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PRACTICE, OPPORTUNITIES AND CHALLENGES OF ELECTRONIC BANKING CUSTOMERS IN ADDIS ABEBA AREA

CASE STUDY ON CBE, AB,DB AND ABY

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A Research Submitted to Department of Marketing Management in Partial Fulfillment of the Requirement for the Award of Masters of Art Degree in Marketing Management

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APPROVED BY BOARD OF EXAMINERS

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Declaration

I, FikruAbebe, hereby declare that the thesis entitled **PRACTICE, OPPORTUNITIES AND CHALLENGES OF ELECTRONIC BANKING CUSTOMERS IN ADDIS ABABA AREACASE STUDY ON CBE, AB,DB AND ABY**is the outcome of my own effort and study and thatall sources of materials used for the study have been duly acknowledged. This study has not beensubmitted for any degree in this University or any other University. It is offered for the partialfulfilment of the requirement for the degree in MSc. Program in Marketing Management

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FikruAbebe

List of Abbreviation

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

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Abstract

The main objective of this study is to find out the factors influencing the usage of E-banking in Ethiopia. The study tries to find the main independent variables that could hamper the development of E-banking service products based on the two widely used adoption theories which are Technology Acceptance Model (TAM) and Innovation Diffusion Theory (IDT). The study identify main independent variables (perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support) and usage or practicing of E-banking service products as dependant variable. Data on bank clients was collected in Addis Ababa from one government bank, Commercial Bank of Ethiopia and three private banks, Awash Bank, Dashen Bank, and Bank of Abyssinia and random quota sampling was taken from each of these banks. The analysis of data was made through SPSS 20. The study found out that the above independent variables have their own effect on the development of E-banking but infrastructure and compatibility have more weight. Much have been said in other studies about the poor level of infrastructure. As it is discussed on literature review part, Ethiopia is rated at the lowest even compared to East African countries. This study give attention to compatibility that is the need for integration of E-banking systems of all banks in Ethiopia and having one national platform in order to develop E-banking, E-commerce, E-marketing as well as Digital Economy.

***Key words**: TAM, IDT, E-banking, E-commerce, E-marketing, perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support,*

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CHAPTER ONE

INTERODUCTION

This introductory chapter includes background of the study, statement of the problem, basic research questions, objective of the study, significance of the study, delimitation/scope of the study, definition of terms and organization of the study.

1.1 General Background of the Study

Now a day's Electronic banking (E-banking) service has become the most advanced technique used all over the world. It brings the customer to perform their various needs to transaction at their hands. 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 (Deloitte,2010). Due to this growth in information and communication technology, the banking industry is entering into new phenomena of unprecedented form of competition supported by modern information and communication infrastructure especially through the use of internet (Shittu, 2010). 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 concepts of E-banking become popular when the banking activities and information technology are merged. When the internet facilities enter into the banking sector, the inter-bank activities are linked through internet, the concept of "Electronic Banking or Net Banking" is also introduced. Electronic banking enables a customer to do banking transactions through the bank's website in the internet. It is more or less like bringing the bank to customer's computer, at the place and time of customer's choice. (M.Moga, L, 2010). The application of this electronic banking service has become a subject of

fundamental importance and concerns to banks and indeed a prerequisite for local and global competitiveness in the banking industry.

This in turn motivates banks to spend more on information technology so as to achieve maximum returns and to attract large number of clients (Husni and Noor 2011). In today's world every business relays on information communication technology for its day to day activities, Ethiopian banks would never be exceptional. Global interest for information technology forced the banking industry to entering into this remarkable development for their intense competition backed by newest information and communication technology infrastructure. For present business environment, information and communication applications are very important to the banks for their all financial, banking and commercial transactions and others. The current trading relationship and service provision within the financial sector are going through fastest change with the development of new financial software applications.

E-Banking has been growing for long in developed countries and is speedily expanding in developing countries. Compared to this trend, all banks in Ethiopia are too late to move with technological advancement .For our country Ethiopia, cash is the most common medium of exchange and electronic payment is still in its early stage. Whereas, in neighbouring countries like Kenya, the situation is quite contrary. Even if lots of studies have been conducted regarding E-banking for the developed world , very few of such studies have been held for Ethiopia (Worku, 2010).

In order to improve the practice of E-banking in developing countries, a better understanding of the challenges and practices of E- banking is critical (Marinos, N. b. 2013). By gaining an in-depth understanding of the factors and conditions that influence developing country's ability to fully adopt and realize its benefits, strategic implications can be generated for the researchers and practitioners regarding how to promote the growth of E-banking in the developing countries. Therefore, this study is designed to examine, understand and recommend some basic solution about challenge and practice of E-banking in Ethiopia and to address the current gap in literature. The focus of this paper is to measure the practice, opportunity and challenges of E-banking in Commercial Bank of Ethiopia (CBE), Awash bank (AWB), Dashen bank (DSB) and Abyssinia bank (BOA).

1.2 Statement of the Problem

In modern business arena, particularly in banking industries, irrespective of the kind of banking service, giving due attention for the rapidly growth of information and communication technology become unavoidable. In this connection implementing electronic banking needs special attention. In other words it is worthwhile to examine the challenge to introduce the electronic banking system in relation to its acceptance and its pitfalls.

With all these benefits and opportunities that electronic banking offers to the Ethiopian banking industry, there are a number of challenges which commercial banks operating in the country are facing in the provision of electronic banking services. One of the major hindrances is lack of appropriate technological infrastructure to support the service. The financial institutions also argue with internet challenges including its congested connection, security and quality of service (Megersa, 2010). There is also lack of specialists with the adequate technological skills to build that infrastructure. It might also be a challenge to convince customers, especially those who are not familiar with using the internet, and who might find it hard to try to deal with a service that they consider confusing and frustrating.

Although enormous benefit can be generated from using E-banking, Ethiopian E-banking users face a problem due to technological advancement in banking industry. The latest E-banking method like Automated teller machine (ATM), Debit cards, Credit cards, Tele banking, Internet banking, Mobile banking and others are new to the Ethiopian banking industry (Bultum,2014). While implementing electronic banking, there is a problem of acceptance, authenticity, uncertainty and lack of trust from the customers side (Bultum, 2014).Certainly the banking industry in Ethiopia is underdeveloped and therefore there is an all immediate need to embark on capacity building arrangements and modernize the banking system by employing the state of the art technology being used anywhere in the world. With a growing number of import-export businesses, and increased international trades and international relations, the current banking system is short of providing efficient and dependable services and therefore all banks operating in Ethiopia should recognize the need for introducing electronic banking system to satisfy their customers and meet the requirements of rapidly expanding domestic and international trades, and increasing

international banking services. Considering the low extent of development of ICT infrastructure in developing countries, when compared with the developed countries, E-banking has not really been able to diffuse into society given the low rate of internet access (Porteous, D., 2011).

In summary, Ethiopian bank customers have missed to enjoy the technological advancement of banking sector which has been entertained elsewhere in Africa and the rest of the world. The modern E-banking like ATM, Debit cards, Credit cards, Internet banking and Mobile banking are new in comparison to customary banking. E-banking which refers to using the modern technology that admits customers to access banking services electronically whether to withdraw cash, transfer funds, to pay or obtain commercial information and advices are not widely spread in Ethiopia (YitbarekTakele, 2013).

Therefore this study intended to identify what are the trends in practicing E-banking in Ethiopia and what are the opportunities generated in E-banking and looking in to the major challenges which hinder the effective application of E-banking in Ethiopia. The study tries to identify the possible factors responsible for the major reason in low level of practicing E-banking.

1.3 RESEARCH QUESTION

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

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

To gain a comprehensive understanding of the phenomenon under investigation, and in order to be able to provide a sufficient justification for answering this question, the following questions needs to be addressed.

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

1.4Objective of the study

1.4.1 General objectives

The very general objective of the study is to inspect the current practice of E-banking in Ethiopian banking industry which is one of the service industries crucial to the growth of its emerging economy. Banking is important in the role it plays in capital mobilization and granting of financial facilities which is crucial to business development and growth. As business always need to find ways of improving its products and service deliveries, it will be useful to understand how different factors affect the practice of E-banking system and in which way the technological innovations can benefit the banking industries to provide service to customers. Therefore, the purpose of this study is to assess the challenges, practice and opportunities of E-banking in relatively larger banks in Ethiopia in terms if customers and number of branches which are .Commercial Bank of Ethiopia, Awash Bank, Dashen Bank and Abyssinia Bank.

1.4.2 Specific objective

- To describe and differentiate different E-banking practices available in Ethiopia
- To show the benefits that can be generated from E-banking
- To identify the basic problems in implementing E-banking
- To show the need for integration of E-banking systems
- To indicate the gap which need the intervention of government to fill the gap

1.5 Significance of the Problem/Study

The research is significant in such a way that it generates a comprehensive overview of the shortfalls as well as the benefits of E-banking. It would assist in formulating strategies to improve the awareness of E-banking for all societies. It also increases profitability and the banks competitiveness. It would create an opportunity for the banks to identify their status in implementing E-banking.

The findings of the study will be significant as it is expected to enhance the awareness level of stakeholders with regard to the practice, challenges and opportunities of implementing and using electronic banking in Ethiopia. In this regard, the study will have a great importance in filling the knowledge gap that exists among stakeholders. The stakeholders involved include the National Bank of Ethiopia (NBE), commercial banks, insurances, microfinance institutions, Ethio-telecom, other concerned individuals and organizations. The research will also identify the technical and operational challenges of E-banking in Ethiopia and suggests ways by which they could be tackled. It will be useful to policy makers like (NBE) and ministry of finance to device strategies that will enhance use of ICT in banking business. Besides to researcher knowledge, there is very little information availed on this issue by previous attempts. Hence this research is undertaken to fill the knowledge gap.

Furthermore, the outcome of the study is expected to assist other researchers for further studies in the area of electronic banking.

1.6 Scope of the Study

In pursuance of the objective of the study, the research paper focuses on examining the practice, challenges and opportunities of E- banking in Commercial Bank of Ethiopia (CBE), Awash Bank (AWB), Dashen Bank (DSB) and Abyssinia Bank (BOA) customers in Addis Ababa. In order to conduct an empirical investigation in the implementation of electronic banking, the study examined the nature of electronic banking services on those selected banks.

1.7 Limitation of the Study

Considering time, cost, and manageability to the researcher, the scope of this research will confined itself to the sample taken only from one government bank and three private commercial banks; and doesn't include the remaining commercial banks that are operating in the country and it excluded other financial institutions to explore the intent of the study. Also, its confined to those bank's branch customers in Addis Ababa which relatively have high customer turnover. Hence the generalizations may not be applicable. It is also believed that respondents may not respond or properly responded to the whole content of the questionnaire due to misunderstandings, lack of knowledge, or commitment to the subject

matter. However, to minimize these problems, the researcher distribute questioners to the selected banks branches and by giving short briefings to lobby man/woman of the bank's branch, clients have fill out the questionnaire. Also, the questioner was prepared both in Amharic and English.

1.8 Methodological Scope

This study is intended to determine the effect reliability, trust, ease of use, performance, compatibility, complexity, awareness, culture, infrastructure and legal framework on the adoption of E-banking in Ethiopia using quantitative approach and explanatory study. The study is delimited to customers of Commercial Bank of Ethiopia (CBE), Awash Bank (AWB), Dashen Bank (DSB) AND Abyssinya Bank (BOA) found in the bank's branches in five districts if Addis Ababa which are relatively have high turnover of customers. To achieve the objective of the study, structured questionnaire isdistributed to the respective bank clients selected on quota and purposive sampling technique.

1.9 Organization of the study

This study will consist five chapters. The first chapter is an introductory part where background of the study, statement of the research problem, objectives of the study, significance of the study, scope and limitations of the study are dealt with. Chapter two deal with reviews of literatures. The research methodology is examined in chapter three. In the fourth chapter, the results of the study are presented and discussed in detail. Finally, the paper ends up by drawing conclusions and providing recommendations to promote E-banking services in E-banking business model.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

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.

In general, the adoption and growth of E-banking and card payment system is found very important towards creating a cashless society with its impact on bringing economic transparency, efficiency and growth. From customer perspective, the most recognized drivers for growth of E-banking include the convenience, the reliability, the widely availability, affordability and usefulness of the services.

2.1 Concept and Definition of Electronic Banking

The use of electronic communication in finance goes back much further than the 1970s. As long ago as 1918, the payments between banks used to be settled electronically over the telegraph. This use of electronic communications in payments systems has steadily increased over time. Now virtually all large payments between banks and corporations are done electronically. Financial services industry has removed the boundaries between different financial institutions, enabling new financial products and services to appear and making the existing ones available in different packages (Rangsan, 2013).

The definition of E-banking varies amongst researches partially because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone(Saleem, Z, 2011) describes it as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. Electronic banking can also be defined as a variety of platforms such as internet banking (or online banking), telephone banking, TV-based banking, PC based banking (or offline banking) and mobile phone banking. According to (Sumra, S. H.2011), electronic banking refers to the use of the Internet as a remote delivery channel for providing services, such as

opening a deposit account, transferring funds among different accounts and electronic bill presentment and payment. This can be offered in two main ways. First, an existing bank with physical offices can establish a website and offer these services to its customers in addition to its traditional delivery channels. Second, is to establish a virtual bank, where the computer server is housed in an office that serves as the legal address of such a bank. Virtual banks offer their customers the ability to make deposits and withdraw funds via ATMs (Automated Teller Machines)or other remote delivery channels owned by other institutions, for which a service fee is incurred (Tewdros B. R., 2011). At the Basel committee, E-banking is defined as the provision of retail and small value banking products and services through electronic channels.

According to TALLA (2013)E-banking is the term used for all types of electronic banking. It is also known as online banking or internet banking. Such products and services can include deposit taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money (Basel Committee on banking supervision, 1998 and 2003).

E-banking includes systems that enable financial institutions, customers, individuals and businesses, to access accounts, transact business, or obtain information on financial products and services through public or private networks, including the internet. Customers access E-banking services using an intelligent electronic devise, such as a personal computer (PC), personal digital assistant (PDA), automated teller machine (ATM). Private networks "closed" restrict access to participant (financial institutions, customers, merchants, and third party service providers) bound by agreement on the terms of membership. Public networks "open" have no such membership requirements. (Husni and Noor, 2011). The Federal Financial Institutions Examination Council (N.D) as cited in Turban (2002) provided an exhaustive definition which incorporates the concepts of all definitions mentioned above. In this regard FFIEC defined electronic banking as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels.

2.2 The Evolution of E- Banking System

Asghar(2014) 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 method 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) states, 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 (2007) in his study stated electronic banking supported by the advancement of telecommunication technology namely ATM, 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.

Since the late 1990s,E-banking has developed from virtual insignificance to tens of millions of users worldwide (OECD, 2016). However, E-banking is the product of different generations of electronic transactions. The current web-based internet or E-banking is the latest of several generations of systems: *ATM, Phone Banking, PC or House Banking.* ATMs were the first well-known machines to provide electronic access to customers where as in phone banking, users call their bank's computer system on their ordinary phone and use the phone keypad to perform banking transactions. PC banking superseded phone banking and allowed users to interact with their bank by means of a computer with a dial-up modem connection to the phone network. Phone and PC banking entailed maintenance costs associated with keeping up to date with diverse modems and with avoiding prohibitively complex installation procedures.

After those generations, Deutsche Bank launched the very first Internet banking project in Latin America in 1996 and Citibank has developed a special "e-toolkit" across all its branches worldwide (UNCTAD, 2012). At this time, E-banking uses the web browser for the user interface and the Internet for data transfer and download of software, and so has a potential for reducing maintenance costs. For users, E-banking provides current information, 24-hours-a-day access to banking services.

E-banking is widely used in, among other places, the Nordic countries. In 2001, E-banking was used by more than 25% of the population in Norway, Sweden, and Finland, and by 15% of the population in Denmark (OECD, 2016). In 2004, E-banking usage in Denmark had grown to 45%. With rigid controls giving way to deregulation, banks are gearing up their communications infrastructure to obtain a competitive edge from E-banking, which is fast becoming a reality in India. As Tiwari (2007) points out that E-banking is fast becoming a strategic necessity for most commercial banks, as competition increases from private banks.

2.3 E-banking Practice in Ethiopian Banking Industry

The appearance of E-banking in Ethiopia goes back to the late 2001, when the largest state owned, commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users. In addition to eight ATMs located in Addis Ababa, CBE has had Visa membership since November 14, 2005. But, due to lack of appropriate infrastructure, it failed to reap the fruit of its membership. Despite being the pioneer in introducing ATM based payment system and acquired visa membership, CBE lagged behind Dashen bank, which worked aggressively to maintain its lead in E-payment system. As CBE continues to move at a snail's pace in its turnkey solution for Card Based Payment system, Dashen Bank remains so far the sole player in the field of E-banking since 2006. (Gardachew, 2010). Dashen bank, a forerunner in introducing E-banking in Ethiopia, has installed ATMs at convenient locations for its own cardholders. Dashen's ATM is available 24 hours a day, seven days a week and 365 days a year providing service to Debit Cardholders and International Visa Card holders coming to the country. At the end of June 2009, Dashen bank has installed more than 40 ATMs in its

area branches, university compounds, shopping malls, restaurants and hotels. In the year 2015, the payment card services have witnessed significant strides, Dashen's ATM service expanded to 170 and1,204 POS terminals (Annual report of the bank 2015).Fund transfer between accounts attached to a single card and Personal Identification Number(PIN) change. Currently, the bank gives debit card service only for Visa cards. Expanding its leadership, Dashen Bank has begun accepting MasterCard in addition to Visa cards. Dashen won the membership license from MasterCard in 2008.Harnessing its leadership with advanced banking technology; Dashen Bank signed an agreement with iVery, a South African E-payment technology company, for the introduction of mobile commerce in April 21, 2009. This would make Dashen Bank the first private bank in Ethiopia to acquire E-commerce and mobile merchant transactions (Amanyehun, 2011). Although Dashen's new technology is one step ahead in that it allows transfer of funds from one's account to others.
The first ever E-banking gateway was signed between Ethiopian Commodity Exchange (ECX)and Dashen Bank and CBE. The E-banking system being developed with both banks is designed to give a secure electronic data sharing gateway between clients, banks and ECX by facilitating a smooth transaction **(**Abiy, 2008).

By the end of 2008 Wegagen Bank has signed an agreement with Technology Associates (TA),a Kenyan based information technology firm for the development of the solutions for the payment system and installation of a network of ATMs on December 30, 2008. Zemen Bank, launch internet banking in the year2010. The bank tested the venture through its first phase of the online service, and now it is already started the full-fledged version, which enable customers to make online money transfer freely. Previously, the online banking service delivered by the bank, only gave access to bank statements and exchange rate information. The new and never-been-tried service proposed by the bank is to include free account money transfer, corporate payroll uploading system where employers could upload payroll to the system and make payments to individual worker's accounts online and online utility bill settlement system, when utility companies are ready(Asrat, 2010).

The agreement signed by three private commercial banks to launch ATM and POS terminal network, in February 2009 is welcoming strategy to improve electronic card payment system in Ethiopia. Three private commercial banks - Awash Bank S.C., Nib

International Bank S.C. and United Bank S.C. have agreed in principle to establish an ATM network called Fettan ATM network. Fettan install over 140 ATM machines and over 340POSs across Ethiopia. There is one ATM at every branch of the consortium banks, all domestic airports serviced by commercial service of these integration and also shopping complexes. The agreement is the first significant cooperation between competing banks in Ethiopia, which others should be encouraged to follow as there is no single bank in Ethiopia that can afford to provide extensive geographical coverage and access (Binyam, 2009).

Despite a rapid increase in the number of financial institutions since financial liberalization, the banking system is still underdeveloped compared to the rest of the world. Cash is still the most dominant medium of exchange. The use of checks is mostly limited to government institutions, NGOs and some private businesses (Worku, 2010). Commercial banks in Ethiopia provide the same services with the same operational style that they used to offer before decades. The common banking functions provided by public and private banks in Ethiopia are deposit mobilization, credit allocation, money transfer and safe custody. Banks in Ethiopia are unable to improve customer service, design flexibility and customized products, and differentiate themselves in a market where product features are easily cloned. Ethiopian banking system is unable to come from long way of being sleepy to a high proactive and dynamic entity (Ibid, 2010). According to Worku (2010), customers of Ethiopian commercial banks have missed to enjoy with the technological advancement in banking sector which has been entertained elsewhere in Africa and the rest of the world. The modern E-banking methods like ATMs, Debit cards, Credit cards, Tele banking, Internet banking, Mobile banking and others are new to the Ethiopian banking sector. E-banking which refers to the use of modern technology that allows customers to access banking services electronically whether it is to withdraw cash, transfer funds, to pay bills, or to obtain commercial information and advices are not well known in Ethiopia.

In Ethiopia, until recently, it is impossible to withdraw money without presenting the pass book at any branch if the bank. Also, still money transfer as commercial banking service is allowed only in between branches of the same bank. However, from the public and the economic trend, there is a strong need for strengthening linkages among banks in order to allow healthy flow of financial resources among financial institutions and optimize the contributions of the entire financial system to the development processes as a whole

economy (Worku, 2010). All banks in Ethiopia are too late to move with technological advancement and they should clearly chart out the time schedule for their integration and technological advancement. Some of the banks even today do not have information websites which can help them to provide at least the information on financial services offered by them.

Every bank customer is highly dissatisfied by the disappointing status of financial development in Ethiopia. Even the time wasted in travelling for search of bank branches and the long waiting time to access the account is really disappointing besides the poor network infrastructure given be the sole service provider, the Ethio- Telecom.

2.4Types of Electronic Banking Products

There are a number of electronic banking products. The following are some of the major types of services coming under E-banking.

2.4.1 Internet Banking

Internet banking refers to the use of the internet as a delivery channel for banking services, which includes every single customary service, for example, balance enquiry, statement of records requisition, trust transfer to other records, charges payment and a new banking service, for example, electronic bill presentment and payment‖ (Frust, Lang, & Nolle, 2007) without going to a bank (Mukherjee & Nath, 2003). As indicated by channel (Chau & Lai, 2003), ―the quick development and notoriety of the internet service has created great opportunities and threats to companies in different business sectors, to endorse and deliver their items and services utilizing internet as a circulation channel‖. As indicated by Pikkarainen, Karjaluoto & Pahnila, (2004) internet banking is a web entrance, through which clients can utilize various types of managing an account administrations running from bill installment to making speculations. Aside from money withdrawal, web account management (internet banking) offers the client a complete access to any kind of keeping money exchange at the snap of a mouse‖ (De Young, 2001). With web account management (internet banking) benefits, the clients who felt that the block and mortar way of saving money (banking) took a lot of their time and exertion are currently ready to make exchanges at the snap of a mouse. ―Web savings

offers numerous advantages to the client, for example, simple entry, format, predictable subjects, simple route, exceptional substance, access through various media, higher intuitiveness, higher utilization of non-literary data, different dialects, plan and lower expense of exchange, and push‖. (Cai, Yang & Cude, 2008).

2.4.2 Automated Teller Machine (ATM)

ATM is a device that allows customers who have an ATM Card to perform routine banking transactions without interacting with the human teller. The ATM cardholder can do most of the banking transactions like withdrawals, transfer, payment of bills, balance enquiry, etc. With the use of ATMs, the banks are providing 'Any Where and Any Time Banking' to their customers. That is the customer can have access to ATMs at anywhere within the country or throughout the world at any time. It also reduces the transactions time. The banks can use these ATMs as media for publicity by displaying products on the screen. And the cost of setting up ATMs is much lesser than the branch (Manzoor, 2011).

2.4.3. Point of Sale (POS)

A Point-of-Sale service is an electronic payment type that allows credit/debit cardholders make payments at sales/purchase outlets. It allows customers to perform the following services: Retail Payments, Cashless Payments, Cash Back Balance Inquiry, Airtime Transaction, Printing mini statement etc. (Kumaga, 2010). 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 has hitherto been 'flick-flack'-generated hard copy vouchers (Chavan, J. 2013).

2.4.4. Mobile Banking

Tojib and Tsarenko,(2012) notes that mobile services are more attractive than current on line services due to service quality, a unique characteristic exclusive to the mobile environment . The most important services provided in mobile banking system are: balance enquiry, account transactions enquiry, cheque status enquiry, blocking card, buy prepaid recharge, instalments payment, bills payment, received messages archives, ability of receiving various customer accounts information, shopping ability, hotel expenses payment, stock market status enquiry (S.F.AmiriAghdaie, 2012). As Tewdros, B. R. (2011), Mobile banking also known as m-banking or SMS banking .Normally mobile banking packages include the following services: 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. The main advantage of mobile banking for banking industry rests on its accessibility for many customers of the bank. It has significant power of transforming the economies of service delivery, particularly minimizing the cost of financial transaction. It is an important way to savings services to the billion people worldwide who have a cell phone without holding a bank account. It is important by far from off line banking systems for overcoming geographical constraints. From Mobile banking, we can also get advantages like security, immediacy, and efficiency.

Mobile banking serves as a virtual bank card by which customer and institution get information securely by avoiding the cost of distributing cards to its customers. In another way mobile phone may serve as point of sale (POS) terminal, meaning to pay for goods or service at the store, malls, and retails. By which, mobile phone serves to perform proper financial institution by giving authorization to debit their account. The other advantage of mobile banking is that it can be used as an ATM. Its basic function is cash collection and distribution. Finally Mobil banking may be used as an Internet banking terminal by which it provides the same service.

2.4.5. Electronic Fund Transfer (EFT)

EFT system permits transfer of funds from any account at any branch of any member bank in any city to any other account at any branch of any member bank in any other city. This system utilizes the Service Branches of the member banks. It facilitates the transfer of funds from one place to another place within the country quickly and safely. Banks collect service charges from the customers (Chavan, J., 2013).

2.4.6 Credit Card

Credit Card can be called as an equivalent of a loan sanctioned by the bank to it s customers (Chavan, J. 2013). Credit card facilitates and makes it possible to "Use First and Pay Later" the specified amount of credit as per the agreed terms of sanction. Before issuing the card, the bank would like to know and be sure the identification, age, level and source of income and repaying capacity. This card facilitates the cardholder to purchase goods and services from the merchant establishments and shops. The credit that is granted is either settled in full by the end of a specified period, generally a month, or can be settled in part, with the remaining balance extended as credit. Interest will be charged by the bank on monthly basis for the credit provided through the card. And service charges also will be collected from the cardholder for the transaction and processing (Chavan, J. 2013).

2.4.7 Debit Card

A Debit Card provides online electronic payment like Credit Card but from savings or current accounts of the cardholder for purchases. This card is a deposit access product where cardholder uses his own money in his bank account through the debit card on the principle of "Pay First and Use Later". Debit card can be used to make purchase at retail shops and merchant establishments in the same way as the credit card is used. But to use the debit card, the cardholder must have sufficient balance in his account. M.Moga, L. (2010) in his article, The Future of Plastic Money, discussed the use of Plastic Money and its growth in India in recent years. He identified that the use of Plastic Money is growing at an unprecedented rate in India. Lesser

number of installed Points of sale (Pos) terminals is the major obstacle in the growth of debit cards. Marinos, N. b. (2013) analyses that debit cards are fast catching up with the customers. A combination of factors like ease of availability, debit adverse profile of customer and zero interest rate are propelling the usage of debit card.

2.4.8 Smart Card

The smart card is an amazing piece of technology. It is the size of a regular ATM card but is capable of storing over a 1000 times more data. The data can be encrypted and hence the card is completely temper-proof. The card can also be personalized to the holder by printing personal and other details on the card face. Smart card is issued to the customers to provide adequate and timely credit support for their cultivation needs including all purchases. Customers can use this card wherever they needs. The loan amount sanctioned to the customer will be recorded in the card. The merchants can sell the goods to the customer based on the card and they can collect the amount from the local branch of the issued bank or any other bank (Vassiliou, 2004).

2.4.9 Telephone and PC Banking

This is a facility that enables customers, via telephone calls, find out about their position, with their bankers merely dialling the telephone numbers given to them by the banks. In addition, the computers on the phone would require special codes given to the customers as a means of identification of authentic users before they can receive any information they requested for. This is a service introduced into the banking balance as a result of computer telephone technology being made available. The technology has a universe of possible application limited only by the imagination. These areas include: account balance enquiry; account statement printing; intra-banks account to account transfer; inter-banks account to account transfer; download account transaction, etc (Palvia, P., 2009).Telephone and PC banking brings the bank to the door step of the customer, it does not require the customer to have his premises; interactive Voice Response becomes a regular feature of operations; Text-to-speech

capability becomes reality; A uniformed messaging capability become permanent feature of the bank (Vassiliou, 2004).

2.5 Benefits and Opportunities of Electronic Banking

According to the "E-Commerce beyond 2000", the banking and finance sector has been a rapid adopter of E-Commerce because its products could easily be virtualized and the product had priority over place (Porteous, D., 2011). Yerkes (1998) observes that banks can generate revenue through increased account access fees, and benefit from promotional opportunity to cross-sell products such as credit cards and loans. Whereas Rangsan (2013) observed that banks initially promoted their core capabilities, such as products, channels and advice, through the Internet. Porteous, D.,(2011) argues that, due to the relative newness of this rapidly growing industry, banks as well as consumers had serious concerns about the security of Internet access to client accounts, which was the biggest challenge (Saleem, Z 2011).

2.5.1. Benefits to Customers

The traditional way of doing banking applications for any client or customer is associated with problems of long queues and long waiting periods. Contrary to this, electronic-banking provides easy access for the account holder to their account to perform banking transactions successfully. Consumers are increasingly looking for services they can access from a single entry point. As Saleem, Z(2011) observes, awareness of competition has motivated banks to move aggressively. E-banking offers substantial advantage to customers in the form of convenience, time and cost saving and easy access to the banking services. The customers can transact in their account at anytime and anywhere throughout the country or outside the country. There is no time and place restriction. The customers need not visit a branch for each and every transaction and no need to wait in the long queue. By this, they can save their time. The customers can avail 24 hours a day and 7 days a week access to banking services at anywhere. With the help of E-banking, the easy access to the banks will be another advantage to the customers. Thus the E-banking provides sophisticated services to the customers (Dhandabani, S, 2010).Dawd (2009) also argued that cardholders can be benefited from the safe and convenient nature of using cards for payment. Moreover, payment cards can make life

easy for people who want to travel abroad as it minimizes the volume of cash one needs to carry and the associated risk of theft. From merchants' point of view, those merchants who accept cards enable to increase their sales as card holders prefer merchants who can accept their card for payment. Moreover, by reducing the amount of cash on hand, merchants can manage to reduce risks as well as costs related to cash management.

2.5.2. Benefits to Banks

The first benefits for the banks offering electronic banking services is better branding and better responsiveness to the market. In this competitive world, E-banking helps the banks to attract more number of customers and tackle the competition from other banks. According to Rangsan (2013), those banks that would offer such services would be perceived as leaders in technology implementation. In our country, Dashen bank can be taken as pioneer in implementing E-banking technology. Those banks that provide the service can enhance the customer satisfaction through sophisticated services. By providing secured E-banking services, the banks can also avoid fraudulent activities. With the help of E-banking, banks can save time and hence they can increase the number of transactions and business (Dhandabani, S, 2010). The other benefits of E-banking are possible to measure in monetary terms.

The main goal of every company is to maximize profits for its owners and banks are not an exception. In this regard, automated E-banking services offer a perfect opportunity for maximizing profits (Masinge K, 2010) via the efficient use of human resources, avoiding the cost of having ordinary branches etc are among the benefits to the banks. With the increase in demand for high wages worldwide, there is great cost reduction i.e. fixed and variable. The savings from the overheads reflect positively in the competitive nature of the service or product the bank offers. It can be reflected in low interest rates, producing sensible personal loans and good offerings in respect of loans and mortgages (Sprecher, 2009, Guide to online banking). The key advantage of electronic-banking is increased convenience and functionality and customer satisfaction (Chaffey et al, 2003). According to Chaffey et al. (2003:14), the chief benefit of electronic-business is that it brings customer focus to the business. It makes the business keep customers loyal, anticipates future needs, responds to customer concerns and provides top quality customer service.

2.5.2.1 Benefits of Mobile Banking to Banks

Banks can utilize the time saved by the channel migration of customers to mobile banking for expansion of business through better marketing and sales activities. Mobile banking enables banks to reduce cost of courier, communication, paper works, etc and also it reduces costs in setting up a branch and the resources to process transactions (Sunil and Durga, 2013). Also banks providing mobile banking services can have competitive advantage over those banks, which are not providing this service. It has also been found to increases customer loyalty that is using mobile banking customers need not to go in banks braches for fund transfer or for information, which creates a good relationship between banks and customers which helps in increasing loyalty towards the banks. Goswami and Raghavendran (2009) point out, mobile banking services will enable banks to not only increase fee-based income but also enable significant cost savings, improve service quality and provide cross-selling opportunities.

2.5.2.2 Benefits of Mobile Banking for Customers

Customers don't need to stand at the bank counter for various enquiries about their account. Customers can save their valuable time and travelling cost in reaching the bank for their financial transactions (Sunil and Durga, 2013). Customers can pay their utility bills on time and save themselves from paying penalties, since alerts are received from the bank.

Ubiquitous access, convenience and mobility are the main benefits that mobile banking confers to customer (Laforet and Li, 2005). Delport (2010) points out that with mobile banking, customers no longer need to use scarce time and resources to travel to bank branches. Nevertheless, despite the widespread proliferation of mobile phones and the numerous advantages that mobile banking offers, mobile banking is still not widely adopted (Riquelme and Rios 2010). Relative advantage also refers to the comparative benefits that a user of mobile banking may avail which he/she could not get from other traditional banking services as mentioned by Pikkarainenet. al,(2004) that users are more likely to adopt mobile banking, if they believe using mobile banking will gain more relative advantages as compared to other traditional banking channels such as ATM or non-mobile internet banking. It includes:

a) Perceived Cost Savings which refer to the transaction cost of conducting mobile banking transactions, including the airtime and bank charges. Perceived cost is defined as the extent to which a person believes that using mobile banking will cost money (Luarn& Lin 2005). The

cost may include the transactional cost in the form of bank charges, mobile network charges for sending communication traffic (including SMS or data) and mobile device cost.

b) Perceived Time Saving refer to the time required to complete a transaction. Lee (2009) found in his study that time plays an important role in adopting mobile banking service by the users.

It has been observed by researchers that when user perceives relative advantage or relative usefulness of a new technology over an old one, they tend to adopt it (McCloskey 2006; Rogers2003).Therefore mobile banking adoption is affected by the benefits available such as immediacy, convenience and affordability to customers (Lin 2011).

2.5.3. Benefits to the Economy

As E-banking provide opportunity to banking sector to enlarge their customer base, it has a consequence to increase the volume of credit creation which in turn results in better economic condition fostering digital economy. The positive impacts of electronic banking are immense for economic development of a nation. Some of the economic benefits of E-banking are as follow:

A. Financial Inclusion

At the moment, some two billion adults in the world remain excluded from formal financial services. Excessive documentation requirements, high account fees, limited access to bank branches, and the perception that financial institutions are "only for the rich" are among the most persistent obstacles to overcome.

One of the main advantages of electronic banking is to implement financial inclusion which is to mean from its outset about providing quality and affordable financial services including credit in particular to the poor with the view to promoting micro and small investment and creating employment opportunity that consequently would contribute to rise in income and to the economy.

Initially, access to finance was measured by the number and close proximity of financial institutions or branches to customers. With the advent of digital financial services (DFS), however, the measure has been expanding to include access points of digital financial

services such as ATM, POS, internet banking and especially mobile banking. Moreover, banking agents in the case of mobile banking would cover extended geographical areas through networked operations once this service employed in its full-fledged scale. Such impact of banking the unbanked population also has a benefit in increasing aggregate deposits as indicated above. The use of digital financial transaction per 100 adults is also among the critical measures for financial inclusion. According to National Bank of Ethiopia (NBE) 2017/18 report the total number of mobile telephone subscribers reached 40,409,751. This number shows mobile penetration is growing among the active population. But the trend in the development of mobile banking is too low even in major cities.

According to Central Statistics Agency (CSA) survey of 2016, 22% of adults are reported to have accounts with regulated financial institutions. This clearly shows financial inclusion through enhancing access points such as branches, agents, ATMS,POS, internet banking, card banking and mobile banking in order to give a momentum to the economic growth of the country is crucial. At present, digital financial services (DFSs) are proved to be the most efficient and effective way of promoting financial inclusion. This is due to the fact that products and services are becoming easily accessible, usable and affordable. As DFSs avoids or minimizes the human intervention, consumers, particularly low income and poor people feel comfortable to transact through digital means and also avoids long distance travel to get the service as it can be supported by mobile phones. DFS is just emerging in Ethiopia and banks, Micro Finance Institutions (MFIs) and Insurers have started offering products and services through digital means. Given the scale and potential, the country endowed with, particularly in mobile money, DFSs is expected to boom in the near future. Mobile phones, beyond information exchange, can be used for financial transaction purposes. In this respect, the current and future potential for the development of ICT is expected to bring considerable growth and expansion in financial transactions. The emergence and use of such alternative make digital financial services schemes to allow easy access to products and services and highly contribute to the reduction of cost of financial transactions per unit, in aggregate terms and at the national level. (Dhandabani, S. 2010). Besides, DFSs support and encourage service providers to offer competitive, quality and affordable financial products and services. Therefore, the use of different and alternative access points to financial services particularly that are supported by DFS would definitely promote financial inclusion.

B. Reduce cost of printing cash notes and its related distribution

Every government is required to invest a great deal of fund on printing of cash notes and distributing the same to the public. Also due to the need for transportation of currency between bank branches and between individuals, besides the risk of security, the life of cash notes is very minimal. As a result of this frequent wear and tear and related risks, the magnitude and frequency of the investment on cash note printing as well as its related distribution brought significant cost and risk. But in the case of electronic payment systems, the transaction values are transferred from one account to another using electronic means, reducing the need for cash note distribution. Thus, by encouraging acceptance of payment through E-payments, especially mobile banking, banks as well as governments can achieve huge cost saving for their economy in terms of reducing cash note printing and related expenditure besides busting financial accessibility or financial inclusion.(Dhandabani, S., 2010)

C. Enhancement of Aggregate Deposit

As E-payment enhance financial inclusion, its believed to assume that people start to increase the proportion of their saving compared to their daily consumption, the saved money can be utilized for investment purposes that in turn will create employment opportunities. This is a great benefit for once economy as a whole. The funds brought to the banking system, whereby the saved fund can be deployed to the economy in the form of loan to encourage the required investment (Dawd,2009) which brought economic growth to the nation.

In an electronic payment infrastructure, people do not need to carry cash notes for their day to day expenditures as well as contingencies and access this fund at any time of the day when the need arises. This implies that unused funds are always in the banking system that helps to facilitate economic growth (Ibid, 2004).

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D. Increasing tourism potential

In today's world, availability of payment card infrastructure is one of the criteria that tourists set while they decide which country to visit. As a result countries that maintain a developed electronic payment card system has a better potential of being visited by

tourists than those which do not establish the infrastructure. Hence, more tourists and increased hard currency as a result of diversifying payment card business (Dawd, 2009). Especially in developing economies, earning of hard currency is very essential to manage a country's balance of payment. The payment card system can bring a good potential of enabling economies to earn more foreign currency. This can be realized by attracting tourists and by encouraging them to spend more. Travellers, being outside of their home country, feel more unsafe and uncomfortable to carry bulk amount of cash while on travel (Dhandabani, S., 2010). Thus, they can be forced to spend only to the extent of the limited cash on hand during a certain period of stay in another country. On the other hand, if they can use their card for payment, they can spend more since they have the right to access their account back home.

2.6 Factors that influence the adoption of Electronic banking

Several theories are offered in order to identify factors that cause people accept new technologies and information systems and use them (Rao and Troshani 2007). The next section presents some of the theories and based on that conceptual frame work for this particular study is formulated.

2.6.1. Perceived Usefulness

Perceived usefulness is defined as the extent to which an individual believes that he or she would benefit from using E-banking. (Bhatti 2007; Kim, Chan and Gupta 2007) argued that an individual often evaluates the consequences of their behaviour and makes a choice based on the desirability of perceived usefulness. Therefore, perceived usefulness will influence their intention to accept and adopt a system. In the context of E- banking, one of the reasons people use E- banking is that they find the systems useful to their transactions and saves their time as well. Benefits are also observed by banks in the form of declining the number of branches which reduces the cost per transaction. Perceived usefulness is found to be the most significant factor influencing the intention to use E-banking. This finding suggest that if E-banking is to be accepted by users, they should perceive it as a useful and quicker way of doing banking transactions compared with the ordinary banking system.

2.6.2 Perceived Ease of Use

Prior studies show that perceived ease of use has a significant effect on usage intention, either directly or indirectly through its effect on perceived usefulness. A system perceived to be easier to use will facilitate more system use and is more likely to be accepted by users (Venkatesh and Morris 2003).TAM points that perceived ease of use influence the innovation acceptance. It decrease the effort paid in learning and applying new technologies. Many researches give support to TAM that perceived ease of use has positive impact on perceived usefulness and mobile services adoption (Porteous 2011). Perceived ease of use has a major significance on the adoption of E-banking. This finding suggests that customers seek a simple, easier, faster process and environment for banking transactions. It was also showed that perceived ease of use is a major determining factor explaining the attitude difference between adopter and non-adopters toward E- banking. In the context of mobile banking, customers may find E-banking services uneasy when the system is not easy to learn and easy to use.

2.6.3Compatibility

Compatibility is defined as the degree to which an innovation is perceived as being consistent with the existing values, past experiences and the needs of potential adopters. An innovation can be compatible or incompatible with socio-cultural values and beliefs; with previously introduced ideas; or with client needs for innovations (Marinos, N. 2013).The compatibility of an innovation, as perceived by members of a social system, is positively related to its rate of adoption. Compatibility is a vital feature of innovation as conformance with user's lifestyle can propel a rapid rate of adoption (Marinos, N. 2013). Compatibility has further been found influential in the adoption of E-banking.

2.6.4Complexity

Complexity is defined as the degree to which an innovation is perceived uncomfortable to understand and use. Adoption will be less likely if the innovation is perceived as being complex or difficult to use (Marinos, N. 2013). Complexity can be considered as the exact opposite of ease of use in the Technology Acceptance Model (TAM), which has been found to directly impact the adoption of the internet as well as E-banking.

Customers will reject an innovation if they perceived it as its complex and not user friendly.

Since E- banking adoption is at the early stages of adoption in Ethiopian banking industry, complexity factor should be well addressed along with communication language with the user.

2.6.5Triability

Triability can be viewed as the degree to which an innovation may be experimented with in a limited basis (Husni, A. and Noor, A., 2011). The degree to which an innovation can be tried on a limited basis is a good penetration skim to introduce a new product or service which promotes faster adoption before full implementation which gives the opportunity to evaluate innovation, compatibility, ease of use and complexity within trial period, which can reduce the uncertainty about E-banking adoptability and customer attitudes to using.

2.6.6Observability

Observability refers to visibility of an innovation of a good or service to the public in which the business is undertaken and visible and tangible to others by early adopters. Observability along with benefits and usage of innovation of an innovation will bring more positive impact on the speed of adoption. Chavan J. (2013) argues that, observability is the "degree to which the results of an innovation are visible and tangible to others". Liu and Li (2009) assert that the more it is easy to describe and observe an innovation, the more positive impact it will have on people which will eventually encourage usage of the innovation. Cruz *et al.* (2010) affirm that probability of adopting an innovation increases when the benefits and usage of innovation can be easily observed.

2.6.7Perceived Risk or Trust

Perceived risk is the uncertainty about the outcome of the use of an innovation in terms of physical harm, economic lose or social acceptance of early adopters. Perceived risk as defined by (Palvia, P. 2009), "It is the user's subjective expectation of suffering a loss in

pursuit of a desired outcome". Illegal activities and fraud has also included under perceived risk for both customer and service providers in the context that include security or privacy risk, performance risk, time (duration to perform single activity) or convenience risk, financial risk and social risk. Perceived risk or lack of trust and reliability were found to be the main obstacles to internate and mobile banking usage. Security and privacy are found to be the major obstacle in adoption of electronic banking activities. Customers tend to use those facilities which they believe to be the secured one and which are from some credible source. The trusting intention represents users' willingness to engage in subsequent transactions with the service provider. The higher levels of trust in a service provider will therefore lead to a greater intention on the part of user to engage in mobile banking transactions(Gu, Lee and Suh 2009; Lee et al. 2007).

2.6.8Awareness

The level of information customers have on E-banking is one of the major factors impacting the level of adoption in Ethiopian banking industry (Gardachew, W., 2010). The adoption rate of an innovation could be determined by level of awareness of the customers. The use of E- banking services is new to many customers and the banks need to create enough awareness to capture the attention of their customers. All the process of knowledge, persuasion, decision and confirmation can be ignited only through creating awareness to the public that will bring adoption or rejection of an innovation. So, it is necessary that the banks offering this service make the customers aware about the availability of such a product and explain how it adds value relative to other products of its own or that of the competitors. Awareness creation is an important factor in encouragement of consumers to adopt related self service facilities. The amount of information customers have about online banking has been identified as the major factor impacting the adoption. Awareness creation speeds the sales of products and evidences from different participants. The level of awareness is an important factor in encouragement of consumers to adopt related self service facilities (Palvia, 2009).Most customers choosing mobile services because they see their benefits. On another side, (Suoranta 2003) support that lack of awareness of its usefulness and benefits realization are important factors which hinder mobile banking acceptance.

2.6.9 Culture

Previous studies stressed the importance of culture toward a better understanding of information system adoption (Al-Gahtani, Hubona, and Wang, 2007). The role of culture when transferring information technology applications across culture is an important factor. Before any technology transfer, it is necessary to study user requirements and needs. Those needs and requirement are heavily influenced by culture. Hence, there is a need to explore the role of national culture as one of the factors that is likely to influence the acceptance or resistance of electronic banking services. There is no generally accepted definition for culture. Husni, A. and Noor, A. (2011) defines culture as the collective programming of the mind which distinguishes the member of one human group from another. Culture can also refer to the variation between values, beliefs and motivation of a diverse group (Palvia, P., 2009). Palvia, P., (2009) stated that culture reflects individual core values and beliefs. These values and beliefs are formed through childhood and reinforced all through their life. Leidner and Kayworth (2006) reviewed national culture studies found that, over 60 percent utilized one or more of culture's dimensions. These dimensions are:

- Power distance (PD): the extent to which the less powerful member of the institution or organization within a country expects and accepts that power is distributed unequally. McCoy, Galletta, and King (2007) found that the employees of the countries with high-power distance believe that the power is distributed unequally. Hence, they tend to accept and complete duties assigned by them by the superior, even if they are unconfident of the superior's work ethics.
- Uncertainty avoidance (UA): the extent to which the member of a culture feel threatened by uncertain or unknown situation. People with low uncertainty avoidance are willing to take risks and to take individual decisions (McCoy et al., 2007).
- Individualism vs. collectivism (IDV). Individualism stands for a society in which the ties between individuals are loose. Everyone is expected to look after himself or herself and his or her immediate family only. While collectivism stands for a society in which people from birth onwards, are integrated into strong, interrelated in a group which during people's lifetime, continue to protect them in exchange for unquestioning loyalty.

In low individualism cultures, people place higher importance on belonging to a group and respect opinion of the other members of the society (McCoy et al., 2007).

- Masculinity vs. femininity (MAS). Masculinity stands for a society in which social gender roles are clearly different. While femininity stands for a society in which social gender roles overlap; both men and women are supposed to be modest, tender and concerned with quality of life. In a culture with high masculinity, men, not women, are socially pressured to excel, whereas in feminine cultures, both men and women may be socialized to be ambitious (McCoy et al., 2007).
- Long term vs. short term orientation (LSO). Long term orientation stands for the encouragement of virtues oriented toward future reward, in particular, perseverance and saving. While short term orientation stands for the encouragement of virtues oriented related to the past and present, specifically, respect for tradition and full filing social obligation. According to Veiga et al. (2011), in culture with a high score of long term orientation, people are considered as future oriented and more forward looking.

2.7 The Key challenges in adoption of E-banking in Ethiopia

As (Tewdros, 2011) the key challenge in adoption of E-banking stated as follows:

2.7.1 Internets and Telecommunication Infrastructure

Absences of infrastructure hinder the development of internet and telecommunication and improvement of E-banking. More than 80 percent of population reside in rural areas of the country in which mass of small and medium business are condensed without internet facilitation and they are in a difficulty to use banking services like E-banking. (Tewdros, 2011).Since the entire country wholly relied on only one network provider, the EthioTelcom, which results in the lagging behind E-banking as well as E-commerce. In short, due to poor infrastructure of the network provider, the country's economy as a whole and banks in particular are suffering and are in difficulty to expand E-commerce and E-banking as widely as they expect. The economy lacks its momentum to grow by the digital economy by poor infrastructure of the network provider.

2.7.2 Lack of Suitable Legal and Regulatory Framework

The current law in Ethiopia do not adopt electronic contract and signature. Ethiopia has not yet perform legislation that deal with e-commerce interested in comprehend to strengthen the well-grounded of electronic contracts, digital signatures and intellectual copyright and limit the use of encryption technologies. In reply, many local regulators have already stabilized their regulations to accomplish their main objectives and make sure the safety and soundness of local banking system, advertising market discipline and keeping customers rights and the public trust in the banking system (Chavan, 2013).

2.7.3 High rates of Illiteracy

Level of technological awareness and illiteracy should be considered serious problem for banking sector to provide proper banking especially E-banking because it is highly dependent on technology. Because of this they would not enjoy E-banking and it is a challenge for the bank. As Gardachew (2010) states, high rate of illiteracy is among the main source of challenge for the development of E-banking in Ethiopia.

2.7.4 Frequent Power Interruptions

Absence of continuous supply of power is also considered as a key challenge for government and also for the whole business society. As a result of this, industrialization and banking industry faces a serious problem. According to Kumaga (2010), frequent electric power disruption creates lot of problems in E-banking activities which are basically depending on power supply. It will force the banks to depend on generators results in high operational cost. These problems are considered as obstacles for the expansion of E-banking services. This also affects bank clients' trust and reliability on E-banking.

2.7.5 Resistance to changes in Technology among customers and bank staffs

According to Al-Gahtani, Hubona, and Wang, (2007); needs and requirement are heavily influenced by culture. Hence, there is a need to explore the role of national culture as one of the factors that is likely to influence the acceptance or resistance of electronic banking

services. Saleem Z (2011) argues that consumer resistance to the innovation is caused by functional barriers and psychological barriers. Functional barriers can be divided into three: the usage barrier, the value barrier and the risk barrier, whereas psychological barriers can be divided into tradition barrier and image barrier. According to Saleem Z (2011), functional barriers arise when consumers perceive changes would take place when adopting innovation and the psychological barriers are caused by consumer's beliefs. On the other hand Khanfar et al (2010) conducted study on the customer satisfaction with internet banking web site in the Arab Bank. The study identified some factors which can determine customer's satisfaction in the use of internet banking service. Such as; customer supports, security, ease of use, digital products/services, transaction and payment, information content, and innovation.

2.7.6Security Issues

One of the biggest challenges and the basic requirements of E-banking are ensuring its security. Securing the process in E-banking involves authenticating data of the customer and banker and protecting the information to be transmitted from interception. This authentication can be done using user ID and passwords. In addition a means must be provided that prevent repudiation both by the merchant and customer once the payment process has taken place (Bernard H.R, 2011). According to Worku (2010), E-banking systems must also take into account the need of multilateral security keys i.e. security needs of all participating parties in the E-banking system. An E-payment system that is not secured may not get trust from its users. Trust is one of the crucial factors to ensure the acceptance of E-banking system by users. Rangsan (2013) also indicated that E-banking applications represent a security challenge as they highly depend on critical ICT systems that create vulnerabilities in financial institutions, businesses and potentially harm customers. It is imperative for banks to understand and address security concerns in order to leverage the potential of ICTs in delivering E-banking applications. Software failures can also be considered as security challenges as it destroy entire portions of a network and bring huge losses. According to Tadesse and Kidan (2005), some of the major security challenges include the following.

2.7.6.1 Cyber Security Issues

Cyber security issue is worldwide problem so Ethiopia is not exceptional. This global challenge needs global and multidimensional attention with consideration of policy, socio-economic, legal and technological parts. So the bank's customer anticipating protected transaction. Due to this bank should give special attention when they implement E-banking. On the other hand Wondwossen (2005) stated that the main challenge of E-payment is assuring its security. When we secure payment via electronic payment we are including the authentication of customer and merchant fence the information which has taken place upon transaction. Furthermore there must be a system which can reduce the discomfort that arises from payment (WondwossenTadesse, 2005).

2.7.6.2 Disclosure of private information

In E-payment, there are many ways in which private information may be accessed by attackers. For instance hackers may intercept network traffic to get confidential data. It is also possible to access private data stored on a computer connected to the internet. This data could be used to make fraudulent transactions that could lead to a loss of money.

2.7.6.3Counterfeiting

Counterfeiting is the creation of new data or duplication of existing data, which are technically valid but not legally admissible. Cloning of e-money for double spending and creation of fake accounts are example of counterfeiting. One popular form counter feiting attacks is duplication of electronic data from a payment cards (e.g. ATM card) is creating duplicate cards and withdraw money from the accounts (Husni, A. and Noor, A, 2011).

2.7.6.4 Illegal alteration of payment data

Illegal modification of payment information may result in loss of money. This may again results in the loss of customer confidence. Alterations could be made to the transaction account numbers resulting in misdirected payments, to the payment amounts or to electronic balances on electronic. Another challenge in E-payment includes usage of a

fraudulent web site by an attacker to collect credit card number and other personal and/or financial information. According to Taddesse and Kidan (2005), the most common method of securing E-banking services is using cryptographic based technologies such as encryption and digital signatures. However, applying these technologies will reduce its efficiency by making it slower and as a result some sort of compromising has to be made between security and efficiency.

2.7.7E-banking Risks

2.7.7.1 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 and the senior management maybe in difficulty to recognize the risk and its potential advantage and its implication (Jamal, 2011). Most of the time in banking industry, it is common to get staffs with technological skills, but not banking skills. Because of this they fail to attract more customers which are disadvantage for bank and this is beyond banks expectation.

2.7.7.2 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. Due to application software error or network failure, banks as well as E-commerce may suffer and unable to give services as required. (Jamal, 2011)

2.7.7.3. Technology risk

This kinds of risk is associated with fail in processing, disruption of system, error in performance, inefficient capacity, defective software, exposed network, lack of control,

hacking incident and inefficient recovery ability are among the risk emanate from the technology itself. (Jamal, 2011)

2.7.7.4 Reputational risk

This risk results from customer dissatisfaction, which is identified when customer complaining on our service or goods. If there is a defect of the goods or services (Jamal, 2011). The dissatisfaction of customers caused by a network break down can become a mere source to lose reputation.

2.8E-banking Competitiveness Practice

E-banking is developing gradually and it is getting acceptance globally. But, whether this field is lucrative for entry can be judged by industry and competitive analysis. Like other industry, Porter's Five Forces Model of Competition (Zhang Y, 2013) can also be applied to understand E-banking competitiveness.

Rivalry among Competing Parties

As there is no single internet only bank exist in this world, the current rivalry among the competitor or banks in the banking industry should be considered. Banking institutions are countering their competitors by leveraging E-Commerce technologies and various service offerings online (Porteous, D., 2011). This is a major shift from the early days of Electronic Funds Transfer (EFT), when large organizations introduced electronic banking to simplify the management of their salary and payroll problems (Rangsan, Nochai, &Titida., 2013)observes that the Internet is increasingly considered a strategic weapon by banks, which are leveraging it as a distribution channel to offer complex products at the same quality they can provide from their physical branches, at a lower cost, to more potential customers, without boundaries. E-banking is used to augment their current value chain, offering new product and compete for the customers.

New Entrants

At present, the entry barriers to Internet banking appear to be much higher for new entrants than was the case during the early days of this type of banking. The barriers stem from customer attitudes and the very nature of banking services and products. The traditional banks with a strong customer base have a competitive advantage over newcomers. However, Saleem, Z (2011) argue that one of the critical factors – barriers to entry – no longer exists in banking. M.Moga, L. (2010) have also observed that competitors can come from any industry to "disintermediate" banks (i.e., eliminate banks as the interface between customers and suppliers). Product differentiation is very difficult for banks, since most of the products sold in retail banking are constrained by legal or industry regulations and, in any case, are readily imitated. Many countries have de-regulated their banking sector, so government policies no longer form an entry barrier to banks' competitors. Technological know-how in banking also provides low protection to existing banks. As Lin, H., (2011) argues, the only significant entry barrier is likely to be the brand name of the service providers in retail banking.

Suppliers

Supplier has much bargaining power in this industry, as there are a small number of large players in the industry (Kotler and Armstrong, 1997). Daniel, E. (2009) observes that banking demonstrates the typical attributes of an oligopoly – such as risk avoidance and relatively undifferentiated customer service – which have made it susceptible to encroachment by software giants such as Microsoft, who are attempting to replace banks as intermediaries, (Daniel, E., 2009).

Buyers

As Deloitte (2010) has noted, the Internet has levelled the playing field: the bargaining power of consumers is increasing, switching costs are becoming lower (with Internet banking gaining momentum), and consumer loyalties are harder to retain. Some specific factors that have conspired to create the new competitive environment for banking include: changing consumer needs and perceptions, globalization, technological innovations, and competition from non-banking entities (Masinge, K, 2010). Though many banks offered 'home banking services' from a PC during the 1980s and 1990s, the concept was initially a failure due to the lack of a critical mass of

PCs and computer literate customers, as well as to the somewhat limited user interfaces initially available. Home banking, however, is gaining in popularity with increasingly literate consumers, a wider installed PC base (Masinge, K, 2010) and more generic features together with the user-friendly interface the Web enables (Dineshwar, R, 2013).

Substitutes

The threat of substitutes to banking in terms of competition from the non-banking, financial and micro credit sector is increasing rapidly. As Viermetz (2007) observes, the major credit card issuer in the US is not a bank but rather Dean Witter of Discover Card fame. Huggins (2001) points to the fact that traditional boundaries in banking are disappearing. Using E-Business methods, major retailers and telecom providers are starting to offer financial services to their clients. Attitudes are also shifting from direct transactions to savings and investment, as the baby boomers reach their forties and fifties, and prepare for retirement (Dineshwar, R, 2013).Increasingly, consumers expect online services from their financial institutions (Daniel, E. 2009). The trend toward electronic delivery of products and services is particularly important to the financial services industry, where the shift is partly a result of consumer demand, but is also partly a result of the ruthlessly competitive environment (Geyer, 2007).The analysis of the current state of E-banking reveals that the field is getting fierce day by day. Every member of this industry is participating to some extent in E-banking. Substitute products by non-banking sectors, disintermediary issues, brand preference, increased buyer barging power, change of preference made the competitive environment unfavourable for the new entrants. However, to survive existing banking sectors competition, banks must embrace E-banking.

2.9 Empirical Study of E-banking

Most of the researches conducted on E-banking are based on evidence from majority of prior empirical studies that are done by various researchers. Here, in this section a certain empirical findings on the practice and challenges on adoption of E-banking conducted by different authors are reviewed.

2.9.1 Factors that determine adoption of E- banking

Studies have been conducted in various countries to better understand customer's attitudes toward this emerging E-banking technology. For example, Mattila (2003) focused on the drivers and inhibitors of E-banking services. The author found that complexity, compatibility, relative advantage, observabilityand triability are the significant factors influencing customer decision making in E-banking adoption. Also, security and confidentiality of information are fundamental pre-requisites for any E-banking services to be successful.

Empirical evidence implies that customer, patronage for and reaction to a particular product depend on their level of understanding of what the product can do and what they stand to benefit there from (Porteous, D., 2011). The researcher here wants to answer the above problems and findings against his findings to investigate the impact of E-banking on customer satisfaction. E-banking that have been recommended by other researchers for future study, to explain the problem listed by other researchers in the particularly study area, to know customer view about what they feel about over all activities of bank account movement control, to see the relationship of E-banking variables listed by other researchers which determined customer satisfaction in E-banking would look like in the study area and the researcher believes that previously no research has been done in this specific topic in the city to provide empirical evidence of the impact on customer satisfaction of E-banking.

Kumbhar in his study has shown that there is a positive relationship between age, education and profession, Kumbhar VM (2012). In the study 82.10% of the respondents were male and the rest were female and age wise 54.70% of the respondents were 35 and below and 9.50% were above 50. The study result also showed that in order to increase customer satisfaction and its further adoption bankers should enhance service quality of alternative banking services. It also mentioned that many researchers from USA, UK, Finland, Malaysia, Taiwan etc. have proved that technology have positive impacts on customers' satisfaction in banking industry. Ala' Eddin and Hassan in their study in which 70.40% were male, age wise 71.60% of the users of E-banking were 35 or below and below 45 accounts 7.8% and educational level E-banking customers participated in the study that only 8.40% were high school complete or less and the rest 91.6% were

above high school Eddin A, Al-Zubi H (2011). The study also investigated that fees determined by Jordan banks were an important element to facilitate the using of E-banking which was reflected on the customer satisfaction. Jayaraman in their study of demographic factors in adaption of retail internet banking in Klang valley, Malaysia, found that gender, age, education, occupation and annual income were negatively related to adoption of internet banking (Munusamy J, Run ECD, Chelliah S, Annamalah S, 2012). Only race has positive relationship with internet banking usage and gender and annual income exhibit a significant negative relationship with adoption. Paul in his study entitled ATM: The new horizon of E-banking on commercial banks customers in Odisha, Hyderabad, India, out of the 300 sample, 61.33% were male and 38.66% were female and most of the respondents (30.66%) belong to 25-35 age groups Paul S (2013). Regarding education most of the customers were qualified that is 68.34 of them have degree and above. Out of total respondents 28% were students, 24.33% were self-employed, 8.33% were professionals where as 19.33% were belong to the house hold group. In the study he also found reasons why people prefer ATM were time saving, faster transaction, easy to use, easy banking anytime/anywhere and also reasons why customers do not prefer ATM were lack of knowledge, lack of security and ATM Machine problem. Timothy in his study 61.40% of the respondents were male and the rest female, age wise 66% of the respondents were 35 and below and educational level 97.70% were diploma and above it and the study has also shown electronic banking service had significant influence on customers' satisfaction in Nigeria (Timothy AT, 2012). Ahmed in his study of the impacts of E-banking on customer satisfaction in Nigeria, showed that in contrary to the expectations the visits of customer bank hall per month has increased by 11% after using E-banking, much need to be done in the area of creating awareness about the availability of electronic banking products and service, how they operate and their benefits a head of providing the service, only 47% of customers of E-banking have satisfied with E-banking service and 82% of the respondents of the sample respondent consider human teller very important and important (DogarawaAB, 2005). Sampson E found that E-banking services have been able to cut costs, save time and offer services at the expenses of man-hour to the satisfaction of customers (Sampson E, 2005). Sultan in his study has found that there exists an indirect relationship between fee charged in E-banking and customer satisfaction and there is direct relationship between the problems faced in E-banking and customer satisfaction. Zohra and Kashif in their study have shown that the users do not understand about what meant mobile banking is and suggested that it is crucial to create

awareness about the usage of mobile device and familiarize people with its benefit in order to increase customer satisfaction (Zohra S, Kashif R, 2011). Salman and Kashif study result showed that the awareness of customers in E-banking was poor that is more number of customers do not know what E-banking meant, E-banking has totally reduced interaction with bank employees and it enabled customers to control their accounts movements more than ordinary banking. Empirical evidence implies that, customer' patronage for and reaction to a particular product depend on their level of understanding of what the product can do and what they stand to benefit there from.

Yohannes in his study of key factors that determine adoption of internet banking in Ethiopia, findings revealed that, demographic factors including age, income, education level and occupation have a relationship with the adoption of internet banking, (Yohannes A, 2010). In his study, the age group 30-39 accounts for 52% of internet banking users, which is relatively high proportion of younger users, and based on his data, concluded that age has an impact on the use of internet banking in Ethiopia. In his study findings, education levels were regarded as an influential factor in consumers' use of internet banking services with high education levels being particularly significant. In the study, 81% of internet banking users have a higher education level (diploma or degree), whereas only 34% of non-users have tertiary education level qualification and confirmed that education levels have an impact on the use of internet banking in this study. In the study 80% of the users were employed and concluded that occupation has an impact on the adoption of internet banking. 85% of the study sample agreed that internet banking enables them to manage their account better. 95% of users agree that internet banking allows them to conduct transactions at any time, from any location, with time savings being the end result. Thus internet banking eliminates time and place constraints. The results indicated that internet banking charges are a key factor in motivating the use of internet banking.

Due to lower availability and usage of internet services, power infrastructure and the infancy of electronic payment system in Ethiopia, branches expanded faster than ATMs. The remarkably branch expansion strategies have undertaken by banks since 2011 increased the number of bank branches available to 100, 000 adults (taking2014 population estimates of Index Mundi) to 4.09 on June 2014 from 1.79 bank branches in 2011. But when this national bank branch per 100,000 adult ratios seen from rural

population aspect, it fall to 1 bank branch to 125,000 population. The numbers of ATMs operated during 2014 also increased to 2 per 100,000 adult populations as compared to nearly 1 and 0 ATM availability for the same number of adults during 2013 and 2012respectively.

Statistics indicates that almost all developed countries have financial inclusion penetration of more than 90% (90% adults reported financial transactions with regulated financial institutions).While the status in developing countries, with few exceptions, is at a very low stage. According to Findex Global Survey of 2014, Kenya is leading Sub-Saharan African countries having more than 75% inclusion level that has mainly been supported by the high mobile phone penetration and usage for financial transactions. Rwanda, Tanzania and Zambia are in the line, having 42%, 40% and 36% respectively. The average inclusion level of Sub-Saharan Africa (SSA) stood at 34%. Ethiopia is lagging behind its peers and even below the average having only 22% inclusion. This clearly shows that E-banking brought a huge potential to Ethiopian economy.

2.9.2Electronic Banking Service Usage Practice in Study Banks

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

The state owned Commercial Bank of Ethiopia is the first bank to introduce electronic payment system by installing ATM in 2001 using a total of 7 ATMs limited to the capital, Addis Ababa, by accepting both international visa and master cards. In addition to this, the bank starts internet banking and SMS banking at the end of 2011 and 2012 respectively at the end of June 30, 2018 the bank has above 756 ATM and 1320 POS in all over the country, through this network it has around 720,000 customers who can withdraw up to 6,000 birr only per day.

Table 2.9.2.1 E-BANKING IN CBE

Item	Number
Number of ATM	756
Number of POS	1320
Total Number of E-banking Customers	2,440,528
Transaction per day	6,000
Charge per transaction	1 Birr per 1000

Survey result 2018

Awash Bank the first private bank in Ethiopia, has introduced with E-banking back in 2007 by having ATM and POS that able it's card users to make their transactions electronically. It introduce internet and SMS messaging per transaction to all its customers at the same time. As per the bank report of the year 2017/2018, the bank has 289 ATM and 570 POS machines with more than 390,230 0f these service customers. The bank allowed all its customer to withdraw 5000 per day charging 1 birr per 1000.

Table 2.9.2.2 E-BANKING IN AWB

Item	Number
Number of ATM	289
Number of POS	570
Total Number of E-banking Customers	590,230
Transaction per day	5,000
Charge per transaction	1 Birr per 1000

Survey result 2018

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

Connecting its leadership with advanced banking technology, Dashen Bank signed an agreement with iVery, a South African electronic payment technology company, for the introduction of mobile commerce in April 21, 2009. According to the agreement, iVeri

Payment Technologies has licensed its Gateway and MiCardE-payment processing solution to Dashen Bank. This would make Dashen Bank the first bank in Ethiopia to acquire e-commerce and mobile merchant transactions. On June 30, 2081 the bank has 323 ATM and 950 POS with more than 450,000 numbers of customers through ATM and POS and 7000 customers for mobile banking. For the consumption of ATM service Dashen bank charges 0.25 cents/ hundred. By using E-banking service the bank can additionally generate 75.7 and 83.7 million birr 2017/2018 respectively.

Table 2.9.2.3 E-BANKING IN DSB

Item	**Number**
Number of ATM	323
Number of POS	950
Total Number of E-banking Customers	452,244
Transaction per day	6,000
Charge per transaction	0.25 per 100 Birr

Survey result 2018

Abyssinia bank becomes introduced with E-banking back in 2008. Bank benefit from the network which are available throughout Addis Ababa and several other cities. At the end of June 30, 2018 the bank has a total of 155 ATM and 380 POS machines with a total of 9,520 customers for ATM and POS banking,. The ATM service is 1 birr per 1000 birr transaction to its customers and allow withdrawal of 5000Birr/day.

Table 2.9.2.4 E-BANKING IN BOA

Item	**Number**
Number of ATM	155
Number of POS	380
Total Number of E-banking Customers	299,520
Transaction per day	5,000
Charge per transaction	1 Birr per 1000

Survey result 2018

2.10 Justification of models used

2.10.1 Technology Acceptance Model (TAM)

TAM was first introduced by Fred Davis in 1989 to predict user acceptance of new technologies. According to (Davis 1989), TAM suggests that perceived usefulness (PU) and perceived ease of use (PEOU) are the two most important factors in explaining individual users adoption intentions and actual usage. Davis (1989) defines perceived usefulness as the degree to which a person believes that using a particular system will enhance his or her job performance. Perceived Ease of Use refers to the degree to which the person believes that using the system will be free of effort. TAM has been extensively tested and validated and is a widely accepted model, which can be modified or extended using other theories or constructs according to author in (Masinge 2010) and its usage has captured the attention of IS community attested by the authors in (Mathieson et al 2001).

Masinge (2010) conducted a study on the factors influencing the adoption of mobile banking services at the bottom of the pyramid (BOP) in South Africa, and added perceived cost, trust and perceived risk constructs to TAM. The results of the study revealed that perceived usefulness (PU), perceived ease of use (PEOU), perceived cost, and customer's trust had a significant effect on the adoption of mobile banking at the BOP while perceived risk (PR) was found to have no significant effect.

As a result of this many other models of extension have been suggested by the authors in (Luarn

and Lin 2005).The perceived credibility, perceived financial cost and perceived self-efficacy has been adopted based on the literature, as an extension of Technological Acceptance Mode (TAM) to investigate and understand the behavioural intention of users of mobile bankers (Luarn and Lin 2005).

Many researches on the acceptance of electronic-banking services have used Davis's (1989) technology acceptance model (TAM). It is argued that using TAM solely is insufficient to explain the adoption or non-adoption of technologies (Chong *et al.* 2010). Several researches on mobile banking adoption have combined the Diffusion of Innovation Theory (IDT) and Technology Acceptance Model (Riquelme& Rios, 2010). Puschel*et al.* (2010) affirm that taken individually, the models have limited predictive power but integrating the two into a single framework results into more predictability. In their investigation on mobile banking, Puschel*et al.* (2010) have integrated elements of the

Technology acceptance model (TAM) of Davis with Roger's innovation diffusion theory. Chong *et al.* (2010) affirm that it is better to use TAM as a base model and extend it by including additional variables based on the study that is being carried out. Akturan and Tezcan (2012) have integrated TAM, perceived benefits and perceived risks to investigate mobile banking adoption. Wessels and Drennan (2010) extended TAM by adding compatibility and perceived risk as constructs for their investigation on customer's acceptance of mobile banking. The study therefore combines TAM and IDT along with perceived risk and perceived trust and awareness constructs to investigate factors influencing m E-banking usage in Addis Ababa, Ethiopia. As a result for this study the factors influencing E-banking usage are perceived ease of use, perceived usefulness, relative advantage, compatibility, perceived risk, perceived trust and awareness.

2.10.2 Innovation Diffusion Theory (IDT)

Adopters have invariably been found to have different perceptions about these characteristics in comparison with non-adopters. According to (Kotler 2000), the characteristics of an innovation affect its rate of adoption. Some products catch an immediately, whereas others take a long time to gain acceptance. If the innovation is perceived to be better than the existing system (a measure of its relative advantage), is consistent with the needs of the potential adopter (a measure of its compatibility), and is easy to understand and use (a measure of its complexity), it is more likely that a favourable attitude towards the innovation will be formed (Ching and Ellis 2004).

Innovation diffusion model's attributes: compatibility, complexity, triability, observability, perceived risk or trust, awareness has a significant effect on attitude to adopt E-banking services. They have also suggested that compatibility has a positive relation with the adoption of E- banking. Customers have a favourable attitude towards adopting mobile banking services, if they have positive belief about the relative advantage of mobile banking.

2.11 Conceptual Framework

The conceptual framework (Figure one) explains the underlying process, which is applied to guide this study. The listed independent variables have a direct impact on the development of E-banking and as well, E-commerce. These variables are critical issues in the effort to address the development of digital economy. This framework illustrates the interaction between the independent variables and the dependent variable.

2.11.1 Conceptual Model

As indicated in Figure 1, the conceptual model shows the effect of each independent E-banking adoption variables on dependent variable. Accordingly, the development of E-banking and customer adoption and usage of E-banking is considered as dependent variable whereas perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support are independent variables.

Figure 1 Proposed research model or the conceptual framework

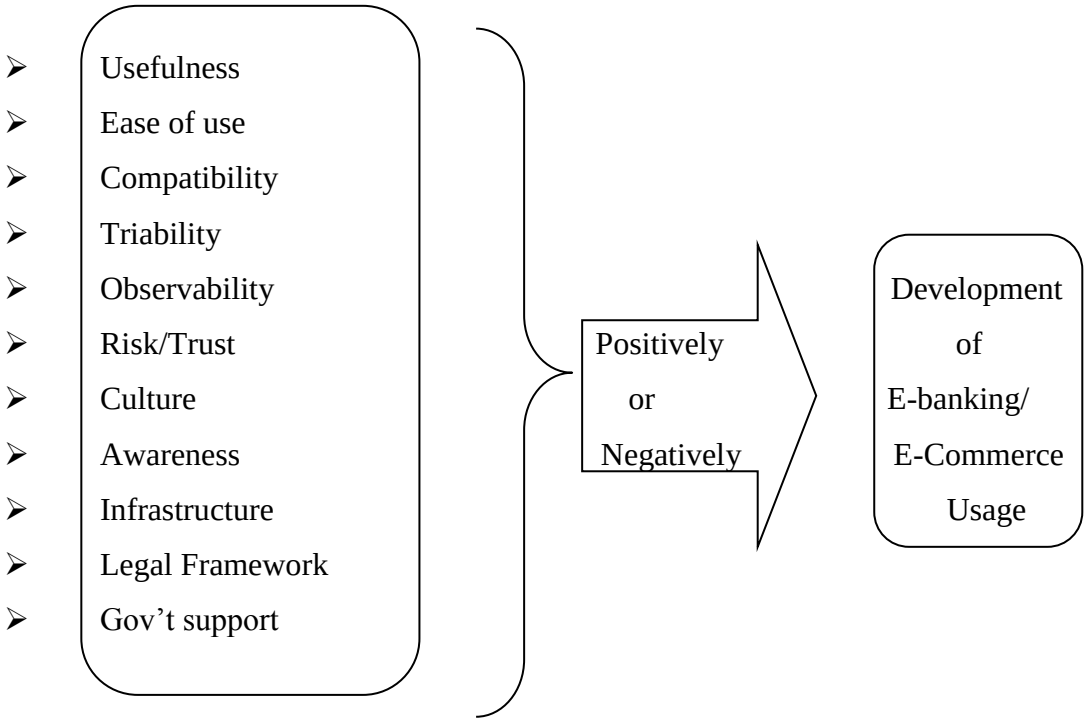

Fig 2.11.1 Conceptual Model

2.12 Research Hypotheses

The main hypotheses of this study are the following.

H1. Usefulness has a positive and significant effect on adoption of E-banking.

H2. Ease of use has a positive and significant effect on adoption of E-banking.

H3. Compatibility has a positive and significant effect on adoption of E-banking.

H4. Triability has a positive and significant effect on adoption of E-banking.

H5. Observability has a positive and significant effect on adoption of E-banking.

H6. Perceived risk or Trust has a positive and significant effect on adoption of E-banking.

H7. Culture has a positive and significant effect on adoption of E-banking.

H8. Awareness has a positive and significant effect on adoption of E-banking.

H9. Infrastructure has a positive and significant effect on adoption of E-banking.

H10. Legal framework has a positive and significant effect on adoption of E-banking.

H11 Government support has a positive and significant effect on adoption of E-banking.

2.13Research Gap

There have been a number of valuable studies in the area of E-banking over the years back in North America, Europe, Asia and some from African countries such as Kenya, Ghana, Nigeriaand Zimbabwe. Researcher's such as (Masinge 2010), (Teo etal., 2011), (Al-Jabri, 2012),(Dineshwar 2013) and others presented evidence for a number of variables that influenced customer behaviour intention to use E-banking, however a study on the need of integration of banks E-banking system to implement the development of E-banking as well as E-commerce have given little attention. Also, the effect of individual effort and administration of E-banking service of each banks in Ethiopia cost them a lot and it will have adverse effect on its development and little attention is given in literatures in Ethiopia.

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

Many researchers have written extensively on research design and methodology. The underlying factor in most studies on research methodology is that the selection of methodology is based on the research problem and stated research questions. Methodologies cannot be true or false, only more or less useful (Surma S.H, 2011). Nachamias et al. (2006) for instance states that methodologies are considered to be systems of explicit rules and procedure, upon which research is based and against which claims for knowledge are evaluated. Conducting any type of research should be governed by a well-defined research methodology based on scientific principles. Eldabi (2002) suggested that a series of steps as a research paradigm to be followed in a methodology part of a research.

This chapter deals with research methodology used to carry out the research. This chapter outlines and explains the methodology employed to achieve the research objective and test the research hypotheses formulated in the study. The chapter is organized in nine sub sections. In its first part there is a description of the study area, research approach, then it presented subsequently research design, population, sample and sampling technique, data sources and type, data collection procedure, validity and reliability and finally ethical consideration.

3.1 Description of the Study Area

This section describes the banking environment in Ethiopia with respect to the policy and legal framework under which the banking industry operates. The banking industry in Ethiopia is controlled by the National bank of Ethiopia (NBE) acting as the central bank of the country. There are 18 commercial banks registered under the NBE up to 2019, these comprises 2 state owned banks and 16 private commercial banks. Five banks are selected for this study and they are found in the capital city of the country, Addis Ababa.

In Ethiopia there are more than 42 million mobile holders which provide more opportunities for financial institutions to reach the unbanked areas. The numbers of mobile holders are near to fold of the number of bank account holders in the country. The number of ATMs available in

the country has reached more than 700 by the end of 2018, much lower than the number of ATMs operated by commercial banks in Kenya, which stood at 1,979 during the same time.

Addis Abeba, which is the capital city of the country, with more than 3 million inhabitants and with more than 5,000 formal and informal businesses in Merkato area only, with a number of diplomatic communities and international offices, is believed to have the most bank branches and bank customers. Addis Abeba can be considered as a nucleus of market and finance to the whole country.

E-banking services like mobile banking, internet banking and ATM are believed to be practiced and accessible than in any cities of the country. As the mobile banking is dependent on efficient communication network, most of mobile banking practicing customers are believed to be found in Addis Abeba than other cities in the country. In this research, it's believed to get the real representative causes of slow growth of electronic banking in Addis Abeba which could represent the situation in Ethiopia.

3.2 Research approach

Research approach is selected by researcher(s) based on the research purpose, the nature of the research, the problem area, and research questions (Alhamdani et al. 2006).The research approach in this study is chosen based on the purpose and the research questions set out to be addressed. The purpose of this thesis is to conduct descriptive research in order to gather as much information as possible concerning the practice of E-banking in Ethiopia. Specifically, these were in respect of the perspective of banking institution in Ethiopia. This research were focused on describing the current situation of the problem and answer the research questions which are in the form of "what", and to highlight the most important factors that can negatively or positively affect the practice of E-banking in Ethiopia

Therefore, descriptive research was being used to fulfill this approach in order to achieve the objective of this study and answer the research questions through quantitative and inductive research approach to assess the main practice of E-banking in Ethiopia and explore and explain the basic challenges which hinder the practice of E-banking in Ethiopian banking industry.

The inductive approach, also known in inductive reasoning, starts with the observations and theories proposed towards the end of the research process as a result of observations, Goddard, W. & Melville, S. (2004). Inductive research "involves the search for pattern from observation

and the development of explanations – theories – for those patterns through series of hypotheses" Bernard, H.R. (2011). It is important to stress that inductive approach does not imply disregarding theories when formulating research questions and objectives. This approach aims to generate meanings from the data set collected in order to identify patterns and relationships to build a theory; however, inductive approach does not prevent the researcher from using existing theory to formulate the research question to be explored, (Saunders, M., Lewis, P. &Thornhill, A., 2012) Inductive reasoning is based on learning from experience. Patterns, resemblances and regularities in experience (premises) are observed in order to reach conclusions (or to generate theory).Inductive reasoning begins with detailed observations of the world, which moves towards more abstract generalizations and ideas, Neuman, W.L. (2003). When following an inductive approach, beginning with a topic, a researcher tends to develop empirical generalizations and identify preliminary relationships as he progresses through his research.

3.3 Research Design

According to Kothari (2004) ―research design is a set of guidelines and instructions to be followed in addressing the research problems. This includes the aim of the research, the selection and the design of the particular method and participants and a consideration of trustworthiness.

According to Kothari (2004), the choice of research design depends on the nature of the study.

The primary aim of this study was to examine what will be the effect of independent variables of E-banking like perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support on the dependant variable which is the development and usage of E-banking in Ethiopia. To achieve this objective, descriptive and explanatory research design is employed in this study.

A research study classified as explanatory type of research design helps to identify and evaluate the causal relationships between the different variables under consideration (Marczyk et al 2005). If the objective is to determine which variable might be causing a certain behaviour, i.e. whether there is a cause and effect relationship between variables, explanatory research must be undertaken (Shields and Rangarajan, 2013).

Therefore, since the objective of this study is to examine the causes and effect relationships between independent and dependant variables of E-banking usage, explanatory research design is applied.

3.4 Population and Sample Size

This section explains the population, the population characteristics and the sample size drawn for this study.

3.4.1 Population

Particularly, the researcher set criteria to selecting the banks where the survey will be conducted. Since the study is conducted about E- banking usage, those banks that have implemented these technologies have been considered as the target population.

According to Maylor & Blackmon (2005) sample represents part of the study population that will be studied, in order to understand the population from which the sample was drawn. Brink (2000) explain that the sample is a subset of a larger population, selected by the researcher to participate in a research project‖. The total number of Commercial Banks which is operated in the year 2018 is 16 private banks and 2 state-owned banks. However, to undertake this research paper, the researcher purposely sample four banks, which are currently practicing E-banking technologies. Those banks are Commercial bank of Ethiopia (CBE), Dashen Bank (DSB), Awash Bank (AWB) and Abyssinia Bank (BOA) which branches are located as a cluster which are located in the five districts of the city that are most populated and business area of Addis Abeba. These are Merkato, Piassa, Megenagna Bole and Ayat which customers are selected in equal quota from each bank at a random sampling technique.

3.4.2 Sample Size

In addition to the purpose of the study and population size, three criteria usually will need to be specified to determine the appropriate sample size: the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured.

In order to define the volume of the sample, for the size of the population that are large and determined a simplified formula to calculate sample sizes developed by (Yamane, 1967) is used as follows:

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

A 95% confidence level and

Where: n is the sample size,

N is the population size, and

e is the level of precision.

Four hundred bank customers are going to be investigated with quota sampling technique equal number of customers from the four banks at the selected area of the city with their respective branch. Purposive quota sampling techniques is going to be implemented to select bank customers to fill the questioners. Purposive sampling allows respondents to be selected based on the fact that they can answer specific research questions based on the study (Twumasi, 2001).

Table 3.4.2 Table of Sample Size

District	**CBE**		**AWB**		**DB**		**ABY**	
	Branch	No of Client.	Branch	No of Client	Branch	No of Client	Branch	No of Client
Merkato	Aba Koran	20	MerkatoTana	20	Tana	20	Abba Koran	20
Piassa	A/Giorgis	20	MehalArada	20	Piazza	20	Arada	20
Megenagna	Hidase	20	Megenagna A/bay	20	Megenagna	20	Megenagna	20
Bole	Bole	20	Bole M/Alem	20	Bole M/alem	20	Bole M/Alem	20
Ayat	Ayat	20	Hayat A/bay	20	CMC	20	CMC	20
TOTAL		100		100		100		100

Table 3.6 Data collection design

3.5 Sampling Technique

Sampling is the process by which a relatively small number of individuals are selected and analysed in order to find out something about the population (Vander Stoep and Johnson 2009). The method of sampling employed for this research is purposive type of non-probability sampling whereby only most relevant respondents are contacted.

Purposive or judgmental sampling strategy, when it is used in quantitative research, the predetermined number of people who, in researcher judgment, are best positioned to provide the needed information for the study are selected (Kumar, 2011). Purposive or judgemental sampling technique is preferred to take sample from E-banking practicing clients of each bank. Most importantly purposive sampling is appropriate in this study in selecting customers that uses any of those E-banking services offered by each of the banks under study.

The quantitative part of the research which is going to be collected via the structured questioners will be analysed based on frequencies of similarity of the information and the information that will be gathered from the respondents will be analysed with regard to their practice of E-banking through structured questioner on E-banking usefulness, ease of use, network reliability, awareness, service trust worthiness, service legal framework, service charges and effects of ease of exchange between different bank customers In order to answer the statement of the problem and meet the research objectives, the design of the study is both descriptive and explanatory type.

3.6 Data Source and Type

According to Macnee & McCabe (2007), data collection is a process of gathering information from identified respondents to answer the research questions. According to Ghauri & Gronhaug (2005) research relies on two set of data: primary and secondary data. They further state that primary data sources include observations, experiments, social surveys like questionnaires, and interviews. While secondary data sources are the ones from where we collect the information contributed by others towards the study, Secondary data sources comprise of books, journals, articles and web-based data about the specific subject (Ghauri & Gronhaug, 2005).

Primary data is going to be used in this study. The data will be collected through questionnaires. This gives specific responses to the research questions. Primary data is

recognized as data is gathered for a specific research in response to a particular problem through questionnaires which are going to be distributed to respondent who have been using E-banking in the selected banks.

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

3.7 Data Collection Procedure

Survey research is one of the most common research methods in social science and education. This is largely because it is an efficient way of collecting large amounts of data and is flexible in the sense that a large number of topics can be studied (Muijs, 2004).

Accordingly, a structured questionnaire both in Amharic and English language was employed. The questionnaire targets those clients who have been using any of E-banking service given by respective bank. The questionnaire consists of two parts, part one was prepared to gather demographic information about the respondents. Part two prepared to ask respondents to answer their general experience on E-banking service given by their bank.

The components of E-banking and practice and challenges to customers will be measured on 5- point Likert- scale ranging from 1 (strongly disagree) to 5 (strongly agree). The research respondents will be asked to indicate the degree of agreement or disagreement on E-banking service quality offered by their banks. Every questionnaire is personally handed and explanations are going to be given to each customer before completing the questionnaire by lobby man/woman of each bank's branch.

By quantitative approach, the researcher uses a descriptive design that seeks to describe the current status of the variable or phenomenon that have an impact on the development of E-banking in Ethiopia and through a correlational design to explore the relationship between variables using statistical analyses that would have an effect on the development of E-banking in Ethiopia.

3.8 Data Analysis Techniques

Data analysis involves the reduction of accumulated data to a manageable size, developing summaries, looking for patterns and applying statistical techniques. It also includes the interpretation of research findings in the light of the research questions, and determines if the results are consistent with the research hypotheses and theories‖ (Cooper & Schindler, 2003). The researcher analyzed the data collected through survey to statistical population concerning the practice of E-banking system. The data collected via questionnaires was analyzed with descriptive statistics using statistical package for social scientists (SPSS) software version 20.The study employed the use of the inferential analysis including chi-square. Depending on the collected data and the objectives, research questions and hypothesis, descriptive and inferential statistics were used.

3.8.1 Descriptive Analysis

Descriptive statistics used to describe the data collected in research studies and to accurately characterize the variables under observation within a specific sample. This provides information about the overall representativeness of the sample, as well as the information necessary for other researchers to replicate the study (Marczyk, 2009). So, descriptive analysis were used to discuss demographic profile of the respondent and the variables of independent variables of E-banking service were analysed using descriptive statistics of frequency and the mean presented and summarized by using tables and interpreted with statements followed by discussions.

3.8.2 Inferential Analysis

Statistical analysis goes beyond describing the characteristics of the data and the examination of correlations of variables in order to produce predictions through inference based on the data. As inferential statistics are used to draw conclusions about significant relationships between variables (Vanderstoep and Johnston, 2009) the relationship between independent variables on adoption of E-banking (perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support) and the dependent variable customer usage of E-banking product were analyzed using correlation and regression analysis.

3.8.2.1 Correlation Analysis

Marczyk et.al. (2005), Correlations are perhaps the most basic and most useful measure of association between two or more variables. Expressed in a single number called a correlation coefficient (r), correlations provide information about the direction of the relationship (either positive or negative) and the intensity of the relationship (–1.0 to +1.0).Accordingly, in this study correlation analysis applied to measure the strength of association between E-banking independent variables and usage of E-banking services.

3.8.2.2 Regression Analysis

According to Marczyket. al. (2005), like correlations, statistical regression examines the association or relationship between variables. Unlike with correlations, however, the primary purpose of regression is prediction. In this study regression analysis is used to know by how much the independent variable of independent variables of E-banking explains or influences the dependent variable which is customer usage of E-banking services. Both simple linear and multiple regression analysis were carried out to examine the influence or contribution of independent variables or independent variables of E-banking variables and to predict dependent variable i.e. development of E-banking and its usage.

3.9 Model Specification

Hair et.al (2005) argued that for analyzing the relationship between one dependent variable and several independent variables multiple regressions analysis can be applied. Hence, multiple regression analysis is an appropriate way to check the relationships between independent variables (perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support) and dependent variable which is development of E-banking and usage if it in this study.

The literature reviewed in the previous chapter identified the main factors influencing usage of E-banking and a model that would help to investigate the relationship of the main factors that influence the development and usage of E- banking is designed. The linear multiple regression line based on previous model designed by (Rokibul 2013) which is modified using the variables from the above conceptual framework and is stated as follows:

UEB = β0 + β1 USF + β2 EOU + β3 CMT + β 5TRY+ β6 OBS+ β7 RSK + β8CUL + β 9 AWNS + β 10INFR + β 11 LGFW + β 12 GVSP

Where,

UEB = Usage of E- Banking

β0 = Usage of E- Banking in absence of perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support variables.

β 1 USF = The partial change in the usage of E- Banking due to one unit change in perceived usefulness while other things remain constant.

β 2 EOU = The partial change in the usage of E-Banking due to one unit change in perceived ease of use variable while other things remain constant.

β3 COMT = The partial change in the usage of E-Banking due to one unit change in compatibility variable while other things remain constant.

β 4 TRBT = The partial change in the usage of E-Banking due to one unit change in Triability variable while other things remain constant.

B5 OBSV = The partial change in the usage of E-Banking due to one unit change in Observability variable while other things remain constant.

β 6 RSK = The partial change in the usage of E-Banking due to one unit change in Perceived risk or trust variable while other things remain constant.

β 7 CUL = The partial change in the usage of E-Banking due to one unit change in Culture variable while other things remain constant.

β 8 AWNS = The partial change in the usage of E-Banking due to one unit change in Awareness variable while other things remain constant.

β 9 INFR = The partial change in the usage of E-Banking due to one unit change in Infrastructure variable while other things remain constant.

β 10 LGFW = The partial change in the usage of E-Banking due to one unit change in Legal framework variable while other things remain constant.

β 11 GVSP = The partial change in the usage of E-Banking due to one unit change in d Government support variable while other things remain constant.

3.10 Reliability and Validity of Data

The validity and reliability of the data collected and the response achieved depend, to a large extent on the design of the questions as a valid question will enable accurate data to be collected and one that is reliable will mean these data are collected consistently‖ (Saunders *et al* 2009). Polit & Beck (2006) and (Gillis & Jackson, 2002) define validity in terms of whether the measuring instrument measures what it is supposed to measure. For (Langford, 2001) the measuring instrument should be dependable and trustworthy in providing information. In developing the measuring instrument for this study, relevant questions and alternatives will be considered to address e-banking to ensure validity and reliability. For (Polit& Beck, 2006) reliability means to test the accuracy of a measuring instrument‖, whereas for (Brink, 2000:), De Vos (2006: 86), Parahoo (2006:36) and Gillis & Jackson (2002:27) reliability refer to a measuring instrument yielding the same results under comparable circumstances if repeated on the same person or used by two different researchers. In this study, the researcher use literature (books, journals, dissertations, and thesis) to determine how well the research instrument meets standards and the questionnaire is designed based on previous empirical literature and its consistency was pre-tested using Cronbach Alpha.

3.11 Ethical Consideration

In order to make the study ethically acceptable, participants will be briefed about the aim of the study and will be asked for their cooperation to solve the problem under study. No name of respondents will be mentioned and all data is collected for the purpose of the study and therefore would be kept confidential.

CHAPTER FOUR

4. RESEACH RESULTS AND DISCUSSION

This chapter presents the results of the survey questionnaires distributed to bank clients at CBE, AWB, DSB and BOA. Therefore, this section presents the results found from survey in tables and figures to demonstrate the results of data set being studied. The result of descriptive analysis including frequency, percentage, mean, standard deviations, Pearson's correlation and using inferential statistics the twelve hypotheses are tested. Finally the finding and discussion are presented.

4.1 Sample and Response Rates

A total of 400 questionnaires were distributed to customers of Commercial Bank of Ethiopia, Awash Bank, Dashen Bank and Abyssinia Bank which branches are located in Addis Ababa city in five relatively high commercial transaction areas namely Merkato, Piassa, Megenagna, Bole and Ayat in order to collect data about the practice, opportunities and challenges of usage of E-banking. Out of the questionnaires distributed 325 (81.5% response rate) usable responses were obtained.

The basic assumptions are that E-banking services variables (perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support) influence bank customer's intension to practice E-banking. A multiple regression modelling approach was proposed as an effective method for studying the relationships. The result of this multiple regression model is analyzed and discussed in this chapter. All the data were coded and entered in to SPSS version 20 and inferences were made based on the statistical results.

4.2 Reliability Study

To ensure internal consistency among the items included in each of the scales, Cronbach's coefficient alpha is estimated. Higher Alpha coefficients indicate higher scale reliability. Specifically, (George & Mallery 2003) suggested that scales with 0.60 Alpha coefficients and above are considered acceptable. As shown in table 4.2 for the reliability test Cronbach's Alpha coefficients for usage of E-banking factors range from 0.620 to 0.775. And the overall Cronbach's Alpha coefficient for expected-scale items is 0.772. Based on the examination of the research scales and constructs, it can be concluded that each variable represents a reliable and valid construct.

Table 4.2 Reliability Test (Crobach's Alpha)

Dimensions	Alpha coefficients for dimensions
Usefulness	0.643
Ease of Use	0.624
Compatibility	0.681
Triability	0.688
Observability	0.638
Risk/Trust	0.620
Culture	0.706
Awareness	0.678
Infrastructure	0.626
Legal Framework	0.642
Gov't Support	0.712

Source: SPSS 20

4.3 Frequency and Descriptive Statistics of Questioner Findings

4.3.1 Demographic Characteristics and Usage profile of Respondents

As per the below table, result from the 325 questioner reply, 66.7% or 350 of the respondents were male and 175 or 33.3% were female. With regard to age group, majority were between the age group 26-35 which is 40% of the respondents and 26.7% were in the age group of 18-25%. 26.7% of them were in the age group 36-45 and the rest 6.7% were in the age group above 46. When we see level of education of the respondents, 46.7 % have first degree, 26% were TVET level, 20% were diploma level. And the rest of them, 6.7%, were having masters level. According to the survey result, among the respondents, majority of them or 40% were private business owners and 26.7% represent both government and private employees that practice E-banking. When we analyze the kind of E-banking practiced by the respondents, only 6.66% or 35 of them use ATM only and 60% or 315 of them use both ATM and mobile banking and the rest 33.3% or 175 use mobile banking only. Also as per the result obtained, participants were asked on how they became aware about E-banking and majority of the respondents, 46.7 % became aware by the bank's clerk, 40% friends and the rest reply that they became aware from family.

Table 4.3 Demographic profile and usage character of E-banking customers

		Frequency	Percent
Gender	MALE	250	66.7
	FEMALE	175	33.3
	Total	325	100.0
		Frequency	Percent
Age	18-25	86	26.7
	26-35	130	40.0
	36-45	86	26.7
	ABOVE 46	23	6.7
	Total	325	100.0
		Frequency	Percent
Education	TVET	86	26.7
	DIPLOMA	65	20.0
	DEGREE	151	46.7
	MASTER	23	6.7
	Total	325	100.0

		Frequency	Percent
Occupation	GOV EMP	86	26.7
	PRV EMP	86	26.7
	PRV BUS OWNER	130	40.0
	OTHER	23	6.7
	Total	325	100.0
		Frequency	Percent
Respondents Practice of ATM & Mobile Banking	ATM ONLY	22	6.66
	ATM & MOBILE BANKING	195	60
	MOBILE BANKING ONLY	108	33.33
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.3.2. Mean and Standard Deviation

Descriptive statistics (mean and standard deviations) of the respondent scores were computed. Analysis has been done by comparing these mean scores and deviations among respondents. The reason for using descriptive statistics is to compare the different factors that affect the level of customer E-banking practice and challenge of the selected commercial banks by using the means and standard deviations values. In table 4.2 the respondents perception on the satisfaction of E-banking service offered by their banks and ranking was done on each variable. Table 4.4 shows the mean value depicting the overall customer's intension in practicing E-banking. As far as this descriptive statistics is concerned, customer's practice of E–banking is above satisfactory level with a mean value of 3.90 on a 5 point Likert scale.

Table 4.4 Mean & Standard Deviation

	Number of customers	Mean	Std. Deviation
Usefulness	325	3.44	1.480
Ease of Use	325	3.61	1.073
Compatibility	325	3.86	1.267
Triability	325	3.00	0.743
Observability	325	3.2	0.806
Risk/Trust	325	3.35	1.148
Culture	325	2.9	1.207
Awareness	325	3.1	1.725
Infrastructure	325	2.5	1.351
Legal Framework	325	3.2	1.478
Gov't Support	325	2.7	0.879

Source: Analysis of survey result using SPSS 20

The standard deviation 1.073 indicates that there was moderate variability in overall customer practicing if E-banking in the data. The table also suggests that all service quality dimensions except performance rated as above satisfactory. As far as the mean values are concerned, out of the E- banking service practice dimensions, usefulness (mean of 3.44), and ease of use (mean of 3.61), compatibility (mean of 3.86), triability (mean if 3.0), Observability (man of 3.2), awareness (mean of 3.1) and legal framework (mean of 3.2) have relatively major roles on e-banking service practice. Culture (mean of 2.9), infrastructure (mean of 2.5) and government support (mean of 2.7) all explanatory variables play a fundamental role in the customer practicing of E-banking among CBE, AWB, DB, and ABY in Addis Ababa. Empirical evidence in this research also suggests that E-banking factors have a significant degree of influence on customer satisfaction. This empirical evidence has provided significant support for the electronic banking literature, which substantively advocates that E-banking factors have an impact on customer satisfaction (Hua, 2009;Wise, Victoria & Ali, & Muhammed, 2009).

4.4 Factors Influencing Usage of E-Banking System in Addis Ababa, Ethiopia (Uni-variate Analysis)

According to the various literatures, some of the factor that influence the development of E-banking are usefulness, ease of use, relative advantage, related risk, trust, awareness of service, reliability, performance or service content, compatibility, complexity, triability, culture, infrastructure and legal framework or government support for the service. And the following descriptive result was obtained as presented in the tables below.

4.4.1 Relative usefulness of E-Banking

According to summery of the result obtained, 66.7% agree and also 33.3% strongly agree that E-banking is useful to their banking need. Participants were asked about the accessibility of E-banking, and the result shows that 46.7 agree that E-banking is accessible 13.3% were neutral about E-banking accessibility. But 33.3% disagree and 6.7% strongly disagree that E-banking is accessible. This result implies that customers can perform banking activities within a short period of time and also customers can access their account any time.

Table 4.4.1 Summery of survey on Perceived Usefulness

		Frequency	Percent
E-banking is Useful for my banking needs(USF1)	STRONGLY AGREE	109	33.3
	AGREE	216	66.7
	Total	325	100.0
		Frequency	Percent
E-banking is accessible (USF2)	AGREE	152	46.7
	NEUTRA	44	13.3
	DISAGREE	108	33.3
	STRONGLY DISAG.	21	6.7
	Total	325	100.0

		Frequency	Percent
E-banking is available anytime(USF3)	NEUTRA	22	6.7
	DISAGREE	260	80.0
	STRONGLY DISA	43	13.3
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.2 Relative Advantage of E-banking

Out of the total respondents 66.7% agreed and 33.3% strongly agree that E- banking is better than going to a bank branch. Also respondents were asked if E-banking better facilitate there banking need than the ordinary banking and 80% agree and 20% strongly agree that E-banking has facilitate their banking need. Participants were also asked if E-banking has save their time and cost and result showed that 60% agreed and 40% strongly agreed. Also participants were asked if e-banking service charge is fairly rated and 33.3% agree and 20% strongly agree that the service charge is fair. 33.3% reply that they are neutral on the fairness of the service charge but 13.3% disagree or the service charge is expensive. This indicated that majority of the customers found E-banking to have a relative advantage over traditional banking options which may attract customers towards using it.

Table 4.4.2 Summery of Survey on Perceived Relative Advantage

			Frequency	Percent
E-banking is better than going to bank branches	Valid	STRONGLY AGREE	108	33.3
		AGREE	217	66.7
		Total	325	100.0
E-banking facilitate my transactions			Frequency	Percent
	Valid	STRONGLY AGREE	65	20.0
		AGREE	260	80.0
		Total	325	100.0

			Frequency	Percent
E-banking saves time and cost	Valid	STRONGLY AGREE	130	40.0
		AGREE	195	60.0
		Total	325	100.0
			Frequency	Percent
Service charge is fair	Valid	STRONGLY AGREE	65	20.0
		AGREE	108	33.3
		NEUTRA	108	33.3
		DISAGREE	44	13.3
		Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.3 Perceived Ease of Use

As it's shown on summery of the result on the ease of use of E-banking, participants were asked if E-banking applications were easy to learn and understand and 80% of them agree and 13.3% strongly agree that e-banking application were easy to learn. 6.7% or 35 of them disagree that these applications are easy to learn and understand. Also participants of the survey were asked if e-banking applications are easy to use and 80% or 420 reply, it's easy to use these application. From the above responses, it can be seen that customers perceive E-banking to have ease of use and a little percentage of participants have some difficulty that imply some customization of the systems software to fit all kind of customers.

Table 4.4.3 Summery of Survey on Perceived Ease of Use

			Frequency	Percent
E-banking service is easy to learn	Valid	STRONGLY AGREE	44	13.3
		AGREE	260	80.0
		DISAGREE	21	6.7
		Total	325	100.0

		Frequency	Percent
E-banking service is easy to use	STRONGLY AGREE	65	20.0
	AGREE	260	80.0
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.4 Perceived Trust

Participants were asked about their feeling about their trust towards E-banking and one of the enquiry on the questioner was that if they generally trust the E-banking system to do with their banking need and the finding shows that 86.7% agree and even 13.3% strongly agree that they trust the E-banking system to perform their banking needs. Also participants were asked if they trust their bank and its network provider to perform their banking needs and the outcome was that majority, that is 86.7% of them have agree that they have trust on E-banking system and even 6.7% strongly agree that they have trust on E-banking system of their bank and its network provider. Also participants were asked that the E-banking system have enough legal framework to guarantee customers against any malpractice and majority of the participants, that is 66.7% agree and 13.3% strongly agree that E-banking system have enough legal framework that protect them from any malpractice. 20% of survey participant were neutral to the enquiry. There was also a question that says if something goes wrong while performing with E-banking and participants reply was that, majority that is 53.3% agree and even 33.3% strongly agree that their bank will immediately make the necessary correction. 13.3% remain indifferent about this enquiry. This indicates that customers are yet to embrace and fully trust the E-banking services and the network providers. Therefore, as long as customers trust the overall E-banking technology, their adoption rate will increase at increasing rate.

Table 4.4.4 Summery of Survey on Perceived Trust

		Frequency	Percent
E-banking service is trustworthy	STRONGLY AGREE	70	13.3
	AGREE	255	86.7
	Total	325	100.0

		Frequency	Percent
My bank E-banking service and its network provider are trustworthy	STRONGLY AGREE	22	6.7
	AGREE	281	86.7
	NEUTRA	22	6.7
	Total	325	100.0
		Frequency	Percent
The service have enough Legal Frame work	STRONGLY AGREE	44	13.3
	AGREE	217	66.7
	NEUTRAL	64	20.0
	Total	325	100.0
		Frequency	Percent
If something goes wrong, my bank make corrections immediately	STRONGLY AGREE	108	33.3
	AGREE	173	53.3
	NEUTRA	44	13.3
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.5 Compatibility

A question was raised to participants to know how much E-banking is compatible with their daily banking needs and majority of them, that is 73.3% reply positively and even 20% of strongly agree which shows E-banking compatibility with their daily needs. Also participants were asked if E-banking system additional apparatus or money to make their banking need with E-banking and most of them, that is 60% of them reply positively and 6.7% strongly reply by showing their agreement that it do not ask any additional thing to practice E-banking. 26.7% reply neutral to this enquiry and the left 6.7% reply that it has asked them additional thing to practice E-banking. Another major question which the researcher believes one of the reasons for the slow growth if E-banking was raised to participants, which was, about making transaction or transfer of money between two different banks, and the result strongly shows that it is impossible, as the result shows 33.3% strongly agree and 66.7% agree. Also, a question raised saying, different system implemented by each of the banks make it impossible, and the reply was 60% and 40% agree and strongly agree respectively. This implies that customers feel

E-banking being consistent with their existing life style and trend and its adoption will eventually increase.

Table 4.4.5 Summery of Survey on Perceived Compatibility

		Frequency	Percent
E-banking is compatible with my daily banking needs	STRONGLY AGREE	65	20.0
	AGREE	239	73.3
	NEUTRA	21	6.7
	Total	325	100.0
		Frequency	Percent
It do not ask me additional thing to use E-banking	STRONGLY AGREE	21	6.7
	AGREE	195	60.0
	NEUTRA	88	26.7
	DISAGREE	21	6.7
	Total	325	100.0
		Frequency	Percent
Transaction Between banks is easy	DISAGREE	217	66.7
	STRONGLY DIS	108	33.3
	Total	325	100.0
		Frequency	Percent
Different system by banks make it impossible to E-banking and E-commerce	STRONGLY AG	130	40.0
	AGREE	195	60.0
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.6 Perceived Risk

With regard to the risk that may arise because of fully dependant on E-banking, participants were asked about the network availability of E-banking, and the survey result
shows that majority, that is 53.3% disagree and 20% strongly disagree on the availability of network to do with E-banking. Only 13.3% of the participant agrees on the availability of network to practice E-banking. Also participants were asked about the risk involved if E-banking system make transactions wrongly and 46.7% of them agree that the system might make transactions wrongly and 33.3% reply that they are neural and only 20% of the respondents reply that they disagree that E-banking system might make transactions wrongly.

Participants were also asked if E-banking may give access to others to manipulate their account and their reply was that 33.3% agree that they may have concern that E-banking system exposes them to be manipulated and the other 33.3% disagree that the exposure of manipulation by e-banking is not possible. The rest 33.3% remain neural to the enquiry. The results obtained could imply that the perception of the risks regarding E-banking is expected to influence its adoption and further growth. So, banks should do more to get customers trust on E-banking perfection and safety to make transactions.

Table 4.4.6 Summery of Survey on Perceived Risk

		Frequency	Percent
E-banking service network is good at any time	AGREE	44	13.3
	NEUTRA	44	13.3
	DISAGREE	172	53.3
	STRONGLY DISAG	65	20.0
	Total	325	100.0
		Frequency	Percent
E-banking might make transactions wrongly	AGREE	152	46.7
	NEUTRA	108	33.3
	DISAGREE	65	20.0
	Total	325	100.0
		Frequency	Percent
E-banking may give access to others to manipulate	AGREE	108	33.3
	NEUTRA	108	33.3
	DISAGREE	109	33.3
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.7 Awareness/Observability

With regard to awareness about E-banking other than the traditional banking system, participants were asked if their bank gives enough awareness about E-banking and majority of the respondents that is 73.3% agree and even 20% strongly agree that their bank gives enough

awareness about E-banking that able them to perform their banking need with E-banking. Also a question was raised to the participants if their bank gives enough awareness on how to operate transactions via E-banking and their reply were 60% agree and 26.7% even agree strongly to this enquiry. 6.7% disagree and reply that their bank is not giving enough awareness on how to operate and make transactions with E-banking. About E-banking Observability, participants were asked if they observe if friends and families around them practicing E-banking and majority, that is 80% agree and 6.7% strongly agree that they observe people around them practice E-banking. This result indicates that customers are aware about availability of E-banking and its advantage and disadvantage. But still banks have to do more to create awareness and brought in more bank customers to the digital or E-banking.

Table 4.4.7 Summery of Survey on Perceived Awareness

		Frequency	Percent
My bank gives enough awareness about its E-banking Service	STRONGLY AGREE	65	20.0
	AGREE	239	73.3
	NEUTRA	21	6.7
	Total	325	100.0
		Frequency	Percent
My bank gives enough awareness about how to operate transactions using E-banking	STRONGLY AGREE	88	26.7
	AGREE	195	60.0
	NEUTRA	21	6.7
	DISAGREE	21	6.7
	Total	325	100.0
		Frequency	Percent
I observe my friends and family members practice E-banking	STRONGLY AGREE	21	6.7
	AGREE	260	80.0
	NEUTRA	44	13.3
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.8 Perceived Reliability

To determine the level of reliability of E-banking, participants were asked if the service is available at anytime and majority of them, that is 73.3% disagree and even 6.7% even strongly disagree about the availability of E-banking network to deal their banking needs using E-banking. Only 13.3% of the participants agree that e-banking network is available whenever they want. Also, participants were asked the question " E-banking will not make mistakes" to know their level of confidence and their reply was 53.3% agree that the system will not make mistake but 26.7% disagree and said that the system can make mistake. The rest 20% remain neutral to this enquiry. Also a general question was raised to participants about the reliability of E-banking system to practice their day-to-day banking needs, and their reply was 93.3% agreed on its reliability. Only 6.7% show their doubt on E-banking system by disagreeing to the enquiry. As per the result, service availability has been the main obstacle on the reliability of E-banking and as reliability is the base to get publics acceptance, banks should have find a way to make their digital services to be available anytime and everywhere to get public reliance on the system.

Table 4.4.8 Summery of Survey on Perceived Reliability

		Frequency	Percent
Service available anytime	AGREE	44	13.3
	NEUTRA	21	6.7
	DISAGREE	239	73.3
	STRONGLY DISAG	21	6.7
	Total	325	100.0
		Frequency	Percent
Service will not make mistakes	AGREE	173	53.3
	NEUTRA	65	20.0
	DISAGREE	87	26.7
	Total	325	100.0

		Frequency	Percent
Making transactions with E-banking is reliable	AGREE	304	93.3
	DISAGREE	21	6.7
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.9 Performance/Service Content

To know participants perception about the performance or service content of E-banking, a question was raised about the accessibility of the system at anytime and the outcome was 80% disagreement and even 6.7% strongly disagree that shows the system is not available anytime. Only 6.7% of the respondents said the system is accessible anytime they wanted it. Also participants were asked if the E-banking system is user friendly and majority, that is 93.3% agree that E-banking system is user friendly. Only 6.7% of the respondents disagree on the systems user friendliness. With regard to rate the systems speed, participants were asked if the speed of the E-banking system is good, and their reply was 53.3% agreement that shows the system's speed is good enough to make banking transactions. But 40% of them reply that they are not satisfied with the speed of system to make banking transactions. Also an enquiry was given to participants if they are able to make their banking operation with E-banking without interruption and the outcome was 60% disagreement and even 6.7% strongly disagree that shows the system most of the time interrupted. Only 13.3% of the respondents reply positively that they can make their banking transactions with the help of E-banking without interruption of the system. As performance is one of the factor to measure service quality, banks should have to do more on the accessibility of their E-banking system jointly if they want to get more developed digital economy.

Table 4.4.9 Summery of Survey on Perceived Performance/Service Content

		Frequency	Percent
Easy to access to the system at anytime	AGREE	21	6.7
	NEUTRA	21	6.7
	DISAGREE	262	80.0
	STRONGLY DISAG	21	6.7
	Total	325	100.0

		Frequency	Percent
System is user friendly	AGREE	304	93.3
	DISAGREE	21	6.7
	Total	325	100.0
		Frequency	Percent
Transaction speed is good	AGREE	174	53.3
	NEUTRA	21	6.7
	DISAGREE	130	40.0
	Total	325	100.0
		Frequency	Percent
Making transaction without interruption of system is possible	AGREE	44	13.3
	NEUTRA	65	20.0
	DISAGREE	195	60.0
	STRONGLY DISAGREE	21	6.7
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.10 Perceived Complexity

The below table shows a survey result on perceived complexity. They were asked if E-banking system was easy to learn and the reply shows 73.3% agree and 20% strongly agree that it's easy to learn. Also, a question was asked it E-banking is easy to operate and make transaction, again 73.3% agree and 20% strongly agree that the system is easy to operate. So, the banks E-banking system is easy to learn and operate which is key factor for its acceptance and diffusion by the public and the result also shows that the banks have customized the system to fit the bank customers.

Table 4.4.10 Summery of Survey on Perceived Complexity

		Frequency	Percent
E-banking is easy to learn	STRONGLY AGRE	65	20.0
	AGREE	239	73.3
	NEUTRA	21	6.7

	Total	325	100.0
E-banking is easy to operate		Frequency	Percent
	STRONGLY AGREE	65	20.0
	AGREE	239	73.3
	NEUTRA	21	6.7
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.11 Perceived Triability

As shown in the below table, a question was raised if E-banking is attractive enough to try, and the result shows, majority, that is 73.3% agree and 13.3 strongly agree that E-banking system is attractive enough to try. Also a question was raised if E-banking is save enough to try and the result shows 73.3% and 6.7% agree and strongly agree result that shows participants feel safe to try and get use to it. Only 6.7% of the participants strongly disagree on the safety of E-banking to try. As one of the factor for easy adoption of an invention is its triability, banks have to make their digital service more attractive and give guarantee on its safety.

Table 4.4.11 Summery of Survey on Perceived Triability

E-banking is attractive to try			Frequency	Percent
		STRONGLY AGREE	44	13.3
		AGREE	237	73.3
		NEUTRA	44	13.3
		Total	325	100.0
E-banking is save to try			Frequency	Percent
	Valid	STRONGLY AGREE	21	6.7
		AGREE	239	73.3
		NEUTRA	44	13.3
		DISAGREE	21	6.7
		Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.12 Culture

As it's shown on the table below, one of the reason for slow adoption of an invention of a new service or product is the culture of the society in question. For this reason, a question was presented to participants that enquire about using E-banking is better than using cash transaction, and the result shows,53.3% agree and 33.3% strongly agree. As per the survey, our culture will not decline to be a cashless society. And also a question was raised if participants practice E-banking and get lost and if they may lost their credibility among their friends and family, and the result display that 46.7% neutral, 33.3% agree that they may lose credibility and 20% reply negatively and show they will not lose credibility. Also a question was presented to participants if being a cashless society might expose their privacy, and 40% of respondents agree and 6.7% strongly agree that it will be against individual's privacy. 33.3% remain neutral to the enquiry and the rest 20% disagree to being cashless society will expose privacy. As indicated in the table, bank customers have some concern that being digital or cashless society may expose their privacy. So, banks should have to do more on the confidentiality of customer's transaction every time and build confidence of the general public.

Table 4.4.12 Summery of Survey on Perceived Culture

		Frequency	Percent
Using E-banking is better than using cash transaction	STRONGLY AGREE	108	33.3
	AGREE	173	53.3
	NEUTRA	44	13.3
	Total	325	100.0
		Frequency	Percent
If I practice E-banking and get in to loss, I will lose my position around my friends and family	AGREE	108	33.3
	NEUTRA	152	46.7
	DISAGREE	65	20.0
	Total	325	100.0
		Frequency	Percent
Being fully cashless society might expose my privacy	STRONGLY AGREE	21	6.7
	AGREE	131	40.0
	NEUTRA	108	33.3
	DISAGREE	65	20.0
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.13 Infrastructure

The below table shows summery of the survey result with regard to infrastructure of E-banking and a question was presented to participants that enquire about the network availability at any time and place and the survey result shows 86.7% disagree and 6.7% strongly disagree on the network's availability. This result shows that the level of development of infrastructure has high influence on the development of E-banking. Also participants were asked if the network quality is good while practicing E-banking and majority of them that is 80% disagree and 6.7% even strongly disagree that the network quality is good. Only 13.3% remain neutral for this enquiry. As its shown on the table, participants were also asked if apparatus to practice E-banking like mobile were expensive and the outcome was that 40% of them agree that apparatus were expensive, 33.3% of them were neutral and the rest 26.7% disagree and said that apparatus were not expensive to them. As E-banking is far from conventional banking because information exchange on wireless infrastructure, the infrastructure should be as good as possible to make network accessibility possible whenever and everywhere its needed to the bank clients. From this, it can be understood that using E-banking is getting difficult due to low speed of connection and low internet access in the country. Proper infrastructure is very necessary to provide a quality service within the electronic banking system.

Table 4.4.13 Summery of Survey on Perceived Infrastructure Quality

		Frequency	Percent
Net work is available at any time and place to practice E-banking	AGREE	22	6.7
	DISAGREE	281	86.7
	STRONGLY DISAG	22	6.7
	Total	325	100.0
		Frequency	Percent
Network quality is good to practice E-banking	NEUTRA	44	13.3
	DISAGREE	260	80.0
	STRONGLY DISAGREE	21	6.7
	Total	325	100.0

		Frequency	Percent
Apparatus to practice E-banking is expensive	AGREE	130	40.0
	NEUTRA	108	33.3
	DISAGREE	87	26.7
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.4.14 Legal Framework/Government support

Participants of the survey were asked about their perception about the legal framework behind E-banking and a question was asked if their account is manipulate, their respective bank will take full responsibility and the result shows that 66.7% agree and 6.7% strongly agree that their bank will take full responsibility and make the necessary amendment. 20% reply as neutral and the rest 6.7% disagree that their bank will not take responsibility. With regard to the legal frame work, participants were asked in case if their account is manipulated, they will legal settlement easily, and their reply was 66.7% agree and 20% strongly agree that they will gate legal settlement easily. 13.3% of them were neutral about this enquiry. Also participants were asked if E-banking have enough support from government and they replied 66.7% agree and 6.7% strongly agree that E-banking has government support. 6.7% of the respondents disagree and say that E-banking does not have government support. Illegal activities and fraud has always been a concern for both customer and service providers of E-banking, banks should always upgrade their security firewall system to protect both clients and themselves and should address their clients their effort on this issue. Government policies play an important role in developing regulatory frameworks for the successful implementation of electronic banking services. As per the result, clients are not satisfied by the government policies issued for the protection of consumers regarding electronic payment. So, to enhance the development of E-banking, government should have to implement regulations that give guarantee to the public against loss because of E-banking.

Table 4.4.14 Summery of Survey on Perceived Legal Framework/Government support

		Frequency	Percent
If my account is manipulated by my practicing of E-banking by others, my bank will take full responsibility	STRONGLY AGR	108	33.3
	AGREE	217	66.7
	Total	325	100.0
		Frequency	Percent
If my account is manipulated by my practicing of E-banking by others, I will get legal settlement easily.	STRONGLY AGREE	65	20.0
	AGREE	216	66.7
	NEUTRA	44	13.3
	Total	325	100.0
		Frequency	Percent
E-banking have enough government support	STRONGLY AGREE	21	6.7
	AGREE	218	66.7
	NEUTRA	65	20.0
	DISAGREE	21	6.7
	Total	325	100.0

Source: Analysis of survey result using SPSS 20

4.5 Descriptive Analysis

In this section, the descriptive analysis of each E-banking variables perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support has been done using the responses under rating 1- Strongly Disagree, 2- Disagree, 3-Neutral, 4-Agree, 5-Strongly agree. The mean values and standard deviation of all responses are analysed.

4.5.1 Perceived Usefulness

As per the result, there is high similarity of reply among respondents; they all agree that E-banking is useful and accessible. But on its availability, majority has disagreed. This could show that E-banking is not available as clients needed it.

Table 4.5.1 Descriptive Statistics of Perceived Usefulness

	N	Mean	Std Deviation
E-banking is Useful for my banking needs	325	2.01	.821
E-banking is accessible	325	2.80	.759
E-banking is available anytime	325	4.17	.863

Source: Analysis of survey result using SPSS 20

4.5.2 Relative Advantage of E-banking

As the finding shows, the advantage of E-banking for bank clients is agreed and strongly agreed by most of the participants and they also reply that it has facilitated their banking need. Also most of the respondents respond positively with regard to saving of time and cost by using E-banking. With regard to fairness of service charge, majority were neutral and agree its fairly charges compared to ordinary banking cost and time.

Table 4.5.1 Descriptive Statistics of Relative Advantage

	N	Mean	Std Deviation
E-banking is better than going to bank branches	325	3.85	.673
E-banking facilitate my transactions	325	3.99	.844
E-banking saves time and cost	325	3.96	.876
Service charge is fair	325	2.71	1.300

Source: Analysis of survey result using SPSS 20

4.5.3 Perceived Ease of Use

As it's shown on summery of the result on the ease of use of E-banking, participants were mostly agree that E-banking is easy learn and practice. From the above responses, it can be seen that customers perceive E-banking to have ease of use and a little percentage of participants have some difficulty that imply some customization of the systems software to fit all kind of customers.

Table 4.5.3 Descriptive Statistics of Ease of Use

	N	Mean	Std Deviation
E-banking service is easy to learn	325	4.22	1.110
E-banking service is easy to use	325	3.85	.673

Source: Analysis of survey result using SPSS 20

4.5.4 Perceived Trust

Participants were asked about their feeling about their trust towards E-banking trust majority agreed with E-banking trustworthiness and also its network provider. Also the result showed that if something goes wrong with the bank, they trust that the bank will correct mistakes immediately. This shows bank clients have a good trust on their bank and E-banking service.

Table 4.5.4 Descriptive Statistics of Trust

	N	Mean	Std Deviation
E-banking service is trustworthy	325	3.93	.767
My bank E-banking service and its network provider are trustworthy	325	3.80	.931
The service have enough Legal Frame work	325	3.80	.931
If something goes wrong, my bank make corrections immediately	325	4.17	.863

Source: Analysis of survey result using SPSS 20

4.5.5 Compatibility

With regard to compatibility if E-banking with clients day to day activity, most of the respondents have agreed about E-banking compatibility. Also, the E-banking system did not ask for additional cost to use it except its service charge. But with regard to making transaction between two different banks, the result shows that its totally impossible and this is one of the reason for clients dissatisfaction and slow growth if E-banking in Ethiopia. This could be a good explanation as a challenge for the growth of E-banking.

Table 4.5.5 Descriptive Statistics of Compatibility

	N	Mean	Std Deviation
E-banking is compatible with my daily banking needs	325	3.53	.947
My bank E-banking service and its network provider are trustworthy	325	3.76	.886
Transaction Between banks is easy	325	1.9	.931
Different system by banks make it impossible to E-banking and E-commerce	325	1.8	.863

Source: Analysis of survey result using SPSS 20

4.5.6 Perceived Risk

As to the risk that may arise due to fully dependent on E-banking or being a cashless society, majority of survey participants disagree because of poor network availability. Also some of the respondents reply that the system might make transactions wrongly and also the system might give access to others and able to manipulate their account or private information. This shows that all the banks should assure their clients about the safety and security of their E-banking system.

Table 4.5.6 Descriptive Statistics of Perceived Risk

	N	Mean	Std Deviation
E-banking service network is good at any time	325	1.86	.877
E-banking might make transactions wrongly	325	2.99	.811
E-banking may give access to others to manipulate	325	2.73	.736

Source: Analysis of survey result using SPSS 20

4.5.7 Awareness/Observability

The per the survey result, majority of the participants reply that, they became aware about E-banking benefits from their bank advertisements and the respective bank clerks. Also they have

noticed people around them are practicing some of the E-banking services. So, banks should do more on creating awareness about E-banking to accelerate its development.

Table 4.5.7 Descriptive Statistics of Awareness/Observability

	N	Mean	Std Deviation
My bank gives enough awareness about its E-banking Service	325	3.85	.673
My bank gives enough awareness about how to operate transactions using E-banking	325	3.99	.844
I observe my friends and family members practice E-banking	325	3.96	.876

Source: Analysis of survey result using SPSS 20

4.5.8 Perceived Reliability

With this variable, the survey clearly showed that network is not available anytime and anywhere. About the mistake that could be created by E-banking system, the survey showed that half of the respondents reply that the system may be error prone. About the reliability of making transaction or business with E-banking, the result showed that it is reliable.

Table 4.4.8 Descriptive Statistics of Perceived Reliability

	N	Mean	Std Deviation
Service available anytime	325	1.75	.896
Service will not make mistakes	325	2.99	.844
Making transactions with E-banking is reliable	325	3.96	.827

Source: Analysis of survey result using SPSS 20

4.5.9 Performance/Service Content

The survey tries to check the performance of E-banking by questioning participants about the accessibility of E-banking service, and the finding showed that its difficult or impossible to get the service because of poor network availability to log into the system. But with regard to system

friendliness, participants reply positively. About the E-banking system transaction speed, the result showed that respondents are not satisfied and also the system is interrupted very often.

Table 4.5.9 Descriptive Statistics of Performance/Service content

	N	Mean	Std Deviation
Easy to access to the system at anytime	325	1.53	.947
System is user friendly	325	3.76	.886
Transaction speed is good	325	2.9	.731
Making transaction without interruption of system is possible	325	1.8	.863

Source: Analysis of survey result using SPSS 20

4.5.10 Perceived Complexity

With this variable, survey participants were questioned about the E-banking system easiness to learn and then operate, and majority has replied positively. But also the result showed that there should be more customization of the E-banking system to fit all kind of clients.

Table 4.5.10 Descriptive Statistics of Perceived Complexity

	N	Mean	Std Deviation
E-banking service is easy to learn	325	4.22	1.110
E-banking service is easy to operate	325	3.85	.973

Source: Analysis of survey result using SPSS 20

4.5.11 Perceived Triability

About triability, participants were asked if the E-banking systems are attractive enough to try, and majority of participants reply that its attractive to try and also reply positively that it is safe to try these systems.

Table 4.5.11 Descriptive Statistics of Perceived Triability

	N	Mean	Std Deviation
E-banking is attractive to try	325	3.92	0.910
E-banking is save to try	325	3.93	.912

Source: Analysis of survey result using SPSS 20

4.5.12 Culture

This enquiry was made if culture has some effect on adoption of E-banking and a question was raised if using E-banking is better than cash transaction, and the result was positive. But also the finding showed that, participants have some concern that they may lose their position around their family and friends. The result also showed that, being fully a cashless society may expose their privacy.

Table 4.5.12 Descriptive Statistics of Culture

	N	Mean	Std Deviation
Using E-banking is better than using cash transaction	325	3.75	.896
If I practice E-banking and get in to loss, I will lose my position around my friends and family	325	2.99	.844
Being fully cashless society might expose my privacy	325	3.06	.727

Source: Analysis of survey result using SPSS 20

4.5.13 Infrastructure

To know about the clients perception about the E-banking network infrastructure's, they were questioned about the network availability and majority of the participants reply negatively. This could show that one of the reason for slow growth of E-banking as well as E-commerce.

Table 4.5.13 Descriptive Statistics of Infrastructure

	N	Mean	Std Deviation
Net work is available at any time and place to practice E-banking	325	1.05	.822
Network quality is good to practice E-banking	325	1.54	.874
Apparatus to practice E-banking is expensive	325	2.96	.772

Source: Analysis of survey result using SPSS 20

4.5.14 Legal Framework/Government support

Participants of the survey were asked about their perception about the legal framework behind E-banking and a question was asked if their account is manipulate, their respective bank will take full responsibility and the result shows that majority replied that they rely that their respective bank will take full responsibility and make the necessary amendments. Participants also reply that in case their bank fail to make amendments, they could get legal settlement easily as the E-banking system have enough government support. But also some participants showed concern that they might not get quick legal settlement.

Table 4.5.14 Descriptive Statistics of Legal Framework/Government support

	N	Mean	Std Deviation
If my account is manipulated by my practicing of E-banking by others, my bank will take full responsibility	325	3.54	.822
If my account is manipulated by my practicing of E-banking by others, I will get legal settlement easily	325	3.66	.874
E-banking have enough government support	325	2.96	.722

Source: Analysis of survey result using SPSS 20

4.6 Measurement of Model Validity

4.6.1 Test of Normal Distribution

A normal distribution is one of the importantly assumed statistical procedure, Normal distribution take the form of a symmetric bell shaped curve. The standard distribution is one with a mean of 0 and standard deviation of 1 (Garson, 2012). Severe asymmetry then is stated to be the result of strong outliers. A common test for normality is to run descriptive statistics to get the skewness and kurtosis. Skewness should be within +2 and -2 range, if the data is normally distributed. Kurtosis is the peak or flatness of a distribution and this distribution shall also commonly fall between +2 and -2, although a few other authors according to (Garson,2012), are more lenient and allow kurtosis to fall within +3 and -3.

Table 4.6.1 Normal Distribution of independent variables of E-banking

	N	Skewness		Kurtosis	
		Statistic	Std Error	Statistic	Std Error
Usefulness	325	-1.814	.147	2.475	.289
Ease of Use	325	-1.228	.147	.115	.289
Compatibility	325	-1.002	.147	1.351	.289
Complexity	325	-1.437	.147	2.795	.289
Triability	325	-1.750	.147	.379	.289
Observability	325	-1.520	.147	.812	.289
Risk	325	-1.840	.147	2.131	.289
Culture	325	-1.351	.147	.379	.289
Awareness	325	-1.103	.147	.812	.289
Infrastructure	325	-.750	.147	1.874	.289
Gov't Support	325	-.847	.147	.921	.289

Source: Analysis of survey result using SPSS 20

Following the above justification, as it shown in the above table, the normality test was done for twelve independent variables E-banking usage on SPSS, which resulted in all the variables skewness to fall within +2 and -2 range and the variables kurtosis to fall within +3 and -3 range. Consequently, the data used for this research are normally distributed.

4.6.2 Multicollinearity

Multicollinearity problem occurs when the explanatory variables are very highly correlated with each other, and this problem is known as multicollinearity. (Kothari, 2004). 'Tolerance' and 'VIF'(Variance Inflation Factory) are measures of existence of multicollinearity problem. .A good regression model must not have a strong correlation among its independent variables or must not have a multicollinearity problem and that the value of variance inflation factor (VIF) must have a value between 1 and 10 and the tolerance level should be more than 0.2 (SPSS Inc, 2007)

Table 4.6.2 Test of Multicollinearity on dependant variable Usage of E-banking

Model		Collinearity Statistics	
		Tolerance	VIF
1	Usefulness	.809	1.236
	Ease of Use	.420	2.380
	Compatibility	.238	4.203
	Triability	.238	4.203
	Observability	.338	4.103
	Risk	.489	2.045
	Culture	.420	2.380
	Awareness	.443	2.258
	Infrastructure	.221	4.523
	Gov't Support	.220	4.512

Source: Analysis of survey result using SPSS 20

As shown on the above table, based on collinearity statistics, the obtained tolerance result indicates that it is above 0.2 and variance inflation factor (VIF) for all independent variables was found to be between 1 and 10, which means that there is no multicollinearity problem.

4.7 Inferential Statistics

This study is conducted to evaluate the effect of the independent variables (perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support) on the usage as well as development of E-banking. Accordingly, using inferential statistics, the study result with

respect to the effect of the above independent variables on the dependant variable presented in this section.

4.7.1 Correlation Analysis

Correlations are perhaps the most basic and most useful measure of association between two or more variables (Marczyk et. al., 2005). Test of correlations provides information on whether the correlation is statistically significant. As it is further explained by (Vanderstoep and Johnston,2009) the most common statistical measure of correlation is the Pearson correlation. The Pearson correlation measures the relationship between two interval variables. Its range is from – 1.0 to +1.0. The magnitude of a correlation increases as the absolute value of the correlation increases. In other words, the closer a correlation is to +1.0 or – 1.0, the greater its magnitude. As the strength of the relationship the closer to +/–1 the stronger and the closer to 0 is the weaker.

Table: 4.7.1 Correlations Matrix of independent variables of E-banking usage

		USF	EOU	CMP	CML	TRY	OBS	RSK	CUL	AWN	INF	LGF	GVS
USF	Pearsons Correlation	1											
	Sig.(2-tailed)												
	N	325											
EOU	Pearsons Correlation	.608*	1										
	Sig.(2-tailed)	.000											
	N	325	325										
CMP	Pearsons Correlation	.685*	.681*	1									
	Sig.(2-tailed)	.000	.000										
	N	325	325	325									
TRY	Pearsons Correlation	.251*	.208*	.407*	.551*	1							
	Sig.(2-tailed)	.000	.000	.000	.000								
	N	325	325	325	325	325							
OBS	Pearsons Correlation	.793	.762*	.756*	.709*	.457*	1						
	Sig.(2-tailed)	.000	.000	.000	.000	.000							
	N	325	325	325	325	325	325						
RSK	Pearsons Correlation	.457*	.653*	.566*	.304*	.179*	.251*	1					
	Sig.(2-tailed)	.000	.000	.000	.000	.000	.000						
	N	325	325	325	325	325	325	325					
CUL	Pearsons Correlation	.593*	.685*	.661*	.849*	.392*	.671*	.666*	1				
	Sig.(2-tailed)	.000	.000	.000	.000	.000	.000	.000					
	N	325	325	325	325	325	325	325	325				
AWN	Pearsons Correlation	.566*	.762*	.756*	.593*	.383*	.489*	.621*	.510	1			
	Sig.(2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000				
	N	325	325	325	325	325	325	325	325	325			
LGF	Pearsons Correlation	.666*	.383*	.253*	.510*	.367*	.587*	.365*	.280*	.587*	1		
	Sig.(2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000			
	N	325	325	325	325	325	325	325	325	325	325		
INF	Pearsons Correlation	.301*	.383*	.686*	.661*	.566*	.593*	.794*	.762*	.792*	.452*	1	
	Sig.(2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		
	N	325	325	325	325	325	325	325	325	325	325	325	
GOS	Pearsons Correlation	.262*	.671*	.722*	.756*	.709*	.457*	.301*	.568*	.208*	.407*	.551*	1
	Sig.(2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	325	325	325	325	325	325	325	325	325	325	325	325

*Correlation is significant at the 0.01 level (2-tailed)

By looking at the correlation matrix between the factors we can understand that usefulness is the most correlated element with usage. The correlation of 0.799 with p-value of (<0.01) between these two factors shows that a little change in the usefulness has a major influence on practicing of E-banking amount surveyed bank clients.

The ease of use variable also have a correlation of 0.756 with p-value of (<0.01) which shows the ease of use of E-banking has a significant effect on the practicing of E-banking by survey participants.

The next variable which is also important is infrastructure with a correlation of 0.794 with p-value (<0.01) which shows a strong relationship with practicing of E-banking. This shows that infrastructure is a key variable for usage as well as development of E-banking.

The correlation between compatibility and usage of E-banking is 0.791 with p-value (<0.01) which shows that compatibility has real effect of E-banking usage and development as it has a very strong and positive relationship.

All the remaining variables, complexity, triability, observability, perceived risk or trust, culture, awareness, legal framework and government support which have positive and moderate relationship with usage of E-banking and its development.

Generally, the correlation analysis indicates that the correlation coefficient for all the relationship constructs ranges from (0.208 to 0.799) which indicate that all the E-banking variables have positive relationship with practicing as well as development of E-banking. Among all E-banking variables, usefulness, compatibility and infrastructure have the highest and very strong correlation coefficient which is 0.799, 0.791 and .794 respectively. All correlation coefficients are significant on all constructs since the p-value is (<0.01).Thus, it can be concluded that there is a positive and significant relationship between all the above E-banking variables and usage and development of E-.banking, E-commerce and development of Digital Economy of the country.

4.7.2 Regression Analysis

The regression model was used to determine how the twelve E-banking variables have impact on E-banking development. In multiple linear regressions, we may look at the relationship between one ‘effect’ variable, called the dependent or outcome variable, and one or more predictors, also called independent variables (Muijs, 2004). In this study a number of independent variables,(perceived usefulness, perceived ease of use, compatibility, complexity, triability,

observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support) used to predict dependent variable that is practicing of E-banking among bank clients.‘ Adjusted R Square’. This is, as the name implies, a correction to R square, which takes into account that we are looking at a sample rather than at the population. As the model is likely to fit the population less well than the sample, R square is adjusted downwards to give us a measure of how well our model is likely to fit in the population. Adjusted R square also lies between 0 and 1.(Muijs, 2004)

4.7.3 Multiple regressions Analysis

In multiple regressions we form a linear composite of explanatory variables in such way that it has maximum correlation with a criterion variable. This technique is appropriate when the researcher has a single, metric criterion variable which is supposed to be a function of other explanatory variables. The main objective in using this technique is to predict the variability the dependent variable based on its covariance with all the independent variables. One can predict the level of the dependent phenomenon through multiple regression analysis model, given the levels of independent variables. (Kothari, 2004)

The results in table 4.6.3a below show that there is a significant relationship between E-banking variables and practice of E-banking with significant level (P<0.05). The value of R square 0.799 was obtained indicating that all twelve E-banking variables jointly can determine 79.9 % of customer satisfaction. So, it implies that the variance in dependent variable (usage of E-banking) can be predicted from E-banking variables.

Table 4.6.3a Model Summery

Model	R	R Square	Adjust R Square	Std Error of Estimate
1	.896[a]	.799	.791	.23373

a.Predictors: (Constant), USF, EOU, COMT,COML, TRBT, OBSV, RSK, CUL, AWNS, INFR, LGFW,GVSP

In this model, Adjusted R square value is 0.791 which does suggest that the predictors are good at predicting E-banking usage practice. And the difference between R and R square is 0.097 (0.896-0.799) which implies if the model were derived from population rather than the sample as it accounts for 9.7 % less variance in the result.

Table 4.6.3b ANOVA[a]

Model	Sum Squares	Df	Mean Square	F	Sig.
Regression	66.721	6	10.0914	194.081	.000[b]
1 Residual	16.950	297	.057		
Total	83.671	303			

a. Dependent Variable: UEB
b. Predictors: (Constant),USF, EOU, CMP,CML, TRY, OBS, RSK, CUL, AWN, INF, LGF,GOS

Source: SPSS 20

The significant level in ANOVA table shows that the combination of variables significantly predicts the dependent variable. ANOVA test whether the model is significantly better at predicting the outcome than using the mean as a best guess. The F-ratio represents the ratio of the improvements in prediction that results from fitting the model, relative to the inaccuracy that still exists in the model. The above ANOVA[a] table shows that the significance value of the F-statistics is 0.000[a] which is less than 0.05 which means that the variation explained by the model is not due to chance.

Table 4.6.3c Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std.Error	Beta		
(Constant)	.609	0.99		6.138	.000
USF	.321	.032	.392	9.944	.000
EOU	.127	0.28	.170	4.528	.000
CMT	.106	.044	.135	2.756	.006
TRY	.081	.036	.091	2.206	.025
OBS	.139	.021	.195	6.675	.000
RSK	.118	.037	.185	2.205	.000
CUL	.205	.033	.150	2.142	.000
AWN	.325	.049	.106	2.105	.000
INF	.245	.047	.201	6.208	.023
LGF	.109	.041	.199	6.021	
GOS	.193	.064	.238	4.187	

a. DepenedantVariable:UEB

Source: SPSS 20

4.8 Hypothesis Testing

There were twelve major hypothesis constructed in this study to answer the research questions. Since Pearson correlation coefficient shows only the strength and direction of the relationship between independent variable on dependent variable, regression analysis is used to predict the outcome variable from several predictors or multiple regressions. All the twelve hypothesis developed for this study revolve around the effect of independent variables of usage and practicing of E-banking dimensions (perceived usefulness, perceived ease of use, compatibility, complexity, triability, observability, perceived risk or trust, culture, awareness, infrastructure, legal framework and government support) on usage of E-banking products.

Most social science researchers use 0.05 as the level of significance to decide if a relationship is statistically significant.(Vanderstoep and Johnston, 2009). Accordingly the significant level used for this model is $P<0.05$.The above coefficient a table 4.5.3c presents the cumulative effect of independent variables of E-banking on dependant variable or usage of E-banking in multiple regression analysis.

Hypothesis 1: H1. Usefulness has a positive and significant effect on adoption of E-banking.
As it is shown in coefficient table, Usefulness as with the coefficient of B = 0.321, at the significance level $p<0.05$ Usefulness has a positive effect on E-banking usage. So, H1 is confirmed.

Hypothesis 2: H2. Ease of use has a positive and significant effect on adoption of E-banking.
Ease of use has coefficient B =0.127 with the significance level $p<0.05$ has a positive effect on practicing of E-banking products by surveyed clients of those banks. So, H2 is confirmed.

Hypothesis 3: H3. Compatibility has a positive and significant effect on adoption of E-banking.
In the above coefficient table, the coefficient of B = 0.106for compatibility with the significance level $p<0.05$ has a positive effect on practicing and usage of E-banking as well as its development. So, H3 is confirmed.

Hypothesis 4: H4. Triability has a positive and significant effect on adoption of E-banking.
Triability has coefficient B =0.081 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H5 is confirmed.

Hypothesis 5:H5. Observability has a positive and significant effect on adoption of E-banking. Observability has coefficient B =0.139 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H6 is confirmed.

Hypothesis 6: H6. Perceived risk or Trust has a positive and significant effect on adoption of E-banking. Observability has coefficient B =0.118 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H6 is confirmed.

Hypothesis 7:H7. Culture has a positive and significant effect on adoption of E-banking.
Culture has coefficient B =0.205 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H7 is confirmed.

Hypothesis 8:H8. Awareness has a positive and significant effect on adoption of E-banking.
Awareness has coefficient B =0.325 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H8 is confirmed.

Hypothesis 9:H9. Infrastructure has a positive and significant effect on adoption of E-banking.
Infrastructure has coefficient B =0.245 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H9 is confirmed.

Hypothesis 10:H10. Legal framework has a positive and significant effect on adoption of E-banking.
Legal framework has coefficient B =0.109 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H10 is confirmed.

Hypothesis 11:H11. Government support has a positive and significant effect on adoption of E-banking.
Government support has coefficient B =0.193 with the significance level $p<0.05$ has a positive effect on bank clients usage of E-banking services. So, H11 is confirmed.

CHAPTER FIVE

5. Research Conclusion and Recommendations

The primary purpose of this study is to assess the practice, challenges and opportunities of E-banking in Ethiopia in case study in banks in Addis Ababa having branches that have relatively high turnover of customers which are Commercial Bank of Ethiopia, Awash Bank, Dashen bank and Abyssinia bank. This chapter, based on the findings of the study, presents the summary, conclusions and recommendations of the study.

5.1 Summery and Conclusion

Customer awareness of the advantages of E-banking is the major factor contributing to the success of the adoption of E-banking.. E-banking has become a major facility sought after by the existing and potential customers. All the banks on this service sectors depend on customers' acceptance of this relatively new kind if business model which plays a vital role in our countries aim to build its digital economy. One of the ways for achieving high customer satisfaction and gaining the loyalty of customers is for banks to offer high quality services. Also the following conclusions where drown from the survey variables outcome.

- Compared to the regional countries where Ethiopia is found, the practice and development of E-banking and E-commerce is at its lowest level. One of the reasons for this is lack of integration. All the banks individually administer their E-banking system which is costly to them and most of all inconvenient for bank clients who want to practice E-banking. For example, Commercial bank of Ethiopia runs CBE-Birr Awash runs Awash Money, Dashen runs Amole and Abyssinia runs Abyssinia wallet which is cumbersome to clients to remember the banks pass numbers and pass word or pins. Most of all, this systems don't allow exchange between them. Since banking service becomes proliferated, making exchange through E-banking is impossible and this is a good reason for the very slow growth of E-banking and E-commerce.

- Infrastructure is the main variable for the development of E-banking, E-commerce and to become a digital economy. Both public and private commercial bank E-banking customers suffer from frequent disruption of services due to poorly developed

telecommunication infrastructure and lack of reliable power supply. The study also revealed that the infrastructure required for successful implementation of electronic banking is under developed. In this regard, especially the telecommunication infrastructure found to be poor to perform electronic based transactions and this becomes a serious challenge for the development of E-banking in the country. Regarding this, the study indicated that there is a very slow internet connection and low distribution of internet network in the country So, there should be a lot to do by network provider to alleviate this obstacle to banks, to clients and to the country's economy as a whole.

- With regard to support from government, government polices plays a very important role for successful implementation of E-banking and to use latest information and communication technologies. However, the study shows that there is no enough proper policy and legal framework issued for deployment of electronic banking services from the government of Ethiopia.

- Perceived usefulness was found to have a significant and positive influence on E-banking adoption. This result suggests that for E-banking, especially mobile banking, to be accepted by bank customers, customers should perceive it as a useful and quicker way of doing banking transactions compared with the conventional or traditional banking system. Therefore; it can be concluded that people will adopt E-banking services when the value and benefit of E-banking is evident as it is used for time saving and cost reduction.

- Relative advantage was also found to have a significant and positive effect on customer's usage of E-banking. This suggests that if bank customers perceive that E-banking has a relative advantage over branch banking in accessing accounts from any location and at any time and provides greater control and flexibility over managing their accounts, they will use it. Practically, users are more likely to adopt E-banking especially mobile banking if they believe using mobile banking will gain more relative advantages as compared to other traditional banking channels such as ATM or non-mobile internet banking. Therefore, the more relative advantage perceived by users, the higher possibility customer will be attracted to use mobile banking services.

- Perceived ease of use has emerged in this study as having an insignificant negative influence on E-banking usage. This could imply that since customers are more familiar with E-banking, especially mobile phones they are now more concerned with usefulness of the service not whether it is easy or not.

- Perceived trust was found to have a significant and negative influence on E-banking usage. This could imply that when customers do not trust E- banking and the service provider, it will in turn lead to a less willingness to adopt E- banking. Security and privacy are the most important issues in electronic banking business. The findings of the study also reveal that customers are very much sensitive and highly concerned about the security of their account and privacy of their private information. However, they don't have enough knowledge about security features and user privacy policies. For this reason, they may not have full confidence to use electronic banking services. Therefore trust will have a positive impact on E-banking usage when the E-banking service providers (both the banks and network provider) are perceived to be trustworthy.

- Compatibility is also found to have a significant positive association with E- banking usage. The implication of this result is that if customers perceive E- banking as consistent with their existing beliefs, values, lifestyle and past experience, they are more likely to use these services. Therefore, it can be concluded that when mobile banking is found to be compatible with the existing values, past experiences, and needs of potential users, then E-banking usage will increase. But as the finding of the survey shows, it is impossible to make transaction between customers of different banks via E-banking, especially mobile banking as the banks individually run and administer their E-banking systems. These have a serious impact for the adoption of E-banking and as well E-commerce as it has a clear impact on exchange between individuals, individual and businesses and between business to business transactions.

- Perceived risk was found to have a significant and negative influence on E-banking usage. This implies that if individuals perceived higher risks and uncertainty such as issues of misuse, loss and theft of money and financial information due to system hacking, this would discourage adoption of E-banking by the consumers as they are risk

averse. This can be concluded that risk involved in using E-banking make people reluctant to use such tool for banking. Therefore, it is important for banks and service providers to project higher security when providing E-banking services in order to yield higher consumer's acceptance. As per the survey, since E-banking network is not good enough, private businesses do not want to implement a fully cashless business model as it will bring a risk of losing their business and taken by their competitors.

- Awareness was found to have a significant and positive impact on E- banking usage. Having more awareness about E-banking has significant impact on the usage of E-banking adoption for bank customers in Addis Ababa as per the survey. As any individual have more awareness about E-banking usefulness and relative advantage, the likely adoption of the system will increase significantly. As the study reveal, in general there is information gap between the service users and service providers of electronic banking.

- Perceived reliability as per the survey has been the main obstacle on the reliability of E-banking and as reliability is the base to get publics acceptance. As the service is not available anytime and anywhere, customers doubt on its reliability. Also customers have little doubt on the perfection of the system that it is free from error which entails a negative adoption by business and individuals. As reliability is one of the base or key attribute for the adoption of E-banking, banks have to do more on these.

- Perceived performance and service content of E-banking has direct link to quality of service and satisfaction of customers. As performance is related to network quality, banks should to seek a way to have a network provider that can deliver its system to its clients whenever and wherever it's demanded. Service content of E-banking is directly linked to ease of use. So that these software's should consider level of understanding of all its customers and potential customers.

- Complexity or triability in this survey linked to E-banking ease if the system to learn, understand and operate. This can be considered as an enter face or the first contact point with the system, as this is considered as first impression point, the level of individual's acceptance or rejection of the system will be determined. So, its important to banks to consider intense customization of the system to fit every client.

- Culture of the society in which an invention is going to be applied is important for the speed of its adoption. As most of our society is characterized as a slow adopter of technology, banks should address the relative advantage of digital banking than the traditional banking. Also as per the survey, clients have concern that their privacy can be jeopardized while practicing E-banking. So, banks also should guarantee its clients about confidentiality of their account and their transactions as well.

5.2 Research Recommendations

E-banking system is a new financial evolution in Ethiopia, but it's an important issue because it has a great impact on the whole banking system and to the whole Economy. At the same time, it's difficult and need a lot of efforts to implement and practiced E-banking by the banking industry. It is approved that basic benefits of E-banking for the customers are convenience, accessibility, ease of use, low cost, providing real time information for clients and government, and getting quality service. It also identified that the basic benefits of E-banking for banks are simplifying works of employee, reduce costs per transaction, improve customer satisfaction, attract new segment of customers and banking the unbanked and enhance new deposits that generate additional revenue stream.

Also E-banking acts as information control tool for government that enhance the development of digital economy that gives vital information on the performance of the economy and helps in formulating informed monetary policy.

Based on the above conclusion, the researcher recommends the following points:

- The first thing is the need for development of infrastructure. As such technology demands well developed ICT infrastructure and ICT professionals, the government should invest and develop to expand ICT infrastructure and ICT professionals and make accessibility and quality of service possible or let foreign telecom companies to participate in the development of the sector.
- The second thing is the need for integration of E-banking system of the banks. As banking service is proliferated, individuals become clients at different banks and making exchange between individuals and business become difficult. So, banks should come

under a same platform of system in order to facilitate exchange. If these are possible, having a cashless society will be possible as it is possible in Kenya.

- Since E-banking has a wide range of benefits to the customers, the bank and for the Economy, government as well as NBE should have to facilitate E-banking practice by creating a well-organized legal framework. NBE should urgently establish a clear set of legal frame works and directives on the use of E-banking in banking sector E-commerce.
- Ethiopia is on the way to be a member of world trade, and other strong competitors or foreign banks will get involved in Ethiopian banking industries and in every business sector as well. Therefore banks have to strengthen their capacity by shifting the manual banking to electronic banking and business should adopt E-commerce.
- In addition to the above, Ethiopian banking industry need to move away from traditional bases of retail bank competition to a new technology based form of competition by focusing on cost reduction, customer retention, awareness, credibility, security, ease of use, accessibility and widen scope of products and services that will move our country to a developed digital economy.

Bibliography

Abiy, D 2008, *capital, weekly newspaper,* March, 17, 2008

Abenet, Y. (2010). Key Factor that Determine Adoption of Internet Banking in Ethiopia.
.
Abreham, H. (2012). Challenges and Opportunities of Adapting Electronic Banking in Ethiopia.

Ahmed, H 2011, `E-banking Adoption Model in Palestine', MA thesis, An-Najah National University, Palestine

Al-Gahtani, S. S., 2003, 'Computer Technology Adoption in Saudi Arabia: Correlates of Perceived Innovation Attributes', *Information Technology for Development*, 10(1), 57–69

Al-Jabri, I. M and Sohail, M.S. (2012). Mobile banking adoption: Application of diffusion of innovation theory, *Journal of electronic research*, 13(4).

Alexandiris, K.T. (2006) "Exploring Complex Dynamics in Multi Agent-Based Intelligent Systems" Pro Quest

Asokan, N., Janson, P., Steiner, M. and Weidner, M. (2000) *Electronic Payment Systems*. IBM Research Division, Zurich Research Laboratory p1-16

Asrat, S 2010, Reporter, weekly newspaper.

Belay, D., &Ebisa, D. (2012). Evolution of Customer Satisfaction on Bank Services: An ImpericalAnalys is (JimmaCommercia l Bank of Ethiopia).

Bernard, H.R. (2011) "Research Methods in Anthropology" 5th edition, AltaMira Press, p.7

Binyam , T. (2009). Daily Monitor February 20, 200inya,.(2009).ailyonitorebruary20,200

Biritu vol.123 (2018) Quarterly Magazine issued by Commercial bank of Ethiopia

Biritu vol.125 (2018) Quarterly Magazine issued by Commercial bank of Ethiopia

Bultum, A. G. (2014). Factors Affecting Adoption of Electronic Banking Systems in Ethiopia Banking
Industry.*Management Information System and E-commerce* .

Cai, Y., Yang, Y. &Cude, B. (2008). _Inconsistencies in US consumers' attitudes toward and use of electronic banking: an empirical investigation', *Journal of Financial Services Marketing,* 13(2): 150–163

Chau, K.Y, Patrick & Lai, S., K, Vincent. (2003). An empirical investigation of the determinants of user acceptance of Internet Banking. *Journal of Organizational Computing and Electronic Commerce, 13*(2),123-145

CHAVAN, J. (2013). INTERNET BANKING BENEFITS AND CHALLENGES IN AN EMERGING ECONOMY.
International Journal of Research in Business Management .

CHOVANOVÁ, A. 2006.Formyelektronickéhobankovníctva.In BIATEC [online].2006, vol. 14, no. 6, [cit. 2013-12-21].Dostupnénainternete :<http://www.nbs.sk/_img/Documents/_PUBLIK_NBS_FSR/Biatec/Rok2006/BIATEC__2006.pdf >. ISSN 1335 – 0900

Cooper, D.R., & Schindler, P.S. (2003).*Business Research Methods*. (8th ed.). Boston

Daniel, E. (2009). Provision of electronic banking in the UK and the Republic of Ireland.*International Journal of Bank Marketing, 17*(2), 72-83.

Daghfous, N. &Toufaily, E. (2007). The adoption of E-banking by Lebanese banks: success and critical factors, research paper, Universte du Quebec a Montreal Retrieved from http://www.esg.uqam.ca/recherche/document/2007/02-2007.pdf.

Dashen bank 2018, *Annual Report,* available at: http://www.dashenbank.com

David, J. R. (2010). Marketing Metrics: The Definitive Guide to Measuring Marketing Performance.*Pearson Education*. New Jersey, Upper Saddle River: Inc.
avid,J..(2010).arketingetrics:heefinitiveuidetoeasuringarketingerforance.*earsonducation*.eJersey, pperaddleiver:Inc.

Dawd, I. (2004). *Introduction to payment card*. Dashen Bank. Addis Ababa. Mimeo

Dawd, I. (2009). *Payment Card System as a Key to Economic Growth*. Dashen Bank. Addis Ababa.Mimeo.

Deloitte,2010, *Mobile Banking- A catalyst for Improving Bank Performance,* Viewed on 23 March 2016, from http://www.deloitte.com

Dhandabani, S. (2010). Linkage Between Service Quality and Customer Loyalty in Commercial Banks. *International Journal of Management & Strategy, Vol. 1 No. 1*.

Dhandabani,.(2010).inkageeteenerviceualityandustoeroyaltyinoercialanks.*InternationalJournalof anageentStrategy,ol.1o.1*

Dineshwar, R., and Steven, M. ,2013, 'An Investigation on Mobile Banking Adoption and Usage: A Case Study of Mauritius', *Proceedings of 3rd Asia-Pacific Business Research Conference 25 - 26 February 2013, Kuala Lumpur,Malaysia, ISBN: 978-1-922069-19-1*

Eldabi, T 2002, 'Quantitative and qualitative Decision Making Methods in Simulation Modelling', *Management Decision*, 40(1):64-73

Fenuga, O. (2010). The effect of electronic payment on customer service delivery.*International Journal of Economic Development Research &Investment, Vol. 1*(1).enuga,.(2010).heeffectofelectronicpayentoncustoerservicedelivery.*InternationalJournalofconoicevelopentesearchInvestent,ol.1*(1).

Furst, Karen, William W. Lang, and Daniel E. Nolle (2000). ―Internet Banking: Developments and Prospects,‖*Economic and Policy Analysis Working Paper* 2000-9, Office of the Comptroller of the Currency (September)

Gardachew, W. (2010). Electronic Banking in Ethiopia: Practices, Opportunities and Challenges. *Journal of internet Banking and commerce, 15(2):2-9.*

Garedachew, W. (2010).Electronic Banking in Ethiopia - Practice, Opportunities and Challenges. Addis Ababa, Ethiopia. Retrieved from http//:ssrn.co m/abstract+1492006

Gerrard, P., & Cunningham, J. (2006).The diffusionof internet banking among Singapore consumers.*International Journal of Bank Mark eting, Vol. 21*(1), pp. 16-28.

Getahun, N 2008, 'Policy initiatives for improved financial service provision: the case of Ethiopia', National Bank of Ethiopia.

Ghauri, P. N., Grønhaug, K. &Kritianslund, I. (2005). Research methods in business studies: A practical guide. Prentice Hall: Dorchester

Goddard, W. & Melville, S. (2004) "Research Methodology: An Introduction" 2nd edition, Blackwell Publishing

Husni, A. and Noor, A. (2011).*The Impact of E-Banking on Bank Profitability: Evidence from Jordan*. Journal of Middle Eastern Finance and Economics, ISSN: 1450-2889 Issue 13, Euro Journals Publishing, Inc.

International Journal of Management and Commerce Innovations ISSN 2348-7585 (Online)
Vol. 5, Issue 2, pp: (818-828), Month: October 2017 - March 2018, Available at: www.researchpublish.com

Joseph, M & Stone, G 2003, 'An empirical evaluation of US bank customer Perceptions of the impact of technology on service delivery in the banking Sector', *International Journal of Retail & Distribution Management*, 31(4):190-202.

Khanfar, K Rashed, A, Elzamly, M &Elmasri, A 2006, 'Customer Satisfaction with internet banking
web Site: Case study on the Arab Bank' , Research paper, The Arab Academy for Banking and Financial Sciences, Jordan.

Kolter,& Armstrong. (1998). *Making Management.*New Delhi: Printing Hall of India PLC.
olter,rstrong.(1998).*akinganageent.*eelhi:rintingallofIndia.

Kothari C.R. 2004. *Research Methodology: Methods and Techniques*. 2nded. New Delhi: New Age International Publishers.

Kumaga, D. (2010).*The challenges of implementing Electronic Payment Systems – The Case of Ghana's E-zwich Payment System*.

La foret, S. and Li, X., 2005 'Consumer Attitudes towards Online and Mobile Banking in China', *International Journal of bank marketing*, 23 (5), 362-380.
•

Lee, D.S., Owen, B., Graham, A., Fichter, C., Lim, L.L., Dimitriu, D., (2005). Allocation of International Aviation Emissions from Scheduled Air Traffic – Present Day and Historical (Report 2 of 3). Manchester Metropolitan University, Centre for Air Transport and the Environment, Manchester, UK.
http://www.cate.mmu.ac.uk/project_view.asp?chg¼projects&chg2¼2&id¼2 CATE-2005-3(C)-2See(accessed18.02.09)

Lee, M-C., 2009, 'Factors Influencing the Adoption of Internet Banking: An Integration of TAM and TPB With Perceived Risk and Perceived Benefit', *Electronic Commerce Researchand Applications*, 8(3), 130-141.

Leidner, D. E., and Kayworth, T. (2006). Review: A review of culture in information systems research: Toward a theory of information technology culture conflict. *MIS quarterly*, *30*(2), 357-399.

Lin, H., 2011, 'An Empirical Investigation of Mobile Banking Adoption: The Effect of Innovation Attributes and Knowledge-based Trust', *International Journal of Information Management*, 31, 252-260.

Lodico, M.G., Spaulding, D.T &Voegtle, K.H. (2010) "Methods in Educational Research: From Theory to Practice" John Wiley & Sons, p.10

Luarn, P. and Lin, H.-H., 2005, 'Toward an Understanding of the Behavioural Intention to Use Mobile Banking', *Computers in Human Behaviour*, 21, 873-891.

M.Moga, L. (2010). The adoption of e-banking An application of theories and models for technologies acceptance. *Jornal of Development of Energy,Environmnt and Economics* .

Macnee, C. and McCabe, S. 2007. *Understanding nursing research, reading and using research in evidence- based practice* (2nd ed).Wolters Kluwer, Lippincott, Williams and Wilkins: Philadelphia, Pennsylvania, USA

Marinos, N. b. (2013). SOS ADOPTION IN E-BANKING .*JOURNAL OF ENTERPRISE INFORMATION
MANAGEMENT* .

Martina, K. (2005). *A Framework for Providing Electronic Payment Services***.**Retrieved from http://www.leischner.inf.fh-bonn-rhein-sieg. de/PDF/HPOVUA03-A3.pdf. Accessed on April 20, 2019

Masinge, K., 2010, 'Factors Influencing the Adoption of Mobile Banking Services at the Bottom of the Pyramid in South Africa', *Gordon Institute of Business Science (GIBS),University of Pretoria*, 38.

Mattila, M 2003,'Internet banking adoption among mature customers: early majority or laggards',
Journal of Services Marketing,17(5):514-28.

Maylor, H. and Blackmon, K. (2005) *Researching Business and Management: A Roadmap for Success,* Basingstoke: Palgrave Macmillan

McCloskey, D. W., 2006, 'The Importance of Ease of Use, Usefulness, and Trust to Online Consumers: An Examination of the Technology Acceptance Model with Older Consumers', *Journal of Organizational and End User Computing*, 18, (3), 47-65.

McCoy, S., Galletta, D. F., and King, W. R. (2007).Applying TAM across cultures: the need for caution.*European Journal of Information Systems, 16*(1), 81-90.

Megersa, N. (2010). *The Role and Performance of International Banking In Financing International Trade.*Addis Ababa. Mimeo

Microfinance Nigeria (2010).*Poor Infrastructure, low awareness may hamper e- payments drive.* Available at http://www.microfinancenigeria.com/technology/poorinfrastructure-low-awareness-may-hamper-E-payment-drive. Accessed on Feb 20, 2019

MUKHERJEE, A. & NATH, P. (2003) A model of trust in online relationship banking.*International Journal of Bank Marketing,* VOL.21, No.1**,** 5-15.

National Bank of Ethiopia, 2012, Regulation of Mobile and Agent Banking Services Directives No. FIS /01/2012.

National Bank of Ethiopia 2014, Annual Report 0f 2013/14, Addis Ababa, Ethiopia

National Bank of Ethiopia 2017, Annual Report 0f 2017/18, Addis Ababa, Ethiopia

Neuman, W.L. (2003) "Social Research Methods: Qualitative and Quantitative Approaches" Allyn and Bacon

Palvia, P., 2009, 'The role of trust in e-commerce relational exchange: a unified model'*Information& management*, 46 (4), 213-220

Parahoo, K. (2006): *Nursing Research – Principles, Process and Issues.* 2nd Edition. London: Palgrave MacMillan

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., &Pahnila, S. (2004),‖Consumer acceptance of online banking: An extension of the technology acceptance model‖. *Journal of Internet Research*, Vol. 52 No. 2, pp. 67-83.

Polatoglu, V. N., &Ekin, S. (2010). An empirical investigation of the Turkish consumers' acceptance of internet banking services.*International Journal of Bank Marketing, 19* (4), 156-65

Porteous, D., 2011, 'The Enabling Environment for Mobile Banking in Africa'*Bankablefrontier.*

Puschel, J., Mazzon, J. and Hernandez, J., 2010. 'Mobile banking: proposition of an integrated adoption intention framework'. *International Journal of bank marketing,* 28 (5),389-409.

Rangsan, Nochai, &Titida. (2013). The Impact of Internet Banking Service on Customer 1atisfactio n in Thialand : A Case Study in Bangkok. angsan,ochai,itida.(2013)..

Riquelme, H., and Rios, R. E., 2010, 'The Moderating Effect of Gender in the Adoption of Mobile Banking', *International Journal of Bank Marketing*, 28(5), 328-341.

Rogers, E.M., 2003, Diffusion of Innovations. 5th Edition, *Simon & Schuster,* Inc., NewYork, 175

Saleem, Z. and Rashid, K., 2011, 'Relationship Between Customer Satisfaction and Mobile Banking Adoption in Pakistan', *International Journal of Trade, Finance*, 2(2), 537-544.

Sunil K. M., and Durga P. S., 2013, 'Mobile Banking Adoption and Benefits towards Customers Service', *Modern engineering Management Studies (MEMS),* 2(1), 2319-2526.

Saunders, M., Lewis, P. &Thornhill, A. (2012) "Research Methods for Business Students" 6th edition, Pearson Education Limited

Sumra, S. H., Manzoor, M. K., Sumra, H. H. and Abbas, M. (2011). The Impact of e-banking on the Profitability of Banks: A Study of Pakistani Banks. *Journal of Public Administration and Governance, Vol. 1, No. 1.*

Taddesse, W &Kidan, T (2005).E-payment: Challenges & Opportunities in Ethiopia. United Nations. Economic Commission for Africa

Tewdros, B. R. (2011). E-Business Application of Software and Technology in selected Ethiopian Banks. *IntionationalJounal of Compter Science issues* , 7-9.

The World Bank. 2017. "The World Data Bank". Washington DC. (http://databank.worldbank.org/data/home.aspx). Accessed on December 10, 2018.

The World Bank. 2018. Data. (http://data.worldbank.or/country/ethiopia). Accessed on January 29, 2018

Tiwari, R. and Buse, S., 2007, 'The Mobile Commerce Prospects: A Strategic Analysis of Opportunities in the Banking Sector', *Hamburg University Press, Hamburg.*

Turban, D. (2008).*ElectroncCommerece: A manegerialPerspectiv e* (4th ed.). Prentice Hal

UNICEF. 2017. Statistics. (www.unicef.org/infobycountry/ethiopia_statistics.html). Accessed on January 26,2018

Vassilliou, C. (2004). *Electronic Payment Systems and Marketing*. Mimeo

WondwossenTadesse, T. G. (2005). e-payment:Challenges and Opportunities In Ethiopia. *http://www.ethioconstruction.net/sites/default/files/Law/Files/ePayment%20Study.pdf* , 27.

Worku, G. (2010). Electronic-Banking in Ethiopia-practice ,oportunites and Challenges. *JOURNAL OF INTERNET BANKING* , 4-5.

YitbarekTakele, Z. S. (2013). Analysis of Factors Influencing customers Intention to the Adoption of Ebanking Service.*Ethiopian Scientific Journal* .(Thomas, 2010)

Zairi, A. (2003). *Global Benchmarking for Internet and E-Commerce Applications*. University of Minho Guimaraes, Portugal.

Zhang, Y. (2013). Measuring Service Quality of online banking in China.*Information Systems Science Master's thesis* .

First of I would like to thank you for your cooperation to give your time in order to fulfill this study that will help to improve the bank's new electronic based banking system.

This study is made to know the perception; attitude and challenges of the bank's customers on the banks electronic based banking services. That is card banking or Automated Teller Machine (ATM), Internate banking and mobile banking.

The study will be used fully for the above purpose only and is fully confidential.There is no need to write your name.

I would like to thank you again for your ample cooperation.

Please make "**√** "or " **x** "to give your reply to the questions.

1. Gender Male [ ] Female [ ]
2. Age 18-25 [ ] 26-35 [ ] 36 -45 [ ]Above[]
3. Education level TVET [ ] Diploma [ ] Degree [ ] Masters and above [ ]
4. Occupation Government Employee [ ] Private Employee [ ] Private Business [] Others [ ]
5. Other than the ordinary banking service, which service are you using?
   Card Banking (ATM) [ ] Mobile Banking [ ] Internate Banking [ ] NeverUse [ ]
6. If you use one of them, how do you hear about the service?
   From the bank Clerks [1] Friends [2] Family members [3] From Media Advertisement [4] Other Means _____
7. For what purpose do you use these services?
   Withdraw Cash [1] Transfer Money [2] Make Transaction [3] To pay bills [4]Buy Airtime [5]Other Purpose _____

Perceived Usefulness	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
E-banking is Useful for my banking needs					
E-banking is accessible					
E-banking is available anytime					
E-banking is better than going to bank branches					
E-banking facilitate my transactions					
E-banking saves time and cost					
Service charge is fair					

Ease of Use	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
E-banking service is easy to learn					
E-banking service is easy to use					
Compatibility	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
E-banking is compatible with my daily banking needs					
It do not ask me additional thing to use E-banking					
Transaction Between banks is easy					
Perceived Triability	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
E-banking is attractive to try					
E-banking is save to try					
E-banking is easy to learne					
E-banking is easy to operate					
Observability	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
I observe my friends and family members practice E-banking					
Perceived Trust /Risk	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
E-banking service is Trustworthy					
My bank E-banking service and its network provider are trustworthy					
The service have enough Legal Frame work					
If something goes wrong, my bank make corrections immediately					
E-banking service network is					

good at any time					
E-banking might make transactions wrongly					
E-banking may give access to others to manipulate					
Culture	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Using E-banking is better than using cash transaction					
If I practice E-banking and get in to loss, I will lose my position around my friends and family					
Being fully cashless society might expose my privacy					
Awareness	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
My bank gives enough awareness about its E-banking Service					
My bank gives enough awareness about how to operate transactions using E-banking					
Infrastructure	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Net work is available at any time and place to practice E-banking					
Network quality is good to practice E-banking					
Apparatus to practice E-banking is expensive					
Legal Framework	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
If my account is manipulated by my practicing of E-banking by others, my bank will take full responsibility					
If my account is manipulated by my practicing of E-banking by others, I will get					

legal settlement easily.					
Gov't Support	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
E-banking have enough government support					
Government investment on Information Technology is good					

Please give any comment or suggestion about the service

_____

_____

_____

በቅድሚያ በዚህ ጥናት ላይ ለመሳተፍ ፈቃደኛ ስለሆኑ አመሰናለሁ

ይህ ማጠይቅ የተዘጋጀዉየባንኩ ደንበኞች በባንኩ ቅርንጫፎች በመምጣት አገልግሎት ከማግኘት በተጨማሪ ባንኩ የሚሰጣቸዉን አገልግሎቶችን ማለትምካርድ ባንኪንግ (ATM), ኢንተርኔት ባንኪንግ እና ሞባይል ባንኪንግ አገልግሎቶችን በተመለከተ ያሉትን ተግዳሮቶች ለመወቅና አገልገሎቱን ለማሻሻል እንዲሁምለማሰፋት ነዉ።
፡

የ ማጠይቁ ሚስጠራዊነት የተጠበቀ ሲሆን ወጤቱምመሉ በመሉ የባንኩን አገልግሎቶች ለማሻሻል እንዲሁም ለማሻሻል የሚዉል ነዉ። ፡

ማጠይቁን በሚሞሉበት ጊዜ ስምመመላት አስፈላጊ አይደለም። ፡

ወድ ጊዜወትን ሰዉተዉየባንኩን አገልግሎት ለማሻሻል በምናደርገዉጥረት ስለተባበሩን በድጋሚእናመሰናለን፡
፡

መመርያ ፤ √ ወይም x በሚድረግ ማጠይቁን ይሞሉ፡ ፡

1. ፆታ ወንድ [ ] ሴት [ ]
2. እድሜ 18_25 [ ] 26_35 [ ] 36_45 [ ] 46_55 [ ] 56 ወይምከዚያምበላይ [ ]
3. የትምህርት ሁኔታ 12 ያጠናቀቀ [ ] ዲፕሎማ [ ] ዲግሪ [ ] ማስተርስ [ ] ዶክትሬት [ ]
4. የስራ ሁኔታ የመንግስት [ ] የግል ተቀጣሪ [ ] ንግድ [ ] ተማሪ [ ] ስራ አጥ [ ] ሌላ _____
5. ከመደበኛዉየባንክ አገልግሎት በተጨማሪ የትኛዉን አገልግሎት ይጠቀማሉ?

ካርድ ባንኪንግ (ኤቲኤም) [ ] ኢንተርኔት ባንኪንግ [ ] ሞባይል ባንኪንግ [ ] ምንምአልጠቀምም [ ]

6. ከጠቀመከለ አገልግሎቱ እንዴት ሰማ?
   ከማስታወቅያ [ ] ከባንኩ ሰራተኞች [ ] ከጎደኛ/ቤተሰብ [ ] ሌላ _____
7. ምንምየሚጠቀመከሆነ ምክያቱ ምንድነዉ?
   ሰምቼ አላወቅም [ ] አገልግሎቱን እጠራጠራለሁ [ ] አጠቃቀመከባድነዉ [ ] ሌላ ካለ_____
8. ከተጠቀመአገልግሎቱን ለምን አገልግሎት ይጠቀማሉ?

ገንዘብ ለማዉጣት [ ] ገንዘብ ለመላክ(ለማዘዋወር) [ ] ለመገበያየት [ ] ክፍያዎች ለመፈጸም [ ]

ሞባይል ካርድ ለመሙላት [ ] ሌላ ካለ _____

9. በወር ዉስጥ ምን ያህል ጊዜ የባንኩን አገልግሎት ይጠቀማሉ?
   አንዴ [ ] ሁለቴ [ ] ሶስቴ [ ] አምስቴ [ ] ከ አስር ጊዜ በላይ [ ]

ጠቀሜታ	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ
ተጨማሪዎቹ አገልግሎቶች ጠቃሚናቸዉ					
አገልግሎቱ ተደራሽ ነዉ					
አገልግሎቱ ሁሌ ይገኛል					
ባንክ ከመሄድ የተሻለ ነዉ					
አገልግሎቱ ስራ ያቀላጥፋል					
አገልግሎቱ ጊዜና ገንዘብ ይቆጥባል					
የአገልግሎት ክፍያዉ ተመጣጣኝ ነዉ					
ቅለቱን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ
አገልግሎቱን መጫር ቀላል ነዉ					
አገልግሎቱን ለማጠቀም ቀላል ነዉ					
ተስማሚ ትን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ
የቀን ተቀን የባንክ ፍላጎቴን በበቂ ያመላል					
አገልግሎቱን ለማጠቀም ተጨማሪ ወጪይቆኛል					
አገልግሎቱን በተለያዩ በባንኮች መሃል ማጠቀም ይቻላል					
ተሞካሪነቱን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ
አገልግሎቱን ለመሞከር ሳቢ ነዉ					
አገልግሎቱን መሞከር ስጋት የለውም					
አገልግሎቱን ማጠቀም ቀላል ነዉ					
አገልግሎቱን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ
በዙራዬ ያሉ ሰዎች ባገልግሎቱ ይጠቀማሉ					
ታማኝነት	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ

አገልግሎቶቹ አስተማማኝ ነዉ					
ባንኬንምኔትዎርክ አቅራቢዉን አምናለሁ					
አገልግሎቶቹ በቂ የህግ ከለላ አላቸዉ					
ስህተት ቢፈጠር ባንኩ ወድያውያርማል					
አገልግሎቱ ስህተት ሊፈጥር ይችላል					
አገልግሎቱ ሊጠለፍ ይችላል					
የባንክ አጠቃቀምባህልን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለዉም	እስማማለሁ	በጣም እስማማለሁ
አገልግሎቱ ጥሬ ብርን ከማጠቅም ይሻላል					
አገልግሎቱን በማጠቀሜ ምክያት የገንዘብ ጉዳት ቢያጋጥመኝ ተቀባይነቴን ይቀንሰዋል					
ሞሉ ለሞሉ አገልግሎቱን ማጠቀምግላዊ ነጻነትን ይጋፋል					
ሚዛተዋወቅን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለዉም	እስማማለሁ	በጣም እስማማለሁ
አገልግሎቱ በበቂ ሁኔታ ተዋወቋል					
ባንኩያአገልግሎቱን አጠቃቀምበበቂ ሁኔታ ያሳያል/ያስተምራል					
አገልግሎቱን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለዉም	እስማማለሁ	በጣም እስማማለሁ
አገልግሎቱ በማንኛዉምቦታና ጊዜና ማገኘት ይቻላል					
አገልግሎቱ ጥራት አለዉ(አይቆራረጥም)					
ባገልግሎቱ ግብይት ሜጸም ያስተማምናል					
አገልግሎቱን ማጠቀምቀላል ነው					
አገልግሎቱ ፈጣን ነዉ					
አገልግሎቱን ማጠቀምያ መሳርያዎች ወድናችዉ					
አግልግሎቱ ከፍላጎቴ ጋር					

ይሄዳል					
ህጋዊ ከለላን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ
ባገልግሎቱ አጫጫኝነት በሶስተኛ ወገን ጉዳት ቢደርስብኝ ባንኩ ሙሉ ሃላፊነት ይወስዳል					
በአገልግሎቱ የተነሳ ጉዳት ቢደርስብኝ በቀላሉ ህጋዊ መፍትሄ አገኛለሁ					
የመንግስት ድጋፍን በተመለከተ	በጣም አልስማማም	አልስማማም	ልዩነት የለውም	እስማማለሁ	በጣም እስማማለሁ
አገልግሎቱ በቂ የመንግስት ድጋፍ አለዉ					
መንግስት አገልግሎቱ እንዲስፋፋ በቂ ወጪ መድቦዋል					

ስለ አገልግሎቶቹ ሌላ አስተያየት ካሎት

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ስለ ቀና ትብብሮት እጅግ በጣምአመሰናለሁ፡ ፡