



**ST. MARY'S UNIVERSITY**

**SCHOOL OF GRADUATE STUDIES**

**THE CURRENT CHALLENGES AND OPPORTUNITIES OF  
E-BANKING IN ETHIOPIAN BANKING SYSTEM (THE  
CASE OF WEGAGEN AND UNITED BANKS)**

**BY**

**TAMIRU DABA**

**(MBAAF/0441/2008A)**

**JUN, 2021**

**ADDIS ABABA, ETHIOPIA**

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**A THESIS SUBMITTED TO ST. MARY UNIVERSITY, SCHOOL OF  
GRADUATE STUDIES, IN PARTIAL FULFILLMENT OF THE  
REQUIRMENTS FOR THE DEGREE OF MASTERS OF BUSINESS  
ADMINISTRATION IN ACCOUNTING AND FINANCE**

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## Declaration

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

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## Endorsement

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

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JUN, 2021

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## **Acronyms & Abbreviations**

7X24 - 7 days and 24 hours

ATM - Automated Teller Machines

CUP - China Union Pay

CBE - Commercial Bank of Ethiopia

EFT- electronic funds transfer

NBE-National Bank of Ethiopia

PIN -personal identification number

POS- Point-of-Sale Transfer Terminals

WWW - World Wide Web

PC Personal computer

CSF Critical success challenges

TPB Theory of planned behavior

DIT Diffusion of innovations theory

AMO Ability, motivation and opportunities

ICT Information and communication technology

CUP China Union Pay

EBSD Electronic Banking Service Department

SWIFT Worldwide Interbank Financial Telecommunications

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## **Abstract**

*Modern and efficient E-banking system is a pre requisite for the growth of the banking system in the cotemporary business world. By using both primary and secondary data this paper analyzed the current challenges and opportunities of E-banking in the case of United and Wogagen bank. The study employed descriptive research method to investigate the challenges and opportunities of E-banking in the selected private banks. The study used purposive sampling techniques to address the research problem. Quantitative data were collected through structured questionnaires' and the qualitative data were collected through the help of focused group discussion. The study identified three major challenges for the current E-banking in of the banking system of the selected banks. These are organizational challenges, environmental challenges and technological challenges. The quantitative data summery revealed that E-banking the organizational challenges are the major challenge for growth of E-banking. The study also showed that technological challenge is the second most important challenge for the growth of EE-banking. In addition, the environmental challenge was identified as the third E-banking challenge that influences the growth of E-banking of the selected private banks in Ethiopia. From the study results, this paper recommends that banks should have to invest adequate resource on E-banking technology, needs to work with the government to solve infrastructural challenges, and should create deep awareness to community concerning the E-banking product. Government also in collaboration with banks should educate and inform the community on the work ability and effectiveness of E-banking technology, need to subsidize the high cost for ICT equipment that challenges banks in introducing EE-banking, should support banking sector by facilitating development of sufficient ICT infrastructure for the successful implementation and development of E-banking services.*

**Key words: E-banking, ICT infrastructure, banking industry**

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of the Study**

The financial systems of most developing countries are cash driven; meaning that monetary transactions are basically made through the exchange of bank notes and coins for goods and services. However, this trend is now giving way to a modern and sophisticated payment system where the currency and notes are converted to data, which are in turn transmitted through the telephone lines and satellite transponders. This is as a result of rapid technological progress and development in the financial market (Ozuru, et al. 2010; Johnson, 2005).

The history of modern bank in Ethiopia traces back to the reign of Emperor Menelik II (1889-1913) it was during his rule that The Bank of Abyssinia established 1905. After ten years the bank started issuing bank notes (Richard, 1980).

In the past people carry huge amount of paper money to buy or conduct exchange. Such condition affected the daily activities of the people by consuming their time. Currently, the introduction of technological innovation brought about drastically change in the Banking industry. Thanks to new technological innovations, carrying paper money and time wastage at the bank is declining. E- Banking (Electronic banking) is reducing such problems. By using technology people save their time wastage. Both private and government banks in the country are introducing such E- banking technologies to their customers. Banking can offer quicker and a more dependable service to the customers for which they may be relatively satisfied than that of manual system of banking (Jannatul, 2010).

E-banking, also known as online banking or virtual banking or internet banking is a system which enables banking transactions like transfer of funds, payment of loans and EMIs, deposit and withdrawal of cash virtually with the help of internet. It is one among the extended features which banking institutions provide, in addition to traditional banking. e- Banking is the most used feature by the citizens of India after the effect of demonetization. This feature is assumed to be one of the most flexible, adaptable and secure ways of transacting among the users/customers to bank. However, it depends on the trust that an individual has on the bank he/she is operating with (Sriram, 2002).

In many African countries the access for internet facilities is concentrated in the major cities. When we came to Ethiopia the situation is worse. The low distribution of internet access throughout the all parts of the country highly influences E-banking services (Jenson, 2003).

## **1.2 Background of the organizations**

United Bank was incorporated as a Share Company on 10 September 1998 in accordance with the Commercial Code of Ethiopia of 1960 and the Licensing and Supervision of Banking Business Proclamation No. 84/1994. The Bank obtained a banking services license from the National Bank of Ethiopia and is registered with the Trade, Industry and Tourism Bureau of the Addis Ababa City Administration. Over the years united Bank built itself into a progressive and modern banking institution, endowed with a strong financial structure and strong management, as well as a large and ever-increasing customers and correspondent base. Today, United Bank is a full service Bank that offers its customers a wide range of commercial banking services with a network of 202 Branches and 19 sub-Branches, and a number of additional outlets on the pipeline (United Bank Annual report, 2017).

According to the United Bank 2017 annual report the number of ATMs and POS live as at June 30, 2017 reached 69 and 212, respectively. During the just ended financial year, a total of Birr 851 million was transacted via such channels which was an impressive increase of 15.75% compared with last year same period figure of 735 million transactions. Meanwhile, United Bank acquires Visa, MasterCard and China Union Pay (CUP) international cards through its merchant outlets. Total capital of the Bank reached Birr 2.52 billion at the end of June 2017.

Wogagen Bank SC was established on the 11th of June 1997 EC. It came to life as a result of the entrepreneurial wit of sixteen (16) founding members who recognized the critical role that financial institutions would play toward creating a sustained economic development and were able to put in an initial paid-in capital of Birr thirty million Established under the banking proclamation of Licensing and Supervision, Proclamation No. 84/1994. The Bank was registered with the National Bank of Ethiopia on April 30, 1997. The Memorandum and Articles of Association of the Bank were signed on April 15th, 1997 and registered with the Addis Ababa Bureau of Trade, Industry and Tourism on April 15, 1997, Registration Number 1/34/4/89(Wogagen bank board of directors,2017).

### **1.3 Statements of the problem**

In this era of globalization, with increased competition around the globe in all sectors, a strong banking industry is important in every country and can have a significant effect in supporting economic development through efficient financial services; as a result many banks in the world are modifying their strategies to reach customers worldwide more easily and cheaply. Therefore, banks are developing the technologies that will help them deliver banking products and services by the most cost-effective channels and one of such channel is adoption of E-banking or internet banking (Ayana, 2012).

E-banking is a way to keep existing customers and attract new ones to the bank. The transaction costs of providing these services are lower than the traditional approach. The rapidly growing information and communication technology is knocking the front door of every organization in the world (Booz & Hamilton, 1997).

Even though E-banking has a lot of benefit in delivering service to both customers and bank. In Ethiopia several challenges hindered customers and banks easy access to enjoy electronic banking that helps to reduce cost and times with the technological advancement in banking sector which has been entertained elsewhere in Africa and the rest of the world. This is due to lack of awareness or competition among banking industries, poor internet access. 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 sectors (Ayana, 2012).

The introduction of electronic banking in to the banking sector is to bring extra opportunities to the customers there by to enhance the banks' profitability. Unless this technology bring increase customer satisfaction than the traditional brick and mortar branches customer may perceive as the same as different branches rather than a new means of delivery channels (Worku, etal,2016).

Electronics banking has several benefits like transferring money, collecting receivable, paying bill, productivity gains, transaction cost reduction, customer service improvement and at the same time establishing a means to control the overall activities on bank accounts (Abraham 2012).

According to the study of Megersa (2010), there are a number of challenges which commercial banks operating in Ethiopia 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.

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. Even though there are researches conducted related to this topic in Ethiopia and revealed that unavailability of a backbone network connecting the whole country; inadequacy of reliable and secure information infrastructure especially telecommunication infrastructure; sluggish ICT penetration in banking sector; insufficient legal and regulatory support for E-banking etc. are the major current challenges of E-banking in the country, this study attempts to fill this gap and contributes to the literature on the challenges and opportunities of electronic banking service in Ethiopia.

Those studies did not include the current challenges of E-banking because these studies were conducted before eight and six years. There is different development in connection with E-banking like increase of customer's interest in using this technology, improvements in the E-banking service, and improvements in the ICT.

By pointing out the past research gaps and its important this research would like to examine the current challenges and opportunities of E-banking especially in the United and Wagagen Banks.

#### **1.4. Research question**

Based on the stated research problem the paper has the following research questions.

- What are the challenges of E-banking in United and Wogagen banks?
- What are the possible opportunities for customer in the use of E-banking service in the two commercial banks under study?



- What are the significant factors that affect customers to use E-banking service in the two commercial banks under study?
- How organizational and technological factors affect customer to use E-banking service in the two commercial banks under study?

## **1.5 Objectives of the study**

### **1.5.1 General Objective**

The general objective of the study was to assess and identify the challenges and opportunities of adoption and development of E-banking technology in the case of United and wogagen banks.

### **1.5.2 Specific Objectives**

Apart from the above general objective the study have the following specific objectives that addressed in the study.

The specific objectives of the study were;

- To explore the current practice and extent of adoption of E-banking service in United and Wogagen banks
- To identifies the major and significant challenges of E-banking among the consumer and the bank side in the case of United and Wogagen banks.
- To show the current opportunities of E-banking service in the two commercial bank under study.

## **1.6. Significance of the study/importance**

Since E-banking system is in an infant stage in Ethiopia, by investigating the different challenges and opportunities for the adoption of this service delivery channel and by recommending solutions for the identified problems, this study will help first banks to benefit from the adoption of this technology to provide efficient and effective financial service for its customer and strengthen their business.

Secondly, the finding of this paper will have a great importance in filling the knowledge gap that exists on the customers and the bank on the area of E-banking, it's significant and means of adoption.

Thirdly, it helps to fill significant knowledge gaps about E-banking landscape in Ethiopia; thereby it will give insight to researchers and students about the problem and stimulate further investigation of the issue.

Finally for new researchers, this study will serve as a standing stone and be a base for theoretical and empirical concept for their further study in the same title and concept

### **1.7 Limitation and Scope of the Study**

The study focused only on the current challenges and opportunities of E-banking in the case of United and Wgagen banks. It does not cover the challenges on the remaining 15 commercial banks in Ethiopia. Therefore, the study was limited on the two commercial banks.

In addition the study focused on investigating the challenges and opportunities of E-banking faced by the customers in adoption and the bank side implementation in the case of United and Wogagen banks. Conceptually; it merely focused on the challenges faced by customer and employee of the banks in E-banking practice it did not include issues other than the stated concepts and other related issues which are directly related to the topic of the study.

Furthermore the quality of the output of this study depended on the genuine responses from the respondent and the large sample size due to the available cost and time the study conducted on the selected branch of the two commercial banks. In addition, shortage of time and lack of sufficient fund may have its own impact on the qualities of the study output.

### **1.8 Organization of the Research Paper**

The study is organized in to five chapters. The first chapter states the general introduction of the study. Chapter two presents the literature review regarding the research area and sets out the theoretical foundation for the research . The third chapter outlines the research

methodology. The research results and discussions are presented in chapter four. The last chapter draws conclusions and recommendations.

## **CHAPTER TWO: LITERATURE REVIEW**

In this chapter the theoretical part and empirical parts of past literature was discussed in detail from the introduction of E-banking to research conducted on the world and in Ethiopia related to the challenge and opportunity of E-banking services.

### **2.1 Theoretical review**

#### **2.1.1 Introduction to information technology**

Information Technology has become a necessary tool in today's organizations. Banks today operate in a highly globalized, liberalized, privatized and a competitive environment. IT has introduced new business paradigm. It is increasingly playing a significant role in improving the services in the banking industry. Indian banking industry has witnessed a tremendous developments due to sweeping changes that are taking place in the information technology. Internet Banking refers to a system allowing individual customers to perform banking activities at off-bank sites such as home, office and other locations via internet based secured networks. Internet or online banking through traditional banks enable customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments and stop-payment requests, and some even offer online loan and credit card applications (Okoye, 2013).

Internet banking is a web-based service that enables the banks authorized customers to access their account information. It permits the customers to log on to the banks website with the help of banks issued identification and personal identification number (PIN). The banking system verifies the user and provides access to the requested services, the range of products and service offered by each bank on the internet differs widely in their content. The banking industry can kill two birds with one stone that is with help of technology. Tremendous progress took place in the field of technology which has reduced the world to a global village and it has brought remarkable changes in the banking industry.( Kumari,2016).

### **2.1.2 Definition of E-banking**

Daniel (1999) defined Internet banking services as major information services of a bank to serve its customers via the Internet. Internet banking permits consumers to carry out usual banking transactions on a computer which is equipped with Internet connection.

Electronic banking is a system where banking services are provided electronically to Bank customers and it has created a new path in doing the banking businesses-banking is a product designed for the purposes of online banking that enables users to have easy and safe access to his / her bank account. E-banking is a safe, fast, easy and efficient electronic service that enables you access to bank account and to carry out online banking services, 24 hours a day, and 7 days a week. With this service you save your time by carrying out banking transactions at any place and at any time, from your home or office, all you need is internet access. E-banking enables accurate statement of all means available in users bank account, Statement of current account, credits, overdrafts and users deposits, Execution of national and international transfers in various currencies, execution of all types of utility bill payments (electricity, water supply, telephone bills, etc.), Carrying out customs payments, electronic confirmation for all transactions executed by E-banking ,and management of your credit cards .Electronic banking, popularly known as E-banking, is a service provided by the bankers, that allows customers to carry out all their banking transactions like, financial transactions, deposits, withdrawals, paying bills and to access the his/her/its account information, through the use of electronic channels like Computers, Mobiles, ATMs, Television and other Electronic devices(Daniel, 1999).E-banking, is also known as internet banking or virtual banking or online banking or web banking, provides, convenience their customers in accessing banking facilities from the comfort of their home or office without having to physically visit their bank (Okoye, 2013).

It also known as electronic funds transfer (EFT) is simply the use of electronic means to transfer funds directly from one account to another, rather than by check or cash. Electronic banking can also be defined as a variety of the popular services provided by banks. E-banking is an electronic connection between bank and customer in order to prepare, an age and control financial transactions (Burr, 1996).

### **2.1.3 Kinds / Forms of E-banking**

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

The description of the above mentioned tools/channels are as follows: -

#### **2.1.4 Plastic cards**

##### **2.1.4.1 Debit cards: -**

Debit card is a banking card enhanced with ATM and POS features so that it can be used at merchant locations. Debit cards allow you to spend only what is in your bank account. It is a quick transaction between the merchant and your personal bank account. A debit card is linked to an individual's account, allowing funds to be withdrawn at the ATM and point of sale without writing a check. When using a debit card to pay for goods and services, the purchase amount is deducted from the cardholder's checking account. The types of debit card include online debit card and offline debit card. With offline debit card, debit is not made immediately. Benefits of using a debit card include making the payment process at the checkout counter quicker and more convenient, eliminating the need to carry a Check book and a lot of cash, using it at locations where personal checks are not accepted, and reducing the possibility of loss or theft of cash (Okoye, 2013).

##### **2.1.4.2 Prepaid debit cards**

These are debit cards not usually linked to a customer's 'account. They must be funded before being used by cardholders. Prepaid debit cards are identified with such names like cash cards, value cards, and Naira cards etc. prepaid cards can be used as gift cards, students ID cards, Government payment card, payroll card, Bursary card, insurance cards, travel cards etc. (Kassahun , 2016).

##### **2.1.4.3 Credit Cards**

A credit card is different from a debit card in that it does not remove money from the user's account after every transaction. In the case of credit cards, the issuer lends money to the consumer (or the user) to be paid to the merchant. A credit card allows the consumer to

revolve their balance at the cost of having interest charged. The parties involved in a credit card transaction include cardholder, card issuing bank, merchant, acquiring bank, independent sales organization, merchant account, credit card association, transaction network, and affinity partner (Kassahun , 2016).

### **2.1.5 Automated Teller Machines (ATM)**

This is a computerized telecommunications device that provides the customer of a financial institution with space to financial transaction in a public space without the need for a human clerk or bank teller. Using an ATM, customers can access their bank accounts in order to make cash withdrawals and check their account balance. ATM's rely on authorization of a financial transaction by the card issuer or other authorizing institution via the communications network. Many banks charge ATM usage fees for transactions (Kassahun, 2016).

### **2.1.6 Point-of-Sale Transfer Terminals (POS)**

The system allows consumers to pay for retail purchase with a check card, new name for debit card. This card looks like a credit card but with a significant difference. The money for the purchase is transferred immediately from account of debit card holder to the store's account (Malak, 2007).

Internet / extranet banking-According to Booz, Allen & Hamilton (1999), "Internet banking" refers to systems that enable bank customers to access accounts and general information on bank products and services through a personal computer (PC) or other intelligent device(Booz, Allen and Hamilton,1999).

**Mobile banking:-** can be defined as an occurrence when customers access a bank's networks using cellular phones, pagers, personal digital assistants, or similar devices through telecommunication wireless networks. It means performing banking activities which primarily consists of opening and maintaining mobile/regular accounts and accepting deposits; furthermore, it includes performing fund transfer or cash-in and cash-out services using mobile devices (NBE Directive, FIS-01-2012).

**Tele-banking:** - Telephone Banking service is provided by phone. To access an account it is required to dial a particular telephone number and there are several options of services. Options included; Checking account balance, funds transfer between current, savings and credit card accounts Bill payments, Stock exchange transaction receive statement via fax loan payment information.

### **2.1.7 Organizational challenges of E- banking**

Daghfous and Toufaily (2009) directed a study on the achievement and basic calculates selection of E-banking by Lebanese banks. The exploration was directed on the components that can prompt to achievement the appropriation of E-banking and alternate variables that can constitute as boundary to its selection, it concentrate on the authoritative, auxiliary and vital elements which can quicken or, actually, moderate the reception of this electronic mode. Lebanese market, with an aggregate of 57 banks, 31 of them work globally and 26 are entirely nearby were utilized to assemble information.

The consequences of their study demonstrates that the authoritative challenges (bank measure, utilitarian divisions, specialized staff, specialized infrastructure, thought dangers, leaders' global experience and dominance of advancement) are challenges which apply noteworthy effect on the reception of E-banking, among the basic qualities, the outcome established that inner mechanical environment of the bank is an essential calculate deciding the appropriation of E-banking, additionally the outcome demonstrates that banks which are creating in the universal scale will probably embrace E-banking developments.

The other expressive contextual investigation examination led by Humphrey (2008) on 'Components affecting the reception of internet Banking in Oman, expected to recognize the fundamental potential variables or hindrances that are as of now restraining the fuse or selection of E-trade applications in the Omani Banking area. Information, utilized as a part of their study was gathered utilizing semi organized meetings and study survey and in addition checking on some bank archives. The consequences of their study give a

Pragmatic picture about the reception of E-Commerce applications in the center money related part space of Oman. One of the fundamental discoveries is that security and information secrecy issues have been a noteworthy hindrance. The E-banking area was hesitant to utilize E-



trade applications as they felt that exchanges led electronically were interested in programmers and infections, which are outside their ability to control. Absence of top administration support is the other repressing variable in the appropriation of electronic trade applications according to their finding.

The investigation of Mayer (2008) on critical success challenges (CSF) (CSF) in E-banking directed in United Kingdom, expects to decide the basic issues identified with budgetary segment associations when they build up organizations on the internet. The overview strategy was utilized by specialists who focus on the budgetary area in the UK. The study demonstrates that Understanding the CSFs in E-banking is vital for senior administration of banking related associations, since it would possibly help them enhance their vital arranging process. The investigation of the study shows two noteworthy sorts of measurable examinations were led, expressive factual examinations and variable examination. In unmistakable examinations, the components (or challenges) were positioned altogether of their mean score, the most elevated score being the most vital et cetera. The main six considers request of significance were: easy to use site, frameworks security, support from top administration, quick responsive client benefit, advancement of electronic business inside association, and unsurpassed accessibility of administrations and fast conveyance of administrations.

Consider investigation, which was done to aggregate together, related challenges to reveal components (regarding element examinations), observed the accompanying elements to be basic for the achievement in E-banking. Issues identified with hierarchical adaptability and speed of administrations conveyance was observed to be at the highest point of the significance list. Issues identified with authoritative adaptability and speeds of administrations conveyance were observed to be at the highest point of the significance list. Business procedures and frameworks joining and improved client administrations were next in the rundown of significance.

The investigation of Kim (2010) on the appropriation of electronic banking: hidden purchaser conduct and basic achievement variables led in Estonia was expected to think about the further comprehension of, how customers see electronic Banking in the prime of intuitive diverts in Estonia, as Estonia is globally eminent for being a pioneer in the acknowledgment of new advancements. A progression of a top to bottom meetings was led with driving industry

specialists in Estonia. The determination basis for the respondent was essentially their association with the advancement of Internet Banking frameworks from the beginning of its rise. The overview directed for this examination tended to six distinct issues affecting the selection of Internet Banking (Better costs, Recommendations, Better administration, Marketing endeavors, Better get to and higher security). The most essential figures beginning to utilize Internet Banking are above all else better access to the administrations (accommodation), better costs and higher security. Better administration (i.e. leaning toward self-benefit over office administration) was additionally of over the normal significance. Two elements that the respondents did not consider significant to their selection choice were banks' advertising exercises and individual proposals from companions and associates.

Likewise the overview directed six primary deterrents (PCs are troublesome, no entrance to internet, internet Banking is costly, low security, have had zero chance to attempt and I lean toward individual contact) in embracing Internet Banking (aftereffects of a preparatory study, 100 respondents), the most vital variables disheartening the utilization of Internet banking are absence of Internet get to and not having an opportunity to experiment with Internet Banking in a sheltered situation. At long last the exploration demonstrates that Banking exercises alone may not be adequate in accomplishing development if general foundation, financial environment and government activities are not strong.

The examination directed on recognizing the attitudinal, social and saw behavioral control figures that may impact the reception of Internet Banking by Howcroft (2012) depended on theory of planned behavior (TPB) and the diffusion of innovations theory (DIT) created by a past research in Singapore. The point of the study was to gather South African information keeping in mind the end goal to try out the theories in regards to the elements, which influence appropriation of Internet Banking and contrast these outcomes and those gathered in different nations. Online poll was utilized to gather exact information and the aftereffects of the study demonstrates that aim to receive Internet Banking can be anticipated by attitudinal variables, saw behavioral control elements to a lesser degree, and not by subjective standards. Every single attitudinal component aside from banking needs is observed to be noteworthy, with intricacy and hazard demonstrating a negative relationship.

### **2.1.8 Strategic Challenges of E-banking**

Karjaluoto (2012) demonstrated that banks have the decision to offer their Banking benefits through different electronic conveyance stations innovations, for example, Internet innovation, video banking innovation, phonE-banking innovation, and ATM innovation. They likewise showed that Internet innovation is the fundamental electronic dispersion divert in thE-banking industry. As it were, E-banking as an internet based banking that includes the arrangement of Banking administrations, for example, getting to accounts, exchanging stores amongst records, and offering an online monetary administration. Turban (2013) claims that in the 1990s E-banking was underutilized as business associations utilized it just to showcase their items and administrations. Rogers (2011), analyzed client introductions and utilization of monetary appropriation directs in the Australian money related industry, found that all the more as of late most budgetary foundations, confronted with aggressive weight after the presentation of deregulation in 1983, have reexamined their procedures to take full favorable position of IT.

Rafiu (2007) opines that the test to extend and keep up banking piece of the pie has impacted many banks to put more in improving utilization of the Internet. The development of E-banking had made many banks reevaluate their IT procedures in aggressive markets. These finding recommends that the banks that fail to react to the development of E-banking in the market is probably going to lose clients and that the cost of offering E-banking administrations is not exactly the cost of keeping branch banking.

This idea was likewise affirmed in a study led by Jasimuddin (2010) analyzed the part of E-banking in Saudi Arabia. He demonstrated that the greater part of Saudi banks had exploited Internet innovation to build up sites yet few offered E-banking administrations. He proposed that if the Saudi Arabian banking industry wished to be effective in the worldwide economy it would need to coordinate Internet innovation into its Banking technique.

Ayo (2009) explored the possibilities of internet business in light of ability, motivation and opportunities (AMO) model and watched that practically all organizations have online nearness. The paper reported the inspiration and open doors for internet based business as low in light of absence of e-Payment foundation and access to information and communication technology (ICT) facilities. Additionally, in an exact appraisal of client acknowledgment of internet business did in Germany, Buse and Tiwari (2009) watched that: the most noteworthy

versatile clients are best administration, trailed independent from anyone else utilized, salaried class, understudies and others. Government workers were found not to disparage portable E-banking; the most supported explanation behind completing versatile E-banking is universality, next is review of ledger, trailed by promptness; and the most noteworthy dread of clients about portable E-banking is that of frailty, next is cost, and uncomfortably. Mahdi and Mehrdad (2010) utilized chi-square to decide the effect of E-banking in Iran and their discoveries from the perspectives of clients is that, E-banking cause higher focal points to Iranians. At the end of the day, Iran banks give benefits that the clients are determining fulfillment with specific reference to the utilization of E-banking. In a comparable study, Jayawardhena and Foley (2010) investigate E-banking as another.

### **2.1.9. Technological challenges**

According to the study conducted by Babatunde, and Adebisi (2012) technological challenges include technological aspects such as research and development activity, automation, technology incentives and the rate of technological change. They can determine barriers to entry, minimum efficient production level and influence outsourcing decisions. Furthermore, technological shifts can affect costs, quality, and lead to innovation. Specifically, this study investigates how technological invention, advancement in technology, availability of the state of the art technology, nature of technological changes and diversity of technology affect strategic decisions of manufacturing firms. A technological innovation can have a sudden and dramatic effect on the environment of a firm. Firstly, technological developments can significantly alter the demand for an organization's or industry's products or service (Barnat, 2005,). According to Barnat (2005) technological change can decimate existing businesses and even entire industries, since it shifts demand from one product to another. Moreover, changes in technology can affect a firm's operations as well its products and services. He further said these changes might affect processing, methods, raw materials and service delivery. Therefore, marketers should keep track of the advancement and invention in technology, nature of changes in technological environment as well as the diversity in technology in their operating environment.

### **2.1.10 E-banking System in Ethiopian Banking Industry**

According to the study conducted by Gardachew, the appearance of E-banking in Ethiopia goes back to the late 2001, when CBE introduced the service for local users with its eight ATMs located in Addis Ababa (Gardachew, 2010)

#### **2.1.10.1 E-banking Services in the United Bank**

United Bank S.C is the first to introduce tele-banking including text messages or SMS by the end of 2008. Currently, United Bank starts to deliver E banking services. Like ATM, internet, mobile and agent banking. United Bank among the commercial bank in Ethiopia that provide Card Banking Services through ATM & POS. United is pioneer in providing money send/receive service on ATM. United has started rendering MasterCard C and VISA services and United Bank offers its customers with Debit Cards (i.e. Hiber Card) and its customers can use these cards for withdrawal of cash and shopping from hi/her account through any of his/her ATM and POS placed at convenient locations. United bank is a pioneer Bank in the country to provide SMS and Internet Banking services to its customers.

state of the art Hibir Mobile and Hibir Online Banking services are its customers 24 hours link to their account information with view of all banking transactions that enables customers to access details on dealings regarding current, saving and overdraft accounts, loan particulars, Letter of Credit, Check book status, exchange rate value of foreign currencies and many other relevant details to keep customers abreast of all customers financial demands they have with the bank.(www.unitedbank.com.et.Annual report, 2017).

Moreover, using United Bank new upgraded Online Banking Services customers can transfer funds from one of their account to another or to other United Bank customer's account, effect local remittances, set standing instructions on certain recurrent transactions and upload bulk payments such as salary of employees. United Bank online Banking Service will enable its customers to access and print a bank statement free of charge (real time) without coming to any of United Bank branches (united bank annual report,2017)).Using its Hibir Online and Hibir Mobile services United offers the following E-banking services. Balance Enquiry, Mini Statement, Viewing Forex rate, fund Transfer. Fund Transfer to own account (s) in United Bank Fund transfer to other person's accounts in United Bank Local Remittance from account,

Recurrent Payments (standing instruction), Viewing loan balance, Loan Repayment Amount and LC's Outstanding, Check Stop Payment request, Check Book Request, Check Status Request, Utility Payment, PIN management and authorization, Bulk payment, Branch or ATM location information, Account.

According to the United Bank's (2017) annual report the number of ATMs and POS live as at June 30, 2017 reached 69 and 212, respectively. During the just ended financial year, a total of Birr 851 million was transacted via such channels which was an impressive increase of 15.75% compared with last year same period figure of 735 million transactions. Meanwhile, United Bank acquires Visa, MasterCard and China Union Pay (CUP) international cards through its merchant outlets. Total capital of the Bank reached Birr 2.52 billion at the end of June 2017.

### **2.1.11. Challenges in E-banking in general**

**1-Implementation of global technology:** There is a necessity to have a quite level of infrastructure and good human capacity building prior the developing countries may adopt global technology for their local needs. In developing countries, many clients either do not trust or do not access to the needful infrastructure that is to be able to process electronic payments (Kaur & Rajneesh, 2014).

**2- Security Issue:** is one of the important issues for E-banking. In the case of any monetary damages to the clients, the bank's reputation is spoiled. The security risk is the main threat from the hackers, who can use several types of information of public peoples for reason of criminal activity. While Sometimes hackers hike the passwords of the clients cause to theft their money or some hidden or secret information (Kazmi & Hashim, 2015).

**3- Strengthening the public support:** In developing countries, in the previous year's most e-finance initiatives have been the result of joint efforts between the non-public and public sectors. If the public sector does not have the necessary resources to implement the projects it is important that joint efforts between public and non-public sectors along with the multilateral agencies like the World Bank, be developed to enable public support for e-finance related initiatives(Kaur & Rajneesh, 2014).

**4- Trust Issue:** Trust plays a key role for E-banking, but the lack of trust is the main issue in the growth and development of electronic banking alerts, security alerts and reminders, and Balance and Transaction notifications (Kazmi & Hashim, 2015).

### **2.1.12 Opportunities of E-banking for the customers**

The study that was conducted by Kassahun Girma stated the benefit of E-banking for Customers as follows: the main benefit from the bank customers 'point of view is significant saving of time by the automation of banking services processing and introduction of an easy maintenance tools for managing customer's money.

The main advantages of E-banking for corporate customers are as follows:-

- ❖ Reduced costs in accessing and using the banking services.
- ❖ Increased comfort and time saving — transactions can be made 7x24, without requiring the physical interaction with the bank.
- ❖ Quick and continuous access to information: Corporations will have easier access to information as, they can check on multiple accounts at the click of a button.
- ❖ Better cash management: E-banking facilities speed up cash cycle and increases efficiency of business processes as large variety of cash management instruments is available on internet sites.
- ❖ For example, it is possible to manage company's short term cash via internet banks (investments in over-night, short- and long term deposits, in commercial papers, in bonds and equities, in money market funds). Private customers seek slightly different kind of benefits from E-banking.
- ❖ Reduced costs: This is in terms of the cost of availing and using the various banking products and services.
- ❖ Convenience: All the banking transactions can be performed from the comfort of the home or office or from the place a customer wants.
- ❖ Speed: The response of the medium is very fast; therefore customers can actually wait till the last minute before concluding a fund transfer.
- ❖ Funds management: Customers can download their history of different accounts and do a "what-if" analysis on their own PC before affecting any transaction on the web. This will lead

to better funds management. In addition, Withdrawing cash customers can also have mini banks statements balance inquiry at these ATMs. Through Internet Banking customer can operate his account while sitting in his office or home. There is no need to go to the bank in person for such matter- Banking has also greatly helped in payment of utility bill. Now there is no need to stand in long queues outside banks for his purpose.

All services that are usually available from the local bank can be found on a single website. The Growth of credit card usage also owes greatly to E-banking. Now a customer can shop worldwide without any need of carrying paper money with him and banks are available each day in a week and they are only a mouse click away.

### **2.1.13 Importance of E-banking for the Bank**

Electronic Banking as already stated has greatly serviced both to the public and the banking industry. This has resulted in creation of a better enabling environment that supports growth, productivity and prosperity. Besides many tangible benefits in the form of reduction of cost, reduced delivery time, increased efficiency, reduced wastage, banking electronically controlled and thoroughly monitored environment and discourage many illegal and illegitimate practices associated with banking industry like money laundering, frauds and embezzlements. Further E-banking has helped banks in better monitoring of their customer base. This is a useful tool in the hand of the bank to device suitable commercial packages that are in conformity with customer needs. As E-banking provide opportunity to banking sector to enlarge their customer base, a consequence to increase the volume of credit creation which results in better economic condition. Besides, E-banking has also helped in documentation of the economic activity of the masses (Mahdi, 2004).

### **2.1.14 Measures to be taken for safer EE-banking**

Internet banking allows us to transact in a fast and convenient way. Unlike traditional banking to make us wait in an unending queue, internet banking functions are just a few clicks away. However, this facility needs safety and secured way of transacting as the risk of phishing is high. The following are some of the measures to ensure secure banking:

***Password:*** We need to change our passwords at regular intervals in order to keep our accounts safe. One of the best practices is to have a password as a combination of upper case and lower



case letters, numbers and special characters usage of public computers Logging in to bank account from cyber cafes or libraries is not recommended by banking experts. Chances of passwords being traced or seen by others are usually high in such places. One should make sure to clear the cache and browsing history, and delete all the temporary files from the computer. Also, never allow the browser to remember ID and password; this leads to hacking.

**Confidentiality;** No bank will ask for any confidential information via phone or email. We have to beware of apparent phone call from the bank or an email requesting such details; do not give out login information. Sharing login credentials with friends and family is not advisable either.

**Regular check; is must Check your account after making any transaction online.** Verify whether the right amount has been deducted from your account. If you see any discrepancies in the amount, inform the bank immediately.

**Anti-virus software:** In order to protect your computer from new viruses, ensure that you always use licensed anti-virus software. Pirated versions of anti-virus software may be available for free, but they may fail to protect your computer from new viruses prevalent in the online world. In addition, you will get notifications for updates in the software periodically. Make sure that you keep your anti-virus updated, so that your confidential information is always protected.

**Disconnect the internet connection when not in use:** Most broadband users do not disconnect the internet connection on their computer when they are not using it. Malicious hackers can access your computer via an internet connection and steal your confidential banking information. To keep your data protected, ensure that you disconnect from the internet when you do not require it.

**Type your internet banking URL:** It is a safer to type your bank URL in the address bar of the browser than clicking on links given in an email.

There are instances of fraudsters sending emails with fraudulent websites links that are designed exactly like the bank's original website.

Once you enter your login details on such a website, they may be used to access your account and steal your money. While logging on, check for 'https://' in the URL and ensure that it is your bank's authentic website.(Sriram, 2012).

Generally e- banking is challenged by several challenges and it also has several opportunities as mentioned in the empirical studies of this work. The main challenges listed are lack of banking services through the web or other electronic means such as using mobile phone, data and network security and privacy, lack and limitation of government policies, regulations and e-commerce laws, as well as legislation to protect workers and to make the Internet secure, .weak telecommunications. Therefore, I have discussed the main current challenges and opportunities of E-banking in the Ethiopian banking industry, especially in Wegagen and United banks. This is because of the availability materials and my interest.

## **2.2 Empirical Reviews**

A number of empirical studies examined the challenges and opportunities of E-banking service, adoption and implementation in both developed and developing countries in general and also studies in Ethiopia are available. A brief review of each of different studies is presented in the following discussions.

The study conducted in Bangladesh on the challenge of E-banking adoption and implementation by M. M. Rahman (2008). The study result point out that despite huge demand from the business community as well as the retail customers particularly the urban customers, electronic banking (E-banking) is still at a budding state due mainly to a number of constraints such as unavailability of a backbone network connecting the whole country; inadequacy of reliable and secure information infrastructure especially telecommunication infrastructure; sluggish ICT penetration in banking sector; insufficient legal and regulatory support for adopting E-banking and so on.

Another study conducted by Khalfan et al., (2006) on 'Factors influencing the adoption of internet banking in Oman. Data, used in their study were collected using semi structured interviews and survey questionnaire as well as reviewing some bank documents. The results of their study provide a Pragmatic picture about the adoption of E-Commerce applications in the

core financial sector domain of Oman. One of the main findings is that security and data confidentiality issues have been a major challenge. The banking sector was reluctant to use E-commerce applications as they felt that transactions conducted electronically were open to hackers and viruses, which are beyond their control. Lack of top management support is the other inhibiting factor in the adoption of electronic commerce applications as per their finding.

Another study conducted by Seyed (2013) on studying the effect of E-Banking on Bank Profitability; Case Study Selected Asian Countries stated E-Banking as one of the gifts to human beings by computer technology. The study covers four banks that have adopted online banking in Asian selected countries between 1990 and 2010 with support of a short-run co-integration relationship after allowing for the heterogeneous country effect. The long-run relationship is estimated using a full-modified OLS. By using bank specific and macroeconomic control variables, the researcher investigate the impact of internet banking on the return on assets (ROA) and equity (ROE). Accordingly, the results show that internet banking variable has had a positive effect on the performance of the banking system.

Another study on E-banking and profitability was done in Nigeria by Abaenewe et al (2013) investigated the profitability performance of Nigerian banks following the full adoption of electronic banking system using judgmental sampling method was adopted by utilizing data collected from four Nigerian banks. The profitability performance of these banks was measured in terms of returns on equity (ROE) and returns on assets (ROA). With the data collected, we tested the pre- and post-adoption of E-banking performance difference between means using a standard statistical technique for independent sample at 5 percent level of significance for performance factors such as ROE and ROA. The study revealed that the adoption of electronic banking has positively and significantly improved the returns on equity (ROE) of Nigerian banks. On the other hand and on the contrary, it also revealed that e-banking has not significantly improved the returns on assets (ROA) of Nigerian banks. The findings of this study have motivated new recommendations for bank customers, bank management and shareholders with regard to electronic banking adoption for banking operations.

In Ethiopia some studies have focused on the adoption, opportunities and challenges of electronic banking services on some individual banks while few studies focus on ATM banking service usage which is one of the electronic banking services categorized under card banking system.

A study conducted by Wondwossen &Tsegai (2005) on the challenges of E-banking adoption in selected commercial banks in Ethiopia observed that the following reasons considered being the hindrance factors for the use of electronic payment system in Ethiopia. These hindrance factors include, lack of appropriate infrastructure for E-payment, lack of internet facilities with customer and learning how to interact with bank website. Moreover, factors that affect adoption of E-banking in the country regarding the technological factor, organizational factor and Environmental factor.

Another study conducted in Ethiopia on Challenges and Opportunities of Electronic Banking in Ethiopian Banking Industry by Kassahun (2016) indicated that, the major challenges Ethiopian banking industry faces in the adoption and development of E-banking technology are, high cost of implementation of E-banking, lack of customer awareness, limitation in network infrastructure and internet related support services, low levels of computer literacy, low level of ICT infrastructure, lack of sufficient government support, legal and regulatory differences with cross-country security risk and lack of trust. The study identified operational and services benefits from adopting and developing of E-banking technology such as increase productivity, reduces paper work, reduce transaction cost, generate foreign currency, increase reliability and reducing errors as operational benefits and facilitate development of new products, facilitates marketing and market access, improve customer service, reduce long queues in banking halls, increase accessibility of the bank services, create good relation among banks and clients and encourages price transparency as services benefits.

The study on the impact of E-Banking on financial performance in Ethiopia, for the case of commercial banks is done by Abebaw (2020) and result of the study supports that Mobile Banking is statistically significant for capital, Non-performing asset, and deposit performance.

ATM banking also has statistical significant effect on profit, capital, Nonperforming asset, and deposit performance. Similarly, POS tanking has statistical significant on profit, capital, and deposit performance. Card tanking is also has statistical significant for profit, Non-performing asset, and deposit performance. The overall result indicates that IT investment, in this case E-Banking services, has effect on Banks major financial performance. As effect of E-Banking product differ on Banks financial performance measures to the in magnitude and direction.

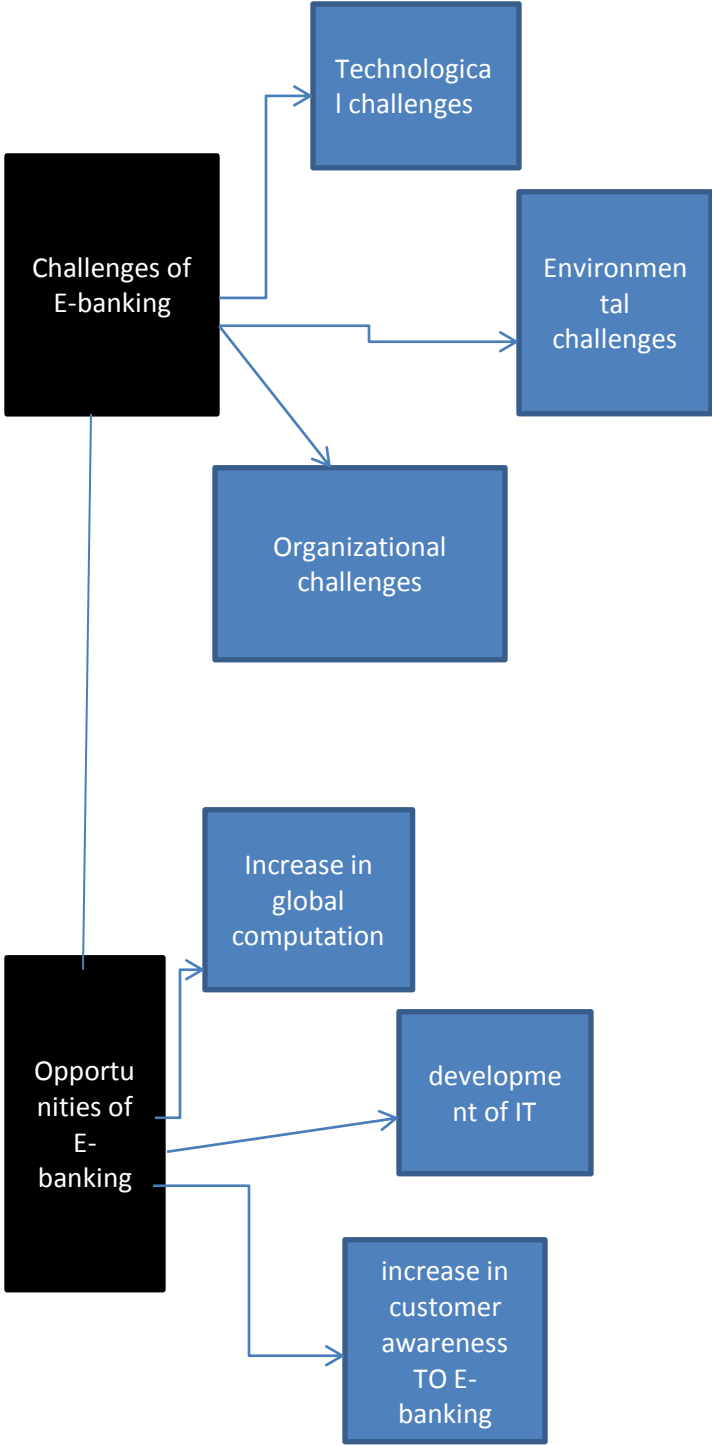
The Study conducted by Dula ( 2019) on the E-Banking Service Quality of Ethiopian Banks depicted that a significant proportion of the sample respondents e-banking services like POS and Internet banking services potential were not adequately used by customers and the major problem that customers experienced on mobile banking was the lengthy steps in processing transactions.

From the above review literature this paper identified different factor are the challenges of E-banking. Different researchers use different variable that affects E-banking in different countries. But most of those variables are included in the three major factors those are organizational challenge, technological and environmental challenge. This paper used these three major factors as major factors for the challenges of E-banking in the case of United and Wogagen banks. All the remaining major factors are parts of the three factors.

### **2.3 conceptual framework of the study**

The conceptual farm work of the study shows that the causal relationship between the major challenges and opportunities of E-banking and its growth. This can be shown by the following figure.

Figure 2.1 conceptual framework of the study



## **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

### **3.1 Introduction**

This chapter presents the methodology part of the research, it covers the research approach and design, methods and procedures used for data collection and analysis concerning the current Opportunities and Challenges of E-banking services. The chapter also discusses the targeted population, sample and sampling techniques, instrumentation and research ethics.

### **3.2 Research Design**

The research design is the blueprint that shows research type selection, appropriate data type to be collected and method/s of data analysis.

Commonly, there are three types of research. One is descriptive which is mostly describing the existing situation as it is. The second type is explanatory which is describing relationship or cause and effect among variables. The third type of research is exploratory which is experimental in nature. Because of the nature of the data to be collected and the research question this study employed distributive research design.

### **3.3 Research approach**

There are three approaches that are used in conducting a given research in terms of the type of data used. These are quantitative, qualitative and mixed research approach. Quantitative research approach focuses primarily on the construction of quantitative data which is a systematic record that consists of numbers constructed by researcher utilizing the process of measurement and imposing structure. The quantitative research approach employ measurement that can be quantifiable while the qualitative approach cannot be measured.

In mixed research approach inquirers draw liberally from both qualitative and quantitative assumptions. The research conducted this study using mixed research approach; the rationale for combining both quantitative and qualitative data is to better understand the research problem by combining both numeric values from quantitative research and the detail of

qualitative research and to neutralize limitations of applying any of a single approach. The mixed research approach uses separate quantitative and qualitative methods as a means to offset the weaknesses inherent within one method with the strengths of the other method (Creswell, 2009).

In order to attain the objective of the study and answer the research questions, the researcher was adopted mixed research approach. The rationale of using a mixed approach is to gather data that could not be obtained by adopting a single method (Creswell, 2003). Hence, the basis of such approach helps to neutralize the limitations of applying a single approach in connection with the qualitative and quantitative nature of the research questions.

This study was 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 adoption and development of E-banking in the two commercial banks under study. Moreover, this research aims to explain the phenomenon and assess the current practice of E-banking and opportunities. Therefore, Descriptive research is being used to achieve the research objectives.

### **3.4 Study Area**

The area chosen for this study is Addis Ababa because head office of the two commercial banks that represents the whole branches in the country and the central bank of the country are located there and also E-banking experts of the two commercial banks are located at head offices which found in the capital city of the country, Addis Ababa.

### **3.5 Population, Sample Size and Sampling Techniques**

In research methods, population is the entire aggregation of items from which samples can be drawn (Yahiya, 2011 cited on Kassahun, 2016). The populations of the present study the two commercial banks under study i.e. United and Wogagen banks. In order to undertake this study, the researcher purposely sampled twenty branches of the two banks ten from united bank and ten from wogagen bank which are adopted E-banking technological. Those branches are located in Addis Ababa. The researcher chooses to take twenty branches as a sample, because it is often impossible or too much expensive to collect data from all the potential units. The



procedure used for drawing the sample from the available lists was based on their familiarity with E-banking technology i.e. long years services in providing E-banking products to public. Thus, this research paper used purposive sampling method to draw the sample from the population.

### **3.6 Data Source and Collection Method**

The study was conducted by collecting data from both primary and secondary sources. Primary data was collected from the staffs from twenty branches and the IT departments of the two commercial banks under study based on a structurally designed questionnaire. It included both closed ended and open-ended questions, which gives the respondents an opportunity for adequate expression of their view on the questions .In addition, semi-structured interview with the higher official of the two commercial banks E-banking manager's was conducted. In order to get sufficient and reliable data that represents the whole branch of the selected commercial banks both primary and secondary data was collected from each bank at the head office level. Secondary data: different documents, records and reports of the industry, Regulatory organ reports, from web site, books, annual reports and magazines, articles and journals were also analyzed.

In order to collect sufficient data so as to answer the research questions, researcher designed two surveys; the first was a questionnaire to get quantified results. The second survey was interviews aimed to collect data from E-Banking managers. In addition to questionnaire and interview secondary data source has been also used.

#### **3.6.1 Questionnaires**

According to Yin (2003), structured questioners are important method for collecting primary data and that it further allows the researcher to be well focused on the specific research topic. The questionnaire was used because the researcher considered it to be more convenient as respondents could answer at their convenience (See Appendix 1). The questionnaire was developed by the researcher based on the research questions and the literature. The researcher used open and closed-ended type of questionnaires, which gives the respondents an opportunity for adequate expression of their view on the questions. The questionnaire began with an

introductory statement, which specified the purpose of the research as purely academic. Respondents were encouraged being objective in their responses since they were assured of confidentiality.

To determine the probable usefulness of the questionnaire and whether further revision is needed prior to conducting the survey, the questionnaire was pilot tested. The researcher circulated the questionnaire to four postgraduate students and six professional staffs of sampled private commercial directly engaged in E-banking technology. The subjects were asked if they had any problems understanding the questionnaire or have specific comments regarding the questionnaire. The format for responding was through both open-ended and close-ended questions. The subjects were encouraged to be very free with their responses, make suggestions for improvement and outline any difficulties they found. After each questionnaire was accomplished, every question was asked what he/she meant in checking various answers. Comments were solicited on the intelligibility of the questions and what the changes should be done in order to make the questions simpler. These respondents also gave their comments on understanding the instructions about the scaling and the time taken to answer the questions. The test found no grave problems and minor modifications were made to the survey questions based on the response obtained. In addition, the pilot study was conducted to ensure the validity, sequence and relevance of the questionnaire to this study.

As despite in the above, twenty purposely sampled branches and the IT departments of the two commercial banks were included in the survey. The target respondents were professional experts who are in charge of the E-banking technology in sampled two private commercial banks. As per the secondary data (through interview made with E-banking Mangers of the two banks) number of professional expert directly engaged in E-banking technology are 289 (Two hundred eighty nine). A questionnaire is floated to 140 professional staff of twenty branches and IT departments of the two commercial banks that directly involved in the delivery of the E-banking Services. The respondents are considered as they are deemed to be knowledgeable in due course of implementing and running E-banking system in their line of work and could provide important perspectives on its adoption as they are involved in implementation of the project. The survey is to be used through distributing self-administered questionnaires. Random

sampling technique is employed to select respondent from employees of the twenty branches and IT departments of the two commercial banks.

Questions present in the form of affirmative statements, relating to the concepts on E-banking and to identify their intention on the challenge and opportunities for adoption and development of E-banking technology, in such a way to enable measurement of the respondent's opinions. The respondents were asked to indicate their level of agreement on a five point likert scale with the following ratings. Strongly agree (SA; or 5), agree (A; or 4), neutral (N; or 3), disagree (DA; or 2), and strongly disagree (SD; or 1). The numbers were indicated in the questionnaires to provide a feel of ordinal scale measurement and to generate data suitable for quantitative analysis. The questionnaire was a close ended questionnaire to elicit guided responses and for easy analysis and to obtain additional information, the respondents were requested to provide open-ended responses if they have opinions which they feel the researcher would find useful.

### **3.6.2 Interviews**

In addition to questionnaires, semi-structured interviews were conducted with E-banking managers of the two commercial banks to have sufficient information regarding the research problem and with the relevant bodies of the National Bank of Ethiopia (Banking Supervision directorate). The major purpose of this interview was to corroborate certain facts that the investigator already thinks have been established (Yin, 1989; pp. 89). Therefore, Thus, semi-structured interviews were conducted so as to substantiated and improve the results of questionnaires.

### **3.6.3 Secondary data Sources**

The secondary sources of data constituted data gathered from records and reports of the two banks, World Wide Web (www) of the two commercial banks, literature on E-banking, books and journals, and unpublished theses.

The most important use of this secondary data source will be to corroborate and augment evidence from other sources (Yin, 1989; pp. 86). Thus, the document examination helps to

substantiate the patterns that evolved from the data collected via questionnaires and interview, so that the validity of the findings could be enhanced through secondary sources.

### **3.7 Method of Data Analysis**

In order to meet the stated research objectives, the collected data was analyzed based on the nature of the objective. Accordingly, the data collected via questionnaires was analyzed with descriptive statistics using Microsoft excel. Furthermore, Wolcott (1994) cited in Creswell (2003; pp. 184), suggested that qualitative research is fundamentally interpretative i.e. the researcher makes an interpretation of the data. Thus, the data that was collected from the interview and reviews of documents were interpreted qualitatively. To sum, the analysis of quantitative data and interpretation of qualitative data combines to seek convergence among the results (Creswell, 2003).

## CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION

### 4.1 Introduction

The central focus of this study was to address the challenges and opportunities that are faced by E-banking in the case of United and Wogagen banks. In this section, the researcher tried to sum up findings of the study by identifying and analyzing the major factors which are the challenges of E-banking and also possible opportunities in Ethiopian banking industry.

The Respondents were from the selected branch and IT department staffs of the two commercial banks. Of the total 140 questionnaires prepared and administered 130 were effectively answered and collected. Out of the total questionnaire administered 130 (92.85%) of the respondents effectively completed and returned the questionnaires forms. On the other hand of the total of effectively answered questionnaires 120 were found from the branch employees of the two banks while 10 were from the IT department staffs.

In addition to the survey questionnaire, the researcher conducted an interview with key informant supervisors from each work units and reviews some available bank documents regarding E- banking services to complement and crosscheck the reliability of the respondent found from the questionnaires.

### 4.2. Demographics of Respondents

#### 4.2.1 Sex Ratio

The descriptive analyses for demographic profile of respondents which indicated out of 130 respondents 80 (61.53%) were male while the rest 50 (38.46%) were female.

**Table 4. 1** Sex Ratio of the respondents

Sex	Frequency	Percent (%)
Male	80	61.53
Female	50	38.46
Total	130	100.00

Source: own computation (survey data, 2018-2019) .

Sex ratio determination helps to identify which groups is mostly advantageous and challenged in using E-banking.

**4.2.2. Age Ratio**

**Table 4. 2 Age Range of the respondents**

Age	Frequency	Percent (%)
20-30	33	25.38
31- 40	57	43.84
41 – 50	27	20.76
Over 51	13	10
Cumulative	130	100

Source: own computation (survey data 2018-2019) .

From the Table 4.2 it can be seen that from the total respondents, people between aged 20 to 30 years old were 33 which accounts for (25.38%) of the total respondents. Respondents aged between 31 to 40 years old were 57 accounting for (43.84%). Respondents aged in the range of 41 to 50 years old were 23 implying that it accounts for 20.76% of the respondents. Likewise, of the total respondents, 13 (10%) respondents were aged above 51 years old. This data helps to identify which age is mostly using E-banking.

**4.2.3. Marital status**

**Table 4. 3 Marital status of the Respondents**

Marital status	Frequency	Percent (%)
Single	49	37.69
Married	61	46.92
Divorced	20	15.38
Widowed	0	0
Total	130	100

Source: own computation (survey data 2018-2019) .

Regarding the marital status of the samples, 49 (37.69%), 61 (46.92), and 20 (15.38) were single, married and divorced, respectively. The implication of this data is that participants were from all age groups and marital status which helps researcher to have the necessary information in analyzing the data collected from each groups.

#### 4.2.4 Current Educational qualification

Table 4.4 Educational level of the respondents

Educational level	Frequency	Percent (%)
TVET	-	-
Diploma	30	23.07
University Degree	80	61.53
Master's Degree	20	15.38
Above	-	-
Total	130	100

Source: own computation (survey data 2018-2019)

Analysis on the educational level of respondents showed that 30 (23.07%), 80 (61.53%), 20 (15.38%) were found to be diploma holders, university degree holder and second degree holders, respectively. The result revealed that all of the respondents of the assessment were at least high school graduate and above. In other word there was no any respondent whose educational level is below diploma study.

#### 4.3 Program for accuracy and functionality

Table 4.5 Program for accuracy and functionality

Response	Frequency	Percent(%)
Are links and interactive programs checked for accuracy & functionality		
Yes	130	100 %
No	-	-
Total	130	100 %

Source: Compiled from questionnaires

The table above shows that 100 % of the respondents answered yes for the question is links and interactive programs checked for accuracy and functionality. This indicates that checking for the accuracy and functionality of their links and interactive programs helps to solve challenges of E-banking activities.

#### 4.4 Training facilities provided for employees about E-banking.

Table 4. 6 Training on E-banking

Technology awareness	Frequency	Percent (%)	Cumulative
Is electronic banking training provided to employees?			
Yes	127	97.67	97.7
No	3	2.30	2.3
Total	130	100	100

Source: Compiled from questionnaires

Depending on the information gathered from the bank managers and employees 127 or 97.7 % answered yes on the question, is electronic banking training provided to employees. While only 3(2.3%) answered no on the same question.

#### 4.5 A trade market for E- banking in the branches.

Table 4. 7 E-banking trade

Response	Frequency	Percentage
Yes	129	99.23
No	-	-
Undecided	1	0.769
Total	130	100

Source: Compiled from questionnaires



The above table indicates that from the total respondents (129) 99.23% answered the banks have a trade market for E-banking while 1(0.76%) of the respondents replied undecided on the question.

#### 4.6 Recent challenges of E-banking on internal user

Table 4. 8 Recent challenges of E-banking on internal user

Response	Frequency	Percentage (%)
is there Recent challenges of E-banking on internal user?		
Yes	125	96.15
No	5	3.84
Total	130	100 %

Source: Compiled from questionnaires

Based on the above table from the total of 130 respondent, 125 (96.15%) answered the existence of challenges in their banks for E-banking service. Among the challenges they described on the open ended question, poor internet speed, the policy and regulation did not allow the private sector to own and develop telecommunication materials were described as the existing challenges.

According to the Ethiopian telecommunication law, no one is allowed to open telecommunication center. It is only in the hand of Ethiopian government. Only five or 3.84 % answered no to the question. Therefore majority of the response state the existence of E-banking challenges in the banks.

#### 4.7 Difference in its challenges among the branches

Table 4. 9 Existence of E-banking challenges among banks branches

Response	Frequency	Percent (%)
Yes	130	100
No	-	-
Total	130	100

Source: Compiled from questionnaires

From the collected response from the questionnaire on the question “is there the difference in its challenges among branches” all respondents answered yes. The challenges of E-banking differ from one branches of the bank to the other.

#### **4.8 Challenges of Adoption and Development E-banking Technology in Ethiopia**

As cited in chapter two, there are so money challenges that negatively affect adoption and growth of the E-banking technology. The factors affecting the successful adoption and growth of new technologies, such as E-banking are common in nature. Such as cost factors, security and trust factors and lack of adequate ICT infrastructure (particularly in developing countries like Ethiopia). However, reasons vary widely among banks and countries and also important to note that challenges to E-banking technology adoption and development work differently according to organizational type and culture.

A total of fourteen questions on challenges of adopting and extending of E-banking technology obtained from different literatures were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point Liker type scales ranging from ‘1’ “Strongly Disagree” to ‘5’ “Strongly Agree”. Statistical results are presented under each section of the factors considered using the table including the number of frequencies, the Mean, Mode and Standard Deviation of the data points. The mean tried to tell the average where the data points fall for each specific variable, Mode indicated most frequently answered points for each specific variable while the standard deviation column showed the variability of the data points for each variable under consideration.

Accordingly, the researcher tried to interpret the Mean and the Mode of the data points. The researcher tried to triangulate and complement the result obtained from the interview and open ended questions with the results obtained from the Likert type statements pertaining to similar variables, when found appropriate.

For analysis purpose challenges are categorized in to organizational, environmental and technological factors according to Tornatzky and Fleisher (1990).

### 4.8.1 Organizational Challenges

Most cited organizational factors in the different literature are; IT users' community; organizational structure; firm's process; firm size; technological capabilities of the organization's members; the technological and financial resources available; process of selecting and implementing the IT; management backing and support for the project(Harrison, 2012).

In this study costs related to implementation and running of E-banking technology, resistance to changes in technology, customer awareness, technical and managerial skills required to implement E-banking technology are considered as organizational factors and the survey result is shown on table 4.12 as follows

Table 4.10 Organizational challenges of E- banking

N <sup>o</sup>	I. Organizational Challenges	number	mean	mode	Std. deviation
1	High cost of implementation of E-banking	130	3.89	5	0.106
2	Lack of customer awareness with E-banking products	130	3.93	5	0.116
3	Lack of technical and managerial skills in implementation and development of E-banking technology	130	4.05	5	0.56
4	Resistance to changes in technology among by Board, top Management and staff ;	130	3.76	5	0.96

Source: Survey result, 2019

The above table shows that high cost of implementing of E-banking technology such as cost of ICT equipment and network, software and re-organization is the major organizational challenge for implementation and growth of E-banking technology in the two commercial banks, in

which the mean score and mode were found 3.89 and 5.00 respectively. This is in line with finding OECD (2004) where high cost of ICT equipment and network, software and reorganization is a factor that hinders adoption of E-banking technology. The respondent also agreed that lack of social awareness regarding E-banking services provided by banks is considered as a factor that negatively affecting the successful adoption and growth of E-banking technology as the average result in the Likert scale is found 3.93. Similarly, an interview script received from E-banking Managers of sampled banks indicates that communities are not aware of the benefits of e-banking technology to the individual as well as to the society as whole. As a result, they are not provoked enough to use E-banking products or services. The finding is in line with Vaithianathan, S. (2010) and Angelakopoulos and Mihiotis (2011) in which all indicted that, the non-familiarity with E-banking technology products and services by customers is the main factor that has a negative influence on the adoption and growth of E-banking technology.

The result further revealed that lack of technical and managerial skills in implementation and development of E-banking technology is considered as factor that has a negative influence on the adoption and growth of E-banking technology in Ethiopia with a mean score of 4.05. Besides, an interview conducted with united banks E-banking manager confirmed that E-banking and E-payment system requires high level of understanding and knowledge on ICT, E-banking on one hand and limited knowledge of about E-banking and how they operate by the banks worker on the other hand create a great obstacle for implementation and growth of E-banking technology. The finding is in line with Vaithianathan, S. (2010) where lack of skilled human in E-banking context is considered as hurdles that prevent pervasive e-commerce adoption in developing countries. The respondent also agreed that resistance to changes in technology by Board, Top Management and staff is considered as challenge for the adoption and growth of E-banking technology as the average result in the Likert scale is found 3.76.

In general, the result revealed that high cost of implementation of E-banking technology, customers unfamiliarity with the E-banking products and their benefits, lack of technical and managerial skills in implementation and development of E-banking technology and resistance to changes in technology by are considered as organizational factors that hinders Ethiopia banks to adopt and develop E-banking technology.

### 4.8.2 Environmental factors

According to Tornatzky and Fleischer (1990) another factors influencing technology innovation is environmental factors. The issues raised in this study in relation with environmental factors are infrastructure, role of government, regulation and law, computer literacy and other are considered as organizational factors and the survey result is shown on table below.

Table 4.11 environmental challenges

N <sup>o</sup>	Technological challenges	number	mean	Mode
1.	Limitation in network infrastructure and internet related support services;	130	3.77	5
2.	Limitation in ICT infrastructure;	130	3.84	5
3.	Lack of adequate coordination, interaction and cooperation between banks and other decision making centers in E-banking context;	130	3.78	5 and 4
4.	Absence of financial networks that links different banks;	130	3.73	4
5.	Frequent power disruption;	130	3.89	5
6	Relative high cost of internet;	130	3.05	5

Source: compiled from the questioner

The above table highlighted that limitation in network infrastructure and internet related support services is the basic external challenge for adoption and growth of E-banking technology in Ethiopia, where the median and mode value are 3.77 and 5.00, respectively as per the response of the sampled participants. Likewise, an interview conducted with all E-banking managers of the two commercial banks indicates that limitation in network infrastructure and internet related support services is a major obstacle to effectively deliver of E-banking services to their customers. This result is consistent with the findings reported earlier by OECD (2004) and Wondwossen and Tsegai (2005). The respondent also agreed that low level ICT infrastructure development in the country having a mean score of 3.85 is one of the obstacles for E-banking development. Since, the E-banking technology requires a generally good infrastructure in terms of communication and information technology. Unless there is a

transformation in infrastructural development in Ethiopia, E-banking technology would not serve its purpose as a successful propagator for financial inclusion.

The result further revealed that most respondents agreed that absence of financial networks that links different banks (Mean = 3.73), lack of adequate coordination, interaction and cooperation between banks and other decision making centers in E-banking context (Mean = 3.78), frequent power disruption (Mean =3.89) are another external factors that hampered adoption and growth of E-banking technology in the two banks under study. Regarding with lack of adequate coordination, interaction and cooperation among banks, an interview conducted with each E-banking managers of the two banks confirmed that there is no adequate coordination, interaction and cooperation between banks and other decision making centers in E-banking context. Nevertheless, United Bank E-banking Manger confirmed that currently six bank named United Bank, Awash International Bank, NIB International Bank, Birhan International Bank, Addis International Bank and Cooperative Bank of Oromia have reached an agreement to share ATM and POS networks.

Finally, with regard to ideas that high internet cost considered as a challenge on average the respondents were found be the mean resulted of 4.05.

#### **4.8.3 Technological Challenges**

Even though there are many benefits associated with adoption of new technology, there are many hindrance technological factors that affect effective implementation and extending of the technology. The issues raised herein under the technological factors were relative disadvantages that hinder banking industries from adoption and development of E-banking technology such as customer fear of risk, security risk, lack of trust with the technology, loss of the audit trail and all of the respondents participated in this study were asked that such factors are consider as challenges that the banks faced while adopting and extending of E-banking technology and the survey result is shown below.

Table 4. 12 technological challenges

N <sup>o</sup>	challenges	number	mean	mode
1.	Users do not trust the E-banking technology provided by banks;;	130	3.93	4
2.	Government can organize and create good plans to support the development of civilian technology innovation.	130	3.95	4
3.	Lack of confidence with the security aspects;	130	4.05	5
4.	Loss of Audit Trail.	130	3.88	5

Source: Compiled from the questionnaire

Responses captured in the above table shows that, the respondents asked whether customers do not trust the E-banking products provided by banks and the descriptive statistics result gives mean value of 3.93, that means the largest number of respondents (43.1%) were agreed with the idea that lack of customers trust with E-banking technology is one technological factor that have a negative impact for adoption and growth of E-banking technology. This result is in line with the finding of Ziad et al., (2009) where lack of confidence in service providers is cognitive hindrance in adoption of ecommerce. According to Delali (2010) consumer's confidence, trust in the traditional payments system has made customers less likely to adopt new technologies and new technologies will not dominate the market until customers are confident that their privacy will be protected and adequate assurance of security is guaranteed and also new technologies also requires the test of time in order to earn the confidence of the people, even if it is easier to use and cheaper than older methods.

The result further revealed that the largest number of respondents were agreed with the idea that customer fear of risk to use E-banking technology is considered as challenge for the adoption and growth of E-banking technology in Ethiopia banking industry, were mean and mode value found 3.95 And 4.00, respectively. Likewise, lack of confidence with the security issue is considered as another challenge for the adoption and development of E-banking

technology, were mean score and mode value found 4.05 and 5.00, respectively. This result is consistent with the findings of (Okoye, 2013), Ziad et al., (2009), Khalfan et al., (2006) were security risk as hindrance factor for the adoption of E-banking. Thus, customer fear of risk and lack of confidence with the security aspect are other technological factors that hamper adoption and growth of E-banking technology in the country.

#### 4.9 Opportunities for Adoption and Development of E-banking Technology

Table 4.13 Respondent’s perception towards opportunities

N <sup>o</sup>	Opportunities of E-banking	number	mean	mode
1	Late adopter opportunities	130	4	5
2	Commitment of the government to strengthen the banking industry;	130	4	5
3	The existence of high demand;	130	4.16	5
4	Improvement in the banking habit of the society;	130	4.04	5

Source: compiled from questionnaire

Respondents were asked whether they ‘strongly agreed, Agreed, Neutral, Disagreed or Strongly disagreed’ based on the four questions shown in the table above to confirm the existence of the opportunities for adoption and development of E-banking technology in Ethiopia, Accordingly, the sampled respondents agreed with the idea that the existence of high customers demand, improvement in the banking habit of the society, late adopter of E-banking in Ethiopia banking industry, commitment of the government to facilitate the expansion of ICT infrastructure and to strengthen the banking industry are existing opportunities fostering the adoption and development of E-banking technology in Ethiopia banking industry. This is evidenced by the data collected from the respondents with mean score of 4.00, 4.00, 4.16 and 4.04, respectively. An interview conducted with Banking Supervision Directorate Manager at NBE agreed that the business environment is conducive taking into account the economic growth and stability in the



Country. However, the interviewee admitted that there are infrastructural hurdles such as network and accessibility problems, ICT and other which impact the expansion of technology innovative banking products like ATM, Mobile and Internet Banking and due attention shall be given by respective stakeholders.

#### **4.10 Benefits Realized from the Adoption and Development of E-banking Technology in Ethiopia Banking Industry**

Perceived benefits are the gains or improvements derived from existing traditional ways of operating business transactions using E-banking technology applications. The following section summarizes respondents' views of expectations and perceived benefits for E-banking deployment. Benefits expected to be gained from E-banking as an option is a big deciding factor for a Bank's decision to adoption and growth E-banking technology. Some of these benefits include facilitate development of new products and new business, improvement productivity, cost saving, increased market share, speed and efficiency of doing business, improvement in customer service and others.

A total of five questions on "Benefits" of adoption and development of E-banking were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point Likert type scales ranging from '1' "Strongly Disagree" to '5' "Strongly Agree". Statistical results on the variables under the benefits of E-banking including the number of frequencies, the Mean and mode of the data points. The mean and mode tried to tell the averages where the data points fall for each specific variable. Accordingly, the researcher tried to interpret the mean of the data points. The researcher tried to triangulate and complement the result obtained from the interview, open ended questions with the results obtained from the Likert type statements pertaining to similar variables, when found appropriate.

Table 4.14 benefits arising from E-banking

<b>Nº</b>	<b>benefits</b>	<b>numb er</b>	<b>mean</b>	<b>mo de</b>
1	Enhance productivity in the banking industry	130	4.18	4
2	Reduced paper work;	130	3.78	5
3	Low transaction cost.	130	4.06	5
4	Enhance foreign currency generation;	130	4.02	5
5	Increase reliability and reducing errors;	130	4	5

Source: compiled from questionnaire

The potential operational efficiency benefits of E-banking technology as perceived by the banks identified in this study as captured in the above table the respondents strongly agreed that adoption and development of E-banking technology in Ethiopia banking industry will increase productivity of the Bank, reduce paper work and transaction cost. This is evidenced by the data collected from the respondents with mean scores of 4.18, 3.78 and 4.06 respectively. Similarly, interviews conducted with E-banking Managers of the two banks supported that adoption and development of E-banking technology reduce the banks cost in two fundamental ways: it minimizes the cost of processing transactions i.e. no need to have too many clerks and cashiers and expenditures on paper slips, forms and other bank stationery have also gone down and reduce the number of branches required to service an equivalent number of customers, this leads the bank profit margin to boost.

The result further revealed that a large number of respondents (43% strongly agree and 33% agree) agreed that adoption of E-banking technology generates foreign currencies. This agreement is based on the responses of the respondents with a mean score of 4.01. Besides, an interview conducted with E-banking Manager of United Bank confirmed that the bank has generated 430 million dollars through international card transactions for the past eight years. This implies that adoption of E-banking technology has a crucial factor not only for trade but also

for economy growths in the country through improving the capital inflow and solve foreign currency shortage that the country faced. Same was supported by Cobb (2005) in which E-payments have a significant number of economic benefits apart from their convenience and safety and these benefits when maximized can go a long way in contributing immensely to economic development of a nation.

Lastly, the other operational benefit of E-banking technology identified in this study is increase reliability and reducing errors. This agreement is also based on the responses of the respondents with mean score of 4.00

## **CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

The purpose of this chapter is to conclude and provide summary, suggestive recommendations based on the findings by identifying major challenges and opportunities of E-banking in Ethiopian banking industry to enhance the growth of E-banking service in the banking industry.

### **5.1 Summary**

The objective of the study was to identify the current challenges and opportunities of E-banking in Ethiopian banking system. Accordingly, this part of the research summarizes the findings of the study and major challenges of E-banking. The study employed three independent variables. These are organizational, technological and environmental challenges.

#### **ORGANIZATIONAL CHALLENGES**

High cost of implementation of E-banking such as cost of ICT equipment and network, software and re-organization, lack of customer awareness with E-banking service provided, and lack of skills and trained staff in implementation and running of E-banking system and resistance to changes in technology among by Board, top Management and staff are described in the study as organizational challenges for adoption and growth of E-banking in Ethiopia banking industry.

#### **ENVIRONMENTAL CHALLENGES**

lack of law mandating the banks to adopt E-banking technology, lack of adequate coordination, interaction and cooperation between banks and other decision making centers in E-banking context, absence of financial networks that links different banks, frequent power disruption, tight foreign currency regulation and lack of uniform platform by banks are another environmental challenges for adoption and growth of E-banking technology in Ethiopia.

#### **TECHNOLOGY RELATED CHALLENGES AND OPPORTUNITIES**

In connection with technology factors, lack of customer trust with E-banking services provided by the banks, customer fear of risk to use E-banking technology and security risks are consider

as technological factors negatively affect the adoption and growth of Ebanking technology in Ethiopia. In this study, majority of challenges for adoption and development of E-banking technology in Ethiopia are derived from the external environments and limitation in network infrastructure and internet related support services is one of basic challenge in adoption and development of E-banking technology in Ethiopia.

## **5.2 Conclusion**

The findings of the study revealed that the current challenges and opportunities of E-banking system in Ethiopian banking industry stretches wide across the three extremes of the challenges and opportunities where the concerted effort by stakeholders to overcome the challenges will bring about immense opportunities to the dominant players in the field with the ultimate result of transforming the country towards financial inclusion. Accordingly, a number of conclusions can be drawn from these results. Potential operational efficiency benefits of E-banking. Moreover, the banks realized service benefits like, increased comfort and time saving, transactions can be made 7x24, without requiring the physical interaction with the bank, quick and continuous access to information, better cash management, E-banking facilities speed up cash cycle and increases efficiency of business processes as large variety of cash management instruments are available on internet sites, reduced ,conveniences, speed ,and funds management's-banking activities face challenges because, Lack of banking services through the web or other electronic means such as using mobile phone data and network security and privacy, lack and limitation of government policies, regulations and E-commerce laws, as well as legislation to protect workers and to make the Internet secure, weak telecommunications, broken and slow Internet connections and lack of Internet awareness.

### **5.3 Recommendations**

Based on the findings the researcher came up with the following possible recommendations .

#### **To the Banks**

- ❖ Banks should have to invest adequate resource on E-banking technology.
- ❖ Banks needs to work with the government to solve infrastructure that challenges E-banking
- ❖ It should create deep awareness to community concerning the E-banking products they offer and the benefits associated with using E-banking services through advertising their products and services on the internet, mass media as well as through organizing public exhibition and talk shows.
- ❖ The bank should inform the e-bank users how to protect themselves from the challenges of E-banking before the users were challenged by it.
- ❖ The banks should facilitated proper and continuous training courses for their employees

#### **To the Policy Makers**

- ❖ In collaboration with banks, Government should educate and inform the community on the work ability and effectiveness of E-banking technology.
- ❖ Government need to subsidize the high cost for ICT equipment that challenges banks in introducing E-banking.
- ❖ The policy needs to allow banks to establish their own telecommunication managed by their own.
- ❖ Government should support banking sector by facilitating development of sufficient ICT infrastructure for the successful implementation and development of E-banking services.

### **5.4 Suggestions for Further Research**

This study described the current challenges and opportunities of E-banking system in Ethiopia in the case of Wogagen and United Banks. Nevertheless, it did not consider the customers perspective and other stakeholder like Ethio-Telecom.

Therefore, the researcher would like to recommend further research be made on the area especially to capture the customers' and other above stakeholders perspectives.



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# APENDIX

ST.MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES

The objective of this questionnaire is to collect relevant data on the current challenges and opportunities of E-banking in Ethiopian banking system. Your response will be used only for conducting research for the completion of MBA degree in Accounting and finance and thus your response will be kept confidentially and will not be used for any other purpose.

### A. Personal Information

I. Name of the organization/bank\_\_\_\_\_

II. Year of establishment: \_\_\_\_\_

III. Job position \_\_\_\_\_

IV. Work experience \_\_\_\_\_years

V. Gender: Male  Female

VI. Educational status:

A. Diploma  B. Degree C. Masters D. PhD and above

*Below are lists of statements pertaining to challenges and opportunities of E –Banking please tick your appropriate choice*

1.What are the different electronic channels through which the bank is delivering the service?

A. Credit card  E. Master card

B. Salary card  F. Debit card

C. Visa card  G. Student card

D. Others\_\_\_\_\_

2.Are links and interactive programs checked for Accuracy & functional?

YES  NO

3. Does electronic banking training provided to employees?

YES  NO  UNDECIDED

4. Does the bank have a trade market for e – banking?

YES  NO  UNDECIDED

5. Does your bank experience challenge / risk of e – banking recently?

YES  NO

6. Is there a difference in its challenges among the branches?

YES  NO

**Instruction:**

Below are lists of statements pertaining to challenges and opportunities of E -Banking. Please indicate whether you agree or disagree with each statement by ticking (√) on the spaces that specify your choice from the options that range from “strongly agree” to "strongly disagree”.

**Note: SA- Strongly Agree, A- Agree, Undecided, DA- Disagree, SD- Strongly Disagree.**

	<b>II. TECHNOLOGICAL CHALLENGES</b>	SA	Agree	U	DA	SD	Total %
1	Users do not trust the E-banking technology provided by banks;;	39	60	20	5	6	130
2	Government can organize and create good plans to support the development of civilian technology innovation	45	56	15	6	8	130
3	Lack of confidence with the security aspects;	59	42	13	9	7	130
4	Loss of Audit Trail.	52	47	9	8	14	130

<b>No</b>	<b>I. Organizational Challenges</b>	<b>SA</b>	<b>Agree</b>	<b>U</b>	<b>DA</b>	<b>SDA</b>	<b>Total</b>
1	High cost of implementation of E-banking	53	44	10	12	11	130
2	Lack of customer awareness with E-banking products	45	56	5	23	1	130
3	Lack of technical and managerial skills in implementation and development of E-banking technology	56	43	12	15	4	130
4	Resistance to changes in technology among by Board, top Management and staff	45	48	8	20	9	130

**Below is a list of question on the technological challenges**

<b>NO.</b>	<b>Environmental challenges</b>	<b>SA</b>	<b>Agree</b>	<b>Natural</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Total</b>
1	Limitation in network infrastructure and internet related support services;	50	37	15	19	9	130
2	Limitation in ICT infrastructure;	52	39	12	20	7	130
3	Lack of adequate coordination, interaction and cooperation between banks and other decision making centers in E-banking context;	45	45	13	21	6	130
4	Absence of financial networks that links different banks	42	52	7	17	12	130
5	Frequent power disruption;	49	46	16	10	9	130
6	Relative high cost of internet;	60	39	13	13	5	130



**ST.MARY'S UNIVERSITY**  
**SCHOOL OF GRADUATE STUDIES**

Interview

Thank you very much for volunteering to participate in this one-on-one personal interview. The main objective of this interview is to assess the CHALLENGES AND OPORTUNITIES OF E-BANKING. Your responses will be treated with utmost confidentiality and will not be used for any purpose other than the objective of the research. Moreover, the results of the research will be reported in manner that could not identify you or your organization. The outcome of the study are anticipated to assist the understanding of the basic oppotunities and challenges of adopting E- banking innovation in delivering quality service to customers of <YOUR BANK>.

Thank you in advance for your participation.

A. Please tell us your working Unit:    EBSD     IT                        Area Bank

B. Qualification, Position, and year of service in current position\_\_\_\_\_

PART ONE CURRENT CHALLENGES OF E-BANKING

1. What type of Electronic banking service do you provide?

A.ATM                                    B. Internet banking

C. mobile and Agent banking or others?

Please specify.

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2. What do you think are the basic challenges of E-banking currently your bank is facing ?

3. Are the following CHALENGES considered in your institution as challenges E-banking currently ?

a. Security risk

- b. Customers dissatisfactions
- c. Lack of social awareness
- d. Cost incurred in the purchase of technological instruments
- e. Lack of competition
- f. Inadequate ICT infrastructure
- g. Lack of skilled manpower .

4. Do you see any social, Economic and legal challenges in introducing of ATM, internet banking mobile and agent banking in your institution?

**PART TWO OPPORTUNITIES OF E-BANKING.**

1. What are the opportunities gained by your institution from providing E-banking ?
2. In your opinion what are the key CHALLENGES that push your institution to introduce E-banking ?
3. Any other suggestion or recommendation you would like to add?

Thank you!!

**Respondents perception towards the measures to be taken to solve challenges of e – banking**

		Strongly Agree	Agree	Undecided	DA	Strongly Disagree	Total %
1	Strong password helps to ensure secure e – banking	30%	63%	1%	6%	0%	100
2	Regular check of an account after making any transaction online insure secure e – banking	53.7%	43.2%	3.1	0%	0%	100
3	Using licensed anti-virus software reduces challengers of e – banking	67.5 %	22.5%	0%	10%	0	100
4	Disconnected the internet when not in use ensure secure e – banking	51.6%	48.4%	0%	0%	0%	100
5	Typing your internet banking URL helps to ensure secure e – banking	45 %	38%	1%	3%	3%	100

**Respondents answer regarding the personal behavior**

	<b>PERSONAL BEHAVIOR</b>	SA	Agree	U	DA	SDA	Total %
1	I have the resource to use electronic banking services	30	45	5	12	8	100
2	I have the knowledge to use electronic banking service s	26	36	1	21	16	100
3	I have the ability to use electronic banking services	20	36	6	21	17	100
4	It would take me lots of time to learn how to use electronic banking services	34	20	1	31	14	100

	<b>GROUP INFLUNCE</b>	SA	Agree	U	DA	SDA	Total %
5	I worried to use electronic banking services because other people may be able to access my account	15	12	3	42	28	100
6	People who are important to make think that should use electronic banking	34	25	6	18	17	100
7	People whose opinion I think should use electronic banking services.	78	18	4	-	-	100
8	People who influence my decision think that I should use electronic banking services	82	11	7	-	-	100