



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

**Factors Affecting Adoption of Electronic Banking System in  
Banking Industry: A Case of Oromia International Bank S.C.**

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**May, 2021**

**Addis Ababa, Ethiopia**

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**A Research Thesis Submitted to the St. Mary's University School of  
Graduate Studies in partial fulfillment of the requirements for the  
Degree of Master of Marketing Management**

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# DECLARATION

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

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# **ENDORSEMENT**

This thesis Research has been submitted to St. MARY'S UNIVERSITY GRADUATE STUDIES OF MARKETING MANAGEMENT for examination with my approval as University advisor.

**Zemenu Aynadis (Ass.Prof)**

**Advisor**

**Signature & Date**

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## *Acknowledgements*

I am most gratifying to Almighty God who through His infinite mercy and love guided me throughout the duration of the study. My most sincere and heartfelt thanks go to Assistant Professor Zemenu Aynadis, my thesis advisor, for his unreserved and timely support in checking, commenting and giving me valuable and constructive advice all along side with my activities. Last but not least, I would like to express my deep gratitude to my wife Kelemua ( Diborah) and my baby boy Bernabas Frehun (My Eagle).

## ***List of abbreviation***

***ATM*** -----Automated teller machine

***OIB*** -----Oromia International Bank

***E-banking*** -----Electronic banking

***E-commerce*** -----Electronic commerce

***EFT*** -----Electronic fund transfer

***E-payment***----- Electronic payment

***ICT*** -----Information communication technology

***IT*** -----Information technology

***NBE*** -----National bank of Ethiopia

***PR*** -----perceived Risk

***SPSS*** -----Statistical package for social science

***TOE*** -----Technology organization environment

***OF*** -----Organizational factor

***TFPR*** -----Technological factor perceived risk

***EF*** -----Environmental factor

## ***Abstract***

*E-Banking technology is still at infant stage in Ethiopia compared to the rest of the world. In Ethiopia Cash is still the most dominant medium of exchange. This study was aimed to assess factor affecting adoption of e-banking system in Oromia International Bank. The study was conducted based on the data gathered from Oromia International Bank E-Banking and ICT Department. Mixed research approach was used to answer the research questions that emerge through the review of existing literature and the experiences of the researcher in respect of the adoption E-banking system in Oromia International Bank. Questionnaire was conducted to collect the data and explanatory research design was applied. The study used descriptive statistics and Data processed using a statistical package for social sciences (SPSS) 20 version to regression analysis was used to test the effect of determining factors on the adoption of e-banking system .Pearson correlations have been used to examine relationship of three hypotheses. Result of the study is presented and the study suggests a series of measures which could be taken by the bank (OIB) and by government to address various factors affecting adoption of e-banking systems.*

**Keywords:** E- Banking adoption, Oromia International Bank, factor affecting e-banking

# **CHAPTER ONE**

## **1, INTRODUCTION**

### ***1.1 Background of the study***

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

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

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

In order to improve the practice of E-banking in developing countries, a better understanding of the challenges and practices of e banking is critical. By gaining an in-depth understanding of the factors and conditions that influence developing country's ability to fully adopt and realize its benefits, strategic implications can be generated for the researchers and practitioners regarding how to promote the growth of E-banking in the developing countries. Therefore, this study is designed to examine, understand and recommend some basic solution about challenge and practice of E-banking in Ethiopia and to address the current gap in the literature.

Financial services industry has recently been open to historic transformation, it can call e-developments are emerging and advancing rapidly in all areas of financial intermediation and financial markets: e-finance, e-money, electronic banking (e-banking), e-brokering, e-insurance, e-exchanges, and even e-supervision. The new information technology (IT) is turning into the most important factor in the future

development of banking, influencing banks' marketing and business strategies. In recent years, the adoption of e-banking began to occur quite extensively as a channel of distribution for financial services due to rapid advancement in IT and intensive competitive banking markets. The driving forces behind the rapid transformation of banks are influential changes in the economic environment: innovations in information technology, innovations in financial products, and the dynamic nature of customers demand, liberalization and consolidation of financial markets, deregulation of financial intermediation etc. These and other factors make it complicated to design a bank's strategy, which process is threatened by unforeseen developments and changes in the economic environment and therefore, strategies must be flexible to adjust to these changes. The financial services market is continuing to change rapidly, which brings into question whether traditional banks, as they are now structured, will actually continue to exist by the end of the decade or even survive through the next years. The evolution of e-banking started from the use of Automatic Teller Machines (ATMs) and Finland is the first country in the world to have taken a lead in e-banking Mishra and Kiranmai (2009) in order to provide efficient and effective service to their customers.

Venkatesh, Morris, and Davis (2003) noted that the successful implementation of information systems is dependent on the extent to which such a system is used and eventually adapted by the potential users. Information system implementation is not likely to be considered successful if users are unmotivated to use that type of technology, and thus it will not bring full benefits to the organization. In order to motivate customers to use electronic banking, banks must make key improvements that address the customers' concerns. Therefore, The Reason to assess the key factors that influence the adoption of electronic banking among the banking customers is important issue of research and it will be the undertaking of this study.

E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. E-banking includes the systems that enable financial institution customers, individuals or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network, including the Oro-click, ATM, etc. The computer applications are paramount concern to the banks in today's business environment and internet has become the major platform for all financial, banking and commercial transactions in the present scenario Magembe and Shemi (2002). It is an invaluable and powerful tool driving development, supporting growth, promoting innovation and enhancing competitiveness Nath, Shrick and Parzinger (2001). Banks and other businesses alike are turning to Information Technology (IT) to improve business efficiency by delivering the service with

minimum cost, service quality and attract new customers Nath et al, (2001). Technological innovations have been identified to contribute to the distribution channels of banks. The evolution of banking technology has been driven by changes in distribution channels as evidenced by automated teller machine (ATM), Debit card, credit card, visa card, Phone-banking, Tele-banking, PC-banking and most recently internet banking. The paperless banking has become inevitable (Goi, 2005).

E-Banking, a combination of two words, Electronic technology and banking, is a process by which a customer performs banking transactions electronically without visiting a banking institution. It involves an extensive use of Information technology that eliminates the need for direct recourse to the bank by the customer as an umbrella term; it encompasses a number of products and services under its ambit which include ATM, debit/credit cards, phone/mobile banking and PC/Internet banking etc. Recently, electronic banking has become the way for the development of banking system, and the role of electronic banking is increasing in many countries. It offers opportunities to create services processes that demand few internal resources, and therefore, lower cost. As well as it provides wider availability and possibility to reach more customers. From the customers' point of view, electronic banking allows customers easier access to financial services and time saving in managing their finance Almazari and Siam (2008). A strong banking industry is important in every country and can have a significant effect in supporting economic development through efficient financial services. In OIB, the role of the e-banking needs to change to keep up with the globalization movement, both at the procedural level and at the informational level. This change will include moving from traditional distribution channel banking to electronic distribution channel banking. E-Banking transactions have opened up new window of opportunity to the existing banks and financial institutions. It permits business process re-engineering, serving borderless market, to achieve zero latency leading to improvements in customer service levels and better risk management because of real-time settlement. Since its evolution in 90th decades, it is having unprecedented growth. The growth rate is higher in Developed Countries and comparatively lower in least developed countries (Chang, 2003) & (Gallup, 2008).

## ***1.2 Background of the organization***

As we all know Oromia International bank is one of private banks in the country and .OIB have been constantly developing innovative financial products and services based on the emerging market needs, since its establishment in 2008.

Currently, OIB operate more than 313 branches throughout the country which is the result of its fast paced expansion and growth strategy. Asset base exceeded a total of Birr 38.80 billion, total deposit above Birr 33 billion and its shareholders number reached more than 13,220 which is also the result of very fast growth within short period of operation. It has large number of customer base (more than 2.2 million) which contributed to very fast growth of deposit mobilization.

It established correspondent bank account and strong banking relationship with notable international banks like Citibank NY, Commerz Bank AG Frankfurt, ODDO BHK, BMCE, CAC International and Bank of Africa which enabled to facilitate international payment (transfer) from every corner of the globe in a very fast manner. It also has SWIFT arrangement with about 260 banks all over the world. All branches of OIB are electronically networked and customers are able to operate their account at any of branches.

Furthermore, OIB has been invested significant amount of money on electronic banking technology in order to improve access to bank branches and alternative banking channels for every household of the country that would improve financial accessibility for the underprivileged rural and remote population.



### ***1.3 Statement of the problem***

Previous research show that, banks which do not offer internet banking services are expected to lose more than 10% of their customers over the next five years due to their competitive advantages in banking service delivery will eroded(Tower Group 2005). Recently the bank industry in Ethiopia characterized by full of high competition among banks existed in the industry; as a result banks in Ethiopia are modifying their strategies to reach customers more easily and cheaply. With a growing number of import-export businesses, and increased international trades and international relations, the current banking system is short of providing efficient and dependable services. The rapidly growing information and communication technology is knocking the front door of every organization in the world Booz and Hamilton (1997).

Oromia international bank should clearly chart out the time schedule for technological advancement especially around e-banking. Some of the banks even today do not have their own market place to sell their own product to their customer.

As it is stated in different e-banking literature some of the problems related with adoption of e-banking are: Low level of internet penetration and poorly developed telecommunication infrastructure. According to Jensen (2003), most countries in Africa, except South Africa, have Internet infrastructure only in their major cities. Lack of suitable legal and regulatory framework for e-banking and payments is another impediment for the adoption of new technology in banking industry. Ethiopia has not yet enacted legislation that deals with e-banking concerns including enforceability of the validity of electronic contracts, digital signatures and intellectual copyright and restrict the use of encryption technologies and High rates of illiteracy. Low literacy rate is a serious impediment for the adoption of e-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-banking, they should not only know how to read and write but also possess basic ICT literacy (Gardachew, 2010).

By gaining an in-depth understanding of the factors and conditions that influence developing country's ability to fully adopt and realize its benefits, strategic implications can be generated for the researchers and practitioners regarding how to promote the growth of e-commerce in the developing countries. However, despite the importance of these adoptions, limited studies are currently available in developing countries, the concern of almost all studies were revolve around the prospects and challenges of e-banking in SME's, but very few in banking industries. Therefore, more studies still

required to understand the relevance of e-banking in the country to identify areas in which the country lags behind that inhibit e-banking adoption and diffusion.

Even if, no legislation is enacted this time, all banks should be ready for the adoption of e-banking beforehand, and will be used as a tool to show to government how the legal issue this time is very critical. So, this study is very relevance in factors affecting the adoption of e-banking. Therefore, the current study's main area is Factors Affecting Adoption of e-banking: Evidence from OIB. There are three reasons for concentrating on this topic: 1) Limited research on e-banking particularly in OIB, 2) OIB with large customer base, would be a potentially profitable market for e-banking services that assist the bank at large and 3) The bank has not been most successful with e-banking service like card banking, mobile banking, internet banking & other online banking service, that would make adoption of e-banking very easy. E-banking in developing countries especially Africa has not been sufficiently researched (Molla & Licker, 2005). Taking this into consideration, the researcher can be sure that the findings from research conducted in developed countries are not always applicable or transferable to developing countries. So, isn't it essential to conducting a separate research in OIB?

These are not the only reason for conducting of this study, but also because of limited understanding of what drives e-banking adoption among businesses in developing countries (Molla & Licker, 2005). E-banking will help the customers of the bank to transact and make payment online, because both the buyers and sellers will open and maintain accounts in the bank to transact online, this will help the banks to mobilize deposit and expand customer's base. If we think country wide, it will help by creating cashless society.

Some empirical Evidences show that related studies are conducted by different researchers in different parts of the world. However, there are limited numbers of studies conducted in Ethiopia on the adoption of e-commerce. Very few studies were conducted particularly in connection with e-commerce are stated as follows:-

Ayalew et al. (2010) conducted research on E-banking Readiness in Ethiopia: A Macro-level Assessment. The aim of the study was focused on measuring & identifying the nation's standing regarding its e-banking readiness.

Mola, (2012) conducted research on E-banking: Opportunities and Challenges of general importers in Addis Ababa. The aim of the study was focused on assessing the current practices, opportunities, and

challenges of E-banking in Addis Ababa city particularly on general imports. Singh et al. (2016) conducted research on Consumer acceptance of apparel e-commerce–Ethiopia. The aim of the study was focused on determining the main barriers that prevent the consumers from online apparel product shopping.

Tilahun & Kifle ( n.d.), conducted research on E-commerce Framework for Micro and Small Enterprises in Ethiopia. The primary purpose of this study was to develop an e-commerce framework for MSEs in Ethiopia. Hassen & Svensson (2014) conducted research on The Role Of E-commerce For The Growth Of Small Enterprises in Ethiopia, The paper aim was to define an adoption level of e-commerce in small Ethiopian enterprises and show that their business requirements and perceived benefits of e-commerce are related to business growth.

As can be seen from the above empirical evidence study conducted on e-commerce adoption, none of them focused on financial institution (banks). Thus, there is a need for more research to improve understanding of the drivers of ecommerce in Ethiopia commercial banks ( both private and Governmental) . Gathering empirical evidence from different environments will make it possible to generalize on adoption of e-commerce (Spanos et al., 2002).

According to Guardia (2001) banks can play a pivotal role in ecommerce at two levels. First, they can get ready with payment and communication systems & infrastructure necessary for ecommerce. Secondly banks can deliver services via ecommerce. As different study shows electronic banking is one area of ecommerce that has proven successful in Ethiopia. Ethiopian banks are increasingly seeking to provide general banking facilities online like internet banking, mobile banking, Agent banking etc. So that, conducting a research on ecommerce activity in Ethiopian banks will provide us an indicator to understand its benefit and to determine those factor which impede the adoption of ecommerce in the banking industry in Ethiopia.

Therefore, as discussed above almost all researchers in Ethiopia explore the factors that influence the adoption of e-commerce were limited in one way or another & didn't observe the current big & very critical issue in connection with payment & settlement aspects of e-commerce (i.e. the banking industry), & remain a largely unexplored area, Thus, this study conducted by focusing on the banking industry, that play a pivotal role for the success of ecommerce adoption & it attempts to add something to knowledge gap & to bridge in the literature about e-commerce and shed some light on the adoption of e-banking. Therefore, this study was designed to identify the e-banking adoption situation in OIB.

This implies that prior research works did not give an emphasis on factor affecting adaptation of e-banking from the view point of OIB and In the study area, there has not yet been detail research works made available to e-banking service from the context of Oromia International bank . Moreover, e-banking is a new technology in Ethiopia which needs a lot of effort and resources to be easily adopted by bank. Hence, in order to help banks improve e-banking adoption, it is necessary to assess factors that affect bank's" to adopt e-banking service channels. Therefore, this research is to probe the adoption E-banking system of the Bank. The bank is not implementing sufficient e-banking services to its users to meet the target plan, i.e. Master card, credit card, School fee payment, different utility bill payment, and traffic penalty payment, even it is begin, lower internet banking service and other commercial electronic banking services. So the study will try to identify the root cause of the crack in between deliveries of these advanced e-banking services and attain its e-banking users (target). Finally, to recommend factors of adoption of E-banking system that minimizes the gap. Therefore, the researcher will motivated to fill those aforementioned gaps (focused area gap and contextual gap) and tried to conduct a research by assessing factor affecting adoption of e-banking services in OIB.

## ***1.4 Research questions***

Based on the problem stated in this study, researcher develops the following research questions. The following three questions needs to be addressed. For the purpose of the present research, these questions are:

- 1) What are major E-banking services given by OIB?
- 2) How does technological factors affecting adoption of E-banking system in OIB.
- 3) How does organizational factors affecting adoption of E-banking system in OIB.
- 4) How does environmental factors affecting adoption of E-banking system in OIB.
- 5) How a possible intervention should be undertaken by the government to e-banking adoption?

## ***1.5 Objective of the study***

### ***1.5.1 General objectives***

The main objective of this study was to investigate the factors affecting adoption of E-banking system in oromia international bank?

### ***1.5.2 Specific objective***

- ❖ To assess the major E-banking services given at oromia international bank.
- ❖ To determine the major technological factors affecting adoption of E-banking system in OIB.
- ❖ To examine the major organizational factors affecting adoption of E-banking system in OIB.
- ❖ To determine the major environmental factors affecting adoption of E-banking system in OIB.
  
- ❖ To identify issues which are needed intervention of the government to fill the gap?

## ***1.6 Scope of the study***

The study focuses on identifying factors affecting E-banking system adoption in Oromia International Bank. The scope was limited to ATM banking (Oro-card), Mobile banking (Oro-cash) Agent banking (Oro-agent) and Internet banking (oro-click) to manage cost and time. Only OIB headquartered in Addis Ababa E-banking and ICT department was selected conducting this study due to broadness of the concept. E-banking adoption of other non-commercial banks, other financial organizations, payment associations and switch providers wasn't included. Data was gathered from concerned department and peoples via questionnaire and interview, bank staffs those are not familiar for at least one of these services are not included in the target population.

## ***1.7 Study limitations***

While conducting this paper there was some limitation, I encountered. Some peoples were on Annual and, Maternity leaves, there was also COVID-19 protocol in the bank's compound were not willing to conduct face to face interview, may be due to being busy in transacting business, but lastly allow me to conduct the interview panel . The absence of prior research conducted on my topic area was also the study limitation within the bank; this was enforcing the researcher to highly depend on outside research paper. The last but not the list time was one of limitation factor.

## ***1.8 Significance of the study***

This study is expected to be very beneficial for the bank to understand factors which affect adoption of e-banking services technology also it is expected to be use full for government, customers, academicians, policy makers, researchers and for the general society as a further knowledge and source of information. Generally the significance of this research can be summarized as follow

- It could serve as a source of document for the management of the bank for decision making regarding the problem related with to adopt e-banking technology. If there is at all.
- It will serve as partial fulfillment of the requirements of the award on master's degree.
- The researchers have been enabling to relate the theoretical knowledge regarding intention to adopt new technology with the real existing practice.
- In addition, this study expected to help other researchers who will be interested to conduct further study regarding the issue under investigation by providing use full information.

- Finally based on the factors found to be affecting adoption of E-banking system, the study will provide recommendations for the bank.

### ***1.9 Organization of the thesis***

The research paper is divided into five chapters. Chapter one presents the introduction part, which contains, background of the study, statement of the problem, research questions, objectives of the study, scope & limitations of the study and significance of the study. Chapter two presents the literature review both theoretical and empirical studies along with conceptual framework of the study and research hypothesis, Chapter three presents the research methodology, Chapter four deals with data presentation and discussion and Chapter five summarizes the findings, conclusions of the study, and forwards some recommendations.

## ***CHAPTER TWO***

### ***2. Review of Related Literature***

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

#### ***2.1 Definition of E-banking***

E-banking has a variety of definitions all refer to the same meaning, the following section show some of these definitions. E-banking is a form of banking service where funds are transferred through an exchange of electronic signal between financial institutions, rather than exchange of cash, checks, or other negotiable instruments (Kamrul 2009). E-banking, also known as electronic funds transfer (EFT), is simply the use of electronic means to transfer funds directly from one account to another, rather than by check or cash (Malak 2007). Electronic banking is one of the truly widespread avatars of E-commerce the world over.

##### ***2.1.1 Types of E-banking***

E-banking can defined as a variety of platforms such as internet banking or (online banking), TV-based banking, mobile phone banking, and PC (personal computer) banking (or offline banking) whereby customers access these services using an intelligent electronic device, like PC, personal digital assistant (PDA), automated teller machine (ATM), point of sale (POS), kiosk, or touch tone telephone (Alagheband 2006, p.11). According to Alghaeband, there are different types of E-banking and some of the basic are discussed as follow:



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

### ***2.1.2 Need for E-banking***

One has to approach the branch in person, to withdraw cash or deposit a cheque or request a statement of accounts. In true e-banking, any inquiry or transaction is processed online without any reference to the branch (anywhere banking) at any time. Providing e-banking is increasingly becoming a "need to have" than a "nice to have" service. The net banking, thus, now is more of a norm rather than an exception in many developed countries due to the fact that it is the cheapest way of providing banking services. Banks have traditionally been in the forefront of harnessing technology to improve their products, services and efficiency. They have, over a long time, been using electronic and telecommunication networks for delivering a wide range of value added products and services. The delivery channels include direct dial-up connections, private networks; public networks etc. and the devices include telephone, Personal Computers including the Automated Teller Machines, etc. With the popularity of PCs, easy access to Internet and World Wide Web (WWW), Internet is increasingly used by banks as a channel for receiving instructions and delivering their products and services to their customers. This form of banking is generally referred to as Internet Banking, although the range of products and services offered by different banks vary widely both in their content and sophistication. (Singer, Daniel, Douglas Ross and Albert Avery, 2001)

### ***2.1.3 Benefit of E-banking system***

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

### ***2.1.4 Benefit of E-banking for Banks***

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

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

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

- ❖ The growth of E-banking has greatly helped the banks in controlling their overheads and operating cost.
- ❖ Many repetitive and tedious tasks have now been fully automated resulting in greater efficiency, better time usage and enhanced control.
- ❖ The rise of E-banking has made banks more competitive. It has also led to expansion of the banking industry, opening of new avenues for banking operations.

- ❖ Electronic banking has greatly helped the banking industry to reduce paper work, thus helping them to move the paper less environment.
- ❖ Electronic banking has also helped bank in proper documentation of their records and transactions.
- ❖ The reach and delivery capabilities of computer networks, such as the Internet, are far better than any branch network.

### ***2.1.5 Benefit of E-banking for Customers***

The benefit of E-banking is not limited to banks but also to their customers. Thanks to the emergence of the Internet, banking transactions are no longer limited to time and geography. It is very easy for consumers throughout the world to access to their bank accounts 24 hours per day and seven days a week. Customers can enjoy a variety of services, especially services which are not provided by traditional bank branches (Pham 2010). It is argued that one of the greatest benefits that E-banking brings about is that it is not expensive or even free for customers to utilize E-banking products/services. However, some people believe that prices appear to be one factor that is impedimental to the diffusion of E-banking (Sathye 1999). The price debates often revolve around geographical differences and disparities between costs of Internet connections and telephone call pricing. It has also been believed that E-banks have been changing to respond to customers' increasingly changing demands (Pham 2010). There has been a tendency that customer don't want to travel to or from a bank branch to conduct some banking transactions. In other words, they want to utilize E-banking to save time and money. E-banking can bring about convenience and accessibility, which will have positive effects on customer satisfaction and loyalty (Pham 2010). It is totally possible for customers to manage their banking transactions whenever they want and to enjoy improved privacy in their interactions with the bank. In addition, customers can enjoy more benefits at lower cost levels by utilizing E-banking (Mols 1998). It is contended by Turban (2008), that E-banking is really beneficial to customers such as:-

- ❖ Convenience – By e-banking, customers can carry out their banking activities whenever you want. E-banking is a 24 hour service, so customers are no longer tied to the branch's hours. On top of that, they don't have to take the time to travel to the branch and wait in the inevitable lines, thus giving you more time to do what you want.
- ❖ Mobility – e-banking can be done from anywhere, as long as customers have an Internet connection.

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

### ***2.1.6 Benefits to General Economy***

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

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

E-banking made finance economically possible:

- i. Lower operational costs of banks

- ii. Automated process
- iii. Accelerated credit decisions
- iv. Lowered minimum loan size to be profitable.

Potentially lower margins:

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

Expand reached through self-service:

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

### ***2.1.7 Factors influencing Banks to practice E-banking system***

There are different factors that affect the practice and adoption of technological innovation in general and specifically E-banking. For the adoption and practice of new technology there are two well-known models which describe the factors which affect the adoption and practice of E-banking such as Technology-organization-environment (TOR) and Technology acceptance model (TAM). The Technology-organization-Environment framework (TOE) (Tornatzky & Fleischer 1990), which identifies three basic Factors for the adoption of technological innovation, i.e, technological factors, organizational and environmental factors. Technology Acceptance Model(TAM) (Davis, 1989), which posit the two sets of beliefs, i.e., perceived ease of use (PEOU) and perceived usefulness (PU) to determine individual's acceptance of a technology. PEOU refers to the degree to which an individual believes that using a particular system would be free of physical and mental effort, PU on the other hand is related to users'

## ***2.2 Review of Theoretical Literature***

### ***2.2.1 Technology- organization- Environment (TOE) framework***

TOE framework was proposed by Tornatzky and Fleischer; it is designed for studying the likelihood of adoption success of technology innovations. This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani, et al, & Ellis 2009; Chang et al 2007, Zhu & Kraemer 2006). According to Tornatzky and Fleischer (1990), technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context, and the external environment. Even though this paper is trying to assess the practice of e-banking it is also including the implementation and adoption of e-banking. Typical characteristics of technology considered in technology adoption studies are based on the assumption of Roger's diffusion of innovation (Rogers 2003), which include relative advantages (perceived benefits), and relative disadvantages (perceived risks). While the organizational factor refers to the organization's characteristics that influence its ability to adopt and use of E-banking system. The environmental factor refers to the external environment in which an organization operates and its condition for supporting the development of E-banking services. For each context, various factors have been identified from the literature but only those that are considered relevant for E-banking adoption are included in the framework. Details of factors considered in this study are discussed below.

### ***2.2.2 Technological Factors***

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

1. Perceived benefits: - Perceived benefits of E-banking cover both direct and indirect benefits for the banking industry as well as for the consumers. Direct benefits include the savings on operational cost, improved organizational functionality, productivity gain, improved efficiency and increased profitability. Indirect benefits include the opportunity or intangible benefits such as improved

customer's satisfaction through improved services, improved banking experience and fulfillment of their changing needs and lifestyle (Lu et al. 2005; Kuan&Chau 2001 &Iacovou 1995)

2. Perceived risks: - One of the important risks faced by banking institutions in offering E-banking services is the customers' resistance to use the services which significantly hinder the growth of E-banking (Zhao et al. 2008 &Laforet 2005). Issues related to security have always been a concern when dealing with technologies related to online transactions such as E-banking (Chang 2007 & Rogers 2003). Therefore, the perception of the risks regarding E-banking is expected to influence its adoption and further growth.

### ***2.2.3 Organizational Factors***

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

Financial and human resources: - Financial resources are an important factor in facilitating innovation adoption for any organization and they are often correlated with the firm size (Kuan 13 2001 &Iacovou 1995).Therefore, it is expected that the availability of financial resources within the adopting firms is important for E-banking practice. These resources enable banking institutions to obtain human related resources including the required skills and expertise to develop and support provision of E-banking services.

### ***2.2.4 Environmental factors***

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

1. Legal Frameworks: - The existence and maturity of E-commerce legal frameworks within a country influence the diffusion of online transactions including E-banking as demonstrated in various studies (Tan & Wu 2002; Martinson &Trappey 2001).

2. The National ICT infrastructure: - National ICT infrastructure is a major factor that supports the adoption of E-banking as the case for other E-commerce initiatives. Without an adequate development

level and quality of a nation's ICT infrastructure, E-banking adoption and use cannot do well (Efendioghu 2004 & Scupola 2003).

3. Competitive pressure: - Competitive pressure can strongly influence any bank to develop and adopt E-banking initiatives and it may affect the bank's perception towards E-banking system. As implied in previous studies (Quaddus & Hofmeyer 2007; Gibbs, Kraemer & Dedrick 2003).

4. Government Support: - Government can either directly or indirectly affect the adoption of E-banking in terms of creating a favorable environment and impetus for banking institutions and their customers so that the services can be diffused with the community (Kuan 2001 & Iacovou 1995)

### ***2.2.5 Technology Acceptance model (TAM)***

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

1. Perceived ease of use: - refers to the degree to which a person that using a particular system would be free from effort (Davis 1986).

2. Perceived usefulness: - refers to the degree to which an organization that using a particular system would enhance or improve its job performance. According to Masrom and Hussein (2008) the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system. TAM was developed to explain and predict particular IT usages. However, this particular Model has been using by many researchers in studying adoption and diffusion of various IT technologies. For this study researcher uses two basic factors of TAM, i.e., perceived ease of use and Perceived usefulness to analyses the perception of users on the adoption of E-banking system in Ethiopia.

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



### ***2.2.6 Theory of Planned Behavior (TPB)***

TPB is developed originally based on the theory of reasoned action (TRA) which explains almost any human behavior. In predicting and explaining human behavior across various application contexts, it has been proven successful. According to TRA, a person's behavioral intention guides his actual behavior of performing some certain action and where subjective norm and attitude toward the behavior determine the behavioral intention Liao et al., (2007). According to (Ajzen, 1991) quoted in Liao et al., (2007, p. 2809), "behavioral intention is a measure of the strength of one's willingness to try while performing certain behaviors". As in the original model of TRA, there are some limitations when dealing with behavior for which there is incomplete volitional control of people. Therefore, TPB is proposed to eliminate these limitations; and in fact, TPB differs from TRA because of the addition of perceived behavior control, which potentially effects behavioral intention. According to Ajzen (1991), the theory of planned behavior proposes three independent determinants of intention which are attitude towards the behavior, subjective norm and perceived behavioral control.

- Attitude as defined by Fishbein and Ajzen (1975) quoted in Liao et al., (2007, p. 2809), is "the degree of one's favorable or unfavorable evaluation of the behavior in question". The attitudes are developed reasonably from one's beliefs about object of the attitude.
- Subjective Norm refers to "the perceived social pressure to perform or not to perform the behavior"(Ajzen, 1991 quoted in Liao et al., 2007, p. 2809). It can be said that it is related to the normative beliefs about other people's expectations on either to perform or not to perform the behavior.
- Perceived behavioral control refers to "people's perception of ease or difficulty in performing the behavior of interest" (Ajzen, 1991 quoted in Liao et al., 2007, p. 20

2809) and is assumed to reflect past experiences as well as the predicted difficulties and barriers. The construct of the perceived behavioral control in the TPB is added to cope with the situations in which people may lack the complete volitional control over the behavior of interest. Perceived behavioral Control is directly connected to the beliefs of the control factors that can facilitate or hinder the performance of the behavior (Ajzen, 2002) quoted in Liao et al., (2007). Control factors can be referred to as the internal or external constraints where internal constraints are related to self efficacy and external constraints to the environment (Ajzen, 1991 quoted in Liao et al., 2007).

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

### ***2.2.7 Innovation Diffusion Theory (IDT)***

According to (Rogers,1995 p. 11), innovation is defined “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”, whereas diffusion is defined as “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 1995, p. 5). Therefore, Innovation Diffusion Theory (IDT) states how new ideas, concepts or technologies spread or become common in a society and adopted by users. Innovation Diffusion Theory (IDT) Includes fives characteristics. These characteristics as defined by Rogers (1995, pp. 250-251) are:

- **Relative Advantage:** “The degree to which an innovation is perceived to be better than the idea it supersedes”.
- **Compatibility:** “The degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters”.
- **Complexity:** “The degree to which an innovation is perceived as relatively difficult to understand and use”.
- **Trialability:** “The degree to which an innovation may be experimented with on a limited basis”.
- **Observability:** “The degree to which the results of an innovation are visible to others”.

The above mentioned characteristics, defined by (Rogers, 1995) greatly influence adoption. According to Chen et al., (2000), among five characteristics of IDT, relative advantage, compatibility and complexity are the only attributes, which are consistently related to e-banking adoption.

## ***2.3 Review of Empirical Literature***

Some related studies are conducted by different researchers in different parts of the world. Gardachew (2010) conducted research on the opportunities and challenges of E-banking in Ethiopia. The aim of his study was focused on analyzing the status of electronic banking in Ethiopia and investigates the main challenges and opportunities of implementing E-banking system. The author conducted a survey on the existing operating style of banks and identifies some challenges of using E-banking system,

such as, lack of suitable legal and regulatory frame works for E-commerce and E- payments, political instability in neighboring countries, high rates of illiteracy and absence of financial networks that links different banks. According to Gardachew (2010), Opportunities offered by ICT through e-learning programs and Commitment of the governments on development of ICT infrastructures is considered as drivers of using E-commerce and E-payment systems.

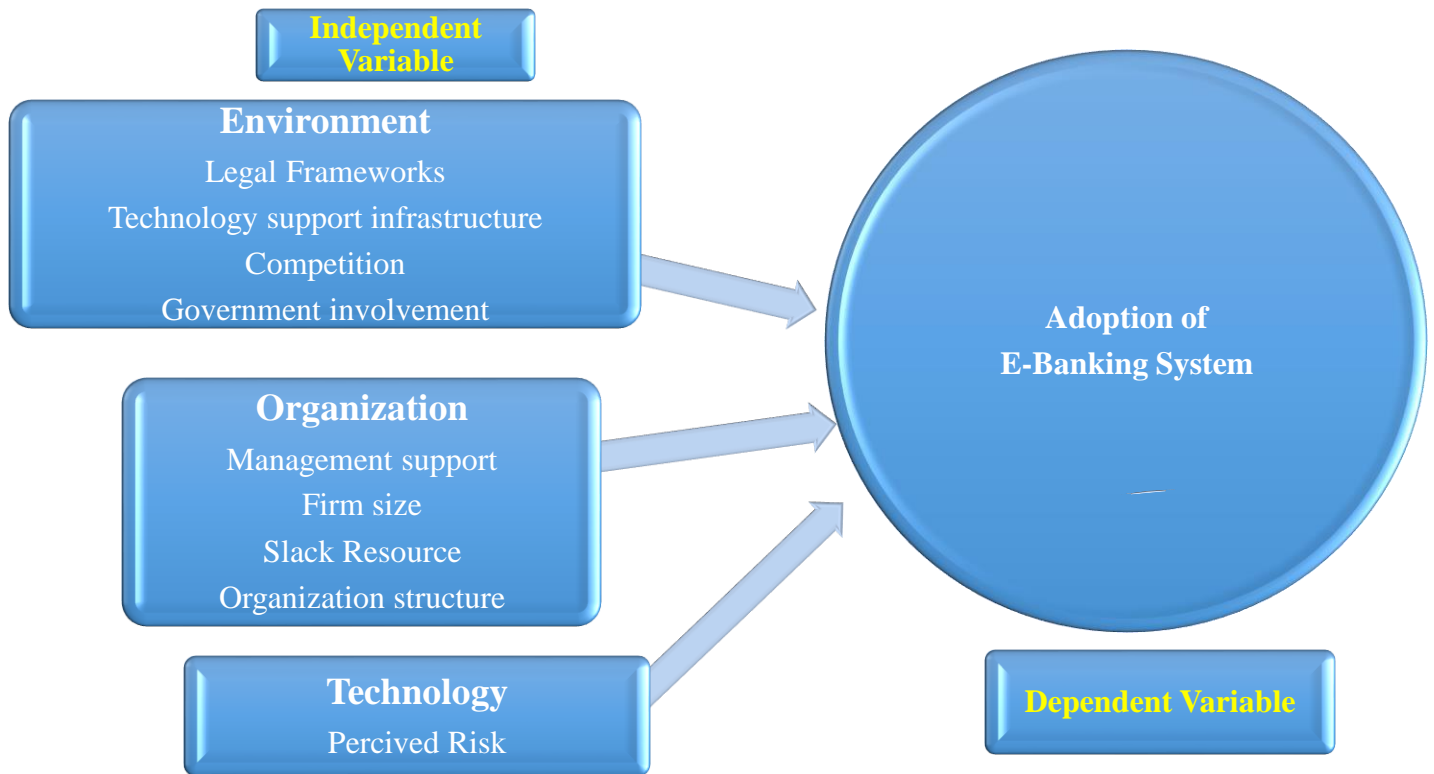
The study conducted by Daghfous and Toufaily (2007) on the success and critical factors in adoption of E-banking by Lebanese banks. The research was conducted on the factors that can lead to success the adoption of E-banking and the other factors that can constitute as barrier to its adoption, it focus on the organizational, structural and strategic factors which can accelerate or, on the contrary, slow the adoption of this electronic mode of distribution and communication by the banks, through analyzing the case of the Lebanese market. In order to test the validity of the theoretical framework, structured survey was used, interview questionnaire that was given to E-banking managers or to information technology managers of all the banks on the official list of institutions operating on the Lebanese market, with a total of 57 banks, 31 of them operate internationally and 26 are strictly local were used to gather data. The results of their study shows that the organizational variables (bank size, functional divisions, technical staff, technical infrastructure, perceived risks, decision makers` international experience and mastery of innovation) are variables which exert significant impact on the adoption of E-banking, among the structural characteristics, the result revealed that internal technological environment of the bank is a very important factor in determining the adoption of E-banking, also the result shows that banks which are developing in the international scale are more likely to adopt E-banking . Finally the result of the study indicated that extent of penetration of E-banking in the growth phase of an emerging market has an important correlation with the improvement of commercial performance.

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

there is a narrow-based satisfaction with internet banking in all factors through a multi-regression; the researchers found out that all factors have an impact on the customer satisfaction, and they have found that the relation was positive.

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

## 2.4 Conceptual Framework of the study



**Fig 1. Adopted from TOE Framework (Tornatzky and Fleischer 1990)**

## 2.5 Research Hypotheses

**H1:** Environmental factor has significant positive effect on adoption of e-banking system?

**H2:** Organizational factors have significant positive effect on adoption of e-banking system?

**H3:** Technology has significant positive effect on adoption of e-banking system?

## **CHAPTER THREE**

### **3, RESEARCH METHODOLOGY**

This chapter presents the detail methodology, showing the logical frame work that discusses research design, research approaches, Target population, Sampling technique and sample size and Data type and source, Data collection instrument, Data analyzing techniques, Reliability and validity and Ethical consideration.

#### **3. 1 Research approach**

In order to achieve the objective of this study and answer the research questions, the researcher adopted both qualitative and quantitative research approaches to investigate the factors affecting adoption of E-banking service delivery system in Oromia International Bank. Employing this approach was used to neutralize or cancel the biases of applying any of a single approach and a means to offset the weaknesses inherent in a single method with the strengths of the other method (Creswell, 2003). This research approach pose the researcher to the challenges that need for extensive data collection, the time-intensive nature of analyzing both text and numeric data, and the requirement for the researcher to be familiar with both quantitative and qualitative forms of research (Creswell, 2003; pp. 210).

#### **3. 2 Research Design**

This study applied an explanatory research design in order to gather as much information as possible concerning factors affecting adoption of E-banking system in oromia international bank. Specifically, these were in respect of the perspective of banking operations in oromia international bank. This research was focus on explain the current situation of the problem and answer the research questions which are in the form of “why”, and to highlight the most important factors that can negatively or positively affect adoption of E-banking in oromia international bank. Therefore, explanatory research will be used in to fulfill this approach.

#### **3.3 Target population**

For the purpose of this study the researcher designed to approach all available working staffs in E-banking and ICT department staffs. The data collection method was through administrating questionnaire to E-banking and ICT department junior officers, senior officers, department

managers, and an interview session had been executed with Director E-banking department and V/p of ICT department of OIB Addis Ababa. But exclude non –clerical staffs.

### ***3.4 Total Population Size***

Studies which cover all the members of population are called “Census” in research terms; population is defined as the totality of cases that confirm to them designated specifications. For the purpose of this study the researcher designed to follow census approach to include all (76) working staffs in E-banking and ICT department. Because of manageable size and it is reasonable for the researcher in terms of cost and time wise. In this case the researcher was prepared an interview for both department managers and questionnaires was been distributed for all these two department staffs.

### ***3.5 Data type and Source***

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

### ***3.6 Data Collection Instrument***

The questionnaires was structured in close-ended type and responses to the questions was measured on a five Likert rating scale where: Strongly Agree (SA) = 1; Agree (A) = 2; Neutral (N) =3, Disagree (D) = 4; and Strongly Disagree (SD) = 5; the use of Likert scale is to make it easier for respondents to answer question in a simple way. In addition, this research instrument was permit an efficient use of statistics for the interpretation of data. Moreover, the central issue to argue that likert scales is that it produce ordinal data. Johns (2010) noted that in statistical terms the level of measurement of the likert response scale is ordinal rather than interval: that is, we can make assumptions about the order but not the spacing of the response options. Thus, the permissible descriptive statistics that can perform on ordinal data is mean (or average response) and mode (or more frequent responses) (Hole 2011).

### ***3.7 Data Analyzing Techniques***

A quantitative data analysis tool will use to analyze the collected data. Descriptive statistics will also use to describe and interpret the result of the study. Correlation analysis more specifically Pearson correlation will use to measure the degree of association between two variables. Multiple regression analysis method will use to determine the strength and character of the relationship between E-banking system adoption (dependent variable) and Technology, Organization and Environmental factors (Independent variable) concerning the factors affecting adoption of E-banking system the case of oromia international bank. SPSS 20 version software will use to analyze the data collected from data collection instrument.

### ***3.8 Validity and Reliability of the Study***

**Validity:** a conclusion of any study can be affected by either a researcher's bias or subjective judgment in the data collection process (Yin, 1994). Accordingly, the researcher must provide supporting evidence that a measuring instrument does in fact measure what it appears to measure. Preparing questionnaires to OIB ICT and E-banking department employees and managers will be a way of maintaining validity.

**Reliability:** on the other hand, is the central concern to social scientists because the measuring instruments they employ are rarely completely valid. Reliability is the extent to which a measuring instrument contains variable errors, that is, errors that appear inconsistently from observation during any one measurement attempt or that vary each time a given unit is measured by the same instrument. Reliability of the data was checked by triangulation of the collected data and information (Kothari, 2009). The measurement scale of factor affecting adoption of e-banking system used for this study was (Torntzky and Fleisher 1990) model.

### ***3.9 Ethical consideration***

The respondents are given privilege of not writing name and other identities to hide them from unwanted approaches to be maintained by any other groups, no respondent was forced to fill the questionnaires unwillingly and/ or without his/her consent and this study was free of plagiarism except reference purpose of using secondary data for the thesis.



## CHAPTER FOUR

### 4. DATA PRESENTATION, ANALYSIS AND DISCUSSIONS

The primary focus of the study was to investigate factors affecting the adoption of e-banking system in the perspectives of Oromia international bank. This chapter focuses on the results of analysis and the findings using descriptive and inferential statistics. Therefore, the chapter presents the responses that were received from the distributed questionnaires.

#### 4.1. Response Rate

During the survey a total of 76 questionnaires were distributed to the respondents 100% complete response rate were returned.

*Table 4.1: Response Rate*

<b>Response rate</b>	<b>Items Response Rate</b>	<b>Percentage</b>
No. of Respondents	76	
Collected	76	100%
Appropriately filled	76	100%

Source: own survey data, 2021

#### 4.2. Reliability Analysis

*Table 4.2: Reliability Analysis*

<b>Cronbach's Alpha</b>	<b>N of Items</b>
0.899	22

For the purpose of determining the internal consistency or average correlation of items in the survey instrument to measure its reliability and internal consistency of the scales Cronbach's alpha has been used. Cronbach's alpha can be interpreted as a correlation coefficient, it ranges in value from 0 to 1. The closer value of reliability coefficient gets near to 1.0 are better and the result of reliabilities that are less than 0.6 is considered being poor. Reliability test was conducted to make sure the instrument used in the study was reliable. The elements under analysis are (22) Twenty Two elements. The

cronbach's alpha for the general instrument is found to be 0.889 which is more than the acceptable range (Saunders, Lewis and Thornhill 2012). The source of the measurement scale used for this study was (Torntzky and Fleisher 1990).

### ***4.3 Validity Analysis***

A conclusion of any study can be affected by either a researcher's bias or subjective judgment in the data collection process (Yin, 1994). Accordingly, the researcher must provide supporting evidence that a measuring instrument does in fact measure what it appears to measure. Preparing questionnaires to OIB ICT and E-banking department employees and managers was maintaining validity. Accordingly, validity test was conducted and the data is called normal when the significance of the data is no more than 0.05 and in this data is valid because this data is no more than 0.05.

### ***4.4 Demographic information of respondents***

From the data presented in table 4.3, the majorities (68%) of the respondents were male and the remaining (32%) of the respondents were female.

Likewise as explained in the table above, the majorities (46%) of the respondents were under age group of 31-41 years old followed by age group of 20-30 years accounted for (33%). The remaining (21%) were 41-50 years old.

The study table revealed the upper and lower level income, less than 10,000.00 Birr and greater than 15,000.00 Birr. The fact that the big percentage of respondents (see table 4.3) 54%, were from income group of 10,001.00 -15,000.00, followed by 32% of income group greater than 15,000.00, and income group of birr 7,001.00 -10,000.00 respondents were representing only 14, % of total. This indicated that the analysis comprising different income section of the population.

Regarding educational level of the respondents, the above figure portray that the majority 71% of the respondents were BA/BSc holders, 24% were MA/MSc holders and 5% of the respondents were. Therefore, the educational backgrounds of most respondents were BA/BSc holders reflecting that the respondents were in a good position to understand and answer the research questions.

With regard to years of experience in Banks (54%) have 5 – 10 years 'experience, (39%) of them have been working in Banks from 3-5 years, (7 %) employees have an experience of above 10 years. The majority of the respondents constituting about (93%), do have experience of  $\leq 10$  years, which seem okay with the population. The rest around 7% of the respondents were  $> 10$  years, these people are

assumed to be well experienced and have good knowledge about the existing ICT information as well as E- banking system services in their working place.

**Table 4.3: Demographic Characteristics of the Respondent's**

		Frequency	Percentage
Gender	Male	52	68%
	Female	24	32%
Total		76	100%
Age	20-30	25	33%
	31-40	35	46%
	41-50	16	21%
	51-60		
Total		76	100%
Education	Diploma	4	5%
	BA/BSC	54	71%
	MA/MSc	18	24%
Total		76	100%
Work Experience	1-3 Years		
	3-5 Years	30	39%
	5-10 Years	41	54%
	Above 10 Years	5	7%
Total		76	100%
Income group	Br. 2000- Br. 5000		
	Br.5001- Br. 7000		
	Br. 7001 - Br. 10,000	11	14%
	Br. 10001 - Br. 15000	41	54%
	Above Br. 15000	24	32%
Total		76	100%

Source: own survey data, 2021

## 4.5 Descriptive Statistics

To describe statistical analysis to analyze the three components of (TOE) Model conceptual framework developed for this study. The analyses were on: Technology, Organizational and Environmental these affecting e-banking system adoptions.

The above listed factors are the most critical parts of the conceptual framework and basic research variables of this paper. Therefore, the discussion of the above conceptual framework components will answer the basic research questions and meets the stated objectives of this study.

For the analysis of all these variables, mean and standard deviation is used. Particularly mean value of the respondents has considered as an important indicator to the extent of each factor in determining e-banking system adoption and group mean was calculated and used.

In order to specify the relative importance of the questionnaire items, to highlight the degree of adoption of e-banking system activities and to determine the organization awareness at OIB, an ordinal scale was developed to give meaning to the arithmetic mean.

**Table 4.4: Descriptive Statistics for the Technological Factor**

	N	Mean	Std. Deviation
Customers do not trust the technology provided by banks	76	1.96	.958
Lack of trust is considered as barriers for the adoption of E-banking system. .	76	1.83	.929
In the case of using mobile banking, ATM and others, security risk affect users decision to use the system	76	1.79	.660
Lack of confidence with the security	76	1.58	.853
Customers fear risk to use ATM	76	1.46	.916
<b>Average</b>	<b>76</b>	<b>1.72</b>	<b>0.86</b>

The descriptive statistics which are the means and standard deviations of the Technological factor statement of criteria or facets is displayed in Table 4.4 as per the magnitude of their means. As shown descriptively the mean or the average response of the respondents relatively equal /above the grand mean. This indicates that majority of respondent agree that their company engaged with low technological trust, trust as barriers for adoption of e-banking system, unsecured with E-banking

products. The statement of criteria of the Technological perceived risk mean or standard deviation which constitute was 1.96 (SD=.0.958), 1.83 (SD=.929), 1.79 (SD=.660) respectively. And the respondents were in consent that this variable is strongly affecting e-banking system adoption in the case OIB. But, lack of confidence with security, fear of risk with ATM show average/ moderate i.e. 1.58 (SD=.853) and 1.46(SD=.916) as compare to the grand mean.

Therefore, as can be seen from table 4.4 the relative importance of Technology factor is relatively high.

**Table 4.5: Descriptive Statistics for the Organizational Factor**

	N	Mean	Std. Deviation
Management of our bank were not familiar with service provided though ATM, Internet banking, telephone and mobile phone.	76	1.99	1.000
Relatively costly to launch E-banking service.	76	1.91	.751
Lack of technical and managerial skills on the use of technological innovation.	76	1.70	.749
To establish E-banking service increases to do banking task.	76	1.59	.715
Lack of skills to implement E-banking system.	76	1.58	.821
<b>Average</b>	<b>76</b>	<b>1.75</b>	<b>0.81</b>

The descriptive statistics which are the means and standard deviations of the Organizational factor statement of criteria or facets is displayed in Table 4.5 as per the magnitude of their means. As shown descriptively the mean or the average response of the respondents relatively equal /above the grand mean. This indicates that majority of respondent agree that their company engaged with lack of management familiarity with E-banking products, Relatively costly to launch E-banking service, Lack of technical and managerial skills on the use of technological innovation . The statement of criteria of the Organizational factor mean or standard deviation which constitute was 1.99 (SD=1.000), 1.91 (SD=.751), 1.70 (SD=.749) respectively. And the respondents were in consent that this variable is strongly affecting e-banking system adoption in the case OIB. But, To establish E-banking service increases to do banking task, Lack of skills to implement E-banking system show average/ moderate i.e. 1.59 (SD=.715) and 1.58(SD=.821) as compare to the grand mean.

Therefore, as can be seen from table 4.5 the relative importance of Organizational factor is relatively high.

**Table 4.6: Descriptive Statistics for the Environmental Factor**

	N	Mean	Std. Deviation
Internet connection not good enough to perform online transactions.	76	1.91	.751
Cross-country legal and regulatory differences will have impact on the adoption of new technological innovation in the banking sector like, ATM, internet banking, mobile banking and Point of sale terminals (POS).	76	1.82	1.029
Lack of legal frame works that enforce banking industries to adopt technological innovation	76	1.75	.954
Lack of available ICT infrastructure	76	1.70	.749
Using internet banking is difficult due to low internet access in Ethiopia	76	1.59	.715
Customers may not willing to accept E-banking service	76	1.39	.492
Lack of sufficient government support will affect customers willingness to use technological innovation	76	1.39	.492
lack of competition between Ethiopian banking sector and foreign bank	76	1.39	.492
Mobile banking services may not perform well because of network problems	76	1.39	.492
<b>Average</b>	<b>76</b>	<b>1.59</b>	<b>0.685</b>

As depicts in table 4.6 above concerning Environmental factor that, weak internet connection 1.91 (SD=0.751), which is the higher mean score compared to the grand mean of 1.59, it sounds right; from the fact that we have on the ground.

The second and third facet/criteria, cross- country legal and regulatory differences, lack of legal frame work , lack of ICT infrastructure, low internet access The statement of criteria of the Environmental factor mean or standard deviation which constitute was 1.82 (SD=1.029), 1.75 (SD=.954), 1.70 (SD=.749), 1.59 (SD=.715) respectively. And the respondents were in consent that this variable is strongly affecting e-banking system adoption in the case OIB. Equal with that of lack customer willingness to accept e-banking service, lack of sufficient government support, lack of competition, poor network performance 1.39(SD=0.492) all of each are also below the group mean of 1.59. That also seems not okay, because facts tell something. As it is known this is may be because of, the government of Ethiopia has been work hard on the development of infrastructure, especially on

telecom and related sectors. Because of we are available in age of digital economy, so as to stretching mobile and internet banking users with facilitation of fast and consistent reach ability. National Bank of Ethiopia also has to pressure all banks to adopt world class banking technologies before the time, the door is opened to the international banks are coming and allow operating. If not, that time may be very dangerous for those banks which are waiting as they are, because the competition will be very stiff and even probably will be collapsed and kicked out of the market; because those international banks will come up with great pragmatic innovative banking technologies to surprise and amaze for calling up the existing customers of local banks.

**Table 4.7: Descriptive Statistics for E-banking System Adoption**

	N	Mean	Std. Deviation
All in All, do you believe e-banking Adoption is feasible in OIB, with current situation?	76	1.34	.477
Do you believe, e-banking could help you to achieve your organization strategic plan?	76	1.75	.953
Do you believe e-banking adoption is part of technological innovation?	76	1.90	.751
<b>Average</b>	<b>76</b>	<b>1.66</b>	<b>0.727</b>

Table 4.7 above indicates the Descriptive Statistics for the e-banking adoption the mean score was between 1.75 and 1.90. High mean vale registered on the criteria/facets Do you believe e-banking system adoption is part of technological innovation? (1.90), so we can say that OIB has to give great attention & apply maximum effort for technological innovation. The next high mean vale registered on the criteria/facets, Do you believe, e-banking system adoption could help you to achieve your organization strategic plan? (1.75), this shows that OIB’s strategic plan has to be aligned with technology.

However, the mean score of the item label All in All, do you believe e-banking system Adoption is feasible in OIB, with current situation? Show weak mean value 1.34 this indicates that the feasibility of adopting e-banking system with the current situation will be very challenging.

Therefore, as can be seen from table 4.7 the relative importance of e-banking system Adoption is relatively high.

## 4.6 Correlation Analysis

**Table 4.8: Pearson Correlation matrix**

	EA	EF	OF	TFPR
EA	1			
EF	.794** .000	1		
OF	.789** .000	.689** .000	1	
TFPR	.284* .013	.346** .002	.444** .000	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

The results indicated that all the E-banking system indicators have positive correlation effect on e-banking system adoption though their degree of effect varies. Therefore, when the government make changes to one e-commerce dimension there is likely to positively raise e-banking system adoption. The Environmental dimension like gov't involvement, legal and regulatory framework, ICT infrastructure, competition between local and foreign bank yielded the highest positive relationship with e-banking system adoption coefficient of (r=.794). The organizational dimension i.e management support, slack resource, firm size and structure was the second highest positive regarding its association with e-banking system adoption (r =.789). Moderate relationship also absorbed in factors like Technological factor (r=.0.284).



## 4.7 Regression Analysis

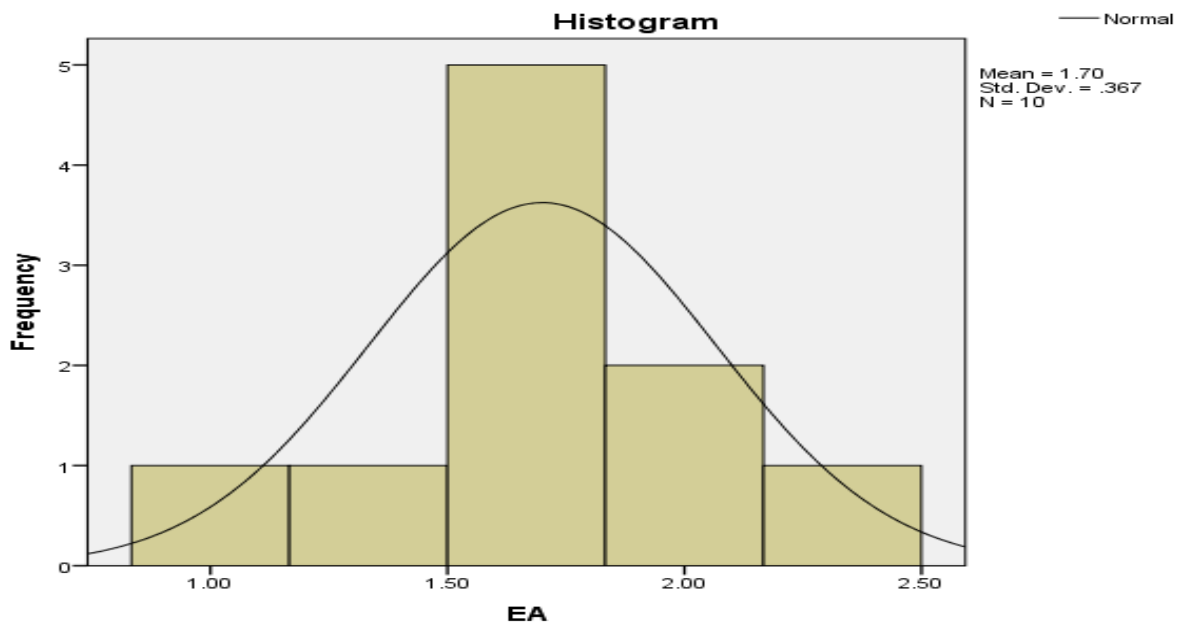
### 4.7.1 Important Assumptions of Multiple Linear Regression Model

Before directly dealing with the regression model the researcher check some important assumptions in relating to the multiple Linear regression model, to look at those hypotheses whether to accept or reject and to check no important assumptions are violated Multicolliniarity, Heteroskedasticity and Normality and Outlier test was conducted as follows.

#### 4.7.1.1 Normality Test

This study involves total population (76) and therefore, the central limit theorem could be applied and hence there is no question on normality of the data.

**Graph** **4.2** **Histogram** **fo**



**r normally distributed standardized residual**

### 4.7.1.2 Multicollinearity Test

**Table 4.9: Multicollinearity Test**

Independent Variables		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	TFPR	.799	1.251
	OF	.478	2.094
	EF	.524	1.909

a. Dependent Variable: EA

Two major methods were utilized in order to determine the presence of multicollinearity among independent variables in this study. These methodologies involved calculation of both a tolerance test and variance inflation factor (VIF), the results of these analyzes are presented in Table 4.9

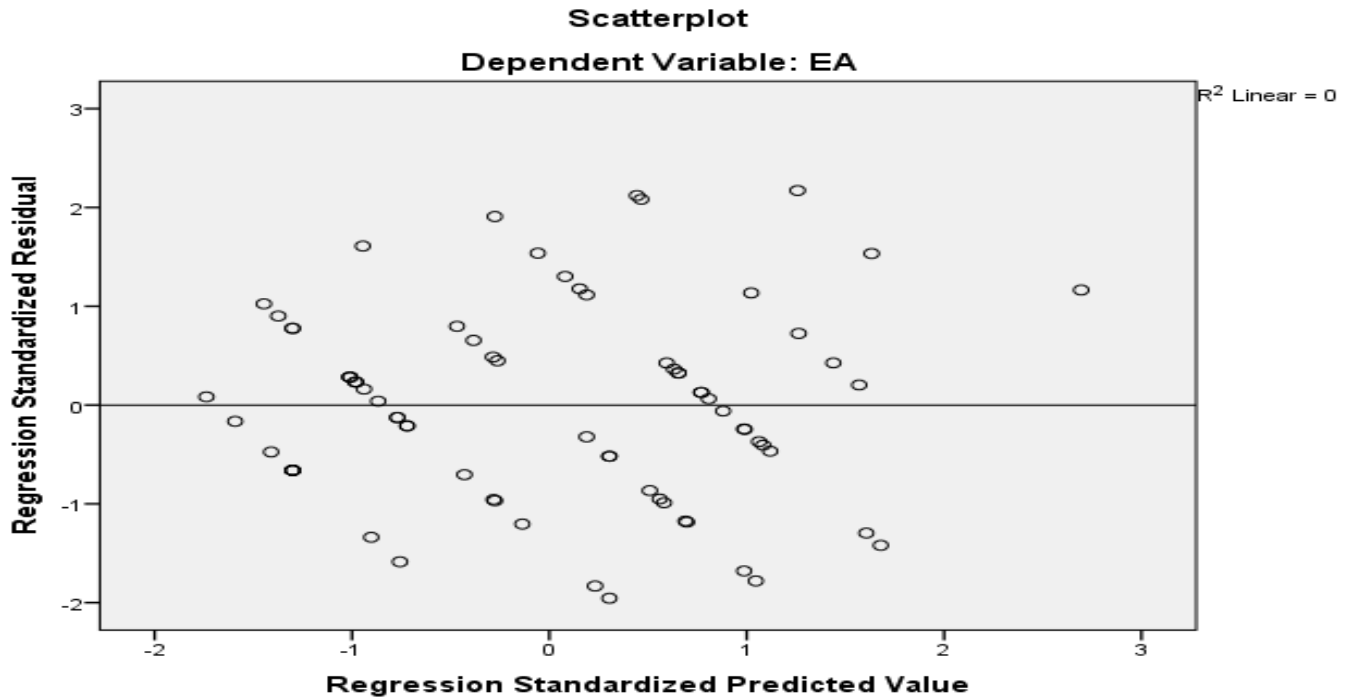
According to (Greene, 2000), multicollinearity is a high degree of correlation among several independent variables. This test was performed concerned on two values—Tolerance and VIF. In social sciences research, a VIF value below 10 and tolerance above 0.02 is considered to be acceptable (Field, 2009).

The first assumption is to check the problem of multicollinearity. The presence of multicollinearity in the model is detected by using Variance Inflation Factor (VIF). As noted by Gujarati (2004), the rule of thumb suggested that if variance inflation factor exactly or exceeds 10 then there is a problem of multicollinearity. Multicollinearity happens when there is a strong correlation between more than two independent variables. Perfect co linearity occurs when at least one independent variable is a perfect linear combination of the others. This means that if there are two independent variables that are perfectly correlated, the values of  $\beta$  for each variable are interchangeable (Gujarati and Porter, 2010). As shown in the appendix the output of VIF showed that a value of less than 10 for all the independent variables and the Tolerance value are greater than 0.02 . Thus, knowing that there is no serious multicollinearity problem among the variables, they can be considered in the model estimation.

### 4.7.1.3 Heteroskedasticity Test

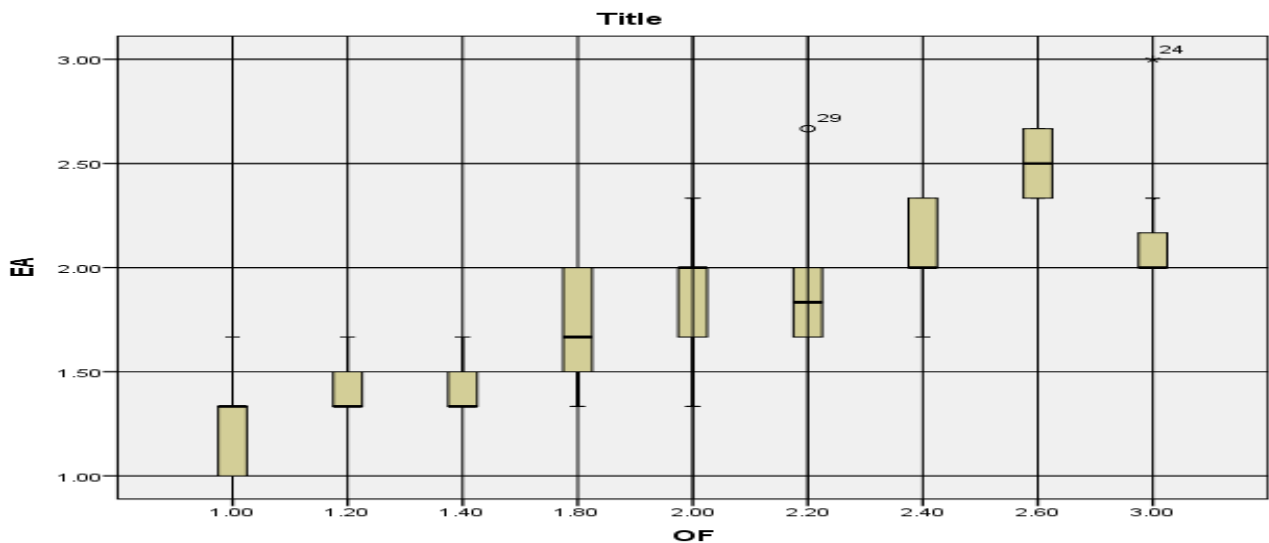
The p-value should be bigger than 0.05 to not reject the null of homoscedasticity at the 5% level, so, since the p value of the chi2 is greater than 0.05, problem of heteroskedasticity is not detected in the model.

Graph 4.1 Linearity and homoscedasticity normal point plot of standardized residual

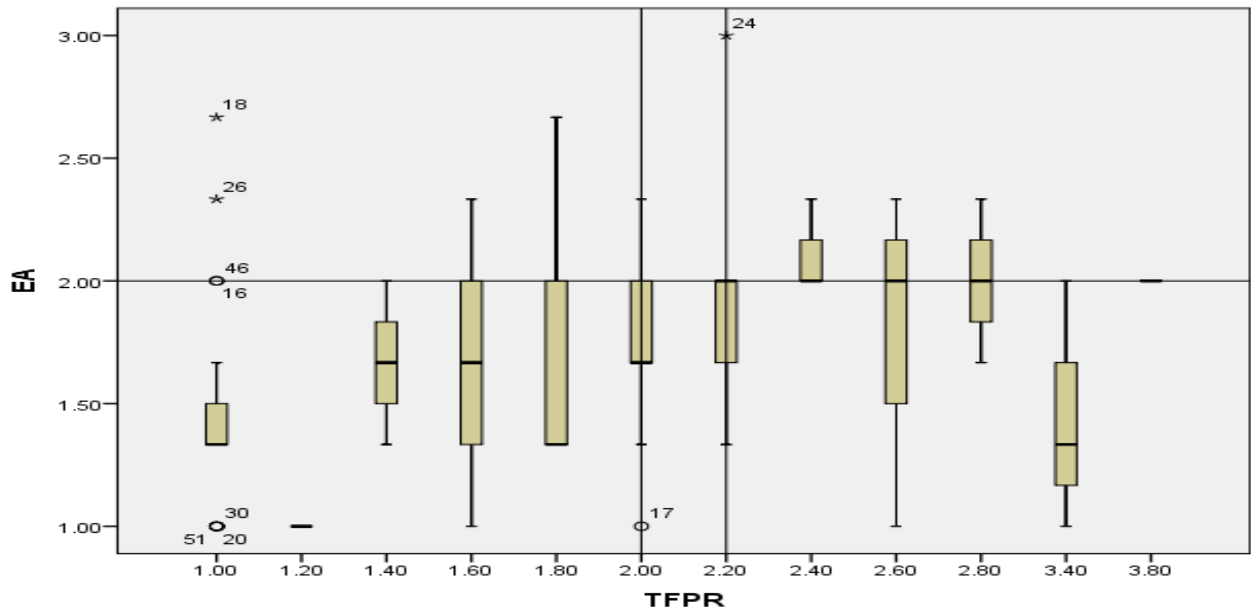


### 4.7.1.4 Outlier Test

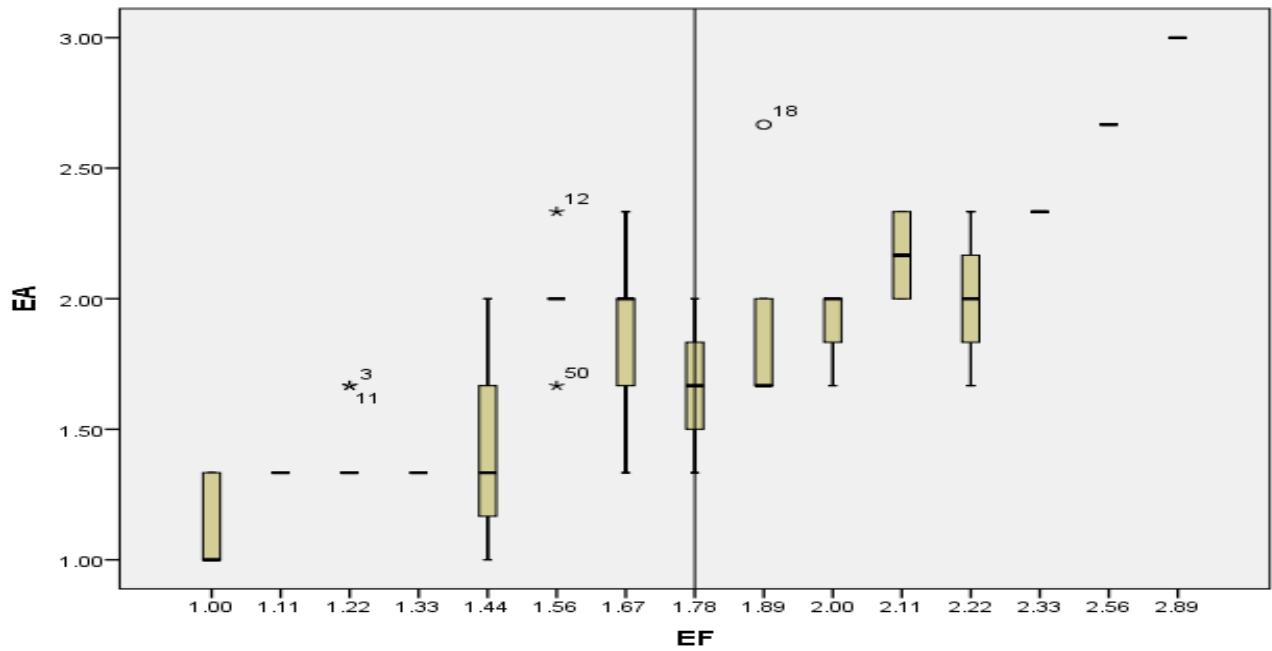
Graph 4.3 Outlier Variables Plots



**Graph 4.4 Outlier Variables Plots**



**Graph 4.5 Outlier Variables Plots**



From the graph depicted above (variable outlier plots), there are no as such more outliers found in all variable outlier plots except very few.

Accordingly, the model passes the entire assumptions of multiple regressions and interpreting the results is valid and correct.

## 4.8 REGRESSION MODEL SUMMARY

**Table 4.10: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.867 <sup>a</sup>	.751	.741	.23188

a. Predictors: (Constant), EF, TFPR, OF

b. Dependent Variable: EA

Source: SPSS 2020 Version Output (2021)

The model independent summary table 4.10 indicated that multiple correlation coefficient  $R = 0.867$  indicates there is a strong positive correlation between independent variables and e-banking adoption.

The model summary also states that the (3) three independent variables that constitute the e-banking system adoption of coefficient of determination R square is 0.751, which implies that there is quite significant explanatory power, 75.1% variation on dependent variable is caused by independent variables and the remaining 24.9 % is because of other unknown variables.

The adjusted  $R^2 = 0.741$  concerns the generalizability of the model, allowing the results to be taken from the sample and generalized for the whole population. It is noticed that the value of the adjusted  $R^2$  is very close to the value of  $R^2$ . If the adjusted  $R^2$  is excluded from  $R^2$   $(0.751 - 0.741) = 0.01$ . This minor decrease (0.01) means that if the model has been fitted when the whole population participates in the study, the higher variance in the outcome will be 0.01.

**Table: 4.11: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.684	3	3.895	72.433	.000 <sup>b</sup>
	Residual	3.871	72	.054		
	Total	15.556	75			

a. Dependent Variable: EA

b. Predictors: (Constant), EF, TFPR, OF

Source: SPSS 2020 Version Output (2021)

Besides, the value there is a statistically significant effect of the independent variables on the dependent variable where F value of the model was (72.43) at 0.000 ( $P < 0.05$ ) in which  $R^2 > 0$ , which

states that there is statistically significant effect of independent variables collectively on e-banking system adoption.

**Table: 4.12: Regression Coefficient**

Variable		Coefficient	Std. Error	T	p	(95% Conf.Interval)	
1	(Constant)	.365	.110	3.332	.001	.384	.287
	TFPR	-.072	.044	-1.633	.107	.799	1.251
	OF	.345	.058	5.922	.000	.478	2.094
	EF	.515	.087	5.957	.000	.524	1.909

a. Dependent Variable: EA Predictors : (Constant), EF,OF,TFPR

Source: SPSS 2020 Version Output (2021)

Therefore, variables, Environmental , Organizational and Technological factor were checked and the t value resulted 5.957, 5.922, -1.633, respectively which indicates that the variables have statistically significant predictive capability but technological factor insignificant; which implies that they exert a significant influence on the bank’s ability and decision to adopt e-banking system, except Technological factor.

Technological factor has negative, but insignificant effect on (Beta = -.073,  $p > 0.05$ ) value and their impact on e-banking system adoption in OIB. It is most probably because OIB well experienced in adopting different types of technological adoption like ATM system, Online banking system, core-banking system and other more similar banking technologies, these all technology adoption experience will help them to adopt similar technologies easily, so perceived risk will not be considered as a bottleneck to adopt e-banking system technology to as per participant responses.

Based on multiple linear regression analysis, the above table 4.12 reveals the effect of each determining factors in e-banking system adoption and their significance. The impact of Environmental and Organizational factor on e-banking system adoption with in OIB are .515, and .345, respectively, in their descending order. By examining this beta weight of data analysis result the finding shown that Environmental followed by Organizational factor caused relatively larger contribution to the prediction model.

This is consistent with previous findings by (Looi, 2005) and (Molla and Licker, 2005). (Molla and Licker, 2005) found that at the initial stage of e-banking system adoption, in developing countries.

Results of this study in general support the idea that these factors influence e-banking system adoption in OIB.

From this the regression equation is derived as follows:

Regression Equation:

$$EA = \beta_0 + \beta_1 EF_i + \beta_2 OF_i + \epsilon_i \text{ /stochastic error}$$

$$EA = .365 + .515 EF_i + .345 OF_i + \epsilon_i$$

Where:

EB = E-banking Adoption

EF = Environmental Factor

OF = Organizational Factor

TFPR = Technological Factor Perceived Risk

$\epsilon_i$  = error term at time i

#### ***4.9 Magnitude of the Factors Affecting E-commerce Adoption***

The model illustrates that when all variables are held at zero (constant), the value of the magnitude of e-banking system adoption would be 0.365. However, holding other factors constant, a unit increase in Environmental factor in OIB would lead to a 0.515 increase in the magnitude of e-banking system adoption, a unit increase in Organizational factor in OIB would lead to a 0.345 increase in the magnitude of e-banking system adoption.

The above results confirm that the (3) three independent variables under consideration contribute individually and jointly to the magnitude of e-banking system adoption in OIB.

- ✓ It was hypothesized that; a high level of Environmental determinant factor can have a positive effect on e-banking system adoption.
- ✓ It was hypothesized that; a high level of Organizational determinant factor can have a positive effect on e-banking system adoption.
- ✓ It was hypothesized that; a moderate level of Technological determinant factor can have negative effect on e-banking system adoption.

The result of table 4.12 shows that standardized coefficient beta and p value of EF was statistically strong significant on e-banking system adoption (beta=.515,  $p < 0.05$ ). Therefore, the third hypothesis is accepted.

It was hypothesized that; a high level of Environmental factor will positively impact adoption of e-banking system.

According to the interview panel with V/P ICT department and Director E-banking department respectively, it is highly supported that Environmental determinant factor plays a pivotal role.

According to the interview panel, now a day there is a good level consideration about information technology by the government. But still we don't have rules and regulation about the e-banking activity, this is very critical because an online transaction may cause some kind of trust problem, Therefore NBE should enact regulation.

However, government can play a key role in the growth of e-banking in OIB at large by availing the telecommunication infrastructure, road infrastructure and support by awareness creation. These results suggest that government e-readiness is not well recognized and all respondents share a common view concerning government e-readiness.

The result is consistent with previous findings by (Looi, 2005), (Molla and Licker, 2005) & Lavin and Fotoh, 2006).

✓ It was hypothesized that; a high level of Organizational factor will positively impact adoption of e-banking system.

The result of table 4.12 shows that standardized coefficient beta and p value of OF was statistically strongly significant on e-banking adoption (beta= .345,  $p < 0.05$ ). Therefore, the Second hypothesis is accepted.

According to the interview panel with both high officials, was also show the same result that there is a good belief on the perception of the benefit of e-banking i.e OIB had started e-banking system adoption on late 2015 G.C with 25 ATM machines in Addis Ababa the bank is currently working on a lot of projects regarding with ATM (Oro Card), Internet banking, Mobile Banking (Oro cash) Agent Banking (Oro agent). OIB has 187 ATM machines overall the country by now, And they said that even though, it is not happened to reach 15% of existing customer which is only about 300,000 customers using of e-banking from 2.2million of total customer . From this 123,000 are card user,



165,000 are using mobile banking and 7,000 are using Internet banking service and 5,000 are using agent banking service and it is served with CBS (Banks) system.

The result is consistent with previous findings by (Looi, 2005), (Molla and Licker, 2005) & Lavin and Fotoh, 2006).

✓ It was hypothesized that; a moderate level of Technological factor will negatively impact adoption of e-banking system

The result of table 4.12 shows that standardized coefficient beta and p value of perceived complexity was not statistically significant on e-commerce adoption (beta=-.072,  $p>0.05$ ). Therefore, the first hypothesis is rejected.

As per the interview panel and discussion, the technological factor will not be as such the problem in OIB said V/P ICT department. He continued, our bank is well experienced in adopting different banking technology like core banking, & other banking technology. So, this will help us to adopt e-banking technology easily. Therefore e-banking technology will not be uniquely risky to adopt at our end.

## ***CHAPTER FIVE***

### ***5. SUMMARY, CONCLUSION AND RECOMMENDATIONS***

The summary of the findings of the study, the conclusions inferred from the findings, and recommendations forwarded in relation to what is concluded is presented in the following subsections.

#### ***5.1 SUMMARY***

This study was conducted to investigate Factors Affecting the Adoption of E-banking system in the perspectives of oromia international bank. To accomplish this study researcher had to review various literatures relating to e-banking especially based on the research objectives and questions that were set. A number of documents had been reviewed in order to support the factors that have been identified. All of the concepts, ideas, opinions and theories that related to the research objectives were presented. I used both quantitative and qualitative approach when conducting the study. Data was collected through self administered questionnaires while semi-structured interviews were used to gain a thorough understanding of findings from the questionnaire assessment.

The collection of data was based on the research questions whereby structured questionnaires were used. In order to get the data, the questionnaires had been distributed to 76 respondents which consist of employees who are working in both ICT and E-banking department OIB in Addis Ababa. Data analysis was done through the use of SPSS 20 version as well as Microsoft Excel 2007.

The result of descriptive statistics among factors determining the adoption of e-banking system in oromia international bank shows that respondents are above the grand mean score of 1.68 with Technological perceived risk (M=1.72, SD= 0.86), Organization factor (M=1.75, SD= 0.81), followed by Environmental factor (M=1.59, SD= 0.685) slightly below the grand mean score. But, they have been considered by respondent as factors affecting e-banking system adoption in OIB.

Depending on the result of inferential statistics, the environmental factor yielded the highest positive relationship with e-banking system adoption coefficient of ( $r=.794$ ). The organizational dimension was the second highest positive regarding its association with e-banking adoption ( $r =.789$ ). Moderate relationship also absorbed in factors like perceived risk ( $r=.284$ ) respectively with e-banking system adoption in OIB.

Based on multiple linear regression analysis, the above table 4.12 reveals the impact of each determining factors in e-banking system adoption and their significance. The effect of Environmental and Organizational determinant factor on e-banking system adoption with in OIB are .515, .345, respectively, in their descending order. By examining this beta weight of data analysis result the finding shown that Environmental followed by Organizational factor relatively larger contribution to the prediction model.

The model summary table 4.11 also states that the (3) three independent variables that constitute the e-banking system adoption of coefficient of determination R square is 0.751, which implies that there is quite significant explanatory power, 75.1% variation on dependent variable is caused by independent variables and the remaining 24.9 % is because of other unknown variables.

## ***5.2 CONCLUSION***

The primary purpose of this study was to investigate factors affecting the adoption of e-banking system in Oromia international bank. Three independent variables that contribute to e-banking adoption were explored in this study including: Technological, Environmental and Organizational. The descriptive statistical analysis showed that different dimension factors affecting e-banking system/service adoption are significantly related. Weak relationship was also encountered with e-banking system adoption like Technology factor as per the respond obtained from respondent. These shows that other than these factors the remaining could possibly, have highly affected the adoption of e-banking system in oromia international bank.

The result of the multiple regression analysis regressing independent variables against e-banking system adoption, as dependent variable significantly explains the variance in e-banking adoption. The result indicated a relative high percentage of variation in e- banking system adoption as a result of those independent variables.

Now a day in the world there are a lot of novel ideas and pragmatic technologies are coming every day. So OIB should move with this dynamic change, not to be stagnant. The Bank should adopt e-banking technology and introduce to their customers, so this will definitely help them by creating cashless society, reducing foreign currency paid for the purpose of printing the notes and ultimately help the economy at large.

Therefore, we all are witnessing that, there is a paradigm shift on how business are carried out. E-banking significantly alter business activities globally, this dynamic environment Ethiopian commercial banks as well as OIB should adopt e-banking technology like other banking technologies to support their customers by providing e-marketplace that offers a virtual space in which buyers and sellers transact each other & make payment online, it replaces the traditional marketplace and ultimately helps to improve business transaction.

To fully exploit the potential of the internet and e-banking the government should support bank to adopt e-banking technology.

### **5.3 RECOMMENDATIONS**

The research paper provides a kind of relationship between various factors and adoption of e-banking. The findings of this research have a number of important implications that may assist different banks and governments to facilitate the adoption of e-banking. Based on the major findings that have been discussed so far the following points are recommended for practical application to enhance the adoption of e-banking in oromia international bank.

- ✓ Oromia international bank should have intensified providing e-banking service to their customers. That will be considered one part of online banking service and actually will always be seen in the eyes of potential customers. Additionally, since the customers / buyer and merchant transact online using mobile banking , internet banking , card banking, credit card, school fee and bill payments because the payment is made by transferring from one account to another account through the mentioned alternative payment channels; the physical money will not be withdrawn, this will help banks to mobilize deposit.
- ✓ Therefore, OIB should give attention to the continuous improvement and pragmatic innovative technologies to help them to take competitive advantages in the banking industry.

According to the interview conducted with V/P ICT –OIB said that, we are in the millennia of technology, but our bank still don't adopt full-fledged e-banking technology for payment facilitation, the results also confirmed that there is a kind of partial online trading activities in Ethiopia, like Ethiogift. Merkato.com, MekinaNet, Gebeya.com Dumbulo, YenePay, Makita & more others platforms. But when we come to the payment issue once again they get back to the traditional payment system (physical cash movement); this is because of absence of banks payment and settlement gateways. So to alleviate payment problem OIB should avail the payment gateway to their customers to harvest the full benefit of e-commerce.

- ✓ According to the interview with V/P ICT and Director E-banking has big project on e-banking, preparing the platform and payment gateway. This will be on air to the coming few year, that is good news. In connection with this other Determining Factors Affecting the Adoption of E-banking in the perspectives of oromia international bank should also give due attention in preparing e-commerce platform and payment gateway to their customers. At the bank level, banks should set e-commerce goals and objectives that are tied to their strategies. Training on e- banking should be provided before new changes are implemented. This would attune employees 'habits and thus minimize resistance and blocking of new changes in the organizations.

- ✓ For management this study demonstrates the importance of business owners and management in developing e-banking during the adoption and implementation process. In fact, without the knowledge and commitment of management, and their willingness to share the responsibility of the implementation process with employees and middle management, e-banking will not be successfully adopted and implemented. Moreover, it is essential for management in OIB to trust and encourage their employees in using new technology.
- ✓ In addition, high quality internal (IT) infrastructure, and access to financial resources, will help the bank to adopt e- banking.
- ✓ The government needs to improve IT infrastructure by liberalizing Internet services and allowing a wide range of companies to operate services rather than allowing a monopoly services i.e as but currently a few share of ethio-telecom have been sold for Global partnership for Ethiopia to operate on telecom sector . Furthermore, the government has to encourage private sector to establish logistics services that can facilitate e-banking up take in the country.
- ✓ For government, this study reveals that without government support in developing countries, businesses and the public will not embrace e-banking, particularly in Ethiopia, where the people trust the government more than private enterprise.
- ✓ Costs of Internet connectivity should be made affordable which would further encourage penetration of Internet beyond the urban areas.
- ✓ The government should implement in full the ICT Master Plan and enforce its overall policy statement on Internet pertaining to technical, economic and political perspectives. This will, among other things, create an enabling environment for e-banking start-ups and incubation projects.
- ✓ A legal framework and regulatory guidelines for commercial transactions to handle cyber- crimes should be enacted and implemented in liaison with the neighboring countries to ensure conformity. Adequate attention should be paid to risks and security, which is a major issue why consumers are afraid of & away from using e-banking technologies in general. Expert's belief that e-banking may not be totally void of fraud as it is still possible even in developed economies, more secured platforms are being introduced on a daily basis and this should extend to developing markets coupled with a good risk management system. This is where the government should play an active role.

Finally, future research should aim to improve the internal validity of the research by controlling confounding and extraneous variables and the hypothesis need to be tested in a vast scope in the future. It will also be interesting to investigate how other factors other than the three independent variables impact on e-commerce adoption level.

## References

- Almazari, A. A. K., and Siam, A. Z. (2008). *E-Banking: An Empirical Study on the Jordanian Commercial Banks*. *Journal of King Abdul-Aziz University* 22(2), 3-26
- Alagheband, P 2006, 'Adoption of electronic banking services by Iranian Customers', MA thesis, Lulea University of Technology,
- Booz, D., and Hamilton, K. (1997). „E-banking: A Global Study of Potential Effects”, New York, NY.
- Creswell, W 2003, *Research Design: Qualitative, Quantitative and Mixed Approaches*, " 2nd edition. Sage publication, California.
- Daghfous, N and Toufaily, E 2007, 'the adoption of E-banking by Lebanese banks: success and critical factors', research paper, Universte du Quebec a Montreal
- Ellis, J 2009, 'Open source software adoption by South African SMEs: Barriers and Enablers', In *SACLA.Mpekweni Beach Resort, South Africa*.
- Efendioglu, A and Yip, F 2004, 'Chinese culture and e-commerce: An Exploratory study Interacting with Computers', 16:45-62.
- Goi C.L. (2005) "E-banking in Malaysia: Opportunities and challenges", *Journal of Internet Banking and Commerce* Vol. 10 No. 3.
- Gardachew, W 2010, 'Electronic -banking in Ethiopia: practices, opportunities and Challenges', *Journal of internet Banking and commerce*, 15(2):2-9
- Gibbs, J, Kraemer, K and Dedrick, J 2003, 'Environment and Policy factors shaping E- commerce diffusion: a cross-country comparison', *The information society*, 19(1):18.
- Grover, V 199, 'An Empirical derived model for the adoption of customer-based inter organizational systems', *Decision Science*, 24:603-638.
- Hole, G 2011, *Levels of measurement in psychological research*, handout, Hoppe, R Newman, P &
- Iacovou, L 1995, 'Electronic data interchange and small organizations: Adoption and Impact of Technology', *MIS Quarterly*, 19(4): 465-485.
- Jayawardhena, C & Foley, P 2000, 'Changes in the banking sector: the case of Internet banking in the UK " Internet Research', *Electronic Networking Applications and Policy*, 10(1):19-30.

- Khanfar, K Rashed, A, Elzamy, M &Elmasri, A 2006, 'Customer Satisfaction with internet banking web Site: Case study on the Arab Bank', Research paper, The Arab Academy for Banking and Financial Sciences, Jordan.
- Kamrul, H 2009, 'E-Banking in Bangladesh: The Future of Banking, School of Business Studies', MA thesis, State University of Bangladesh
- Kuan, Y and Chau K 2001, 'A Perception-based model for EDI adoption in small business using Organisation-Environment Framework', *Journal of Information and Management*, 35:507-512.
- Laforet, S. 2005, 'Consumers' attitudes towards online and mobile banking in China' *International Journal of Bank Marketing*, 23(5):362-380.
- Malak, J 2007, 'Readiness of the Palestinian banking sector in adopting the electronic banking system: exploratory study', MA thesis, The Islamic University of Palestine
- Masrom, M. and Hussein, R. 2008, 'User acceptance of information technology: understanding theories and models'. Kuala Lumpur: Venton. Masters thesis,
- Martinsons, G 2001, 'Electronic commerce in China: emerging success stories', *Information & Management*, 39:571-579.
- Nath R. and Shrick P. and Parzinger M. (2001). "Bankers Perspectives on Internet Banking", *e- Service Journal*, Indiana University Press.
- Magembe, S and Shemi A P. (2002). *Challenges and opportunities for adopting Electronic commerce in a developing country: The Botswana Perspective. IAABD Conference proceedings, Port Elizabeth 2002.*
- Mugera, P 2001, 'Factors affecting the adoption of internet banking in south Africa' a comparative study.
- Mishra R and J. Kiranmai (2009). "E-Banking: A Case of India", *The Icfai University Journal of Public Administration*, Vol. 5, No. 1, pp. 55-65, 2009.
- Mols, K 1998, 'The behavioural consequences of PC banking', *International Journal of Bank Marketing*, 16(5):195-201.
- Polatoglu, V &Ekin, S 2001, 'An empirical investigation of the Turkish consumers Acceptance of Internet banking services', *International Journal of Bank Marketing*, 19(4):156-165.



- Pham, L 2010, 'A conceptual framework for E-banking service quality in Vietnam', *The Business 53 Studies Journal*, 4(3):1-19.
- Quaddus, M, and Hofmeyer G 2007, 'An investigation into the factors influencing the adoption of trading exchanges in small businesses', *European Journal of Information Systems*, 16:202-215.
- Rogers, M 2003, *Diffusion of Innovations*, 5th edition, New York: Free Press.
- Salwani, et al. 2009, 'E-commerce usage and business performance in the Malaysian tourism sector: Empirical analyses', *Information Management & Computer Security*. 17(2):166-185.
- Salman, S & Kashif, S 2010, 'Electronic banking & E-readiness adoption by Commercial Banks in Pakistan', *Masters Thesis, Linnaeus University, School of Computer science, physics and mathematics*.
- Sheshunoff, A 2000, 'Internet banking: an update from the frontlines', *ABA Banking Journal*, 92(1):51-55.
- Tornatzky, G & Fleischer, M 1990, *The Process of Technology Innovation*, Lexington, MA, Lexington book.
- Trappey, C.V. and Trappey A.J.C 2001, 'Electronic commerce in Greater China', *Industrial Management & Data Systems*, 101(5):201-209.
- Turban, D 2008, *Electronic commerce: a managerial perspective*, 4th Edition, Prentice Hall.
- Tower Group (2005) *Online banking consumers adoption in the US (2002-2006)*. Available at: [www.towergroup.com/research](http://www.towergroup.com/research).
- Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. (2003). *User acceptance of Information technology Toward a unified view*. *MIS quarterly*, 425-478
- Yin, R 1994, *Case Study Research Design and Methods*, applied Social Research Methods Series, 2<sup>nd</sup> Edition, Sage Publishing, Newbury.
- Zhu, K & Kraemer, K 2006, 'The process of innovation assimilation by firms in different countries: A technology diffusion perspective on E- Business', *European journal of information system*, 52(10):1557-1576.
- Zhao, et al. 2008, 'Perceived risk and Chinese consumers' internet banking Service Adoption', *International Journal of Bank Marketing*, 26(7):505-525.

## *Appendix A: Questionnaire*



### **ST. MARY'S UNIVERSITY**

### **SCHOOL OF GRADUATE STUDIES**

### **Questionnaire**

**Dear Sir/Madam**

My name is Frehun Zhewere, a student of Marketing Management (MA) at St. Mary's University. The aim of this questionnaire is to investigate the factors affecting of E-banking adoption in Oromia International Bank S.c. The information you provide in response to the items in the questionnaire will be used as part of the data needed for a study. The results of the study are anticipated to supply to the understanding of the basic factors affecting E-banking system adoption in delivering of service to customers in OIB. I would like to assure you that the information you provide will be used only for the purpose of achieving academic award. Your involvement is regarded as a great input to the quality of the research results. Hence, I believe that you will enlarge your assistance by participating in the study. Your honest and thoughtful response is invaluable.

**Thank you for your participation**

**Best regards,**

**Frehun Zhewere,**

**(MA) student at St Marry University College**

## General Instruction

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

### Section I: Demographic profile of respondents

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

1. Gender:            Male (1)                            Female (2)
  
2. Age:    20-30 (1)            31-40 (2)    41-50 (3)                            51-60 (4)
  
3. Educational level:  Diploma holder (1)    First degree holder (2)    Master degree (3)
  
4. Work experience:  1-3 Years (1)  3-5 Years (2)  5-10 Years (3)  Above 10 Years (4)
  
5. Monthly income (in Eth. Birr):  2000-5000 (1)  5001-7000 (2)  7001-10000 (3)  
 10001-15000 (4)    above 15000 (5)

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

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

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

**Part two: Questions related with factors affecting E-banking system adoption in OIB.**

The following are some barriers and challenges during the introduction of E-banking system; please indicate level of your choice.		SA	A	N	D	D	S
		1	2	3	4	5	5
<b>Technological Factor ( Perceived Risk)</b>							
TFPR1	Customers fear risk to use ATM						
TFPR2	Lack of confidence with the security						
TFPR3	In the case of using mobile banking, ATM and others, security risk affect users decision to use the system						
TFPR4	Customers do not trust the technology provided by banks						
TFPR5	Lack of trust is considered as barriers for the adoption of E-banking system. .						
<b>Organizational Factor ( Slack resource)</b>							
OF1	To establish E-banking service increases to do banking task.						
OF2	Relatively costly to launch E-banking service.						
<b>Organizational Factor ( Firm size)</b>							
OF3	Management of our bank were not familiar with service provided though ATM, Internet banking, telephone and mobile phone						
<b>Organizational Factor ( Management support)</b>							
OF4	Lack of technical and managerial skills on the use of technological innovation.						
<b>Organizational Factor ( Structure)</b>							
OF5	Lack of skills to implement E-banking system						
<b>Environmental Factor (Lack of Legal and Regulatory Frame Work)</b>							
EF1	Lack of legal frame works that enforce banking industries to adopt technological innovation						
EF2	Cross-country legal and regulatory differences will have impact on the adoption of new technological innovation in the banking sector like, ATM, internet banking, mobile banking and Point of sale terminals (POS).						
<b>Environmental Factor ( Lack of Adequate ICT Infrastructure )</b>							
EF3	Using internet banking is difficult due to low internet access in						

	Ethiopia					
EF4	Internet connection was not good enough to perform online transactions.					
EF5	Lack of available ICT infrastructure					
EF6	Mobile banking services may not perform well because of network problems					
<b>Environmental Factor ( Lack of Competition )</b>						
EF7	lack of competition between Ethiopian banking sector and foreign bank					
<b>Environmental Factor ( Lack of Government Support )</b>						
EF8	Lack of sufficient government support will affect customers willingness to use technological innovation					
EF9	Customers may not willing to accept E-banking Service					
<b>E-Banking Adoption</b>						
EA1	All in All, do you believe e-commerce Adoption is feasible in OIB, with current situation?					
EA2	Do you believe, e-commerce could help you to achieve your organization strategic plan?					
EA3	Do you believe e-commerce adoption is part of technological innovation?					

**Other challenges, please specify**

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## ***Appendix B: Interview***

### **Section one: Interview questions designed for the E-banking and ICT department managers of the bank.**

1. What type of Electronic banking service do you provide? ATM, Internet banking, mobile banking or others?

Please

2. When do you start E- banking service?

3. With what software and device provider company does your bank purchase its software /device?

4. How many customers do you have who use E- banking? Specify by type

5. How many ATM devise, POS and agent does your bank have?

6. What is the basic benefit of E-banking?

7. In your opinion what are the key challenges in your institution to practice E-banking?

8. Do you think that government policy have impact on the practice of E- banking system? (Please Specify/explain)

9. What sort of support would you expect from the government in relation to the E-banking improvement in Ethiopia?

10. If you have a comment

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