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Determinants of internet banking adoption in Ethiopia

**A Thesis Submitted in Partial Fulfillment of the Requirements for the
Degree of Masters in Business Administration**

By

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Addis Ababa, Ethiopia

Statement of declaration

I, Eden Kifle have investigated a study entitled “*Determinants of internet banking adoption in Ethiopian*” for the partial fulfillment of the requirement of MBA program. So i declare the originality of this research work and have not been conducted and presented before on any other institution and all references materials used are properly acknowledged.

Declared by:**Advisor**

Name -----

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Date -----

Date -----

Certification

This is to certify Eden Kifle for this thesis entitled “*Determinants of internet banking adoption in Ethiopian*” submitted for the partial fulfillment of the requirement of MBA program are in line with the university’s rules and regulations and meets the standard with regards to the originality for the reward of MBA program.

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Internal Examiner

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External Examiner

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Advisor

Dr. Wollela Yesegat Signature ----- Date -----

Abstract

The objective of the study is to investigate the determinants of internet banking adoption in Ethiopia. By combining TAM framework and additional four factors: perceived risk, HR, IT Infrastructure and Competitive pressure it is tried to investigate their influence on the adoption of internet banking service. The study used mixed research approach. The quantitative data was gathered from 358 respondents out of 400 distributed questionnaires for CBE, DB, and BOA customers. Meanwhile the qualitative aspect of the study used an in-depth interview with the selected bank officials and reviews different literatures which are related to the adoption of internet banking and supplement the overall research. The results reveal that Perceived usefulness, perceived risk; human resource and ICT infrastructure have a statistically significant influence on the adoption of internet banking. Moreover, the interview with the bank officials has confirmed the stated factors as a major challenge and they have also mentioned unbalances focus of top managements, not understanding the benefit, lack of customers' awareness, lack of promotion, and cost of internet usage as the other key factors which are influencing the adoption. The study suggested that, banks can use two factor authentication modes to assure the safety and security and by providing a frequent training and conducting different workshops the bank can increase staffs understanding, upgrade their knowledge and improve staffs readiness

Keywords; determinants, internet banking, adoption, perceived usefulness, perceived risk, human resource and ICT infrastructure.

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Acronym

ATM - Automatic Teller Machine

BOA – Bank of Abyssinia

CBE – Commercial Bank of Ethiopia

DB - Dashen Bank

HR – Human Resource

ICT - Information Communication Technology

M-Banking - Mobile Banking

NBE – National Bank of Ethiopia

POS - Point of Sale terminals

TAM – Technology Acceptance Model

TOE – Technology Organization Environment

TRA – Theory of Reasoned Action

UTAUT – Unified Theory of Acceptance and Use of Technology

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Chapter one: Introduction

1.1. Background of the study

On this study the term internet banking are considered as interchangeable with online banking. According to Furst et al. (2000) internet banking defined as it is a banking service which is provided by using internet as a remote delivery channel. Users can easily access the bank service and make banking transactions using their personal computer and internet gateway (Sathye 1999). VanHoose (2003) also defines Internet banking as it is performing or it is the act of conducting financial intermediation on the internet.

Before the emergency of the Internet, ATM is the first and the earliest form of digital banking launched in the 1960s. After 1980 the digital network began to connect consumers online (Kelman, 2016). The internet and online banking starts being available widely by the time of 1990s. The continuous improvement of the digital system in the early 2000s is the base for the modern digital banking today. The increasing number of Smartphone users paves the way of digital transaction to go further rather than ATM machines. According to Locke (2017) smartphones are the most preferred method of digital banking over 60% of the consumers of this system.

Almost all Ethiopian banks are too late to move forward by improving the system with technology. According to Ayana (2014) even some of these banks don't built their own websites until 2014 in order to promote and deliver their product. still all banks operated in Ethiopia provides service to their customers by using traditional way of delivery which is costly and time consuming this makes customers to disappoint with the position of financial development in Ethiopia.

According to NBE (2019) report CBE has introduced Internet banking service in June 15, 2012 in order to diversify its business and also to provide alternative medium of transactions for its broader customers. These services are divided into two which are personal and corporate internet banking. Personal internet banking enables individual customer to check account statement, transfer funds to other, and view cheque details 24/7 from wherever they are without a need of visiting the bank (NBE report). Under the corporate internet banking multiple users can be created within the organization with different level of access and privilege to view their account and transaction information, to transfer money between their eligible accounts, fund transfer for their beneficiaries and make different payments, etc. (NBE report 2019).

Technological innovation plays a pivotal role by creating value for the financial institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space (Turban 2008). But most Ethiopian banks are not giving attention to it and the government too.

On the other hand it allows customers to perform banking transactions like paying bills and making transfers without visiting banks. But most people in Ethiopia are still dependent on cash to pay utility bills and receive payments..Ethiopia hasn't take advantage of internet financial services that have driven access to and usage of financial services in Sub-Saharan Africa. According to Global Findex database (2019) only 0.3% of peoples in Ethiopia use mobile money accounts comparing to 73% of Kenyan. Debit card owners in Ethiopia are 4% comparing to 38% of Kenyan and 18% of sub Saharan Africa in average.

The remaining discussions in this chapter are organized in six sections. Problem statement is presented in the second section; this is followed by broad research objective and hypotheses in the third section. Scope of the study, significance and organization of the thesis are presented in the fourth, fifth and sixth sections respectively.

1.2. Statement of the Problem

Economic prosperity is a sign of success of a country and this is achieved through proper and efficient utilization of country's resources. In this context, banking sector is a major constituent that enables effective and appropriate utilization of financial resources of the country (Babar and Zeb 2011). Banking system plays a very important role in the economic life of a nation. The health of the economy is closely related to the soundness of its banking system.

The Ethiopian banking sector is currently comprised of a central bank (The National Bank of Ethiopia) two government owned banks and sixteen private banks. This increasing number of banks resulted with the increasing in competitions among banks. This in turn leads to dramatic effect on the performance of banks, particularly in financial and technological innovations. Ethiopian banks now are in a good path in digitalizing their service comparing to recent times (Spencer et al. 2018).

For a country like Ethiopia, where there is a low financial accessibility internet banking is a best

way to enable financial sectors to become more accessible for their customers in terms of place and time. Digital banking system application in Ethiopia is dynamically increasing. According to Gardachew (2010) With a growing number of increased international trades and international relations, the current banking system is short of providing efficient and reliable services, therefore all banks operating in Ethiopia should recognize the need for expanding internet banking system to satisfy their customers and meet the requirements of rapidly expanding domestic, international trades, and increasing international banking services.

In order to encourage the development of online banking in the country a better understanding of factors which affects positively and negatively is critical (Zhao et al. 2008). By assimilating an in depth knowledge about the factors which influence the ability of developing country to fully adopt internet banking and to become aware of its advantage, strategic implications can be found for the practitioners or researchers to indicate how to promote internet banking growth in developing countries (Yikeber 2018).

As it is known CBE has a wide range of customer base still, the adoption of internet banking among customer's are very low Currently the bank has around 2.5 Million Mobile and Internet banking user as of June 30, 2019(CBE Report 2020). Even so there is a rapid growth in the adoption of internet banking by CBE in recent times, but when we make a comparison with more than 20 million people with the access to the internet it proves that the service is in its infant stage (Internet World Stats 2020). So that, attention must be given to digitalize the banking service by internet banking and to upgrade the banking system by employing technologies which developed country's uses.

According to Internet world stats (2020) the internet banking users have reached 21.14 million and the penetration stood at 19% as of January 2020. Wegayehu (2019) have also argued, even though the internet banking in Ethiopia itself has been introduced a decade ago but still the banking sector haven't give much attention and studied in a manner that can overcome the challenges of internet banking and enhance the development. These issues coupled with the knowledge gap presented in chapter two necessitated the conduct of this study.

1.3. General research objective

In this study the general objective was to examine the determinants of internet banking adoption in Ethiopia.

1.4. Research Hypothesis

The following Hypotheses were formulated in order to achieve the general research objective. These Hypotheses were formulated using the theoretical foundation provided by TAM (Davis 1989), and Perceived risk, Financial and human resource, ICT infrastructure, and Competitive pressure.

H1: Internet banking adoption is significantly influenced by Perceived ease of use.

H2: Internet banking adoption is significantly influenced by Perceived usefulness.

H3: Internet banking adoption is significantly influenced by Perceived risk.

H4: Internet banking adoption is significantly influenced by Human Resource.

H5: Internet banking adoption is significantly influenced by ICT Infrastructure

H6: Internet banking adoption is significantly influenced by Competitive pressure.

1.5. Scope of the study

This study is limited to three selected banks which are Commercial bank of Ethiopia (CBE), Dashen bank and Bank of Abyssinia. This study is limited to these banks because they are the pioneers in the banking industry, relatively big and have large customer base comparing to other banks.

1.6. Limitations of the study

There were some limitations on doing this study. Some specific and necessary information's were unavailability with one of the selected banks. As the study was intended to collect the response from both users and non-users, some ideas were understood differently by users but remedial action has taken with the appropriate method.

1.7. Significance of the study

The research gives an insight on how internet banking will help the consumers, the financial sectors and also for the Ethiopian economy. To this end, it is hoped that the results of this study will provide relevant information to decision makers (all stakeholders) how internet banking needs focus and required high attention, show the availability of market potential of digitalization for the financial institutions for the development of customer centric product, suggest possible recommendations regarding the digitalization of the banking service in Ethiopia. Furthermore, the result of the study is hoped to serve as a springboard for further research.

1.8. Organization of the thesis

The study has five chapters with different sections and sub-sections. Chapter one presents the introduction for the main part of the paper, statement of the problem, general objective and hypothesis, significance, scope and organization of the study. Chapter two reviews different literatures, empirical evidences which are related to the topic and also tried to point out knowledge gap. Chapter three discusses the research design and methodology while chapter four presents the data analysis and interpretation part. Finally chapter five summarizes the major findings and gives recommendation.

Chapter Two: Literature Review

This chapter reviews the theoretical and empirical literatures in the area of internet banking adoption then presents the knowledge gap and the conceptual framework.

2.1. Theoretical Literature

2.1.1. Internet Banking

Internet or online banking is “a new type of information system that uses emerging techniques such as the internet and the World Wide Web, and has changes the performance of customers in various financial activities in virtual space” (Shih and Fang 2006). Internet banking also described as “one of the services represented by the broader term of digital banking” (Kolodinsky et al. 2004) and “an alternative banking distribution channel” (Lymperopoulos 1994) and Dabholkar et al. (2003) described as internet banking offers “a technology-based self-service option”. Internet banking is the process in which users complete their banking transactions online without visiting the banks physically (Beh 2009). On the other hand Alsajja and Dennis (2006) explains this service on the banks point of view as the process of providing banking services through online technology without a need of physical resources of banks.

The introduce of internet banking traced back in 1990, when California bank Wells Fargo offer the first online banking service (Aggelis 2005). After five year a bank called “Security First Network Bank” also located in United States of America, enhanced the service by providing a complete online banking service (Grandy 1995). The banking industry and also the regulators therefore attracted to the internet. According to Barto (1999) online banking in USA has been showed a rapid growth from which 25 million new adults forecasted to be users of this service from 1999-2003.

We are entering a new era of innovation that will reshape consumer’s relationships with their banks. In order to understand how banking will evolve in the digital age. 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.

There is a demand for end-to-end consistency and for services, optimized on convenience and user experience. The market provides cross platform front ends, enabling purchase decisions based on

available technology such as mobile devices, with a desktop or Smart TV at home. In order for banks to meet consumer demands, they need to keep focusing on improving digital technology specifically on the internet banking that provides agility, scalability and efficiency.

2.1.2. Major advantages of Internet banking

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 and 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 internet or online banking has benefits for banks and customers.

An advantage that is expected to be gained from the practice of internet banking covers both direct and indirect benefits for the banking industries, customers and for the economy. Direct benefits include savings on operational cost, improved organizational functionality, productivity gain, improved efficiency, saving of time 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 2005, Kuan 2001 and Iacouou 1995).

In order to access internet banking services, it is important that bank should have ICT infrastructure and telecommunication facility available to facilitate their customers with all kinds of Digital banking services. Pikkarainen et al. (2004) argued that bank must have an official website which facilitates customers to perform all kinds of Digital banking transaction so that, It saves customer cost and time as adopting internet banking system. Customer can make transactions from their home. Polatoglu and Ekin (2001) customer can pay their bills, can pay their loans, credit and debit card facilities. In other words it provides freedom from location; saves time and cost. This research

wants to approve such global truth a real so working for the case of Ethiopia.

Benefits of Internet Banking for Customers

A lot can be said about the advantages of digitalizing the banking service for different parties. On this study the major beneficiaries are customers (Smith 2006).

Managing once Account

It is easy to access 24/7 to once account and can let one to track the transactions, cash flows and check real-time account balances. Customers have the option of specifying a date range to view the account statements. The Customers can also print, email and analyze the statement in a graphical chart (Smith 2006).

More than one Account

The internet banking allows the customers to have and manage more than one account. The accounts are linked and enable to perform fund transfers from one to the other account (Smith 2006).

Payment of Bills

Internet banking enables the convenience to pay bills; customers can make payments or schedule their frequent payment on monthly or weekly basis. As per the customers convenience this auto transfer transaction can be modified or deleted (Smith 2006).

Allows receiving alerts

Customers can track transaction in their account by setting alerts. Alerts can be of the following: transaction alert, low balance alerts, and cheque tracking alerts (Smith 2006).

Benefits of Internet Banking for banks

To be competent and attract customers: Fintechs and other newcomers have shaken up the banking landscape. As a result, the demand for improved customer experience and personalized services grows, and the products and services of established banks are more expensive. Internet banking enables you to improve customer experience and lower costs, which is needed to stay ahead of the pack (Daniel 1999).

To reduce costs: to remain competitive Banks should reduce their cost by digitalizing their banking service and keep the internet banking system updated (Daniel 1999).

To increase revenue: almost all banks don't have full knowledge about what their customers want. "They lack intelligent systems to gather customer intelligence and help them become more customer-centric". This poor customer experience leads to a lower market share.

Business efficiency – internet banking services not only improves interaction with customers but they also makes internal functions more efficient. As banks are the forefront to use digital platforms they have to take advantage of it to satisfy the customers need and to be more productive (Nath, Schrick, and Parzinger 2001).

2.1.3. Technology adoption models

2.1.3.1. Technology-Organization-Environment framework (TOE)

There are many frameworks which are used by different researchers in the study on the adoption of new technology innovation. Among frameworks that have been developed based on the past studies includes, the Technology-organization-Environment framework (TOE) which was proposed by (Tornatzky and Fleischer 1990), TOE framework identified three aspects, technological context, organizational context, and environmental context, which influences technology adoption by firms'(Tornatzky and Fleischer 1990). TOE framework can be used for studying any kind of information systems (IS) innovation research (Zhu, K. et al. 2003) including e-banking (Liao et al.1999).

This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani et al. (2009); Ellis 2009; Chang et al 2007, Zhu and Kraemer 2006).

Technological factors

Perceived risks (relative disadvantage) – this is related with people's behavior or some uncertainty to use the service. According to Pederson and Ling (2002) fear of security issues and loss of privacy are holding back peoples from taking advantage of what technology has brought and mainly limited understanding on how the system works is also the major hindrance. Laforet (2005) also stated that people's perception on the confidentiality and security has also their own influence on technology adoption. Security is the most significant issue for both internet banking marketers

and users. It is simple for cyber criminals to break into a person's account and steal their money anonymously (Revath 2019). Customers have a perception that online banking is risky due to which frauds can take place. So that it is a big issue for banks to make users satisfied regarding to their security concern (Srilatha and Sudhakar 2018)

Perceived benefits (relative advantage) – this refers to the degree of peoples belief on using specific system or product would be helpful or advantageous (Tornatzky and Fleischer 1990).

Organizational factors

Financial and HR – this is one of the major issue which is related with the availability of financial and also, skilled and well trained human resource in the area to sell the product.

Environmental factors

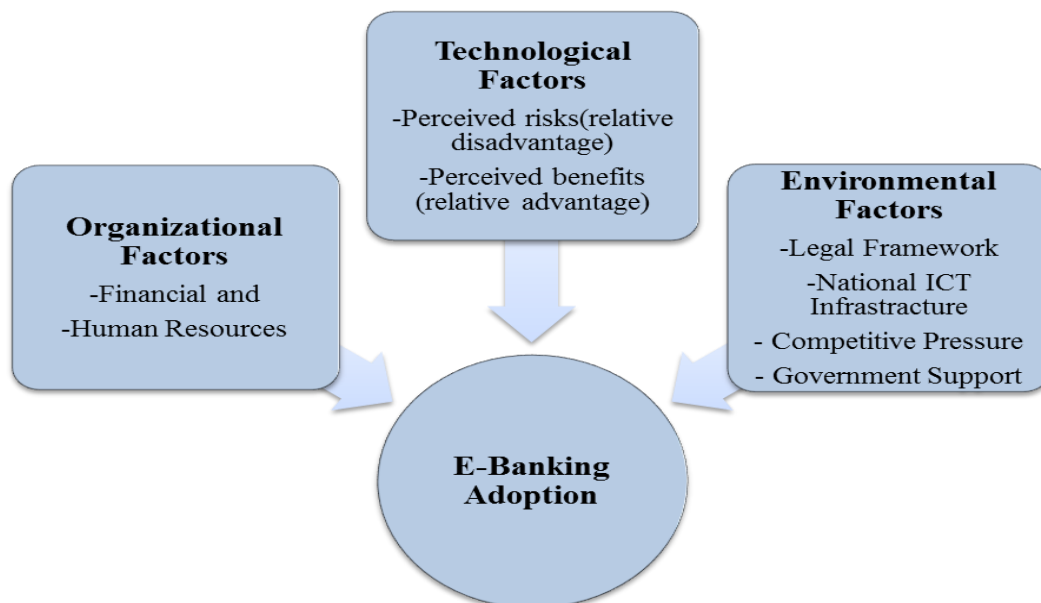
Legal framework – this refers to a clear set of guide or procedure on specific system.

ICT infrastructure – this refers to the availability of the necessary facilities and infrastructures needed for a specific system to adopt or to use.

Competitive pressure – this refers to the level of pressure which comes from the competitors and it is an external power which initiates a company to adopt and keep updating with new features of technology for the sake of conquering the market and to win peoples mind.

Government support – this refers to the role of the government on the process and development of technology.

Figure 2.1: TOE Framework developed by Tornatzky & Fleischer 1990

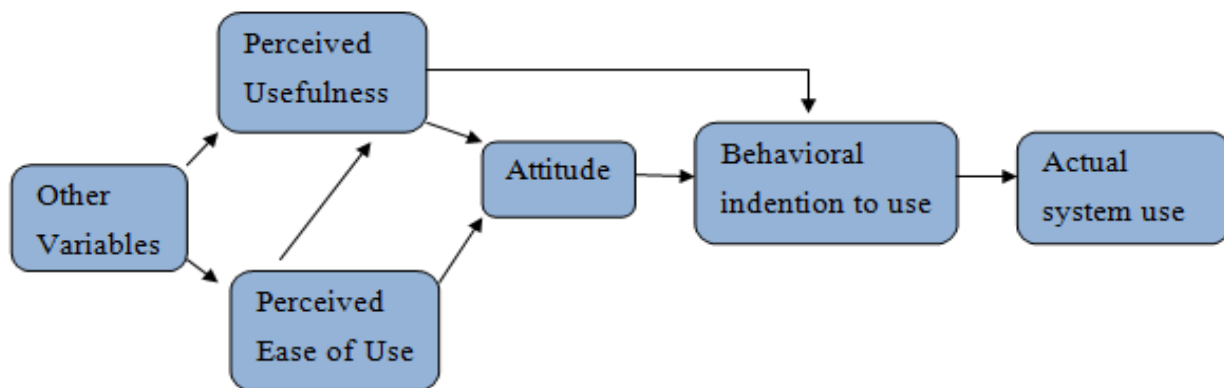


2.1.3.2. Technology Acceptance Model (TAM)

Technology Adoption Model (Davis 1989) has been the foundation of many technology adoption and diffusion research and it is rooted in the Theory of Reasoned Action (TRA). The two important independent variables of actual use of technology in TAM are:

- **Perceived ease of use**, defined as ‘the level of a person’s belief on using a specific system would be free of effort’
- **Perceived usefulness**, defined as ‘the level of a person’s belief on using a specific system would enhance his or her performance’

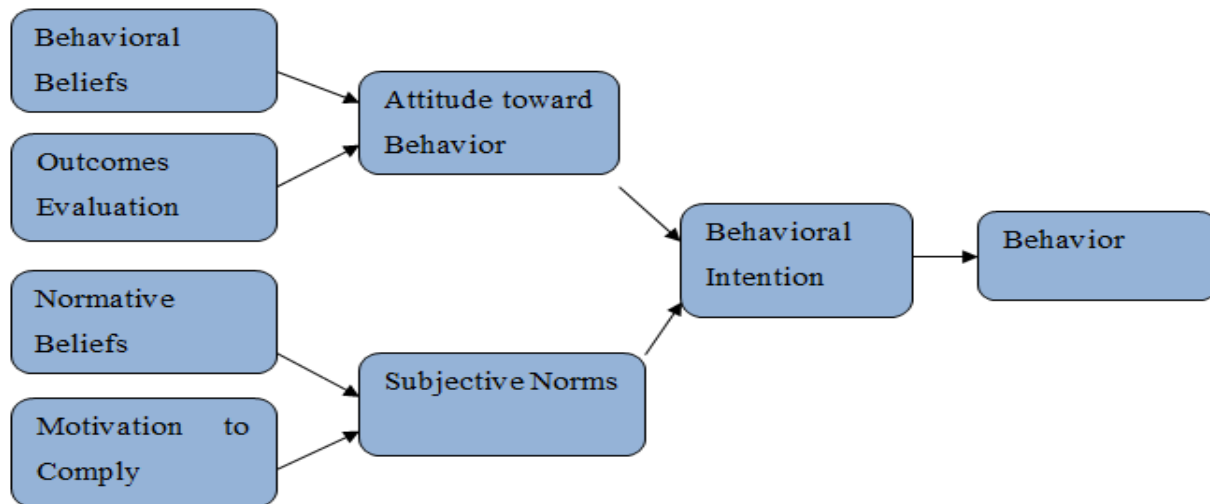
Figure 2.2: TAM Model developed by Davis (1989)



2.1.3.3. The Theory of reasoned action (TRA)

Fishbein and Ajzen (1975) develop the original framework of Theory of reasoned action model. As its name indicates TRA attempts to explain intentional and reasoned as spontaneous, emotional human behaviors. “TRA first established intentional and behavioral relationship, arguing the intuitive claim, that human behavior is determined by the behavioral intention of subjects”. Hence this relation is not always claimed to be perfect rather it is expected reasoned behaviors are introduced and figured out by intention of individuals to execute such behavior. TRA propose two broad criteria’s of behavioral intentions which are the attitudes that specific behavior and the determinant of behavioral intention is made of subjective norms.

Figure 2.3: TRA Model developed by Fishbein and Ajzen (1975)



2.1.3.4. Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) developed this model by combining around eight models firstly by reviewing user acceptance literature. These includes the above two mentioned literatures TRA and TAM. The aim of UTAUT is to explain intentions of users to use information system and other usage behavior by holding four major constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) which are considered to be direct determinants of usage intention and human behavior (Venkatesh et. al. 2003). According to Venkatesh et. al. (2003) “Gender, age, experience, and voluntariness of use are posited to moderate the impact of the four key constructs on usage intention and human behavior.”

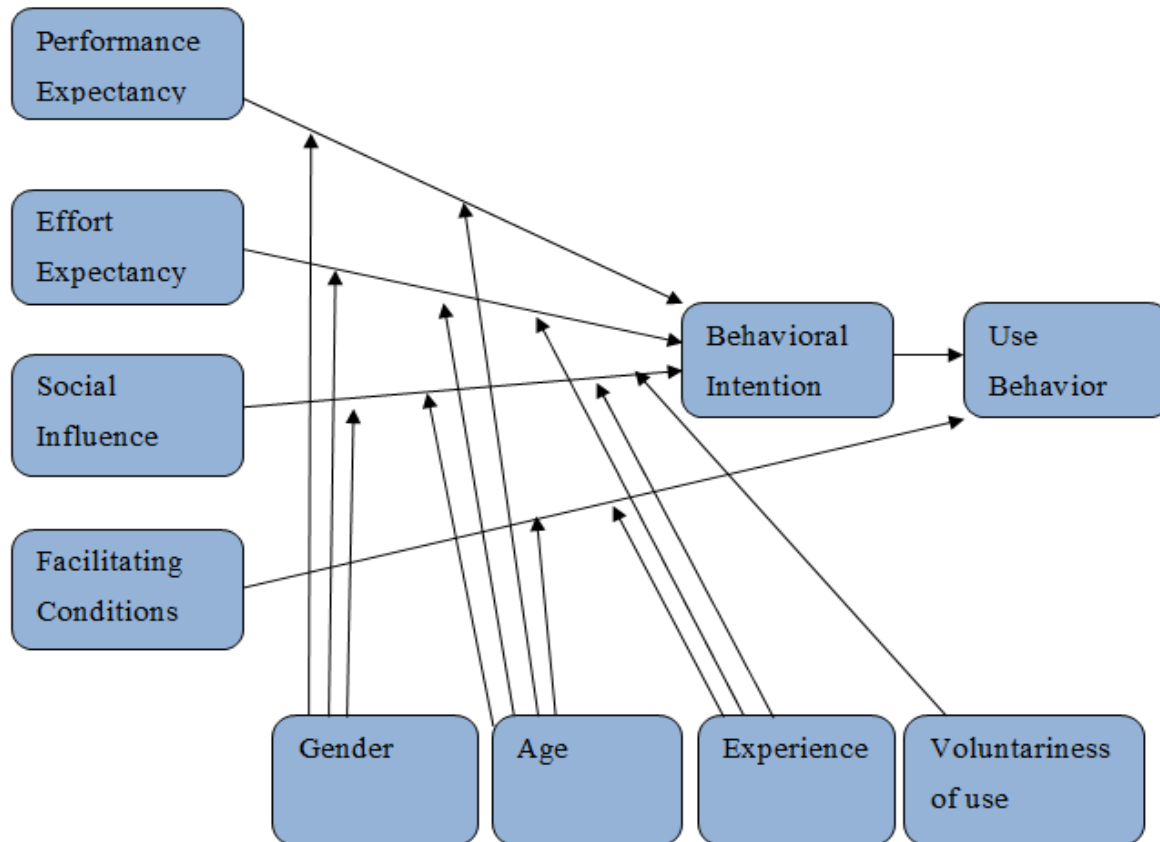
Performance Expectancy - Venkatesh et al. (2003) defined this as it is the level to which an individual believes that using the system will help him/her to attain gains in job performance.

Effort Expectancy - is the level of easiness or ease associated with the use of the system. (Venkatesh et al. 2003)

Social influence – According to Venkatesh et al. (2003) social influence is the level to which an individual perceives that important other believes he/she should use the system or influence from others to use the service.

Facilitating Conditions - is the level to which an individual believes that an organizational and technical infrastructure exists to support use of the system. (Venkatesh et al. 2003)

Figure 2.4: UTAUT developed by Venkatesh et al. (2003)



2.2. Empirical studies related with internet banking

Similar studies are conducted by different researchers in the world. The study conducted by Santouridis and Kyritsi (2014) conducted a research entitled “Investigating the determinants of internet banking adoption in Greece” the general objective of the study was to identify the factors that influence Greek bank customers regarding internet banking adoption. Field research was conducted by using an interviewer administered questionnaire. The questionnaire was prepared by using TAM. This field research target sample consisted of internet experienced bank customers in the Greek region of Thessaly. The data analysis confirmed the statistically significant influence that customers perceptions about usefulness, credibility and easiness of use of internet banking have on intentions towards using this banking channel. This study has tested major variables, but it is not enough to describe factors affect customers’ intention toward using internet banking.

Kumbhar (2011) examined an empirical research on determinants of internet banking adoption in Indian banks. The objective of this study was identifying and understanding the behavioral, attitudinal, service quality, cost, and awareness factors that are significant in defining the intentions toward adopting internet banking service in India. The empirical investigation was targeted customers. The result of this study reveals that demographic characteristics, access to internet, awareness toward the service, customer literacy level, cost effectiveness and the quality of the service were the most important factors which influence the adoption of internet banking. This study has investigated core points including the literacy level of customers but, it doesn't be able to solve the problem in customers' internet banking adoption.

Jaruwachirathanakul (2003) used the Decomposed Theory of Planned Behavior to investigate the internet banking adoption in Thailand. The study found that the intention to adopt Internet banking by Thailand consumers is encouraged by attitudinal factors and hindered by a perceived behavioral control factor, but not by subjective norms. In the Innovation Diffusion Theory, only relative advantages (perceived usefulness) and complexity (ease of use) were found to be significant to adopt internet banking. This study has tested major variables from the DTPB models, but it is not enough to describe factors affect customers' intention toward adopting internet banking.

Alwan and Al-Zu (2016) investigated the adoption of internet banking by customers of Jordanian commercial banks. All the independent variables on this study have significant impacts on the adoption of internet banking at the same time the best predictor of the adoption is accounted for the website quality followed by customer trust on the system. However, the rate of adoption is low and is tracked by customers of high literacy level and good knowledge about using computer applications and has internet experience. As it is stated above all independent variables have significantly influence on the adoption but, there is some contradiction on customers' high literacy level and knowledge about computer however, there is still low rate of internet banking adoption.

Munusamy et al. (2012) intended to identify the perceptual differences between internet banking users and non-users in Malaysian Retail Banking Sector. It investigated whether the perception differs between users and non-users on the adoption factors such as easiness to use, convenient to use, hassle free, safer to use, reliability and requirement a good internet connections to use. By using quantitative approach (questionnaire) the study found that there are significant difference in

perception between internet banking users and non-users in terms of the mentioned factors. It is a good thing to identify the perceptual difference between users and non-users of the service but, there are major variables which haven't been investigated on this study like customers understanding on the usefulness of internet banking.

Ali et al. (2017) studied the determinant factors which affect the internet banking adoption decision of banks which operates in Pakistan. This study reveals those six variables deposits, expenses, market share, spread and wages found significant association with the decision of internet banking adoption and the other were found being insignificant in the decision of internet banking adoption. This study has determined factors affecting internet banking adoption from the service providers' side but, it is more important to investigate the factors influencing peoples from adopting this service.

JMS (2015) conducted a study on "Measurement on Using of the Internet Banking in Colombia". The aim of this study is to explain the results on the measurements of internet banking uses in Colombia to find out which of those services are the most used and which most important aspects influence such uses in the country. The result shows that bank statement and account statement are the most used internet banking service in this country. Furthermore, the quality of the service, familiarity for users, use and being usability and trust are the major influencing factors in the internet banking usage in Colombia. This study focuses on the overall uses of the service and from which the most used but, much attention is must be given on the factors affection the adoption in the first place.

Tewodros (2016) assessed the opportunity and challenges of internet banking in the case of CBE. Based on this study there is a concern on CBE haven't give much attention for its customers perceived and evaluate internet banking service quality. Majority of the employees and most customers have great knowledge on the importance of internet banking as it saves time and money. Majority of the banks staffs strongly agree on the accessibility of internet banking for the users but the customers are neutral. Almost all employees and majority of the customers responded that the internet banking is very low to be adopted for elders and disables. This study also argues the majority of the bank customers agreed up on that CBE has limited experienced and skilled IT

professionals to administer the latest technology. It is important to know the opportunities and challenges of internet banking but, it is not enough to do the study in only one financial institution.

Yoseph(2017) investigated the factors which affect customers adoption of internet banking in the case of CBE. By reviewing previous literatures the variables were chosen. Mixed research approaches were adopted and secondary time series data were collected from the e-payment report. The result obtained from the regression shows all variables which are perceived ease of use, perceived usefulness, internet knowledge, intention toward using the service and convenience were found to have statistical significance on the adoption of internet banking. This study also argues that perceived risks were found to be statistically insignificant in affecting the adoption of this service. It is important to know what factor is affecting the adoption of internet banking but, it is not enough to do the study in a limited financial institution.

Bisrat(2015) using TAM framework, and additional two factors (culture and perceived risk) investigated factors affecting the internet banking adoption in Addis Ababa. The data was collected from three selected banks namely CBE, Dashen Bank and United bank by using questionnaire. The finding showed that perceived ease of use, perceived usefulness, attitude, perceived risk and culture found to be significantly affecting the intention to adopt internet banking service. In addition to this attitude is negatively and significantly related to perceived risk and positively and significantly related to perceived usefulness and ease of use. This study investigated major variables of TAM model but, it is not enough to test the factors affecting the adoption of internet banking by only four variables.

Abenet (2010) based on the diffusion of innovation theory this study tried to find the factors that would influence the internet banking adoption. The key finding showed that demographic factors including age, literacy level, income level and occupation have significant influence on the internet banking adoption. Psychological factors including perceived capability, perceived relative advantage, perceived risk, perceived complexity and perceived cost were also found to influence the internet banking adoption. The other finding reveals that social influences including opinions of friends, parents and colleagues have no significant influence on the adoption of this service in Ethiopia.

Kaleb (2018) used the Modified Technology Acceptance Model (TAM) and Consumer Internet Banking Model (CIBM) to investigate the perceptions of factors which affect the internet banking adoption. The result of the binary logistic regression analysis shows that perceived usefulness, security & privacy, responsiveness, technological experience, trust and self-efficiency to use computer are found to behave statistically significant relationship with internet banking adoption and the demographic factors including age, gender, income level and occupation have significant influence on the internet banking adoption; even though perceived ease of use and literacy level have no significant influence on the adoption. Hence, based on the result from the interview all factors built in this study have impact on the internet banking service adoption. This study combines two different models with demographic factors and come up with which factors are influencing but, still the rate of internet banking is very low especially in our country.

2.3. Knowledge Gap, Conceptual Framework and Conclusion

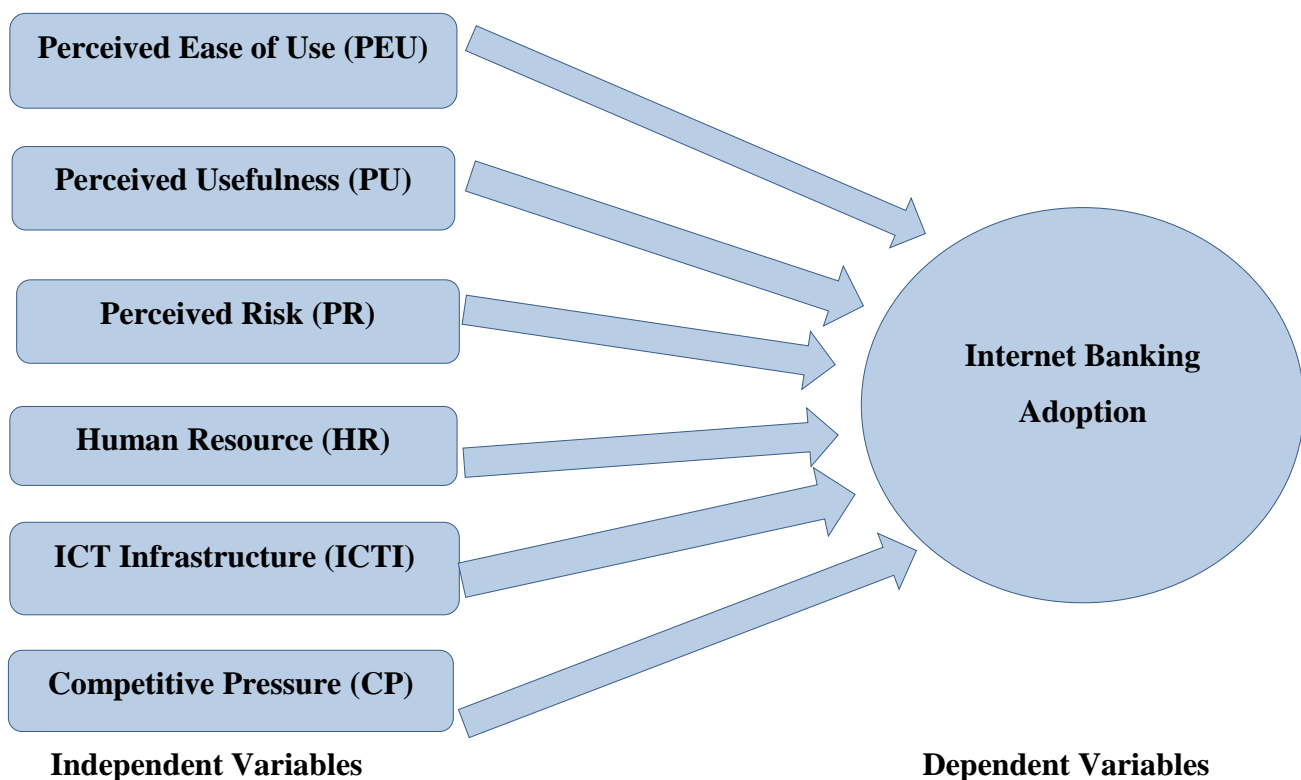
There are limited studies which have been conducted on the adoption of internet banking, from which most of them are conducted in other countries. In Ethiopia context TAM model uses as a base for almost all studies to conduct technology related research beside this, Yoseph (2017) conducted the study from the perspective of knowledge on the use of internet, on the convenience of the service and the intention toward using the service. Kaleb (2018) also investigated the perceptions of factors affecting the adoption of internet banking from the intention of experience on the technology, responsiveness, trust and self-efficiency toward using computer. From these two studies Yoseph has argued perceived ease of use has a significant influence in the internet banking adoption in contrary, Kaleb has revealed that this variable has no significant influence on the service. Not only this but, Yosephs' study revealed that perceived risk is statistically insignificant in affecting the adoption of this service and in contrary, Kalebs' finding revealed that security, privacy and trust are significantly affecting the adoption of internet banking. This contradiction proves that there is no clear set of understanding on the area so; there is a need of doing further studies. Accordingly, this study attempted to solve the contradiction and come up with the solution.

On the other hand, as per the researcher's knowledge, from stated empirical reviews in our country none of them give attention and checked the relationship status of IT infrastructure, human resource, and competitive pressure on the adoption of internet banking. So that, on this study, by combining TAM framework and additional four factors: perceived risk, HR, IT Infrastructure and

Competitive pressure, and tried to investigate the above mentioned factors and their influence on the internet banking service adoption.

The following conceptual framework shows the variables which is used in the study. This framework also shows the effect of the independent variables on the dependent variables. Many studies consider only perceived ease of use and perceived usefulness from TAM's model. But not like others the researcher believes this is not enough to assess the determinants for the adoption of internet banking. Therefore the dependent variable is the determinants of internet banking adoption in Ethiopia whereas the independent variables are not only , perceived ease of use and perceived usefulness from TAM Model but, Perceived risks, HR, ICT infrastructure, and Competitive pressure are considered.. Therefore the following framework illustrates the interaction between the independent variables and the dependent variable.

Figure 2.5: Researcher's modified conceptual framework based on TAM (Davis 1989) and other four variables from TOE (Tornatzky & Fleischer 1990)



This chapter tried to give different explanations on the internet banking by different scholars, attempted to state the advantages of internet banking for users and for banks and also challenges which hinders the development of internet banking adoption by referring different models. So, on

the empirical literature part recent studies were reviewed from which five studies are made in Ethiopia. As it can be understand from the studies, the service is in its infant stage because of different reasons; therefore in order to enhance the development the appropriate attention must be given.

In the conclusion, from the stated knowledge gap there are limited studies which has been made on the factors affect the adoption of internet banking, so more study should be conducted to create broad understanding on the subject and to overcome the challenges. Thus, this study tried to assess the real effect of the selected factors in the internet banking adoption.

Chapter Three: Research Methodology

This chapter consists of brief description on the research objective and formulation of Hypothesis and research approaches.

3.1. Research hypothesis development

The main objective of this study was to assess the determinants of internet banking Adoption in Ethiopia. Based on Chong et al. (2010) study, the researcher tried to link the independent variables with the dependent variable and formulate the following hypothesis:

Perceived ease of use

This is derived from TAM model, which has been an important determinant for the adoption of IT. It is referred to which extent bank customers distinguish internet banking service as easy to understand and simple to use and if customers lack experience or find the internet banking complicated to use, they will less likely to adopt and use the service (Davis 1989). If it is free from difficulty and using the system requires less effort it is more likely to increase customers internet banking adoption (Davis 1989).

According to Pikkarainen et al. (2004) a particular system is more acceptable by users when it is perceived to be easier to learn and also to use than others. This is the same argument with Blachander (2001) that the more customers perceived e- banking as easy to use, the more likely they will adopt internet banking. There are different findings on the influence of perceived ease of use, So that the following Hypothesis has been formulated:

H1: Internet banking adoption is significantly influenced by Perceived ease of use.

Perceived usefulness

Like perceived ease of use, perceived usefulness is also derived from TAM. It is very important and has been widely known in the arena of internet banking. Customers tend to adopt internet banking if they believe it will enhance and simplify their routine transactions. Among many studies conducted on the adoption of technology showed that perceived usefulness has a strong impact on users' intention on technology adoption (Davis 1989).

Internet banking has multiple choices which can be used for doing many routine tasks. Customer choose to use new system by extent to which they believes that using it is cost effective comparing

to the current traditional banking (Davis 1989). According to Fikru (2019) if customers accept E-banking, they should perceive it as a useful and quicker way of doing banking transactions comparing with the traditional banking system. Based on this the following Hypothesis has been developed:

H2: Internet banking adoption is significantly influenced by Perceived usefulness.

Perceived risk

It is presumed that the system must be safe and secure for customers to adopt; meanwhile they must be assured that their personal information and financial transactions are protected. According to Zhao et al. (2008); Laforet (2005) customers' resistance to use the E-banking services provided by the banking institutions are the major factor that hinders the growth of electronic banking specially internet banking.

The other concern is security related issues on making transactions in internet banking channels (Rogers 2003 and Chang et al. 2007). Mattila and Mattila (2005) also mentioned security issue has been considered as the major barrier to the adoption of internet banking in Finland. Abid and Noreen (2007) argued that the most important reasons for non-adoption are lack of trust on the system, and security related issues.

Around 73% of people avoided internet banking adoption because they have a concern on the security and safety of doing any transaction over the internet (Sathye 1999). Many researchers also argued on the lack of trust on the internet banking is a critical issue which needs addressing relating to the internet. Therefore, this hypothesis has been developed:

H3: Internet banking adoption is significantly influenced by Perceived risk.

Human Resource

According to Tornatzky & Fleischer (1990), Ayana (2014) revealed that the availability of skilled human resource to implement the digital system is one of the major issue. On this study the researchers argues, on providing high quality internet banking service, lack of technical and managerial skills on technology innovation usage are hindering the adoption of internet banking.

Lichtenstein and Williamson (2006) stated, from the major influential factors which hinders the customers internet banking adoptions are low awareness and poor knowledge and assistance of employees of the given organization.

Employees' must have a frequent training and workshops to develop their skill and competency; meanwhile, skilled human power is crucial organizational factors which in return influence internet banking adoption. (Walker 2005). The availability of skilled labor fosters innovation. In order to that, this study Hypothesize that

H4: Internet banking adoption is significantly influenced by human resource.

ICT Infrastructure

Deficiencies in the ICT Infrastructure such as low speed of internet can deter bank customers to shift in the internet banking service (Hennigen 1998). Frequent network failures and power interruption on the use of internet banking, low level of internet penetration and lack of well-developed telecom infrastructure in remote areas are the basic factors which limits the development (Mesfin 2017 and Harrison 2012).

The electric power and network infrastructure, internet accessibility and connection speed are the main factors which affects any e- banking services including internet banking (Aklog 2018).

H5: Internet banking adoption is significantly influenced by ICT Infrastructure.

Competitive Pressure

Gibbs et al. (2003); Quaddus and Hofmeyer (2007) stated competitive pressure may affect the perceptions of banks toward digital system and highly encourage them to develop and adopt digital banking initiatives.

However, the government of Ethiopia didn't allow foreign banks to operate in the country to protect local banks in different reasons. This hinders the competition of Ethiopian banks with foreign banks and discourages the adoption of digital banking specially internet banking system in the country.

Absence of competition spirit between local and foreign banks will decrease the customers' system adoption. According to the above literature, the following Hypothesis is formulated:

H6: Internet banking adoption is significantly influenced by Competitive pressure.

3.2. Research Approaches

As noted in Creswell (2009) there are three approaches that are used in conducting business and social research. These are quantitative, qualitative and mixed methods approach.

Qualitative research method helps to understand target audiences behavior and perception with reference to a specific topic. This allows collecting non-numerical data that helps to investigate how decisions are made and provides insight in a detailed manner. Qualitative research method includes observation, interview, focus groups, ethnographic study and others.

Quantitative research method is a method used by social scientists to empirically and scientifically study and provide information about people and social phenomena (Lavrakas 2008).

A mixed method is a combination of qualitative and quantitative method since it includes the elements of both approaches. This type of research method has come of age. In mixed method, data collection involves both the collection of quantitative and qualitative data that involves distinct design as well. This approach helps to understand the research problem in a very comprehensive way rather than using quantitative or qualitative research approach alone.

According to Shorten and Smith (2017) there are four major mixed method: *Sequential explanatory design* involves collecting and analyzing the qualitative data next to the collection and analysis of the quantitative data. *Sequential exploratory design* is a vice versa of the above design which involves by collecting and analyzing the quantitative data following the qualitative data. *Parallel triangulation* is collecting and analyzing both qualitative and quantitative data concurrently. *Nested design* is involves either qualitative or quantitative data can the main design or dominant (Creswell 2003).

The main purpose of using mixed method starts from recognizing each method has a weakness, thus using multiple methods (triangulation) is advantageous. So in this study, Parallel (concurrent) mixed method design was used to investigate the determinants of internet banking adoption because by assuming it provides well acceptable and substantiated findings and also take less time (Shorten and Smith (2017)).

3.2.1. Quantitative aspect of the study

The following part provides detailed information about the population and sampling design, instrument design which was used in the study, model specification and how the survey is conducted.

3.2.1.1. Survey Design

On the quantitative aspect of the study survey design are considered as the important tool which helps to gather people's intention (Avedian 2014).

Population and Sample Design

Since the main aim of the study was to conduct about the determinants of internet banking adoption, all bank users are considered as the target population. Samples are the representatives of the target population that will be studied, to understand the target population from which the sample was drawn (Maylor and Blackmon 2005).

There are 18 commercial banks in Ethiopia from which the researcher sampled three of these banks which are convenient for the researcher, pioneers and relatively have many accountholders; those are Commercial Bank of Ethiopia, Dashen bank, and Bank of Abyssinia. As the data obtained from the recent annual report of the three banks, the total accountholders of CBE, DB and BOA is around 22 Million, 2.2 Million and 1.2 Million respectively. The numbers of accountholders are stated in millions and the researcher can't find the exact figure of customers on the report so this numbers are taken approximately. From those account holders only 2.5 Million are users of Mobile and Internet banking in CBE, 4655 internet banking users in BOA.

These banks implement different form of digital banking and also they are familiar with technology so based on this procedure the below sample is drawn from the available data. Determining sample size is the act of deciding "the number of observations or replicates to include in a statistical sample". And it is important feature of any empirical studies in which the main objective is to decide about a population from a sample (Wikipedia 2020). Yamane (1967) provides a simplified formula to calculate sample sizes. So based on Yamane's formula the sample size of this study was calculated as follows:-

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

$$n = \frac{25,506,000}{1 + 25,506,000 (0.05)^2}$$

$$n = \frac{25,506,000}{63,766}$$

$$n = 399.99 \approx 400$$

Where:- n is the sample size

N is the population size

e is the level of precision

After calculating the sample size of 400, the following table shows the proportional online distribution of questionnaires to each three bank. Thus, the researcher uses convenience sampling because the researcher selects the closest and reachable persons to fill and send the questionnaire as participants. In convenience sampling technique subjects who are readily available and accessible to the researcher are going to be selected. In this research both users and non-users of internet banking are used as a respondent.

Table 3.1: Number of survey participants from the three banks

No	Banks	Total Accountholders	% proportional	No of respondents
1	CBE	22,000,000	$22,000,000/25,506,000*400$	345
2	DB	2,223,000	$2,223,000/25,506,000*400$	35
3	BOA	1,283,000	$1,283,000/25,506,000*400$	20

Source: BOA and DB Annual Report, CBE Website and own computation

Survey Instrument Design and Actual Conduct of the Survey

Survey instrument was used on this study. This instrument employed a five point likert scale to measure the variables ranging from (1) Strongly Agree, (2) Agree, (3) Neutral, (4) Disagree and (5) strongly Disagree.

The questionnaire has three main sections. The first section is about the demographic information of the respondents. The second section contained questions about the status of the respondent internet banking usage. The last section is about perceived ease of use, perceived usefulness, perceived risk, human resource, IT infrastructure, and competitive pressure. The survey instrument administered using online questionnaire because of the pandemic and also, it saves time. The online questionnaire is prepared by Google docs and the researcher sends the link to different social media platform channels and groups like on telegram, Facebook and peoples who are convenient for the researcher (both users and non-users).

The study was conducted from September to the beginning of December, 2020. As per the proportional distribution, the plan was to collect 345 responses from CBE, 35 from DB, and 20

from BOA. And out of the total distributed questionnaires, 358 useable valid questionnaires were collected which represented 89.5% response rate to proceed with the analysis.

3.2.1.2. Data Analysis

The researcher analyzes the data which was collected through survey to statistical population concerning the adoption of digital banking. The data which were collected via questionnaires was analyzed with descriptive statistics using SPSS.

Definition and measurement of Variables

Dependent Variable: the dependent variable is measured by whether the customers are users of internet banking or not. This variable was measured in terms of survey participants' response to the question (Are you Internet Banking user?) the answer is either "YES" or "NO", it takes the value of 1 or 0.

Independent Variables six independent variables, namely, perceived ease of use, perceived usefulness, perceived risk, human resource, IT infrastructure and competitive pressure were considered. The study used the average score of the responses to the different statements considered for these variables. The following paragraphs present the definition and measurement of each of these independent variables:

Perceived ease of use: defined as 'the level of a person's belief on using a specific system would be free of effort' (Davis 1989). This variable was measured in terms of survey respondents agreement or disagreement to the following statements: internet banking is easy to learn, internet banking is easy to use, internet banking don't require high literacy background, the bank provide different user manuals regarding how to use internet banking and provided instructions to make transactions are understandable and simple. As noted previously the survey used a five point likert scale ranging from strongly disagree to strongly agree.

Perceived usefulness: the level of a person's belief on using a specific system would improve his or her performance (Davis 1989). It was measured by respondents agreement or disagreement to the listed statements: Internet banking fulfills my banking needs, internet banking saves my time of visiting banks, internet banking is cost effective, internet banking enables me to do banking activities quickly, I can do my transactions by internet banking anytime and anywhere, internet

banking improves customer service, and it increase my satisfaction. As stated above, the survey used five point likert scales ranging from strongly disagree to strongly agree.

Perceived risk: is the uncertainty a customer has to use or using specific system. Perceived risks was measured using survey respondents' response to the following statements: I feel safe using internet banking, internet banking is trustworthy, I feel safe providing personal information, I have a concern that my information maybe hacked, and internet banking is risk free at all. As it is mentioned earlier, the survey used five point likert scales ranging from strongly disagree to strongly agree.

Human Resource: it defines the degree on the banking institutions which have the required skills and knowledge, and expertise on E-banking services. This variable was measured in terms of respondents' response on the listed statements: employees lack awareness on the internet banking, Lack of well skilled and trained employees to promote customers to digitalize their banking activities by Internet Banking and there is poor staff skills in helping customers with internet banking functional issues. The survey used a five point scales ranging from strongly disagree to strongly agree.

ICT Infrastructure: which defines infrastructure consists of computers hardware and software, and all telecommunication system components which are necessary to access the service. The following statements were used to measure respondents' response on this variable: Poor network discourages me from subscribing for internet banking, internet banking sometimes may not perform well because of network problem, internet banking may not be effective due to low internet access, and there is a frequent power disruption. The survey used a five point scales ranging from strongly disagree to strongly agree.

Competitive Pressure: defines the degree of rivalry among competitors. Competitive pressure is measured using survey respondents agreement or disagreement to the following statements: There is lack of competition spirit on the Internet Banking services among domestic banks, I feel competition among banks in providing internet banking is poor, and If the government allows foreign banks to operate in the country the competitiveness will increase and the service quality too. As noted previously the survey used a five point likert scale ranging from strongly disagree to strongly agree.

Model Specification

Logistics regression is believed to be the appropriate regression analysis to conduct a research when the dependent variable is binary (dichotomous). Logistic regression is used when the dependent variable has only two values, such as Yes and No or 0 and 1. According to Hosmer and Lemeshow (1989) this logistics regression is a predictive analysis like all others. Logistic regression helps to describe the data and give explanation on the existing relationship between one dependent binary variable and one or more than one ordinal, nominal, interval independent variables (Hosmer and Lemeshow 1989). So on this study logistic regression was adopted and the dependent variable which is binary; whether the banks customers adopt the internet banking or not (1= Yes, 0= No).

The Logistic regression model for factors influencing Internet banking adoption stated in general form as follows:

$$IBA = f(PEU, PU, PR, HR, ICTI, CP, \epsilon)$$

Where:-

IBA = Internet Banking Adoption

PEU = Perceived Ease of Use

PU = Perceived Usefulness

PR = Perceived Risk

HR = Human Resource

ICTI = ICT Infrastructure

CP = Competitive Pressure

ϵ = Error Term

Reliability Test

According to Carmines and Zeller (1979) reliability measures the extent to which a measurement of an event gives stable and consistent result. It is also concerned about repeatability.

Cronbach Alpha was first developed by Lee Cronbach in 1951 to measure the internal consistency of a scale or test, which is expressed as between 0 & 1 number. Generally, according to Sekaran (2003), reliability which is less than 0.60 is considered as poor, up to 0.80 is acceptable, and which are greater than 0.80 is considered as good.

Table 3.2. Reliability statistics

Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
PEU	.635	.643	5
PU	.959	.963	7
PR	.530	.506	5
HR	.887	.887	3
ICT	.798	.872	4
CP	.638	.642	3

Data source: - Survey result (2020)

3.2.2. Qualitative aspect of the study

The qualitative aspect of the study is focuses on having detailed insight about the internet banking adoption. To understand the determinants which influence the adoption, an in-depth interview was conducted from three banks online banking directors. To supplement the research work further, documents related to the adoption of internet banking, studies, articles, banks annual reports, magazines, and directives were reviewed.

This study uses deductive approach for the qualitative data analysis because it is based on the existing information and the questions can be used as a guide to analyze the data (Creswell, 2009). It is a quicker and easier approach when the researcher has a clue regarding the responses (Creswell 2009).

3.3. Ethical Consideration

The respondents briefed about the objective and the overall aim of the study before they respond to the questionnaire in order to fulfill the ethical consideration. The confidentiality of the respondents' demographic and other information are kept.

Chapter Four: Analysis and Discussion

This chapter presents the finding of the research, analysis of the data collected through the survey instrument and the discussion of the result. Finally, concludes the key finding of the survey and the interview.

4.1. Results

This section presents the results of data obtained from different sources. First, results of the quantitative aspect are presented in 4.1.1. This is followed by results of in-depth interview and documentary reviews in the qualitative aspect of the study.

4.1.1. Quantitative Aspect - survey results

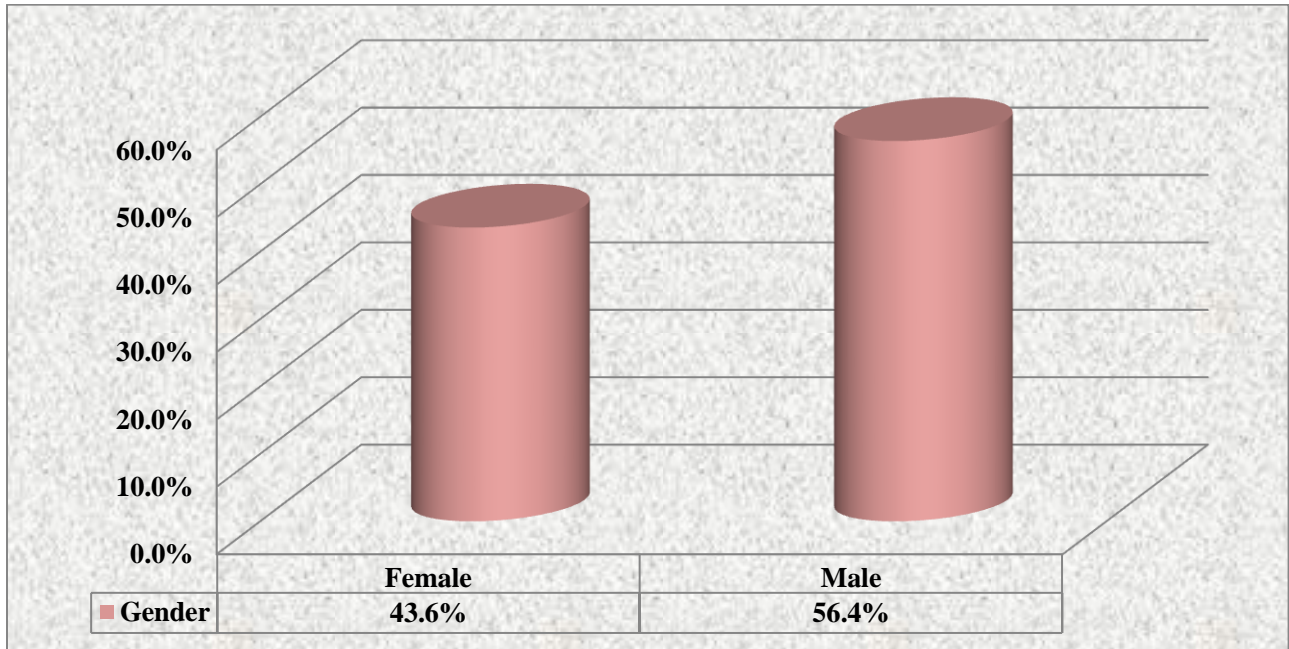
As discussed in chapter three, survey of selected banks' customer was held in 2020. Out of 400 questionnaires distributed via email and other platforms, 358 responses were obtained. In the subsequent sections, the results of the survey are presented. First, respondents' profile which is followed by customers' internet banking usage, descriptive statistics, correlation analysis, and logistic regression.

4.1.1.1. Demographic information of respondents

This section presented the survey respondents profile namely gender, age, educational level, and employment status, income level and respondents bank usage:-

Gender – As it is presented in the below figure 4.1, from the total respondents the majority of respondents are male.

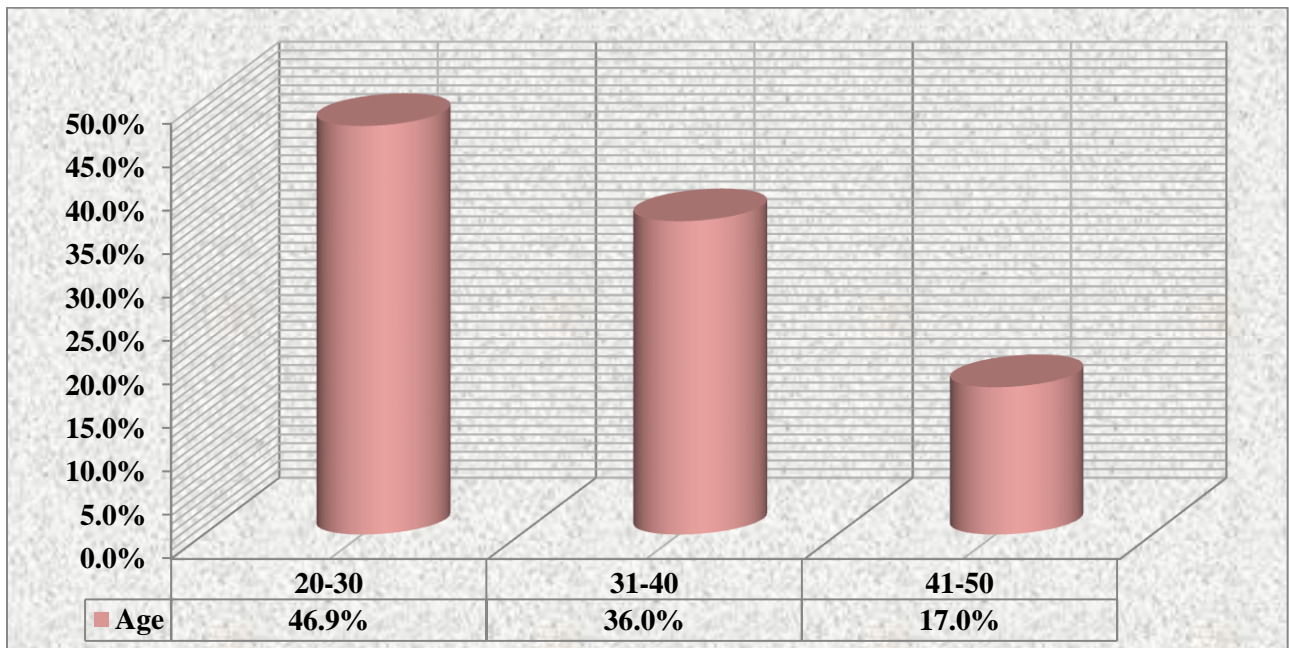
Figure 4.1: Respondents Gender



Source: Survey results and own computations (2020)

Age – In the Figure 4.2, the majorities of internet banking adopters are between 20-30 age group and followed by 31-40 age group respondents.

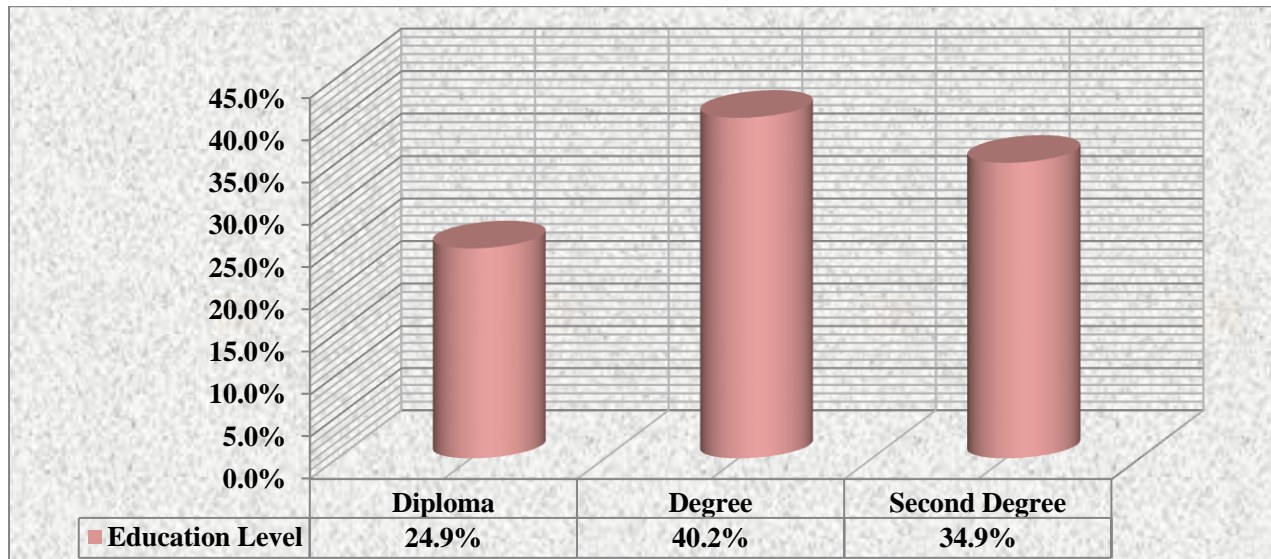
Figure 4.2:-Respondents Age



Source: Survey results and own computations (2020)

Educational Level – From the below finding, the highest percentage share of internet banking adopters are first degree qualified respondents. This is followed by of second degree holders and the remaining respondents are diploma holders.

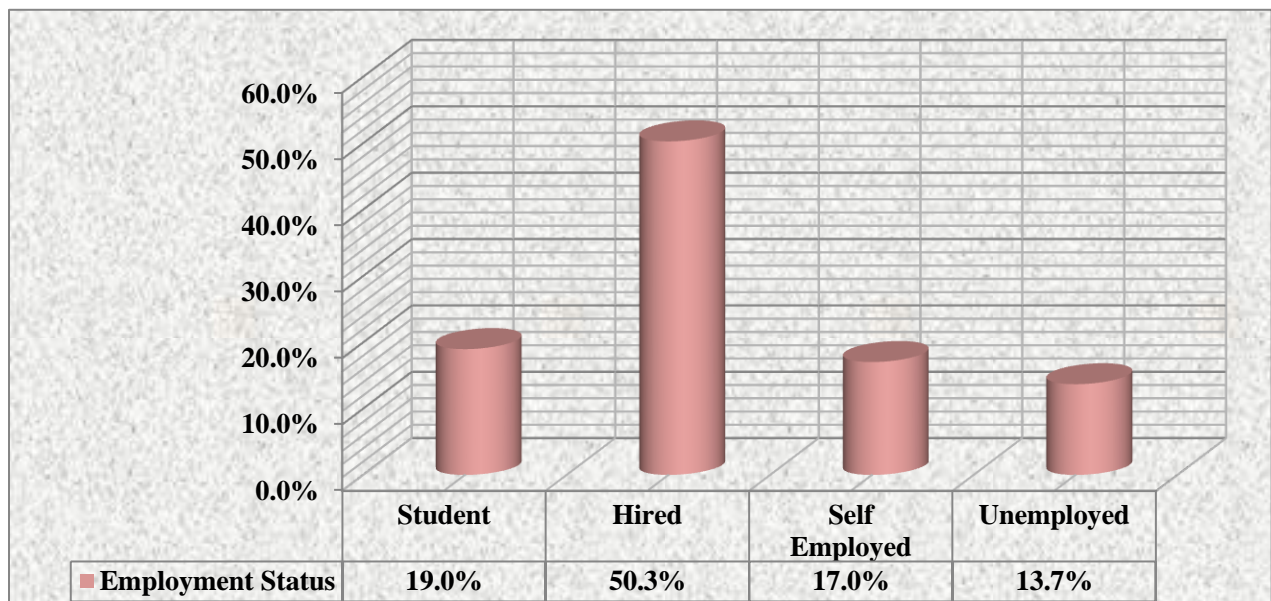
Figure 4.3 Respondents Education level



Source: Survey results and own computations (2020)

Employment Status – Based on the below Figure 4.4 results, those who are hired are found better in adopting internet banking which is followed by students.

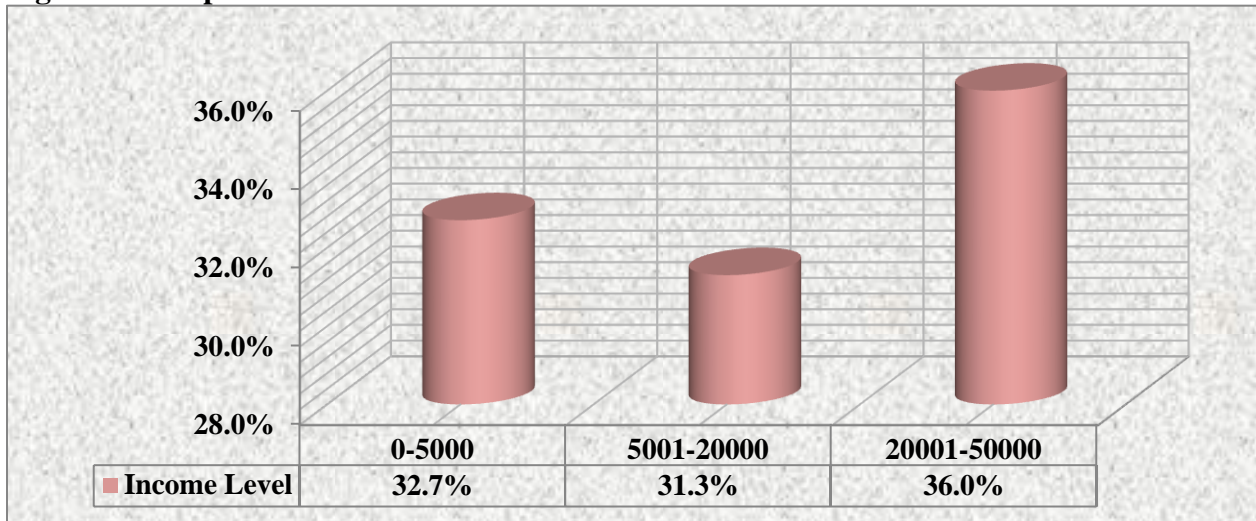
Figure 4.4:- Respondents Employment Status



Source: Survey results and own computations (2020)

Income Level – As per the data collected and presented on the below chart, the highest percentage of internet banking adopters earns 20,001-50,000 and respondents whose income is between 0-5000 range are in the second place. And the last remaining respondents earn 5001-20000.

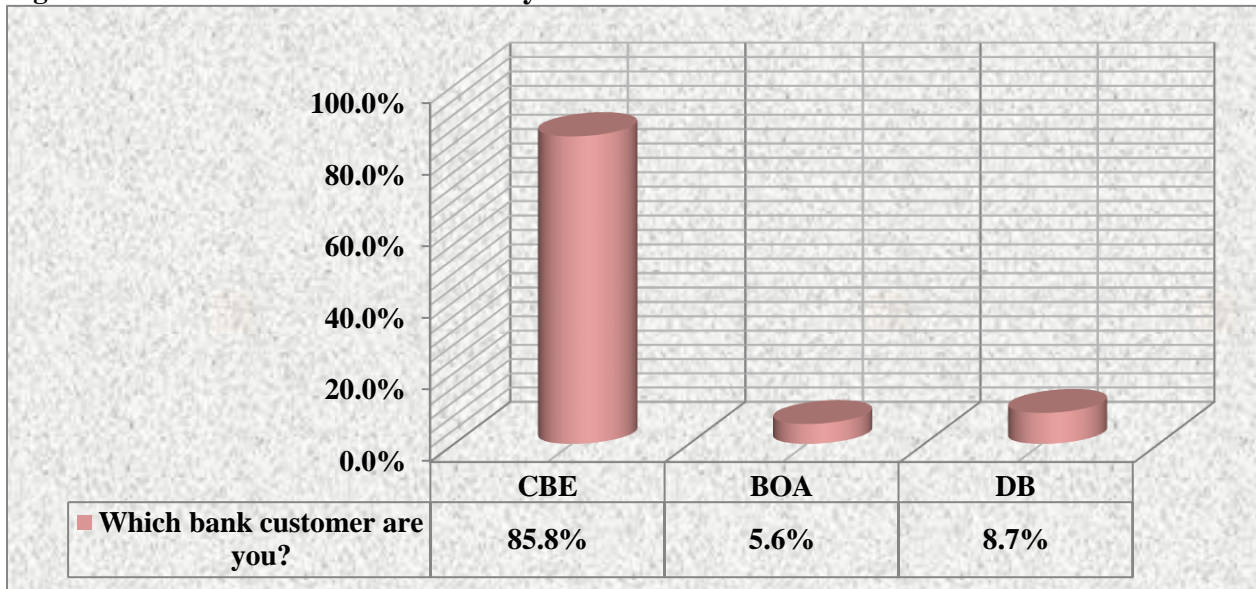
Figure 4.5 Respondents Income Level



Source: Survey results and own computations (2020)

Which bank customer are you?– based on the result in figure 4.6, the highest percentage of respondents are customers of CBE. This is followed by DB and BOA customers respectively.

Figure 4.6:- Which bank customer are you?

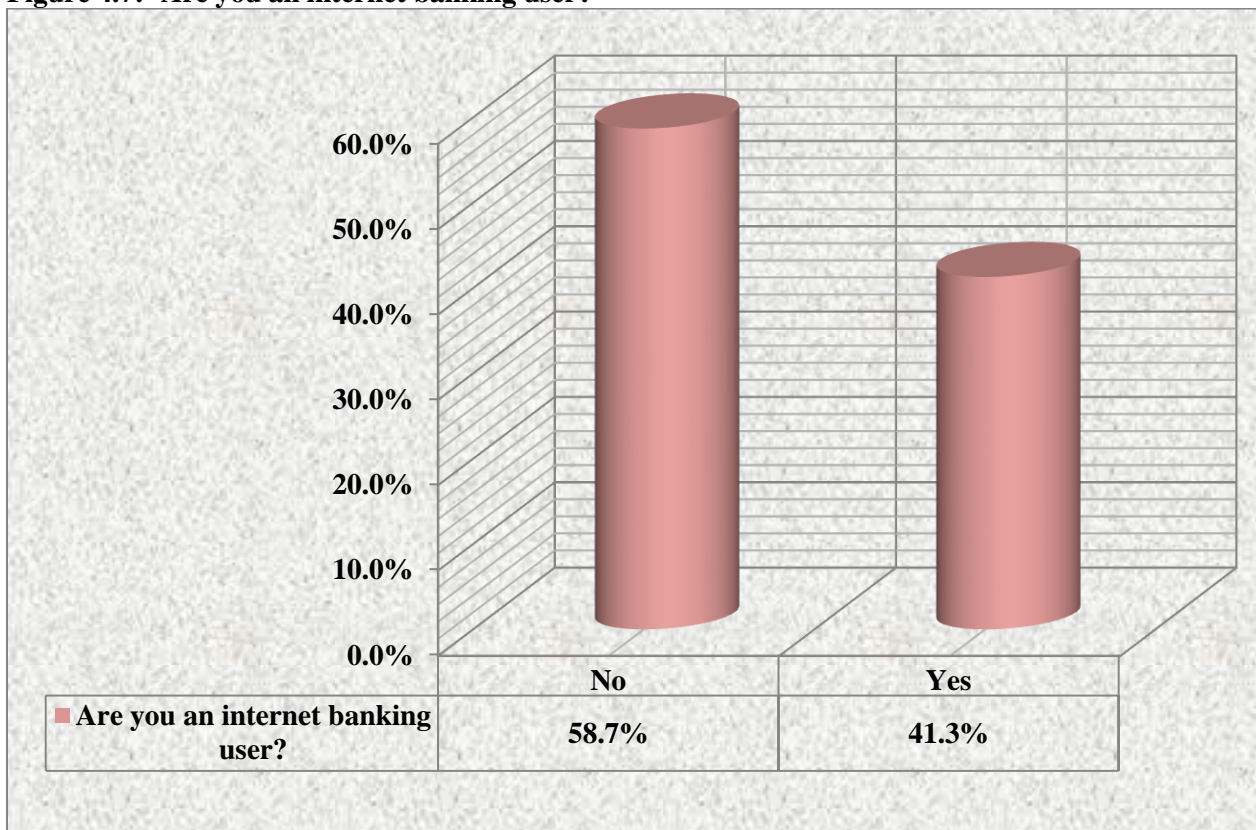


Source: Survey results and own computations (2020)

4.1.1.2. Customers Internet Banking Usage

Respondent's response whether they are internet banking users or not: - As it is on the below graph the majority of respondents are not users of this service. The remaining 41.3% of respondents subscribed for internet banking.

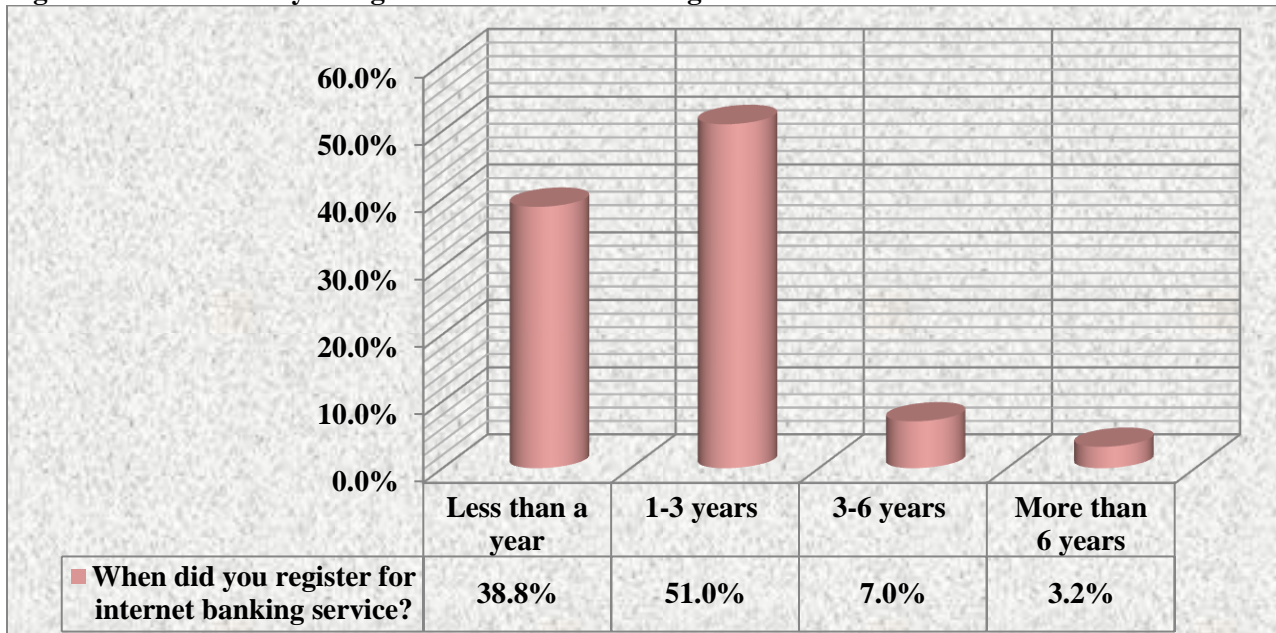
Figure 4.7:- Are you an internet banking user?



Source: Survey results and own computations (2020)

Respondents' internet banking service registration date – most respondents subscribed for internet banking service on the 1-3 years' time ranges.

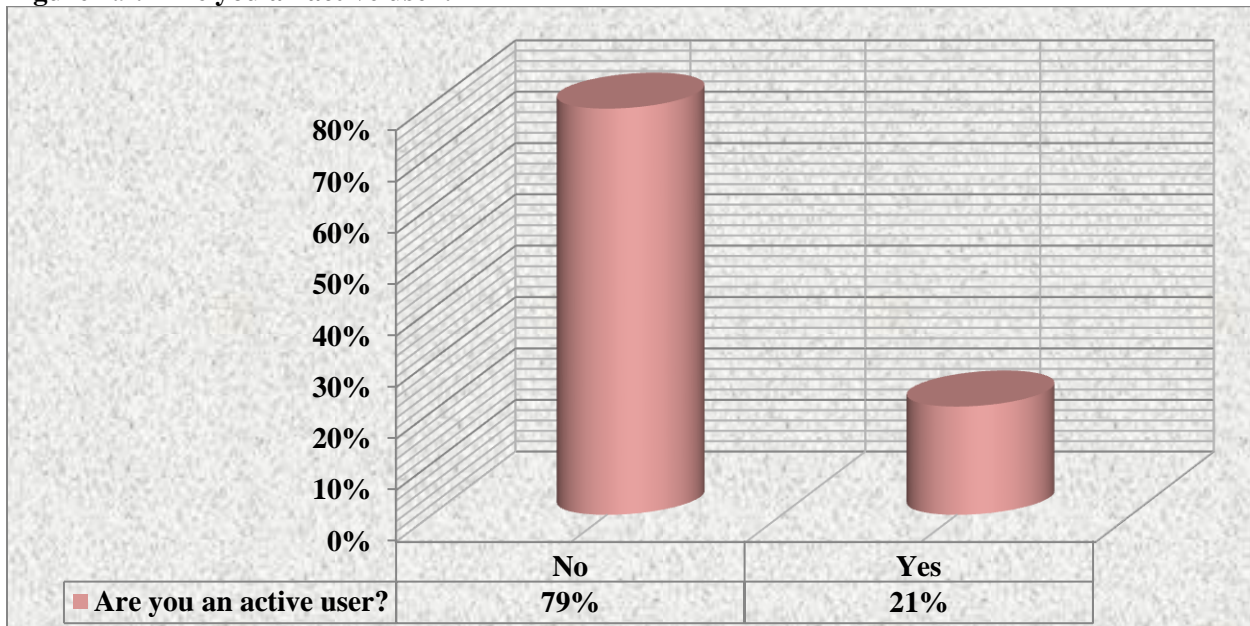
Figure 4.8:- When did you register for internet banking service?



Source: Survey results and own computation (2020)

Respondent’s usage status –the finding result shows that, active user are around one fifth of the total 41.3% of internet banking users. This proves that there is low penetration of activation.

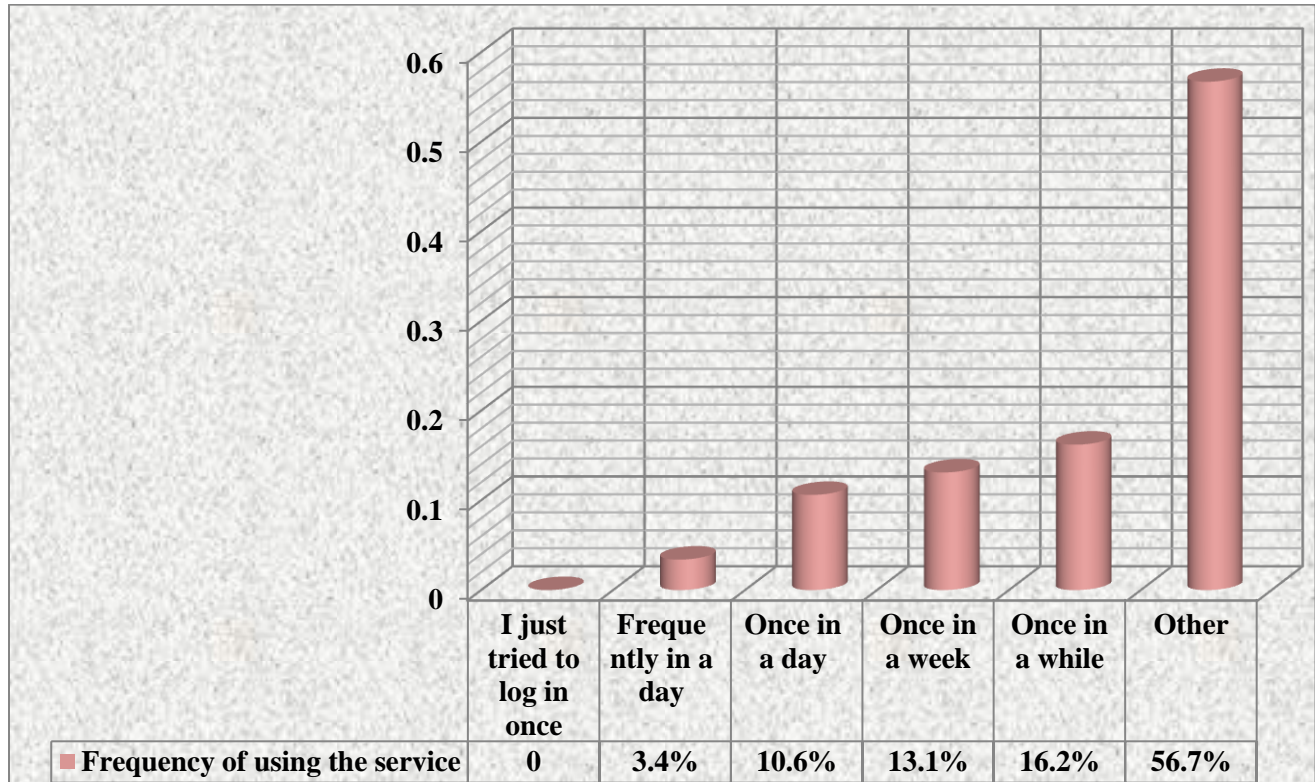
Figure 4.9:- Are you an active user?



Source: Survey results and own computation (2020)

Respondents frequency of using internet banking – Majority (56.7%) of internet banking users choose other, followed by respondents who are using the service once in a while.

Figure 4.10:- Frequency of using internet banking services



Source: Survey results and own computation (2020)

4.1.1.3. Descriptive Statistics

The descriptive result presented the factors which influences bank customers' adoption of internet banking service. Respondents' response on the factors affecting internet banking adoption was identified by using TAM and four selected variables from TOE models. The independent variables was measured in terms of survey respondents response in different statements and it is required to computed and combine these survey statements into a single variable.

Table 4.1:- Descriptive Statistics

	N	Mean	Std. Deviation	Skewness	Kurtosis
PEU	358	3.1966	.91986	.017	-1.129
PU	358	3.0164	1.30183	.281	-1.521
PR	358	3.1508	.78304	.245	-1.018
HR	358	3.6322	1.08310	-.516	-.956
ICT	358	4.1110	.84291	-.465	-1.268
CP	358	3.6080	.97077	-.640	-.830

Data source: - Survey result (2020)

On this survey, it was tried to assess which factor influences the most from the listed six factors. Accordingly, with respect to ICT infrastructure most respondents tend to agree with Internet Banking may not be effective due to low internet access. Regarding to human resource most survey respondents agree on the idea that employees lack awareness on the Internet banking. On the competitive pressure, majority of respondents agree on the idea that if the government allows foreign banks to operate in the country the competitiveness and service quality will increase. With regards to perceived ease of use, most respondents confirm that their bank provides different user manuals regarding how to use Internet Banking. Finally with respect to the perceived risk and perceived usefulness; customers confirmed their concern with the information they provide when registering on the system maybe hacked meanwhile agree with the service increase their satisfaction

To summarize the above data presented on 4.1. the calculated mean of respondent's response, ICT Infrastructure is the major factor which is influencing customers' adoption of internet banking. This is followed by Human Resource and Competitive Pressure as a second and third influential factor. Perceived Ease of Use, Perceived Risk, and Perceived Usefulness are stated as the fourth, fifth, and the least influential factors which influences customers' adoption of internet banking.

4.1.1.4. Correlation Analysis

It refers a statistical analysis which defines the variation in one variable by the variation in the other variable, without forming a cause effect relation (Sundara 2018). The coefficient of correlation uses to test the strength of variables association and in this study, Pearson correlations were computed. The Pearson correlation (r) takes the value of -1 to $+1$ to indicate the strength of the relationship and if it is $-ve$ or $+ve$ indicates the direction or the change in one variable effect on the other variable (Sundara 2018). If the correlation coefficient is 0 , it refers no relationship between the variables (Sundara 2018). These are presented together with their significance in the below table 4.2.

Table 4.2:- Pearson Correlations

Correlation								
		Are you internet banking user?	PEU	PU	PR	HR	ICT	CP
Are you internet banking user?	Pearson Correlation	1	.085	.123*	.019	-.185**	.034	-.158**
	Sig. (2-tailed)		.110	.019	.714	.000	.520	.003
PEU	Pearson Correlation		1	.829**	.484**	.004	-.528**	-.206**
	Sig. (2-tailed)			.000	.000	.940	.000	.000
PU	Pearson Correlation			1	.516**	.032	-.612**	-.255**
	Sig. (2-tailed)				.000	.546	.000	.000
PR	Pearson Correlation				1	.438**	-.842**	.200**
	Sig. (2-tailed)					.000	.000	.000
HR	Pearson Correlation					1	-.468**	.368**
	Sig. (2-tailed)						.000	.000
ICT	Pearson Correlation						1	-.196**
	Sig. (2-tailed)							.000
CP	Pearson Correlation							1
	Sig. (2-tailed)							

Data source: - Survey result (2020)

The Pearson's r value is 0.085 which is close to 0 so; there is a weak relationship between PEU and internet banking adoption. The same with, PU, PR and ICT variables which have a weak relationship with internet banking adoption with Pearson's r value of 0.123, 0.019, and 0.034 respectively. In the other hand, HR and CP have a negative correlation with Pearson's r value of -0.185 and -0.158 which refers that as one variable increases in a certain value, the other variable decreases in value.

4.1.1.5. Logistics Regression

This section applied and presented the Chi-square test, R Square test and Hosmer and Lemeshow Test. And from the R Square test, Cox & Snell R Square and Negelkerkre R Square are included in the study.

Table 4.3:- Chi-square Test

	Chi-square	Degree of Freedom	Sig.
Model	25.127	6	.000

Data source: - Survey result (2020)

Chi-square test – the above table 4.3 shows that, the model was statistically significant ($X^2(6) = 25.127, p < 0.001$).

Table 4.4:- R Square Test

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	460.374 ^a	.068	.091

Data source: - Survey result (2020)

R-Square test – On the table 4.4, the Cox & Snell's R² test result shows 6.8% and the Nagelkerke R² shows 9.1%.

Table 4.5:- Hosmer and Lemeshow Test

Step	Chi-square	Degree of Freedom	Sig.
1	11.438	8	.178

Data source: - Survey result (2020)

Hosmer and Lemeshow test – on the table 4.5 the Hosmer and Lemeshow test shows a significance of 0.178 which refers, the model is a good fit.

Table 4.6:- Estimation of Logistics Regression

	B	S.E.	Wald	Df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
							Lower	Upper
PEU	-.230	.224	1.058	1	.304	.794	.512	1.232
PU	.324	.180	3.227	1	.072*	1.382	.971	1.967
PR	.593	.272	4.753	1	.029**	1.809	1.062	3.084
HR	-.322	.125	6.599	1	.010***	.724	.567	.926
ICT	.487	.289	2.829	1	.093*	1.627	.923	2.868
CP	-.158	.136	1.348	1	.246	.854	.655	1.115
Constant	-2.743	2.259	1.474	1	.225	.064		

Note s: “*” refers statistically significant value at < 0.1 significant level, if it is double asterisk “**” the significant level is <0.05 and if the asterisks are triple “***” it is significant at < 0.01 level (Petchko 2018)

Source: - Survey data and own computations (2020)

The above Table 4.6 the regression result showed that, Perceived usefulness, perceived risk, Human resource and ICT infrastructure are found having statistically significant relation with internet banking adoption. On the other hand, Perceived ease of use and Competitive pressure is appeared in the study as statistically insignificant effect on internet banking adoption.

4.1.2. Qualitative Aspect: results of interviews

As this study used parallel (concurrent) mixed method design beside the survey an in-depth interview were conducted from three bank officials to further understand the determinants of internet banking adoption in Ethiopia.

Internet banking existing opportunities: - The interviewees have indicated this service have a lot of features which definitely help the adoption. Internet banking is easy to access and enables to manage ones account with 24/7 accessibility. It is also time and cost effective comparing to visiting of the physical branch. It avoids branch queuing and crowded to get the banking service. In the internet banking it is for customers to easily get, download or print detail statements and transaction advices. It is one of the major digital banking services which promote the cash less transaction for customers.

Some of the unique features of the CBE internet banking is that, it allows for tax payers to pay their regular tax payment easily without a need of the physical branch, and the other is it allows to pay the immigration payment which is the main advantage of this service. The BOA internet banking service allows customer to process fund transfer for other bank customers, and enables customers to pay US visa payment.

Simplicity of the product: - All interview participants stated that, internet banking services of their bank are simple to understand and to use for customers. Interviewee one and three have also stated that, their bank provides user guide on the how to use the service beside the employees introduction.

The BOA Interviewee have raised, bulk payment steps sometimes confuses their customers but, all employees are ready and glad to help customers on their confusion rather than this the bank is working on some advancement on this feature. In the CBE most of the complaints revolve around network interruption and during Tax payment process sometimes the system tends to miss reference no. and force the customers to do the transaction at branch.

Internet banking simplifies customers banking needs: - it is the fact that, internet banking simplifies customer banking needs. It reduces their time of visiting the bank's branch and it is provided at a low cost so it is cost effective for customers. According to the interviewees internet banking enables customers to process Fund transfer to own account, Fund transfer to other account, Transfer fund to other bank account, Bulk payment for corporate customers, Utility Payment, Standing Orders, View your statement in detail, Request and stop cheque books, Loan Inquiry, and etc. so, this helps customers to do their banking transaction on their convenient more importantly it simplifies and satisfies their banking needs.

On the other hand, all participants agreed on the benefit of internet banking for the banks by creating values and a good image, by attracting customers at the meantime by enabling them to excel in the customer service and client excellence by providing efficient and effective service.

Trained and skilled human resource:- from the information got all interviewees agreed on the frequent training and workshop session will broaden employees thinking and understanding, and also helps to upgrade their knowledge. In some time interval different trainings has been conducted when new employees are hired to the bank or new products are launched or upgraded with different features. So, this is also the time to discuss on the issues faced by employees or customers complain raised to get in to the solution. Different questions and confusions are discussed and will be noted for the subsequent action to improve and resolve the issues as soon as possible.

The DB interviewee stated that, since the tendency of doing internet banking in the branch is very low and most of the time only the assigned staff performs the work on the system. The interviewee also mentioned that there is a frequent training session even though it is not enough and there is a knowledge gap among employees.

ICT infrastructure, power and network interruption: - the interviewees mentioned this as a critical issue. There is a frequent internet connection failure and interruption with different issues happens in the country. The internet coverage in the country is very weak; most of the rural areas do not have the access for internet connection. One interviewee stated that, most of the service users complain that, the internet banking needs strong internet connection and it also mentioned that sometime the system is unresponsive, fails to open the service with different cases. This is a very critical issue in the adoption and usage of internet banking not only this but, any other digital services. The government must intervene and facilitate the sufficient ICT infrastructure. It is also recommended that, the government must also allow foreign telecommunication service providers like Vodafone, to develop the digitalization concept and to take advantage on what digitalization has brought.

Competition among peer banks – all interviewees agreed on the idea of competition within the banking industry. It affects in a positive way that if there is high competition the banks must strive to come up with a better system than the competitors which in return gives the customer

with a plenty of choice to choose from. Investigating the need of the customer, trying to understand what banking service did the customers are really looking for, and adding unique features will definitely help to win over the rivalry and also peoples mind.

Other mentioned challenges on the adoption of internet banking

Unbalanced focus: – as the interviewees stated the major challenge in the adoption of any digital product including internet banking is that, the bank staffs even the managements lack the balanced focus on how to practice and sale the banks product parallel rather their main focus is on the LCY and FCY mobilization and customer expansion of the bank.

Not understanding the benefit: - the interviewees also mentioned that the branch banking staffs and managements have not properly understood the benefits of customers using digital channels of the bank. If each employee has the same level of understanding and expands the digital banking users' number it will minimizes the branches load of processing number of customer's transaction, besides creating a good image for the bank.

Most of Ethiopian banks prefer to make their customer value proposition either product leadership or customer intimacy. But it has to be changed, digitalization have to be chosen as the main value proposition to excel in the market.

Lack of customers' awareness: - this is the most challenging part of adoption of digital products. As all interviewees mentioned on the interview the majority of the society prefers the traditional banking system due to different reasons. They assume that, the internet banking service are complicated to learn and use, because of this some of them don't even want to learn about it and understand the benefits it offers.

Lack of promotion: - this is the other most noticed challenge. The interviewees pointed out that, the banking industry focuses on advertising different saving products, FCY exchange, and something the like. Promoting digital products and services is rare in the social media or in any commercial sites. This has a huge impact on the adoption of internet banking and other services of the banks.

Cost of internet usage: - the interviewees mentioned that, as a country the internet service price is relatively expensive comparing to other countries.

In addition to interview results, documentary reviews indicated that, in Ethiopian context; more than 17.87 million people were active internet users which refer 16% of the total population and over) 68.34 million were mobile subscribers this indicate 63% of Ethiopian population (Digital 2019). The average speed of fixed internet connection in Ethiopia was 13.72 mbps comparing to 74.64 mbps internet connection speed around the globe (Digital 2019). As per the NBE data, all banks have around 5.7 million mobile banking users and close to 200,000 internet banking users as of end 2018(Cepheus 2019).

Though, the Ethiopian banking industry joined the e-banking revolution very lately, all now offers some combination of e-banking services (Cepheus 2019). The essential infrastructure to offer those services are also now available in almost all banks, but the actual customers adoption and usage of digital channels for their banking needs and daily payments are still remains limited (Cepheus 2019).

4.2. Discussion

This section presented the regression result on the determinants of internet banking adoption and discusses the research hypothesis result.

4.2.1. Perceived ease of use and internet banking adoption

Perceived ease of use was found to have statistically insignificant influence on users' internet banking adoption in Ethiopia ($B=-0.230$, $\text{Exp}(B)=0.794$ & $P>0.1$).

This result didn't confirm the Govender and Wu (2013); Cheung et al. (2000) study, which argues that, perceived ease of use has a positive influence on the internet banking adoption. The finding also disagreed with the Gounaris and Koritos (2008) study which argues perceived ease of use enhances customers' adoption of online banking.

According to Tan and Teo (2000) any system which is complex and hard to monitor reduces customers' attraction for internet services. Perceived ease of use is an important predictor, which

has a significant influence on intention toward using the system. The more bank customers perceives internet banking as simple, S/he is likely to adopt the service (Blachander 2001).

This implies that, whether internet banking is easy to learn, it doesn't require high literacy background, or if the bank provides different manual which will guide the process; it doesn't influence bank customers' adoption of internet banking.

4.2.2. Perceived usefulness and internet banking adoption

The finding of this factor shows that there is a statistically significant and positive influence in internet banking adoption ($B=0.324$, $\text{Exp}(B)=1.382$ & $P<0.1$).

This result are consistent with Pikkarainen et al. (2004); Leaderer et al. (2000); Kumar (2013) study which argues perceived usefulness is one of the major factor which influences the customers internet banking adoption.

In the Digital (2020) the global internet users reached 4.57 billion which is around 200 million increment comparing to 4.38 billion internet users in 2019. Majority of customers consume internet for contents such as watch online videos (90%), and listening to music (72%) rather using it for banking purpose (Digital 2020). With regards to percentage share of the global E-Commerce by payment method customers who uses digital banking or mobile wallet reached 42% of the global population (Digital 2020). This proves that, lack of awareness on the features and benefits of internet banking and how this service enhances customers banking experience. Addis insight report (2016), also mentioned, Ethiopia is one of the most expensive country to offer internet service for the public, which discourages customers internet banking usage.

Therefore customers may adopt internet banking if they believe it will save their time of visiting the physical branch, cost effective and if they believe it will enable them to do their banking activities quickly anytime anywhere.

4.2.3. Perceived risk and internet banking adoption

Perceived risk considered as one of the major factors which can affect the adoption of internet banking in Ethiopia. Accordingly, the result of the finding shows that perceived risk have

statically significant influence on the internet banking adoption with ($B=0.593$, $\text{Exp}(B)=1.809$ & $P<0.05$).

This is the same with Sathye (1999); Al-Alawi (2005) mentioned on their study that people avoid the internet banking adoption because they have a concern on the safety and security of using the service. Alwan and Al-Zu bi(2016); Abu-Assi et al. (2014); Azad et al. (2013); Chong et al. (2010); Featherman et al. (2010); Rawashdeh, (2015); Lamforet and Li (2005); Cheng et al. (2006) studies also agreed on the influence of privacy and security on the internet banking adoption.

Lee and Turbasn (2001) there are three main reasons why customers do not trust internet: security, distrust of service provider and concern on the consistency of the service. Security is the common factor for unwillingness of customers to use internet banking and it is the future challenge initiated from customers' fear of high risk for using it for their financial transactions (Black et. al. 2001). Therefore, if customers perceived it as a secure and safe system they will adopt internet banking.

4.2.4. Human Resource and internet banking adoption

In relation to Human resource, it is found that; there is statistically significant relationship between this factor and internet banking adoption ($B=-0.322$, $\text{Exp}(B)=0.724$ & $P<0.01$).

The result is parallel with Rotchanakitumnuai and Speece (2003). Walker (2005) stated that employees' training is a key organizational factor as it helps customers to realize how to best adopt and use the service so; there is statistically significant relation with technology adoption. Howcroft et al. (2002); Lichtenstein and Williamson (2006) also mentioned low awareness, inadequate knowledge and support from employees influence the adoption of internet banking.

Most companies or any financial institution have its own educated and skilled personnel. However, non-users have less knowledgeable and skilled personnel to deal with technical issues, while, internet banking users argued that the issue is quite insignificant for them. Accordingly, if employees are competent and well trained, they tend to adopt internet banking.

4.2.5. ICT Infrastructure and internet banking adoption

The study result indicates that ICT Infrastructure has statistically significant influence on internet banking adoption in Ethiopia ($B=0.487$, $\text{Exp}(B)=1.627$ & $P < 0.1$).

Jaruwachirathanakul and Fink (2005); Chircu and Kauffman (2000); Gilbert et al. (1999) argued that Shortages of ICT infrastructure remain a critical barrier in the growth of internet banking adoption. Jaruwachirathanakul (2003) also stated in his study that shortages of sufficient infrastructure are still the most significant impediment items which influence the adoption of internet banking.

Rogers (1995) indicates that, internet connection quality and customers' awareness are two essential elements and has significant effect on internet banking adoption. It is crucial for customers to access a good and quality connection from any location without time limitation (Bradley and Stwarts 2003; Perumal and Shanmugan 2004). Hence, facilitating all necessary ICT infrastructures will increase customers' internet banking adoption.

4.5.6. Competitive pressure and internet banking adoption

The finding shows that, competitive pressure has statistically insignificant influence on internet banking adoption ($B=-0.158$, $\text{Exp}(B)=0.854$ & $P > 0.1$).

This is contradicted with the previous studies of Grover (1993) which argues competitive pressure are statistically significant has an positive impact towards internet banking adoption. These also help banks as an assurance to their customers that they will be able to maintain a competitive quality service in the future, this is for the sake of not losing their customers over competitive banks.

Including to Crook and Kumar (1998) and other empirical studies accepted the competitive pressure as one of the internet banking adoption driver. This is an external power pressure demanding a financial institution to adopt new technology for the reason of avoiding competitive decline to survive in the market.

As a conclusion, chapter four identified and presented the survey result of factors influencing the adoption of internet banking. This also presents the demographic information of respondents, and

correlation analysis was tested to identify the relationship between the stated dependent and independent variables.

The logistic regression analysis was also tested and presented the result of hypotheses of the independent variables. Accordingly, perceived usefulness, perceived risk, human resource, and ICT Infrastructure were found to be statistically significant regarding to internet banking adoption while perceived ease of use and competitive pressure were found to have statistically insignificant influence on the adoption of internet banking.

Chapter Five: Conclusion and Recommendation

This aim of this study was to identify the determinants of internet banking adoption. So the result discussed on the above chapter, and this chapter presented the conclusion of key findings of the survey, interview results and present the recommendation based on the findings.

5.1. Conclusion

The main objective of the study was to assess the determinants of internet banking adoption by formulating six hypotheses. Before doing the study, there were limited studies which have been conducted on this particular area even from those existing studies none of them give attention and checked the relationship status of IT infrastructure, human resource, and competitive pressure on the adoption of internet banking. Survey instrument and an in-depth interview were employed to conduct the study.

This study was identified which factor have influence on the internet banking adoption in Ethiopia from the stated independent variables (perceived ease of use, perceived usefulness, perceived risk, human resource, ICT Infrastructure and competitive pressure). So, the conclusion was drawn on the perception determinant which influences customers' adoption of internet banking. Therefore:-

First, perceived ease of use has statistically insignificant influence on the internet banking adoption.

Second, perceived usefulness have a statistical significant on the adoption of internet banking adoption. Which refers that, customers may adopt internet banking if they believe it will save their time of visiting the physical branch, cost effective and if they believe it will enable them to do their banking activities quickly anytime anywhere.

Third, perceived risk has a significant influence on the customers' internet banking adoption.

Fourth, Human Resource has a statistically significant effect on the adoption of internet banking. Which refers, bank employees knowledge and skill have a direct influence toward customers internet banking adoption.

Fifth, ICT Infrastructure was found to have a statistically significant influence on internet banking adoption. This implies that, power and network interruption affects customers' intention toward internet banking adoption.

Finally, competitive pressure found to have a statistically significant influence on the customers internet banking adoption.

Further, the interviewees stated that, the internet banking offers simple, secure and convenient banking service 24/7 without a need of visiting the physically branch. But still it is in its infant stage with different reasons including the factors stated in this study which lags it behind. They have also mentioned the unbalances focus of top managements, not understanding the benefit, lack of customers' awareness, lack of promotion, and cost of internet usage as the other major factors influencing customers' internet banking adoption.

5.2. Recommendation

As per the findings mentioned on the above chapters, the following recommendations are forwarded to bring excellence in the service as the world is moving towards digitalization and let the public with internet access use the internet banking service.

Banks must enhance, update and add new features on their digital banking service by close follow up of peer banks and foreign banks status, which can simplify customers banking needs and add values for the bank.

The bank can use two factor authentication modes to assure the safety and security of the internet banking, this in return can increase customers' trust of using the service. By providing a frequent training and by conducting different workshops the bank can increase staffs understanding, upgrade their knowledge and improve staffs readiness.

The government must give prior attention and facilitate the necessary ICT Infrastructure to the public; and by allowing foreign telecom providers the government can increase the internet accessibility with cheap price. The government can motivate local banks by allowing foreign banks to operate and strive in the digital banking service which in return can create a competitive spirit..

5.3. Suggestion for further research

As it is a broad concept it was not possible to address all banks or discuss any other issues so that, the researcher strongly recommend for further study to understand and reveal other influential factors which are affecting the adoption of internet banking and other digital banking products. Not only this, but further study should be also conducted regarding how internet banking contributes on promoting cashless transactions in Ethiopia.

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Annexes

Appendix: one

**Addis Ababa University
College of Business and Economics**

Department of Management

Survey Instrument

Dear Participants:

The title of this thesis is “**Determinants of internet banking adoption in Ethiopia**” and the name of the researcher is Eden Kifle, who is currently an MBA student at the college of Business and Economics of Addis Ababa University.

The aim of this project is to assess factors influencing the adoption of Internet banking in Ethiopia. This questionnaire is prepared to supplement the data obtained from other sources.

This survey questionnaire is being distributed to get relevant information from respondents and participation is totally voluntary. The investigator respectfully requests your kind cooperation in answering the whole question as frankly as possible and your response will be recorded anonymously and strict confidentiality will be maintained.

For further information, please contact using the following address: ✓

Tel. (Mobile): +251-921-778-978

Email: edenkifle2424.ek.ek@gmail.com

Thank You in advance

Section I: Demographic Information

1. Gender

Male Female

2. Age

20 – 30 31-40 41-50

Other, please specify -----

3. Educational Level

Diploma First Degree Second Degree PhD

Other, please specify -----

4. Employment Status

Student Hired Self Employed Unemployed

Other, please specify -----

5. Income Level

0 - 5000 5000 - 20000 20000 -50000 Above 50000

6. Which bank customer are you?

CBE BOA DB

Section II: Internet Banking

7. Are you Internet Banking user?

Yes No

8. When did you subscribe for the service?

Less than a year 1-3 years

3-6 Years More than 6 years

9. If your answer is yes for question 7, are you an active Internet Banking user?

Yes No

10. If your answer for question 9 is still yes, how frequent are you using the service?

I just tried to log in once Frequently in a day

Once in a day Once in a week

Once in a while Other, please specify -----

Section III. Factors Influencing Internet banking adoption

Please tick “✓” to indicate the degree of your agreement or disagreement on the following order on a scale of 1 to 5, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

No	Perceived ease of use	(1)Strongly Disagree	(2)Disagree	(3)Neutral	(4)Agree	(5)Strongly Agree
11	Internet Banking is Easy to learn					
12	Internet banking is easy to use					
13	Internet Banking don't require high literacy background					
14	The bank provide different user manuals regarding					

	how to use Internet Banking					
15	Provided Instructions to make transactions are understandable and simple					

No	Perceived Usefulness	(1)Strongly Disagree	(2)Disagree	(3)Neutral	(4)Agree	(5)Strongly Agree
16	Internet Banking fulfills my banking needs					
17	Internet Banking saves my time of visiting Banks					
18	Internet Banking is cost effective					
19	Internet Banking enables me to do banking activity quickly					
20	I can do my transactions by Internet Banking anytime and anywhere					
21	Internet Banking improves customer service					
22	It increase my satisfaction					

No	Perceived Risk	(1)Strongly Disagree	(2)Disagree	(3)Neutral	(4)Agree	(5)Strongly Agree
23	I feels safe using Internet Banking					

24	Internet banking is trustworthy					
25	I feels safe providing personal information					
26	I have a concern that my information maybe hacked					
27	Internet Banking is risk free at all					

No	Human Resource	(1)Strongly Disagree	(2)Disagree	(3)Neutral	(4)Agree	(5)Strongly Agree
28	Employees lack of awareness on the Internet banking					
29	Lack of well skilled and trained employees to promote customers to digitalize their banking activities by Internet Banking					
30	There is poor staff skills in helping customers with internet banking functional issues					

No	ICT Infrastructure	(1)Strongly Disagree	(2)Disagree	(3)Neutral	(4)Agree	(5)Strongly Agree

31	Poor network discourages me from subscribing for internet banking					
32	The Internet Banking is not perform well because of network problem					
33	Internet Banking may not be effective due to low internet access					
34	There is a frequent power disruption					

No	Competitive pressure	(1)Strongly Disagree	(2)Disagree	(3)Neutral	(4)Agree	(5)Strongly Agree
35	There is lack of competition spirit on the Internet Banking services among peer banks					
36	I feel Competition among banks in providing internet banking is poor					
37	If the government allows foreign banks to operate in the country the competitiveness will increase and the service quality too.					

Appendix: Two

Interview questions

1. What are the existing opportunities the internet banking service has brought for your customers?
2. Do you think the internet banking service is simple and user friendly for your customers? Any issue customers complain about the simplicity of your product?
3. Do you think this service simplify your customers banking needs?
4. Do you think there are well trained and skilled human resources to sell your product and help customers with their confusion or any issue? Is there a frequent training and sessions to broaden your employees' knowledge on the service?
5. Do you think there are sufficient ICT infrastructures for your customers to adopt and use the service? Any issues around ICT infrastructure at your bank?
6. Do you think power and network interruption discourages customer's intention of using the service? What is your other plan to resolve this problem?
7. Do you think your product win customers mind over competitors? How is the competition affecting the use of internet banking your customers?