(72.8) of the respondents have agreed, 40(17%) have neutral and 24(10.3%) have disagreed. This implies that most of the respondent believed that because of E-banking service and accessibility improve the relationship of the bank and its customers.

Concerning the desire to cover wide geographical area, 141(64.3%) of the respondents have agreed, 51(21.7%) have neutral and 23(14.1%) have disagreed. This implies that most of the respondents believed that E-banking service and products increase the desire to cover wide geographical area.

Regarding the desire to build organizational reputation by E-banking, 131(55.7%) of the respondents have agreed that E-banking service that build organizational reputation, 77(32.8%) have neutral and 27(11.5%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility build organizational reputation.

On the issue that the desire to reduce transaction cost, 156(66.4%) of the respondents have agreed that on the desire of E-banking to reduce transaction cost, 56(23.8%) have neutral and 23(9.8%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility reduce transaction cost.

On the point that the desire to improve customer service, 176(74.9%) of the respondents have agreed that E-banking service and accessibility improve customer service, 37(15.7%) have neutral and 22(9.3%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility helps to improve customer service in the bank.

Regarding the desire to satisfy rapid change of customer needs and preferences, 142(60.4%) of the respondents have agreed that E-banking service and accessibility satisfy the rapid change in customer needs and preferences, 77(32.8%) have neutral and 16(6.8%) have disagreed. This implies that most of the respondents believed that E-banking service and accessibility can satisfy the rapid change in customer needs and reference.

Concerning the legal frame works that enforce banking industries to expand technological innovation, 159(67.7%) of the respondents have agreed, 51(21.7%) have neutral and 25(10.7%) have disagreed. This implies that most of the respondents believed that E-banking service and products have a legal frame works that enforce banking industries to expand technological innovation.

The above result indicated that there are driving forces that can expand E-banking service and accessibility in the banking industries. The driving forces that enable to expand E-banking service and accessibility are the desire of organizational performance and productivity, the good relationship between the bank and the customer, expansion of the bank in wide geographical area, organizational reputation, less transaction cost, quality customer service, the satisfaction of customer needs and preferences for rapid change, and legal framework.

4.3.8 The Opportunities in the country that initiates the assessment of E-banking service and accessibility.

S/No.	Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%ge	F	%ge	F	%ge	F	%ge	F	%ge
1	Commitment of the government to strengthen the banking industry;	8	3.4	25	10.6	56	23.8	109	46.4	37	15.7
2	Support green development strategy for the government.	8	3.4	18	7.7	85	36.2	104	44.3	20	8.5
3	The existence of high demand;	6	2.6	17	7.2	70	29.8	114	48.5	28	11.9
4	Improvement in the banking habit of the society.	5	2.1	31	13.2	51	21.7	106	45.1	42	17.9
5	Commitment of the government to facilitate the expansion of ICT infrastructure	12	5.1	15	6.4	64	27.2	105	44.7	39	16.6

Table 12. The Opportunities in the country that initiates the assessment of E-banking service and accessibility (Source: Primary Data, Collected by the Researcher, 2020, + = above)

From the above table, it can be depicted that the commitment of government to strengthen the banking industry through E-banking service and accessibility, 146(62.6%) of the respondents have agreed, 56(23.8%) of them have neutral and 33(13.6%) of them have disagreed about the point. This implies that most of the respondents have believed that E-banking service and accessibility facilitate the desire to improve organizational performance and productivity.

On the issues of the Support green development strategy for the government through E-banking service and accessibility, 124(52.8) of the respondents have agreed, 85(36.2%) have neutral and 26(11.1%) have disagreed. This implies that most of the respondent believed that because of E-banking service and accessibility can support the green development strategies of the government in the banking sectors.

Concerning the existence of high demand, 142(60.4%) of the respondents have agreed, 70(29.8%) have neutral and 23(9.8%) have disagreed. This implies that most of the respondents believed that the existence of high demand to E-banking service and products in the banking industry.

Regarding the improvement in the banking habit of the society, 148(63%) of the respondents have agreed that in the improvement in the banking habit of the society,

51(21.7%) have neutral and 36(15.3%) have disagreed. This implies that most of the respondents believed that the improvement in the banking habit of the society improve E-banking service and accessibility in banking service.

On the issue that the commitment of the government to facilitate the expansion of ICT infrastructure, 144(61.3%) of the respondents have agreed, 64(27.2%) have neutral and 27(11.5%) have disagreed. This implies that most of the respondents believed that the commitment of the government to facilitate the expansion of ICT infrastructure improve E-banking service and accessibility in the banking service

The above result indicated that there are opportunities that initiate E-banking service and accessibility in the banking industries. The opportunities that enable to initiate E-banking service and accessibility are commitment of the government, green development strategy, the existence of high demand, and the banking habit of the society.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This section presents the major findings, conclusions drawn and recommendations suggested based on the study.

5.1 Summary of the Major Findings

This Study is aimed to *assess* E-Banking Service and Accessibility in the Case of Commercial Bank of Ethiopia especially focusing on North Addis Ababa District. In doing so, the data were collected from 18 branches of CBE employees using open ended and close ended questionnaire of randomly selected 235 employees from a total of 569 employees. From the distributed 235 questionnaire, all of them were filled and returned. Then, the responses were changed into percentage (%), which is convenient and acceptable for data analysis and interpretation of the study.

In the demographic distribution, most of the respondents were male employees which shows us that 271(67.80%), in the age category majority of the respondents are in the range of 23-30 year which shows us that 288(72%), when we see the educational level most of the respondents are BA degree holder which shows us 266(66.5%), as also reveals from the demographic distribution majority of respondents 252(63%) served the bank in the range of 1-5 years of work experience, concerning the respondent salary 266(66.5%) of the respondent had been paid from 5,001.00 to 10,000.00. Finally, marital status of the respondents 246(61.5%) are single and 333(83.3%) of the respondent are professional employee

The finding have indicated that technology plays a pivotal role in fostering E-Banking service and accessibility in CBE through helping customers develop confidence on security issues, decreases criminal acting's, builds trust on the users and with minimal risk. Organizationally, it develops customer's awareness to new products, minimizes the cost of infrastructure, and promotes technically and managerially competent professionals to implement E-banking to the bank industry as a whole. Environmentally, the role of the government to support customers' willingness, the presence of better legal framework for

E-banking, the legal mandate given to check the service and access, the presence of Sufficient network infrastructure and internet related support services, the experienced and computer literate experts, its well-equipped nature, a well designed and strong coordination, interaction and cooperation between and among banks and other decision making centers in E -banking context, the Presence of financial networks that links different banks, almost free power disruption nature, and the use of Uniform Platform in all Banks makes E-banking technology more accessible and better service provider.

In terms of operation, E-banking reduces paper work, has low transaction cost, enhance productivity in the banking industry, enhance foreign currency generation and Increase reliability and error free transaction;

From the service benefit points of View, E-Banking Facilitates the development of new products and new business in the banking industry; provides 24 hours services, accessibility; that is. there is no time limit to access bank account and information, enhances accessibility of the bank's services(in terms of place); Improves customers service delivery; Improving transaction speeds Reduces backlogging; Create better relationship among banks and clients; and encourages price transparency.

Some of the driving forces that encourage E-Banking service and accessibility are the Desire to improve organizational performance and productivity; to improve the relationship with customers; to cover wide geographical area; to build organizational reputation; to reduce transaction cost; to improve customer service; to satisfy rapid change of customer needs and preferences and the legal frame works that enforce banking industries to expand technological innovation.

Some of the opportunities that initiate E-Banking technology are Commitment of the government to strengthen the banking industry; to Support green development strategy, the presence of high demand from customers; Improvement in the banking habit of the society and Commitment of the government to facilitate the expansion of ICT infrastructure.

As a whole, to make the banking industry better service provider and accessible in all geographical locations technically equipped and experienced professionals play pivotal

role by creating a conducive atmosphere between CBE and its customers, between the bank and the government bodies for legal purposes and to expand its infrastructure with least cost and better networking.

5.2. Conclusions

The following Conclusions have been drawn based on the findings of the study.

- ✚ The potential strength affect of e-banking service and accessibility through the use of technology helps users develop confidence on security issues, decreases criminal acting's, builds trust on the users and with minimal risk.
- ✚ The implementation of E-Banking technology is improving as the awareness of the customers about the use of E-banking products has been scaling up from time to time with least cost.
- ✚ supported by the government policy and strategy provides conducive legal framework for the bank industry though it has a limitation on networking and accessibility,
- ✚ The Assessment of E-banking service and accessibility in service benefits have facilitated the development of new products and new business in the banking industry by providing unlimited services and accessibility, improved customers service delivery, improved transaction speed, reduced backlogging and created better relationship among banks and customers.
- ✚ The driving forces for assessment of E-banking service and accessibility encouraged the desire to improve organizational performance and productivity through improved relationship with customers, wide geographical area; to build organizational reputation; to reduce transaction cost; to improve customer service; to satisfy rapid change of customer needs and preferences and the legal frame works that enforce banking industries to expand technological innovation.
- ✚ The Opportunities in the country that initiates the assessment of E-banking service and accessibility are the commitment of the government to strengthen the banking industry; to Support green development strategy, the presence of high demand from customers; Improvement in the banking habit of the society and Commitment of the government to facilitate the expansion of ICT infrastructure.

✚ As a whole, to make the banking industry better service provider and accessible in all geographical locations technically equipped and experienced professionals play pivotal role by creating a conducive atmosphere between CBE and its customers, between the bank and the government bodies for legal purposes and to expand its infrastructure with least cost and better networking

5.3. Recommendations

Eventually, the practitioner would like to give the following recommendations based on the current study:

: In order to be successfully achieve the aims and objectives of the banking industry,

- CBE should create and use different trustworthy E-banking technologies that are easily usable and accessible to customers. They should be also free from any forms of risk, insecurity, criminal acting and least cost.
- CBE should work hand in hand with different bodies to raise the awareness of the customers about the use of E-banking products, to be better supported by the government's policies and strategies provided that conducive legal framework for the expansion of the bank industry without networking and accessibility problems.
- Regarding service benefits, CBE should have facilitated the development of new products and new business in the banking industry by providing unlimited services and accessibility, improved customers service delivery, improved transaction speed, reduced backlogging and created better relationship among banks and customers by far better than the current .situations
- Regarding the driving forces for assessment of E-banking service and accessibility, CBE should encourage the desire to improve organizational performance and productivity through improved relationship with customers, covering of wide geographical areas, by building strong organizational reputations, reducing transaction cost, improved customer service; to satisfy rapid change of customer needs and preferences and the legal frame works that enforce banking industries to expand technological innovation.

- AS to the Opportunities in the country that initiates the assessment of E-banking service and accessibility CBE should work closely with the concerned bodies with strong committeemen o as to foster the banking habit of the society and expand ICT infrastructure throughout the country at large.

5.4 Suggestions for Further Studies

Due to limited time and resources, this study was restricted to only 18 CBE branches North Addis Ababa district from the banking industry. It is important for further studies to be carried out across the country for a broader perspective on the the assessment of E-banking service and accessibility. A replication of this study in other contexts like the education sector would demonstrate the significance of the assessment of E-banking service and accessibility in general.

Future researchers would further review existing literature on the assessment of E-banking service and accessibility. This would enable them to work more on the assessment of E-banking service and accessibility related factors that have not been covered in this study for insight.

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Appendix I
Questionnaire
Addis Ababa University
College of Business and Economics
Department of Public Administration and Development Management

Dear Sir/Madam,

My name is Yohannes Zinger, MA student in Public Management and Policy at Addis Ababa University. I am undertaking a research on the topic “assessment of e-banking service and accessibility; the case of commercial bank of Ethiopia North Addis Ababa district” for the partial fulfillment of the requirements in MPMP.

The aim of this questionnaire is to identify the assessment of e-banking service and accessibility; the case of commercial bank of Ethiopia. The results of the study will have a paramount important to the institutions, owners, clients, concerned government offices and policy makers and others. To this end, this questionnaire is prepared to gather pertinent information.

I sincerely assure you that the information you provide will be used only for academic purposes. Your involvement is regarded as a great input to the quality of the research results. Your honest and thoughtful response is invaluable.

Please put the tick mark (✓) on the appropriate space as per your choice for each closed-ended question and the appropriate reason for open-ended questions.

Yours faithfully,

Yohannes Zinger
Tel Phone +251922595546

General Instruction

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

Part I: Demographic profile of respondents

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

1. Gender: Male ☐ Female ☐
2. Age: 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ ≥ 61 ☐
3. Educational level: Diploma ☐ First degree ☐ Master Degree and above ☐
4. Working experience: 1-3 years ☐ 4-6 years ☐ 7-10 years ☐ above 10 years ☐

Part II: Research related questions

The following questions are presented on a five point Likert scale. If that aspect is much better than you hoped it could be choose 5 (strongly agree), if that aspect is even better than you expected it to be choose 4 (agree) if that aspect is what you would like it to be choose 3 (neutral), you would like choose 2 if it to be somewhat poor (disagree) and if that aspect is much poorer that you would like it to be choose 1 (strongly disagree).

Please put (✓) in the place where the choice is appropriate for you.

Section I: Questions related with the service of E-banking system in Commercial Bank of Ethiopia

Diction1. Item 1-17 in the table below are accompanied with five options: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree

Key: 5= Strongly Agree, 4=Agree,3= Neutral, 2=Disagree, 1=Strongly Disagree

Factors	NO.	To what extent do you agree that the following potential strength affect e-banking service and accessibility technologies	1	2	3	4	5
Technological factor	1	full of confidence with the security aspects;					
	2	crimes like money laundering and other financial are not easily facilitated through e- banking;					
	3	Users have trust by E-banking technology provided by banks;					
	4	Don't have risk to use E-banking technology assume by Customer;					
Organizational factor	5	Well developed customer awareness about E-banking products;					
	6	Well technical and managerial skills in implementation and use of E-banking technology ;					
	7	Low cost of implementation of E-banking. (such as cost of ICT equipment and network, software and reorganization;					
Environmental factor	8	There is government role to support customers' willingness;					
	9	Have better legal framework for E-banking;					
	10	Have law mandating the bank to access E-banking technology.					
	11	Sufficient network infrastructure and internet related support services;					
	12	Have experience by computer literacy;					
	13	No limitation of ICT infrastructure ;					
	14	Have well adequate strong coordination, interaction and cooperation between banks and other decision making centers in E -banking context;					
	15	Present of financial networks that links different banks;					
	16	Frequent power has not disruption;					
	17	Uniform Platform by Banks i.e. law mandating the banks to use common software platform;					

1. Please kindly state any other benefits the banks gained from the accessibility of E-banking system (ATM, PO, Mobile Banking and Internet Banking system) in the delivery of service to customers?

Direction II: Items 1-13 in the table below are accompanied with five options: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree respond to these items by putting mark (✓) in the appropriate box.

Key: 5= Strongly Agree, 4=Agree, 3= Neutral, 2=Disagree, 1=Strongly Disagree

Factors	No	1) The following are some of the benefits the Banks realized from access of E-banking system, please indicate your choice.	1	2	3	4	5
Operational Benefits	1	Reduced paper work;					
	2	Low transaction cost;					
	3	Enhance productivity in the banking industry;					
	4	Enhance foreign currency generation;					
	5	Increase reliability and error free transaction;					
Services Benefits	6	Facilitates development of new products and new business in the banking industry;					
	7	convenient, in terms of 7/24 hours services, accessibility; i.e. No time limit to access bank account and information					
	8	Enhance accessibility of the bank's services(in terms of place);					
	9	Improve customers service delivery;					
	10	Improving transaction speeds					
	11	Reduce queues in the banking hall;					
	12	Create better relationship among banks and clients;					
	13	Encourages price transparency;					

Please kindly state any other benefits the banks gained from the accessibility of E-banking system (ATM, POS, Mobile banking and Internet Banking system) in the delivery of service to customers?

Direction III: Items 1-8 in the table below are accompanied with five options: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree respond to these items by putting mark (✓) in the appropriate box.

Key: 5= Strongly Agree, 4=Agree, 3= Neutral, 2=Disagree, 1=Strongly Disagree

No	3) Do you think that the following are among the driving force for the service and accessibility of E-banking services in Commercial Bank of Ethiopia?	1	2	3	4	5
1	Desire to improve organizational performance and productivity;					
2	Desire to improve the relationship with customers;					
3	Desire to cover wide geographical area;					
4	Desire to build organizational reputation;					
5	Desire to reduce transaction cost;					
6	Desire to improve customer service;					
7	Desire to satisfy rapid change of customer needs and preferences					
8	Legal frame works that enforce banking industries to expand technological innovation					

Please kindly state any other Driving forces for expand E-banking service and accessibility in commercial bank of Ethiopia.

Direction IV: Items 1-5 in the table below are accompanied with five options: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree respond to these items by putting mark (✓) in the appropriate box.

Key: 5= Strongly Agree, 4=Agree, 3= Neutral, 2=Disagree, 1=Strongly Disagree

No	4) What are the existing opportunities in the country that initiates the accessibility of E-banking service?	1	2	3	4	5
1	Commitment of the government to strengthen the banking industry;					
2	Support green development strategy for the government.					
3	The existence of high demand;					
4	Improvement in the banking habit of the society.					
5	Commitment of the government to facilitate the expansion of ICT infrastructure					

Please kindly state any other opportunities in the country that initiates the service and accessibility of E-banking?

Frequency Table potential strength affect e-banking service and accessibility with technology

full of confidence with the security aspects				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	8.5	8.5
	Disagree	40	17.0	25.5
	Neutral	40	17.0	42.6
	Agree	112	47.7	90.2
	Strongly Agree	23	9.8	100.0
	Total	235	100.0	
crimes like money laundering and other financial are not easily facilitated through e- banking;				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	7.2	7.2
	Disagree	41	17.4	24.7
	Neutral	79	33.6	58.3
	Agree	77	32.8	91.1
	Strongly Agree	21	8.9	100.0

Total	235	100.0	100.0
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Users have trust by E-banking technology provided by banks;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	3.0	3.0	3.0
Disagree	33	14.0	14.0	17.0
Neutral	88	37.4	37.4	54.5
Agree	88	37.4	37.4	91.9
Strongly Agree	19	8.1	8.1	100.0
Total	235	100.0	100.0	

Don't have risk to use E-banking technology assume by Customer;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	21	8.9	8.9	8.9
Disagree	32	13.6	13.6	22.6
Neutral	80	34.0	34.0	56.6
Agree	86	36.6	36.6	93.2
Strongly Agree	16	6.8	6.8	100.0
Total	235	100.0	100.0	

Well developed customer awareness about E-banking products;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	18	7.7	7.7	7.7
Disagree	36	15.3	15.3	23.0
Neutral	90	38.3	38.3	61.3
Agree	71	30.2	30.2	91.5
Strongly Agree	20	8.5	8.5	100.0
Total	235	100.0	100.0	

Well technical and managerial skills in implementation and use of E-banking technology ;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	13	5.5	5.5	5.5
Disagree	26	11.1	11.1	16.6
Neutral	80	34.0	34.0	50.6
Agree	95	40.4	40.4	91.1
Strongly Agree	21	8.9	8.9	100.0
Total	235	100.0	100.0	

Low cost of implementation of E-banking. (such as cost of ICT equipment and network, software and reorganization;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	10	4.3	4.3	4.3
Disagree	38	16.2	16.2	20.4
Neutral	66	28.1	28.1	48.5
Agree	90	38.3	38.3	86.8
Strongly Agree	31	13.2	13.2	100.0
Total	235	100.0	100.0	

There is government role to support customers' willingness;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	15	6.4	6.4	6.4
Disagree	32	13.6	13.6	20.0
Neutral	79	33.6	33.6	53.6
Agree	88	37.4	37.4	91.1
Strongly Agree	21	8.9	8.9	100.0
Total	235	100.0	100.0	

Have better legal framework for E-banking;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	11	4.7	4.7	4.7
Disagree	22	9.4	9.4	14.0
Neutral	85	36.2	36.2	50.2
Agree	93	39.6	39.6	89.8
Strongly Agree	24	10.2	10.2	100.0
Total	235	100.0	100.0	

Have law mandating the bank to access E-banking technology.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	4	1.7	1.7	1.7
Disagree	28	11.9	11.9	13.6
Neutral	94	40.0	40.0	53.6
Agree	93	39.6	39.6	93.2
Strongly Agree	16	6.8	6.8	100.0
Total	235	100.0	100.0	

Sufficient network infrastructure and internet related support services;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	24	10.2	10.2	10.2
Disagree	38	16.2	16.2	26.4
Neutral	74	31.5	31.5	57.9
Agree	78	33.2	33.2	91.1
Strongly Agree	21	8.9	8.9	100.0
Total	235	100.0	100.0	

Have experience by computer literacy;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	15	6.4	6.4	6.4
Disagree	39	16.6	16.6	23.0
Neutral	82	34.9	34.9	57.9
Agree	80	34.0	34.0	91.9
Strongly Agree	19	8.1	8.1	100.0
Total	235	100.0	100.0	

No limitation of ICT infrastructure ;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	18	7.7	7.7	7.7
Disagree	43	18.3	18.3	26.0
Neutral	71	30.2	30.2	56.2
Agree	81	34.5	34.5	90.6
Strongly Agree	22	9.4	9.4	100.0
Total	235	100.0	100.0	

Have well adequate strong coordination, interaction and cooperation between banks and other decision making centers in E -banking context;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	9	3.8	3.8	3.8
Disagree	46	19.6	19.6	23.4
Neutral	88	37.4	37.4	60.9
Agree	73	31.1	31.1	91.9
Strongly Agree	19	8.1	8.1	100.0

Total	235	100.0	100.0
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Present of financial networks that links different banks;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	16	6.8	6.8	6.8
Disagree	31	13.2	13.2	20.0
Neutral	69	29.4	29.4	49.4
Agree	89	37.9	37.9	87.2
Strongly Agree	30	12.8	12.8	100.0
Total	235	100.0	100.0	

Frequent power has not disruption;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	14	6.0	6.0	6.0
Disagree	38	16.2	16.2	22.1
Neutral	78	33.2	33.2	55.3
Agree	77	32.8	32.8	88.1
Strongly Agree	28	11.9	11.9	100.0
Total	235	100.0	100.0	

Uniform Platform by Banks i.e. law mandating the banks to use common software platform;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	11	4.7	4.7	4.7
Disagree	31	13.2	13.2	17.9
Neutral	85	36.2	36.2	54.0
Agree	84	35.7	35.7	89.8
Strongly Agree	23	9.8	9.8	99.6
45	1	.4	.4	100.0
Total	235	100.0	100.0	

Reduced paper work;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	17	7.2	7.2	7.2
Disagree	17	7.2	7.2	14.5
Neutral	24	10.2	10.2	24.7
Agree	131	55.7	55.7	80.4
Strongly Agree	46	19.6	19.6	100.0
Total	235	100.0	100.0	

Low transaction cost;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	11	4.7	4.7	4.7
Disagree	11	4.7	4.7	9.4
Neutral	69	29.4	29.4	38.7
Agree	112	47.7	47.7	86.4
Strongly Agree	32	13.6	13.6	100.0
Total	235	100.0	100.0	

Enhance productivity in the banking industry;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	11	4.7	4.7	4.7
Disagree	12	5.1	5.1	9.8
Neutral	54	23.0	23.0	32.8
Agree	116	49.4	49.4	82.1
Strongly Agree	42	17.9	17.9	100.0
Total	235	100.0	100.0	

Enhance foreign currency generation;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	6	2.6	2.6	2.6
Disagree	21	8.9	8.9	11.5
Neutral	54	23.0	23.0	34.5
Agree	114	48.5	48.5	83.0
Strongly Agree	40	17.0	17.0	100.0
Total	235	100.0	100.0	

Increase reliability and error free transaction;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	3.0	3.0	3.0
Disagree	17	7.2	7.2	10.2
Neutral	66	28.1	28.1	38.3
Agree	99	42.1	42.1	80.4
Strongly Agree	46	19.6	19.6	100.0
Total	235	100.0	100.0	

Facilitates development of new products and new business in the banking industry;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	8	3.4	3.4	3.4
Disagree	13	5.5	5.5	8.9
Neutral	60	25.5	25.5	34.5
Agree	112	47.7	47.7	82.1
Strongly Agree	42	17.9	17.9	100.0
Total	235	100.0	100.0	

convenient, in terms of 7/24 hours services, accessibility; i.e. No time limit to access bank account and information

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	10	4.3	4.3	4.3
Disagree	12	5.1	5.1	9.4
Neutral	56	23.8	23.8	33.2
Agree	110	46.8	46.8	80.0
Strongly Agree	47	20.0	20.0	100.0
Total	235	100.0	100.0	

Enhance accessibility of the bank's services(in terms of place);

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	15	6.4	6.4	6.4
Disagree	19	8.1	8.1	14.5
Neutral	59	25.1	25.1	39.6
Agree	98	41.7	41.7	81.3
Strongly Agree	44	18.7	18.7	100.0
Total	235	100.0	100.0	

Improve customers service delivery

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	10	4.3	4.3	4.3
Disagree	28	11.9	11.9	16.2
Neutral	54	23.0	23.0	39.1
Agree	103	43.8	43.8	83.0
Strongly Agree	40	17.0	17.0	100.0
Total	235	100.0	100.0	

Improving transaction speeds

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	12	5.1	5.1	5.1
Disagree	19	8.1	8.1	13.2
Neutral	39	16.6	16.6	29.8
Agree	113	48.1	48.1	77.9
Strongly Agree	52	22.1	22.1	100.0
Total	235	100.0	100.0	

Reduce queues in the banking hall;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	9	3.8	3.8	3.8
Disagree	12	5.1	5.1	8.9
Neutral	71	30.2	30.2	39.1
Agree	97	41.3	41.3	80.4
Strongly Agree	46	19.6	19.6	100.0
Total	235	100.0	100.0	

Create better relationship among banks and clients;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	9	3.8	3.8	3.8
Disagree	12	5.1	5.1	8.9
Neutral	70	29.8	29.8	38.7
Agree	88	37.4	37.4	76.2
Strongly Agree	56	23.8	23.8	100.0
Total	235	100.0	100.0	

Encourages price transparency;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	3.0	3.0	3.0
Disagree	25	10.6	10.6	13.6
Neutral	68	28.9	28.9	42.6
Agree	106	45.1	45.1	87.7
Strongly Agree	29	12.3	12.3	100.0
Total	235	100.0	100.0	

Desire to improve organizational performance and productivity;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	14	6.0	6.0	6.0
Disagree	15	6.4	6.4	12.3
Neutral	27	11.5	11.5	23.8
Agree	135	57.4	57.4	81.3
Strongly Agree	44	18.7	18.7	100.0
Total	235	100.0	100.0	

Desire to improve the relationship with customers;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	10	4.3	4.3	4.3
Disagree	14	6.0	6.0	10.2
Neutral	40	17.0	17.0	27.2
Agree	136	57.9	57.9	85.1
Strongly Agree	35	14.9	14.9	100.0
Total	235	100.0	100.0	

Desire to cover wide geographical area;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	10	4.3	4.3	4.3
Disagree	23	9.8	9.8	14.0
Neutral	51	21.7	21.7	35.7
Agree	105	44.7	44.7	80.4
Strongly Agree	46	19.6	19.6	100.0
Total	235	100.0	100.0	

Desire to build organizational reputation;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	6	2.6	2.6	2.6
Disagree	21	8.9	8.9	11.5
Neutral	77	32.8	32.8	44.3
Agree	90	38.3	38.3	82.6
Strongly Agree	41	17.4	17.4	100.0
Total	235	100.0	100.0	

Desire to reduce transaction cost;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	3.0	3.0	3.0
Disagree	16	6.8	6.8	9.8
Neutral	56	23.8	23.8	33.6
Agree	105	44.7	44.7	78.3
Strongly Agree	51	21.7	21.7	100.0
Total	235	100.0	100.0	

Desire to improve customer service;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	9	3.8	3.8	3.8
Disagree	13	5.5	5.5	9.4
Neutral	37	15.7	15.7	25.1
Agree	120	51.1	51.1	76.2
Strongly Agree	56	23.8	23.8	100.0
Total	235	100.0	100.0	

Desire to satisfy rapid change of customer needs and preferences

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	8	3.4	3.4	3.4
Disagree	8	3.4	3.4	6.8
Neutral	77	32.8	32.8	39.6
Agree	101	43.0	43.0	82.6
Strongly Agree	41	17.4	17.4	100.0
Total	235	100.0	100.0	

Legal frame works that enforce banking industries to expand technological innovation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	3.0	3.0	3.0
Disagree	18	7.7	7.7	10.6
Neutral	51	21.7	21.7	32.3
Agree	116	49.4	49.4	81.7
Strongly Agree	43	18.3	18.3	100.0
Total	235	100.0	100.0	

Commitment of the government to strengthen the banking industry;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	8	3.4	3.4	3.4
Disagree	25	10.6	10.6	14.0
Neutral	56	23.8	23.8	37.9
Agree	109	46.4	46.4	84.3
Strongly Agree	37	15.7	15.7	100.0
Total	235	100.0	100.0	

Support green development strategy for the government.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	8	3.4	3.4	3.4
Disagree	18	7.7	7.7	11.1
Neutral	85	36.2	36.2	47.2
Agree	104	44.3	44.3	91.5
Strongly Agree	20	8.5	8.5	100.0
Total	235	100.0	100.0	

The existence of high demand;

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	6	2.6	2.6	2.6
Disagree	17	7.2	7.2	9.8
Neutral	70	29.8	29.8	39.6
Agree	114	48.5	48.5	88.1
Strongly Agree	28	11.9	11.9	100.0
Total	235	100.0	100.0	

Improvement in the banking habit of the society

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	5	2.1	2.1	2.1
Disagree	31	13.2	13.2	15.3
Neutral	51	21.7	21.7	37.0
Agree	106	45.1	45.1	82.1
Strongly Agree	42	17.9	17.9	100.0
Total	235	100.0	100.0	

Commitment of the government to facilitate the expansion of ICT infrastructure

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	12	5.1	5.1	5.1
Disagree	15	6.4	6.4	11.5
Neutral	64	27.2	27.2	38.7
Agree	105	44.7	44.7	83.4
Strongly Agree	39	16.6	16.6	100.0
Total	235	100.0	100.0	