

**Addis Ababa University**  
**School of Commerce**  
**Department of Marketing Management**



**Factors Affecting Customer's Adoption of Internet Banking: In  
Case of Commercial Bank of Ethiopia**

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**A Thesis Submitted in Fulfillment of the Requirements for the  
Award of the Masters Degree of Marketing Management**

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May, 2017

### **Statement of Declaration**

I hereby declare that the work which is being presented in this thesis entitled “*Factors Affecting Customer’s Adoption of Internet Banking: In Case of Commercial Bank of Ethiopia*” is original work of my own, has not been presented for a degree to any other university and all the materials used for the thesis have been duly acknowledged.

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## **Statement of Certification**

This is to certify that **Mr. Yoseph Degu Wenda** has carried out his research work on the topic entitled “*Factors Affecting Customer’s Adoption of Internet banking: In Case of Commercial Bank of Ethiopia*”. The work is original in nature which has not been submitted to any University and suitable for submission for the award of Master of Marketing Management at Addis Ababa University School of Commerce.

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## Statement of Approval

This is to approve that the thesis prepared by **Yoseph Degu Wenda**, entitled: “*Factors Affecting Customer’s Adoption of Internet banking: In Case of Commercial Bank of Ethiopia*” and submitted in partial fulfillment of the requirements for the Masters degree complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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## **List of Acronyms**

AA	Addis Ababa
CBE	Commercial bank of Ethiopia
EU	Ease of use
IB	Internet Banking
IU	Intention to use
PK	Prior internet knowledge
PR	Perceived risk
PU	Perceived usefulness
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behavior
TAM	Theory Acceptance model

## Abstract

*This study investigates the factors that affect customer adoption of internet banking on Commercial Bank of Ethiopia Addis Ababa city branches. The variables were chosen based on findings from the previous literatures. A mixed research approach and explanatory design were adopted in carrying out this research. Secondary time series data were collected from E-payment department reports and performance reports of the bank. In addition, use internal portal's and links. Multiple linear regression equation was used to estimate the model using SPSS version 20 software. The results obtained from regression output indicated that among the studied variables, Perceived usefulness, ease of use, prior internet knowledge, intention to use and convenience were found to be statistically significant determinant of adoption of internet banking. On the other hand, perceived risks were statistically insignificant in affecting adoption of internet banking. The study suggests that focusing on these internet banking variables could further reduce the probability of default while customer adoption of internet banking*

**Key Words:** *Commercial Bank of Ethiopia, Perceived usefulness (PU), ease of use (EU), prior internet knowledge (PK), perceived risk (PR), intention to use (IU) and convenience.*

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# CHAPTER ONE: INTRODUCTION

## 1.1. Introduction

This chapter gives a brief background of the study and introduces the thrust for the research and the beneficiaries of the study. The chapter also outlines the statement of the problem, states the objectives of the study and the proposed hypothesis for the study. The chapter also provides the significance of the study, scope of the study as well as. In short, it is the foundation upon which the rest of the research is going and guides the researcher in carrying out the research.

## 1.2. Background of the Study

Electronic banking (e-banking) is the newest delivery channel for banking services. The definition of e-banking varies amongst researches partially because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone (Daniel, 1999). In fact, it has effectively “opened” twenty-four hours a day, seven days a week. Customers can do their daily banking activities without having to wait in line or wait on hold for telephone banking services. E-banking offers electronic services that allow consumers to check the balances in their accounts, transfer funds among accounts, pay bills electronically as well as apply for loans, download information about accounts into their own computers, trade stocks or mutual funds, look at images of their cheques and deposit slips (Turban, E., Lee, J., King, D., and Chung, H.M. 2000).

E-banking has become increasingly prevalent, employed by many financial institutions to reduce costs associated with having personnel serve customers physically, shorten processing periods, increase speed, improve the flexibility of business transactions and provide better service overall (Shih & Fang, 2004). Also, with the rapid progress of other types of electronic, largely Internet based services; there has been increased interest in e- banking services. With the rapid growth of Internet technology, online banking has played an important role in the e-payment area which provides an online transaction platform to support many e-commerce applications such as online shopping, online auction and Internet stock. Banks have been using the Internet as one of their

distribution channels because Internet Banking services benefit both the banks and their customers (Karjaluto, 2002). It has become the most profitable distribution channel of the banks because it can help banks to save costs. It is convenient for the customers to execute their bank transactions or contact their banks faster, anytime and anywhere. Many companies in the financial services sector have been quick to implement Internet capabilities, and electronic service is becoming a viable option for interaction between financial service providers and their customers (Rotchanakitumnuai, & Speece, 2004).

The most general type of electronic banking in our times is banking via the Internet, in other words Internet banking. This type of banking allows consumers to check the balances in their accounts, transfer funds and order electronic bill payments. Internet banking systems allowing customers to apply for loans, trade stocks or mutual funds, and even view actual images of their checks or deposit slips. The services available for Internet banking vary from bank to bank. The terms Internet banking and online banking are often used in the literature to refer the same things. Nowadays the Internet is the main channel for electronic banking. Internet banking offers many benefits to banks and their customers (Karjaluto, 2002). The main benefits to banks are cost savings, reaching new segments of the population, efficiency, enhancement of the bank's reputation and better customer service and satisfaction (Jayawardhena & Foley, 2000). To customers internet banking offers also new value. With the help of the Internet, banking is no longer bound to time or geography. Consumers all over the world have relatively easy access to their accounts 24 hours per day, seven days a week. It makes available to customers a full range of services including some services not offered at branches. Internet banking has the advantage that the customer avoids traveling to and from a bank branch. In this way, Internet banking saves time and money provides convenience and accessibility (Karjaluto, 2002).

Customers can manage their banking affairs when they want, and they can enjoy more privacy while interacting with their bank. It has been claimed that Internet banking offers the customer more benefits at lower costs (Mols, 1998). Turban et al. (2000) indicated that Internet banking is extremely beneficial to customers because of the savings in costs, time and space it offers, its quick response to complaints, and its delivery of improved services, all of which benefits make for easier banking. To summarize, electronic banking in general and Internet banking especially offer many benefits to both service providers and their customers.

According to (Stavins, 2001), most countries in Africa, except South Africa, have Internet infrastructure only in their major cities. Lack of suitable legal and regulatory framework for E-commerce and E-payment is another impediment for the adoption of new technology in banking industry. Ethiopia has not yet enacted legislation that deals with E-commerce concerns including enforceability of the validity of electronic contracts, digital signatures and intellectual copyright and restrict the use of encryption technologies and High rates of illiteracy. Low literacy rate is a serious impediment for the adoption of E-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-banking, they should not only know how to read and write but also possess basic ICT literacy (Ayana, 2014).

Internet banking has become profitable distribution channel of the banks because it can help banks save cost and make their relation with customers easier. Nowadays many banks especially in the developed countries are benefiting from it. But in Ethiopia despite the growth of e-banking worldwide, commercial banks in Ethiopia continue to conduct most of their banking transactions using traditional teller based methods (Zelege & Yitbarek, 2013). Banking operation is still under developed due to low level of infrastructural development, lack of suitable legal and regulatory framework, and high rates of illiteracy, frequent power interruption and security issues (Gardachew, 2010). Also he indicated that even though electronic Banking has been widely used in developed countries and is rapidly expanding in developing countries, in Ethiopia cash is still the most dominant medium of exchange, and electronic payment systems are at an embryonic stage. He also stressed that in the face of rapid expansion of electronic payment systems throughout the developed and the developing world, Ethiopia's financial sector cannot remain an exception in expanding the use of the system. Moreover, Internet banking is a new technology in Ethiopia which needs a lot of effort and resources to be easily adopted by customers.

### **1.3. Statement of the Problem**

Internet banking has number of benefits as mentioned above but in spite of number of potential benefits, many problems need to be dealt with before internet banking can become extensively adopted by customers. Some of the issues concerning internet banking according to different studies (Miranda, F.J., Cortes, R. and Barriuso, C., 2006; Loonam and O'Loughlin, 2008; Hertzum, M., Jorgensen, N. and Norgaard, M., 2004; Yousafzai et al., 2003; Shah and Siddiqui, 2006; Poon, 2008; Yang et al., 2009; Gurau, 2002) are as follow:

Web Usability Issues- Many people are not aware of the usage of internet banking or don't like to use internet banking, as they prefer conventional (physical banking). Some people find internet banking websites difficult to operate.

Security and Privacy Issues- Customers have concerns regarding security of internet banking; they fear loss of money due to hacking and virus attacks etc. Some think that their information can easily be shared with third parties on internet.

Information Quality Issue- Customers are not able to understand information available on internet banking websites.

Trust Issue- Customers don't rely on internet banking because of threats associated with it.

Service Quality Issue- Many customers expect that banks should provide all services via website or offer real time integration of distributed resources which is a biggest challenge for banks.

Accessibility Issue- Customers face problems when the server or system of the bank has to be closed for upgrading or maintenance purposes. Moreover, customers expect 24/7 support and services from banks.

Other Issues- Such as bank guarantees, planning new IT infrastructure etc

Since in the modern era, customers demand a lot from the banking services especially from the internet banking, so in order to create and maintain internet banking customers or to stay competitive, it is vital to provide them the best services by understanding their needs. In this regard, banks need to reconsider their IT strategies concerning banking services (Tan & Teo, 2000). For this purpose, it is important for banks to know the factors that are of more importance for the adoption of internet banking from a customer point of view. By understanding these factors, banks can make their policies and improve their services accordingly that would eventually help them in attracting customers.

Keeping in view the above discussion, the researcher focus to conduct a research study in which the most important factors that can influence the adoption of internet banking will be identified and analyzed. As per the data fetched from E-payment the customer usage of internet banking in 2016-2017 fiscal year became decreasing as per comparison last two fiscal years, that's is the main gap the researcher would like to look in addition as the technology is more advanced from

time to time the research want to address the question of why the number of internet banking users declining?

#### **1.4. Basic Research Question**

What are the factors affecting CBE's customers in the adoption of internet banking?

#### **1.5. Research Objective(s)**

The study has the following general and specific objectives.

##### **1.5.1. General Objective**

The main objectives of the study are to critically examine the factors affecting the adoption of internet banking services with a particular focus in Commercial Bank of Ethiopia customers.

##### **1.5.2. Specific Objectives**

The study has the following specific objectives as outlined below:-

1. To assess the effect of usefulness on adoption of internet banking.
2. To assess the effect of ease of use on consumer adoption of internet banking.
3. To investigate the effect of prior internet knowledge on adoption of internet banking.
4. To examine the effect of demography characteristics such as age, income, gender and education on consumer adoption of internet banking.
5. To assess the effect of Convenience on adoption of Internet banking.
6. To examine the effect of perceived risk on adoption of internet banking.

#### **1.6. Research Hypothesis**

Based on the research question and the background of the study earlier mentioned, the study developed the following hypothesis for later testing:

**H1:** Perceived usefulness has a positive effect on adoption of Internet banking services.

**H2:** Perceived ease of use has a positive effect on adoption of internet banking services.

**H3:** Prior knowledge of internet has a positive effect on consumer adoption of internet banking services.

**H4:** Convenience has a positive effect on adoption of internet banking services.

**H5:** Demographic characteristics such as age, income, gender and education has positive effect on adoption of internet banking services.

**H6:** Perceived risk has a negative effect on adoption of internet banking services.

## **1.7. Scope and Limitations of the Study**

### **1.7.1. Scope of the Study**

The study has been geographically limited in commercial bank of Ethiopia Addis Ababa city branches. In addition, many researchers has been identified several hypothesis such as (Polatoglu & Ekin, 2001; Tan & Teo, 2000; and Karjaluoto, 2002) hypothesized that reluctance to change, satisfaction, information on online banking and cost affect an individual's intention to use Internet banking technology, But this research theoretically limited only on the stated hypothesis. Furthermore, the sample size consists of CBE customers only.

### **1.7.2. Limitations of the Study**

Due to the limited geographical scope the study lacks the response of customers out of Addis Ababa. Finally, due to limited scope of the study on the bankers, the study lacks the defaulters' response that would make the study result more fruitful.

## **1.8. Significance of the Study**

The study assumes significance in terms of its contribution to investigate the most crucial factors affecting the adoption of internet banking. The study also will have a lot of importance to the existing literature by providing evidence on the factors affecting the adoption of internet banking in Ethiopia. Apart from contributing to the literature, the paper may also have important practical implications for bank managers to develop a framework for assessing internet banking service. Finally, this study can be used as a foundation for other researchers who would like to undertake research on similar and/or related area of study.

## **1.9. Organization of the Study**

This paper has five chapters with different sections and sub-sections. Chapter one presents the introduction for the main part of the paper. Chapter two states the theoretical and empirical literature review about the adoption of internet banking service. Chapter three presents the research methodology. Chapter four describes data presentation, analysis and interpretation. Finally chapter five presents the summary, finding, conclusion and recommendations of the study.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1. Definition of the Internet Banking**

Internet banking means that the client can manage his account or complete his work which is related to the bank via internet, whether at home or at office and at any place and any time. Thus, the client can directly connect to the bank via the internet and conduct various transactions without having to be physically presented at the bank.

The real meaning of internet banking is conducting the banking operations in electronics and Internet is one of the most important forms. According to (Sara, 2007), internet banking is a set of technological tools that offer a financial institution for its clients to make banking transactions via the computer using an Internet connection.

### **2.2. History of Internet Banking**

The emergence of the electronic banking to the beginning of the eighties started with the advent of electronic Monetary. American Express issued the first plastic card to spread widely in 1958. Years later, in 1968, eight banks issued “Bank Americard” which turned to the VISA international network. In the same year six French banks released a “carte bleu”. In 1980, banking and financial institutions in Europe and the United States began to embrace "home banking". Furthermore, far more advanced computers and the internet helped customers to contact machines and telephone (Sara, 2007).

However, the first appearance of this service to the customers was in 1981, when the automatic teller machine (ATM) was introduced to the public. In 1986, France Telecom provided public telephones with reader machines for memory cards bearing personal data of its holder that were to become bank cards in 1992. The middle of the nineties, 1995, saw the first appearance of internet banking “Security Bank” in the USA. Citibank and Wells Fargo established their internet services in 2001. DBS Bank granted financial services over the internet for the first time in Singapore in 1997. It was followed by UOB, OCBC. Soon after, all the preeminent banks introduced their internet banking one after another (Ehab, 2001).

### **2.3. Benefits of Internet Banking**

The internet banking has several benefits for both the banks and the customers. Firstly, the advantages for the bank will be presented, and then the customer’s advantages will be discussed.

### **2.3.1. Benefits for the Banks**

According to official website of Commercial bank of Ethiopia, electronic transaction cost is significantly less when done online instead of at a branch. Summarize these benefits as below:

- Speed to get the job done by using information technologies.
- Help in decision-making by providing information to the decision makers.
- Reduction the cost of administrative work.
- Overcoming the problem of the time and geographical dimension.
- Treatment of the bureaucracy and bribery.
- Development of a mechanism of action and to keep abreast of developments.
- Planning for future projects.
- Overcoming the problem of day-to-day works.
- Raising the efficiency of workers in the administration.

### **2.3.2. Benefits to customers**

The internet banking service provides a high degree of comfort to the customer, where he/she does not have to stand in a long queue, at a less cost. Furthermore, the customer can access his/her account at anytime and anywhere 24/7.

Internet banking is quite convenient as the customer can easily pay his/her bills, transfer funds between accounts, view his/her transactions with no need to keep the receipts of his/her bills.

As a matter of fact, through Internet banking, the customer can keep an eye on his transactions and account balance all the time. This facility also keeps his/her account safe (Sara, 2007).

## **2.4. Disadvantages of Internet Banking**

Although there are many advantages, internet banking also has some disadvantages which must be taken care of. According to (Rushdy, 2007) & researcher, the main disadvantages of internet banking can be given as below:

Even though there are many sites offering a demo on how to use the internet banking, not all offer this facility. So, a customer who is a new user of internet banking might face some difficulties.

- Availability of access to the internet.
- Security of transactions is a big issue. Hackers might get hold of customer's information from unauthorized people over the internet.
- Password security is a must. After getting a net banking password, customer should change and memorize it; otherwise their account may be misused by someone who gets to know their password inadvertently.
- If the bank's server is down, internet banking cannot be used.
- A slow connection or loss of internet connectivity in between may cause a difficulty to note whether a transaction was successful or not.

## **2.5. Potential Drawbacks of Adopting the Internet Banking**

Some might think that all the difficulties will disappear with the application of electronic banking, such as the administrative and technical problems. However, the reality on the ground points to a rather different picture, namely that the application of electronic banking will require a continuous scrutiny and sustained surveillance to ensure the continuous provision of services in the best shape possible in order to maximize the use of time, money and effort. Furthermore, it must be considered that the existence of alternative plans or contingency plans in the event of default electronic banking remains paramount. The difficulty of providing an appropriate infrastructure for electronic banks, as well as the obstacles in updating the data to enable the customers to see the latest offers, are just two of the many challenges faced by internet banking.

Heavy reliance on credit cards in the field of payment is a major obstacle for the customers. As a matter of fact, studies have shown that 60% of web users do not trust the conduit through which the payment is made (Mosawe, 2002).

Moreover, the spread of commercial fraud and poor communications security across the internet has proved to be seriously detrimental to a successful application of internet banking. The emergence of online fraud and theft from credit card accounts are two serious drawbacks in internet banking.

Not confirming the identity of the client leads to a large number of complaints from the customers denying the completion of the deals and transactions. Thus, it results in losses for the banks. Besides, the other impacts of internet banking appear to cause a fear of dealing with electronic banking because of the distrust and the threat to the security and protection of customers' information, or as a result of the lack of cultural awareness (Kolthom, 2008). There are many complex transactions which cannot be sorted out unless there is a face to face discussion with the manager which is not possible through internet banking. As a matter of fact, solving specific issues and complaints require a physical visit to the bank and cannot be achieved through the internet. Moreover, online communication is neither clear nor pin pointed to help to resolve many complex service issues. In fact, certain services such as the notarization and bank signature guarantee cannot be accomplished online (Rushdy, 2007).

Security is the biggest pitfall of the internet banking scheme which needs to be guarded against by the common customer. Despite the host of sophisticated encryption software is designed to protect one's account, there is always a scope of hacking by the smart elements in the cyber world. Hacker attacks, malware and other unauthorized activity are not uncommon on the net. Identity theft is yet another area of grave concern for those who rely exclusively on internet banking. Most banks have made it mandatory to display scanned copies of cleared checks online to prevent the identity theft. It is essential to check bank's security policies and protections while opening an account and commencing the usage of online banking facilities (Kolthom, 2008).

Online banking is definitely a significant move in the right direction as far as the convenience for the customer as well as the banker is concerned. However, it must be applied with adequate precaution to avoid falling prey to unscrupulous elements poaching the internet (Kolthom, 2008).

### **Patterns of the Internet Banking**

There are 3 basic images of electronic banks on the internet (Rushdy, 2007):

**1. Information Website:** It is the minimum level of electronic banking activity, through which the bank provides information about its programs and products and its banking services.

**2. Communicative Website:** The website allows a type of communication exchange between the bank and its customers, packaging applications or on-line forms and modifies accounts data.

**3. Transactional Website:** The level at which the Bank exercised its services and activities in the electronic environment. It allows the customer to access and manage his/her accounts, make cash payments, paying bills, hold all the informative services, and make transfers between his/her accounts within the bank or with outsources.

### **Barriers Affecting the Adoption of Internet Banking**

There are many obstacles and problems that have an impact on the application of an electronic banking project. Officials must develop a plan for the implementation of such a project and hold a comprehensive approach to the different environment variables that can arise and hinder the work plan in order to either to avoid them or to find solutions. According to researcher some of these barriers are:

- The local shortage of the capacity at the level of the information technology sector and telecommunications.
- Lack of resources to fund e-banking projects in the event of low financial returns.
- Delays in the development of the legal and regulatory framework which forms the basis for the electronic banking project.
- Resistance to change by customers fearing for the hackers.
- Lack of well trained employees among the branches and banks.
- Lack of personal computers.

## **2.6. Empirical Review**

Internet banking adoption has gained special attention in academic studies during the past years so as to investigate factors of adoption. Two important theories used by researchers in the study of individual's adoption of Internet banking are Technology Acceptance Model (TAM), and **Theory of Planned Behavior (TBP)**.

(Nasri, 2011), investigated the determinants of accepting Internet banking (IB) for the customers' of Tunisia. The purpose of this paper was to determine those factors that influence the adoption

of Internet banking services in Tunisia. A total of 253 respondents in Tunisia were sampled for responding: 95 were internet bank users, 158 were internet bank non users. Factor analysis and regression technique were employed to study the relationship. The results showed that use of Internet banking in Tunisia is influenced most strongly by perceived convenience, perceived risk, security and prior internet knowledge. Only information on online banking did not affect intention to use Internet banking services in Tunisia. The results also proposed that demographic factors impact significantly Internet banking behavior. Finally, this paper recommend for the banks to implement new security policies, provide encryption and strong authentication, and provide free demonstration computer courses about using Internet banking to bank customers.

Braja (2005) conducted a research to identify relevant factors that influence New Zealand's bank customers' intention to use Internet banking. This study used the factors in TAM and in addition risk. The result showed that perceived ease of use and perceived usefulness have a significant association with the intention to use. But risk is not significant. This is contrary to other research results. This study also indicates that TAM has low capability in explaining the factors in users' intention to use online banking services.

Perkins and Annan (2013) examined the factors that influence the adoption of online banking in Ghana. The study was based on TAM which has been used expansively in similar studies. Primary data were collected from randomly selected customers and was analyzed by using multiple regression analysis in SPSS. The results showed that the original constructs of TAM i.e. perceived Usefulness (PU), perceived Ease of Use (PEOU) as well as the extensions of government support; trust and security were all significant to customers' intentions to adopt online banking.

(Syed, 2011) conducted a research in Pakistan to find out factors affecting internet banking adoption among internal and external customers. This study investigated the determinants by employing internal and external customers, on the sample size of 210 for internal and 151 for external respondents through using the survey research instrument questionnaire. Internal customers were employee of the banks being analyzed. Six hypothesis were formulated based on the six factors namely Convenience, Perceived Usefulness, Information on Online banking, Government Support, Perceived Risk, and Security and Privacy. Then multiple regression technique was applied on internal and external data to examine the relationships that exist between the factors for adopting Internet banking services. The result of the analysis showed that

perceived usefulness , information of Internet Banking , perceived Risk, security and privacy showed more influence to increase the intention of external customers to adopt Internet banking services while Government Support provide more influence for the internal customers in adoption of internet banking services. For the factor convenience, the research concluded that, If external customers never found convenience, they never adopt any service. The researchers finally recommended that, bank should take some consideration to apply Internet banking by delivering the information in an easiest way, provide more usefulness and benefits and also minimize the fraud as providing more security and privacy. This will helps the bank to increase their profit by reducing its cost, time saving and retain more potential users. The research finding that information on internet banking influence the adoption of Internet banking services contradict with the result of (Nasri, 2011) which was discussed earlier.

(Rakesh & Ramya, 2014), studied the factors influencing consumer adoption of internet banking in India. A new construct “perceived reliability” was proposed to enhance the understanding of an individual’s acceptance behavior of Internet banking with respect to consumers’ perceived security, privacy issues and the perceived risk of consumers. In addition to perceived reliability, level of awareness, perceived ease of use and perceived usefulness were other factors. It was hypothesized that all the factors have positive effect on consumer adoption of Internet banking and each other. Data for the study was collected from 100 participants by means of a survey conducted in Mysore, India. It was found that awareness level of consumers has a positive effect on the perceived ease of use, perceived usefulness, and perceived reliability on Internet banking. Perceived ease of use has an effect on consumer adoption of Internet banking. Perceived usefulness has a positive impact on perceived ease of use, perceived reliability, and consumer adoption of Internet banking. Perceived reliability has a positive impact on consumer adoption of Internet banking.

(Kent et al., 2011) studied customer acceptance of internet banking in Estonia. Three constructs were used to examine what is influencing the customers’ usage of the Internet banking. They are trust, perceived usefulness, and perceived ease of use. They took perceived usefulness and ease of use from technology acceptance model and add trust as another factor. A quantitative study was selected to obtain data regarding the usage of, and attitudes towards, the Internet as a banking channel. To examine what influences customers use of the Internet bank a questionnaire

was sent to 9000 bank customers in Estonia. The findings suggested that Internet banking use increases if customers perceive it as useful. The perceived usefulness is central because it determines whether the perceived ease of Internet banking use will lead to increased use of the Internet banking. This means a well-designed and easy to use internet bank may not be used if it is not perceived as useful. They finally concluded that the perceived usefulness of Internet banking is, for banks, a key construct for promoting customer use. They also suggested that models of technology acceptance should be re-formulated to focus more on the key role of the perceived usefulness of the service embedded in the technology. They advised banks to put much effort not only into making a user-friendly internet bank, but also into explaining to their customers how the internet bank is useful to them.

(Safeena et al. 2011) investigated the customer perspective about Internet banking adoption in an emerging Indian economy by using the convenience sample method for collecting data of the student of educational institutes through questionnaire. The variables of the research were perceived usefulness, perceived risk, consumer acceptance and perceived ease of use. For this research the factor analysis technique was used. The result showed that the perceived usefulness, perceived ease of use a perceived risk are the most important factors for the adoption online banking and also help to make a strategy formulation process. Many more studies around the world show that the variables in TAM have significant relationship with the customers' intention to use online banking service.

The same is true for Ethiopia. (Zelege & Yitabarek, 2013) conducted research to analyze the factors that influence customers' intention to adopt e-banking service channels in Bahir Dar city. The study used variables from Theory of Planned Behavior and Technology Acceptance Model. The findings revealed that attitude; subjective norm, perceived behavioral control, perceived usefulness and perceived ease of use and perceived risk were significant in affecting users' intention to use e-banking service channels. This research also indicated that, contrary to TAM model, perceived usefulness is not predicted by perceived ease of use. This will be investigated in this research.

## **2.7. Theoretical Framework**

### **2.7.1. Theory of Reasoned Action**

The theory of reasoned action is a widely studied model from social psychology which is composed of attitudinal, social influence, and intention variables to predict variables (Ajzen,

1975). It hypothesized that behavioral intention is jointly determined by attitude toward performing behavior and subjective norm. Attitude is defined as individual negative or positive feeling about performing a specific behavior and can be determined by one's belief that performing the behavior will lead to various consequences multiplied by the subjective evaluation of those consequences (Davis, 1986). Subjective norm refers to the person perception that most people who are important to him think he should or should not perform the behavior in question (Ajzen, 1975). The theory of reasoned action also hypothesize that behavioral intention is the only direct influence of actual behavior.

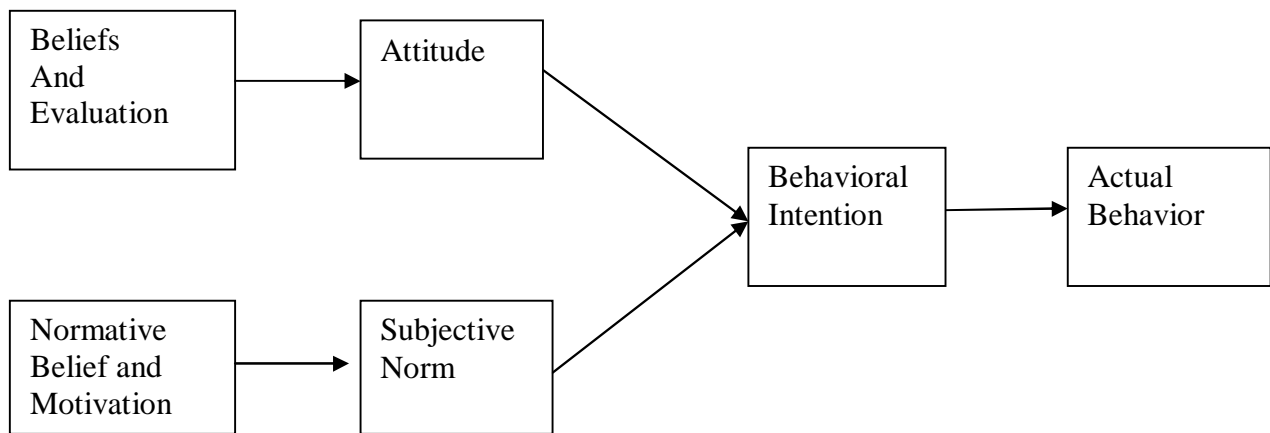


Figure 1 Theory of Reasoned Action. Source: Fisheben & Ajzen, 1975.

### 2.7.2. Technology Acceptance Model

The Technology Acceptance Model (TAM), introduced by Davis (1986), is an adaptation of the Theory of Reasoned Action (TRA) specifically modified for modeling user acceptance of information technology. (Davis, 1986) stated that the main goal of TAM is to explain the determinants of IT acceptance across a broad range of information technologies and user populations. Moreover, Davis (1986) suggested that acceptance of IT can be determined by two primary constructs: perceived usefulness and perceived ease of use of the technology. When predicting the acceptance of information technologies, TAM suggests the following factors are important: external variables; beliefs about information technology (perceived usefulness and perceived ease of use), attitudes, behavioral intention, and finally, actual IT use. Davis(1986) suggested that using an information system is directly determined by the behavioral intention to use it, which is in turn influenced by the users' attitudes toward using the system and the perceived usefulness of the system. Attitude and perceived usefulness are also affected by the perceived ease of use. According to TAM, greater perceived usefulness and the perceived ease of

use of an information system will positively influence the attitude toward this system. The attitude, in turn leads to a greater intention to use the system, which positively affects one's actual use of the system. According to Davis (1986), even though external variables do not have a direct influence on attitudes and behavioral intention to use, TAM underlies the bridging role of beliefs and attitudes between external variables and behavioral intention.

### **Perceived Usefulness**

According to (Davis, 1986), perceived usefulness can be defined as “the degree to which an individual believes subjectively that using a particular IT would enhance his or her job performance”. In other words, the individual believes that the use of the IT would yield positive benefits for task performance associated with his/her job. Perceived usefulness suggests a user believes that using a particular IT will be beneficial. For the user to hold such a belief several conditions must be met. First, the user must have prior experience with the particular problem suggesting at least some understanding of the nature of the problem, even if the problem is not yet understood sufficiently to derive a solution. Generally, the user must also have experience with information technologies. This experience gives the user a basis for evaluating the capabilities of information technologies and how and in what circumstances they may be useful. In the formation of initial opinions, the user will not have much hands-on experience, but may know of the capabilities of information technologies through the media like television and newspaper) or other communication channels like friends (Jihyune, 2003).

### **Perceived Ease of Use**

#### **2.7.3. Theory of Planned Behavior (TPB)**

The theory of planned behavior (TPB) is an extension of the theory of reasoned action (TRA), which is widely used in social psychology and marketing studies to explain the determinants of intended behaviors (Ajzen, 1975). Both the TRA and TPB suggest that behavior is directly influenced by behavioral intention. But TPB model adds “perceived behavioral control” to the theory of reasoned action.

### **Beliefs and Attitudes**

TPB postulates that attitude toward the behavior refers to the degree to which people have a positive or negative feeling toward the behavior. (Hofstede, 1997) suggested that attitudes are determined by the beliefs people have about the object of the attitude and beliefs are formed by the characteristics of the attitude object. (Ajzen, 1991) also stated that individuals’ positive or negative attitudes depend on desirable or undesirable expected outcomes or results that are

associated with an object. For example, people have a positive attitude toward online financial services when they believe that online financial services are a convenient technology for dealing with financial activities.

### **Subjective Norm**

Subjective norms are influenced by the normative beliefs that refer to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991). Normative belief might be related to the influence of opinion among social groups such as family and friends. In TPB model subjective norm has a positive relationship with intention to adopt Internet banking services and it is negatively related to perceived risk. Attitude has a positive relation with subjective norm.

### **Perceived Behavioral Control**

According to (Ajzen, 1991), perceived behavioral control reflects beliefs regarding access to the resources needed to perform a behavior. There are two components affecting perceived behavioral control. The first element is 'facilitating conditions' which reflect the availability of resources needed to perform a behavior. This might include access to the time, money, skills and other specialized resources required to perform a behavior. The second element is 'self-efficacy'. It is an individual's self-confidence in his/her ability to perform a behavior. Taylor and Todd (1995) suggest that resources (i.e., time, money) and the individuals' "self efficacy" are important elements affecting behavioral intention and actual technology use. According to Ajzen (1991) when individuals believe that they have more resources, they believe they have fewer obstacles and perceive greater control over the behavior, while people lacking requisite resources and confidence perceive little control over the behavior thereby reducing intentions to perform the behavior.

### **Prior internet Knowledge**

Another factor that influences the consumer adoption of internet banking is the prior experience of technologies, especially prior experience of computers. Thus, consumer's familiarity with technologies in general facilitates her appreciation of the potential added value which is inherent in a technology. The prior computer experience is associated with use of use of PC, the Internet and e-mail. Karjaluoto et al. (2002) showed that prior experience with computers and technologies and attitudes towards computers influence both attitudes towards online banking and actual behaviors.

### **Demographic characteristics**

Demographic factors have also been found to be associated with adoption of different banking channels, especially internet banking. For instance, people with high educational attainment may have an aptitude for computers and possess good information processing skills (Al-Ashban and Burney, 2001). These qualities are crucial in the context of internet banking and therefore a relationship between formal education and adoption is propounded. The results reported in Dover (1988) indicated that women were also less likely to conduct their banking activities online. Akinci et al.'s (2004) findings in Turkey show that mid-aged consumers are more likely than younger or older consumers to use internet banking. Those who belong to upper middle class and have high-level occupations are more likely to use Internet banking (Karjaluoto et al., 2002).

### **Convenience**

Convenience goods are class of consumer products that were intensively distributed and required minimal time and physical and mental effort to purchase. Some later definitions of convenience also focused on resources such as time and effort required of the consumer in shopping for a product, however, expanded the concept of convenience to incorporate non-shopping activities. It is related to the visual view of the Internet compared to telephone banking (Al-Ashban and Burney, 2001). Furthermore, the 24-hour service availability, home access, world wide access time savings, and wide variety of services accessible are seen as drivers of convenience in Internet banking (Yang et al., 2003). Internet banking as competitive advantage of adopting of a new retailing channel in services capes; it is one of the dominating factors in transaction channel preferences and a key determinant of consumer satisfaction (Yang et al., 2003). In his study Ajzen (1991) found that perceived convenience was the strongest predictor of online banking usage. Finally, the same study also indicated that the perceived convenience was the most influential variable of overall adoption of all four e-commerce activities investigated.

### **Perceived Risk**

Consumer behavior studies define perceived risk (PR) in terms of the customer's perception of the uncertainty and potential adverse consequences of buying a product or services. The degrees of risk that customers perceive and their own tolerance of risk tacking are factors that influence their purchase decision (Nasri, 2011). Perceived risk can also cause customer to reject new technological service and it is related to reliability and system failure. Customers are also worried that technology based service delivery will not work as expected and lack confidence that problems can be solved quickly (Hofstede 2007).

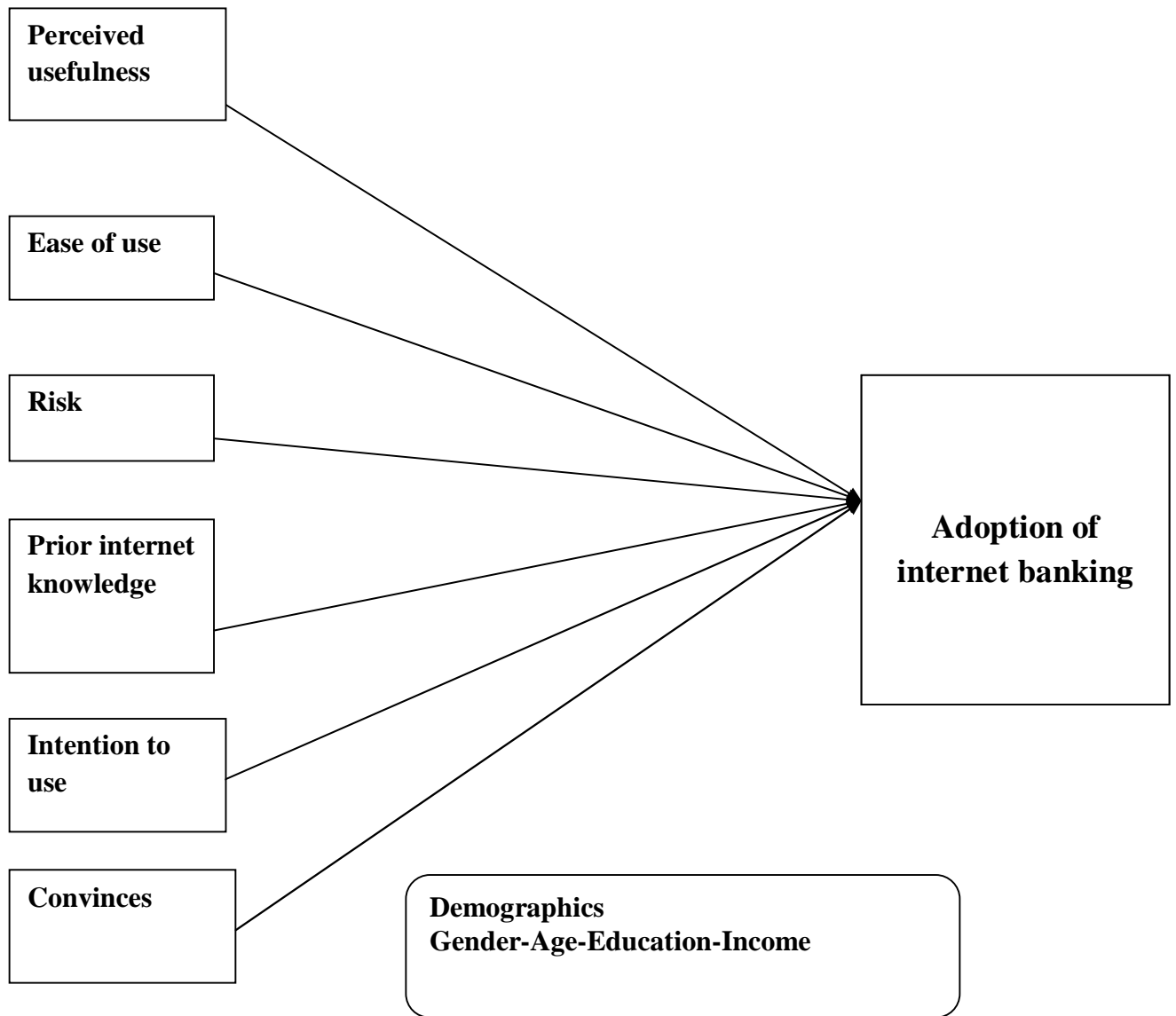
## 2.8. Conceptual Frame Work

The conceptual frame work is developed based on the variables from TAM, as can be seen in figure 1 below the behavioral intention is affected by an individual's attitude toward using internet banking and perceived usefulness. An individual's attitudes are a joint function of perceived usefulness and perceived ease of use. Both perceived usefulness and perceived ease of use are determined by external variables, The external variable in this research are prior internet knowledge, demographic characteristics such like age, gender, income & education, Convenience & prior internet knowledge. The researcher proposes that external variable directly affect perceived usefulness and perceived ease of use.

**Perceived Usefulness** “The degree to which a person believes that using a particular system would enhances their performance” (Davis, 1989)

**Perceived Ease of Use** “The degree to which a person believes that using a particular system would be from effort” (Davis, 1989)

Theses proposition are supported by many literatures which discussed later.



**Figure 2: Modified conceptual frame work by the researcher**

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1. Introduction**

Designing appropriate research methodology is a prerequisite in order to conduct a good research work. Accordingly, this chapter discusses about the methodology by which the researcher used to conduct the study. Thus, research approach, research design, sampling design, source of data, data collection methodology, data collection instrument, data analysis methods, validity and reliability.

### **3.2. Research Approach**

Since the aim of the study is to examine the factors affecting the adoption of Internet banking services and hypothesis have to tested, quantitative research method is used. Inferential study design is used to determine how the independent variables explain the dependent variables of the study.

### **3.3. Research Design**

This research has been exploration attributes; the variables needs more detail data that is why the researcher will choose this descriptive data. According to (Zikmund, 2000), exploratory research is conducted to clarify and research a better understanding of the nature of the problem. Consequently, it is appropriate to use when there are little prior knowledge of the problem being researched. (Saunders & Thornhill, 2003) argue that exploratory research is advantageous because it is flexible and adaptable to change.

### **3.4. Sampling Design**

#### **3.4.1. Target Population**

According the data fetched from E-payment internal portal March 31 third quarter performance release there are 14,136 actively user of internet banking since Jun 2016.

#### **3.4.2. Sampling frame**

The study population has been focused on CBE customers of internet banking under Addis Ababa city branches in 4 districts named East, West, South, and North.

### 3.4.3. Sampling Technique

Among various sampling techniques the researcher adopt Non-probability sampling technique by purposively select active users of internet banking based on their number of transaction posted via internet banking.

Non-probability sampling: the organizers of the inquiry purposively choose the particular units of the universe for constituting a sample on the basis that the small mass that they so select out of a huge one will be typical or representative of the whole (Kothari 2004).

### 3.4.4. Sample Size

For populations that are large, Cochran (1963) developed the Equation 1 to yield a representative sample for proportions.

$$n = \frac{Z^2 pq}{e^2} \dots \dots \dots 1$$

Which is valid where n is the sample size, Z2 is the value of the normal curve that cuts off an area  $\alpha$  at the tails (1 –  $\alpha$ ) equals the desired confidence level, (95%), e is the desired level of precision, p is the estimated proportion of an attribute that is present in the population, and q is 1-p. The value for Z is found in statistical tables which contain the area under the normal curve.

To illustrate, we have large population but that we do not know the variability in the proportion and could not got the previous related result; therefore, assume p=.5 (maximum variability). Furthermore, suppose we desire a 95% confidence level and  $\pm 5\%$  precision. The resulting sample size is demonstrated in as follows:

$$n = \frac{Z^2 pq}{e^2} = \frac{1980.50.5^2 * 0.5 * 0.5}{0.05^2} = 385$$

A representative number of respondents have been study by using convenience sampling method. This method will help the researcher to get information on a convenient way. When population elements are selected for inclusion in the sample based on the ease of access, it can be called convenience sampling (Kothari 2004).

### 3.4.5. Sources of Data

For proper achievement of the objectives of the study; the researcher used primary data sources which are customers of the Commercial Bank of Ethiopia different branches under Addis Ababa city, these branches were randomly selected.

#### **3.4.5.1. Primary Data**

Primary data was collect from the respondent based on a structurally designed questionnaire to internet banking users. It was close ended questions. As shown in appendices "A"

The populations under research were 385 questionnaires should be distributed in order to provide data for a reliable survey. Therefore, a purposive sampling method was used. Out of 390 questionnaires that were distributed, 385 questioners were collected. Five of the questionnaires were cancelled due to the lack of seriousness in their answers.

#### **3.4.5.2. Secondary data**

Secondary data was collected from already existing literature from journals, newspapers, textbooks, articles the websites of the bank and officials periodically releases of E-payment.

### **3.5. Data Collection Instrument**

Primary data has been collected through questionnaires and the questionnaires were prepared in the way that is relevant to the situation so as to decrease invalid responses. The questioner had two sections: the first section addressed the general banking practice of the respondents, and the second ask about their perception. The questions were prepared based on the variables namely perceived usefulness, perceived ease of use, risk, prior internet knowledge, intention to use & and convenience.

The five point likert scale was used for the statement of the second section of the questionnaire (see appendices) ranging from 1 for "strongly disagree", 2 for "disagree", 3 for "no opinion", 4 for "agree", and 5 for "strongly agree".

Reliability and validity test was conducted to measure the internal consistency of the data items and to measure whether an instrument actually measures what it is supposed to measure respectively.

### **3.6. Data Analysis Method**

Data analysis was consists examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Kothari 2004). The data analysis has been conducted by using the Statistical Package for the Social Sciences (SPSS) computer program. Regression analysis was applied to analyze the empirical date and Pearson Product Moment Correlation was added to conclude the regression analysis. These statistical measures contributed to test the research model validity.

Regression analysis tested how the independent variables (PU, EU, RISK, PK, IU, and CONVENIENCE) were regressed on the dependent variable, Use of the system. The Pearson Product Moment Correlation was used to examine the correlation between the variables and the correlation between the variables and system Use. Also, the Standard regression analysis was used to examine the fitness of the model. This analysis helped to predict the level of the dependent variable based on the level of the independent variables.

The Pearson Product Moment Correlation allows determining if two sets of observations, on a single randomly selected sample are correlated with each other such that high and low values on one variable are associated with high and low values on the other or vice versa. The Pearson r calculates the degree of linear association (correlation) between the variables on a scale from -1 to +1 (Walsh, 2007). Note here that the negative sign is referring to the direction of the relationship and not the strength (Pallant, 2001). Finally, the coefficient of determination ( $r^2$ ) can be calculated by squaring  $r$  and multiplying by 100%. This value tells us the amount of variation among the Criterion (usage of e-banking) by its linear connection to Predictors (PU, EU, RISK, PK, IU, and CONVENIENCE).

Value of the Correlation Coefficient	Strength of Correlation
1	Perfect
0.7 - 0.9	Strong
0.4 - 0.6	Moderate
0.1 - 0.3	Weak
0	Zero

**Table 1** the Dancey and Reidy's (2004) categorize the value of correlation coefficient

Furthermore, Creswell (2003), suggested that qualitative research is fundamentally interpretative i.e. the researcher made an interpretation of the data. Thus, the data that has been collected from the questioner and reviews of documents has been interpreted qualitatively. To sum, the analysis of quantitative data and interpretation of qualitative data combines to seek convergence among the results (Creswell, 2003).

Descriptive Analysis: The researcher will use descriptive analysis to reduce the banking practice information in to a summary format by tabulation (the data arranged in a table format).

Inferential Analysis will use to analyze the relationship between two variables and to assess how the dependent variables explain the independent variable (Creswell, 2003).

### 3.7. Validity and Reliability

#### 3.7.1. Validity

Before empirical analyses are conducted by using the instrument, reliability and validity test were done on items in the questionnaire instrument.

	Mean	Std. Deviation	N
Perceived usefulness	3.9948	.79548	385
ease of use	4.1039	.72961	385
perceived risk	4.1766	.87200	385
prior knowledge	4.3870	.75231	385
intention to use	4.3052	.71878	385
Convinces	4.3455	.78570	385

**Table 2 Source:** This study: Survey 2017

Validity on the other hand refers to whether an instrument actually measures what it is supposed to measure. To assure validity, questionnaires were designed on the basis of previous studies' questionnaires and review of related literatures, the researcher selected multiple sources of evidence namely documentation and personal observation. Finally, the researcher used well-established literature to construct the frame of references.

#### 3.7.2. Reliability analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.812	.814	6

**Table 3 Source:** This study: Survey 2017

Before the questionnaires were formally distributed, a pre-trial reliability analysis was performed on 25 completed questionnaires to appropriately adjust the questionnaire design. According to (Nunnally, 1978) Cronbach's alpha should be 0.700 or above. In this study, the value of Cronbach's alpha is above the base line, which is greater than the standard value, 0.7. Thus it can be concluded that the measures used in this study are valuable and highly reliable.

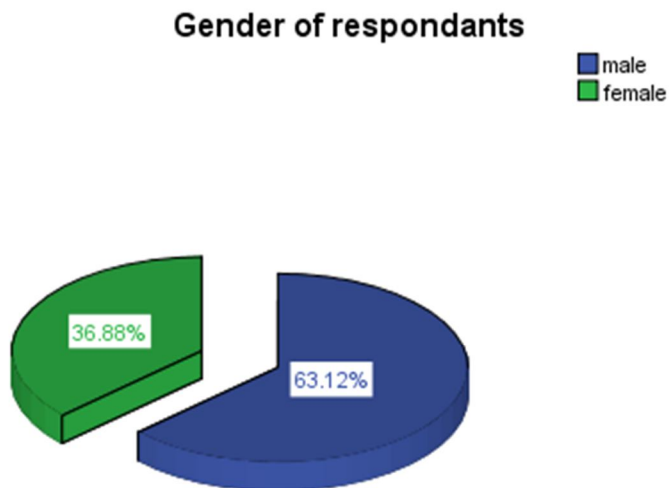
## CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

### 4.1. Introduction

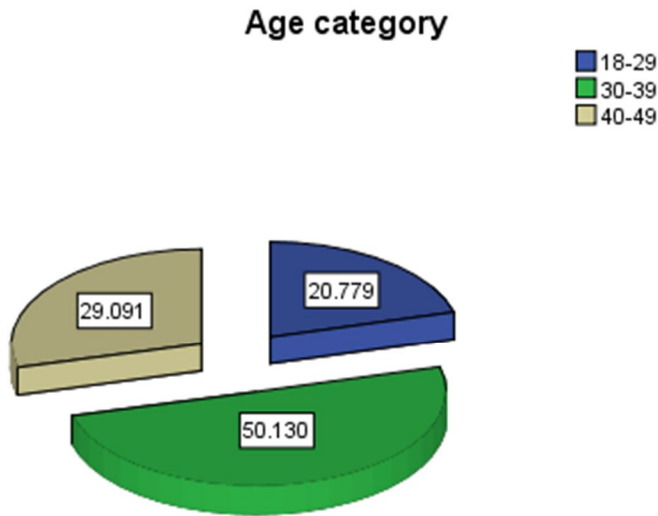
This chapter presents the results of the study based on the empirical study of the data collected from the research respondents and interpretation of results with respect to prior research results and literature. In this chapter, both descriptive and inferences on the data analysis and procedures are presented.

### 4.2. Demographic Characteristics of the Respondents

Under this chapter the researcher are going to describe the descriptive nature of the collected data with the help of diagrammatical presentation and frequency distribution. As you see in the following figure, majority of the respondents (63.12%) were males and the rest 36.88% of the respondents were females, this implies in CBE there is many male customers more than females and also male customers are more literate than females.

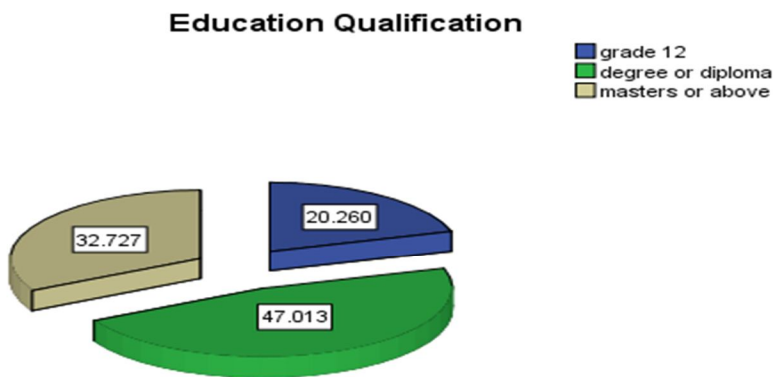


**Figure 3** Pie- charts of male and female respondents

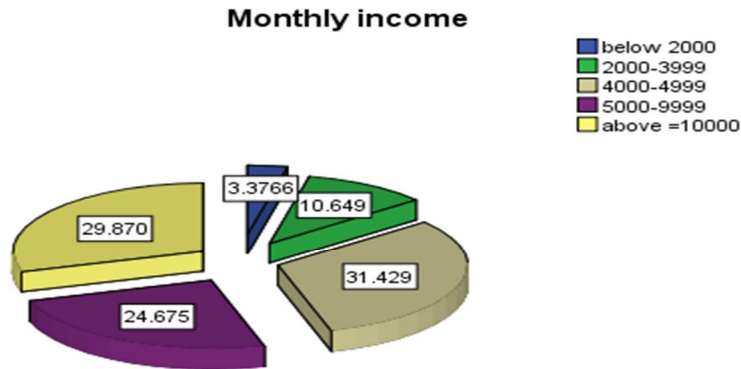


**Figure 4** Pie- charts of age category of the respondents

The age of the respondents were classified in range and majority of the respondents (50.13%) in age group 30-39 years (29.09%) in age group 40-49 and very small number of the respondents (20.78%) were in age group 18-29 years. educational level of the respondents were also assessed. Large number of the respondents (47.01%) had degree or diploma, (32.72 %) respondents hade master or above education qualification and (20.26%) of the respondents had completed Secondary school.



**Figure 5** Pie- charts of education qualification of the respondents



**Figure 6** Pie- charts monthly income of the respondents

Among the respondents (31.42%) income are 4000-4999, (29.87%) incomes are above 10,000, (24.67%) respondents had income between 5000 and 9999, (10.65%) respondents had 2000-3999 and few respondents (3.37%) had below 2,000.

#### 4.3. Descriptive Statistics

Perceived ease of use (PEOU) refers to the degree to which a person believes that using the system will be free of effort (Davis et al., 1989). Perceived usefulness (PU) is defined as the extent to which a person believes that using a system will increase his or her job performance (Davis et al., 1989). The degrees of risk that customers perceive and their own tolerance of risk tacking are factors that influence their purchase decision (Nasri, 2011). According Karjaluoto et al. (2002) showed that prior experience with computers and technologies and attitudes towards computers influence both attitudes towards online banking and actual behaviors. According to Davis (1986), behavioral intention reflects “the strength of the prospective user’s intention to make or to support the usage decision in their mind”. Convenience also focused on resources such as time and effort required of the consumer in shopping for a product, however, expanded the concept of convenience to incorporate non-shopping activities. It is related to the visual view of the Internet compared to telephone banking (Al-Ashban and Burney, 2001). According to Davis (1986), behavioral intention reflects “the strength of the prospective user’s intention to make or to support the usage decision in their mind”.

**Descriptive Statistics**

	Mean	Std. Deviation	N
Adoption of internet banking	3.9195	.97161	385
Perceived usefulness	3.9948	.79548	385
ease of use	4.1039	.92961	385
perceived risk	4.1766	.87200	385
prior knowledge	4.3870	.75231	385
intention to use	4.3052	.71878	385
Convenience	4.3455	.78570	385

**Table 4:** Descriptive statistics for the selected variable

The mean for Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, perceived risk, prior knowledge, intention to use, and convenience are 3.9, 3.9, 4.1, 4.1, 4.3, 4.3 and 4.3 respectively. According to the likert (1632), the variables Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, perceived risk, prior knowledge, intention to use, and convenience are in the range of higher level. Therefore the researcher can understand the respondents have higher level of Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, perceived risk, prior knowledge, intention to use, and convenience.

#### **4.4. Correlation Analysis**

In this topic the researcher going to analysis the relationship between perceived ease of use and perceived usefulness with the other variables separately.

Correlation analysis is a method of statistical evaluation used to study the strength of a relationship between two, numerically measured, continuous variables (e.g perceived ease of use and perceived usefulness).The particular type of analysis is useful when researcher wants to establish if there are possible connection between variables. Its often misunderstood that correlation analysis determines cause and effect., however ,this is not the case because other variable that are not present in the research may have impacted on the results., so the researcher uses correlation to analysis the direct and inverse relationship between the variables each others.

## Correlation

		IB adoptio n	Perceived usefulness	ease of use	perceived risk	prior knowledg e	intention to use	convince s
Pearson Correlation Sig. (2-tailed) .002	IB adoption	1.000						
Sig. (2-tailed) .000	Perceived usefulness	.874	1.000					
Sig. (2-tailed) .000	ease of use	.566	.629	1.000				
Sig. (2-tailed) .000	perceived risk	.546	.673	.665	1.000			
Sig. (2-tailed) .000	prior knowledge	.232	.351	.292	.406	1.000		
Sig. (2-tailed) .000	intention to use	.315	.335	.311	.406	.619	1.000	
Sig. (2-tailed) .000	convenience	.217	.261	.143	.238	.414	.578	1.000

**Table 5:** correlation matrix for the selected variable

According to the above correlation matrix, all the Pearson Correlation coefficients are significant because all the sig value is less than the 5% level of significant. Therefore the correlation between Perceived Ease of Use, intention to Use, perceived risk, prior knowledge, intention to use, and convenience are 0.874, 0.566, 0.546, 0.232, 0.315, and 0.217 respectively. Based on the classification of Dancey and Reidy's (2004), the correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, perceived risk, prior knowledge, intention to use, and convenience are strong and positive and the correlation between perceived usefulness and adoption of e banking is moderate and positive.

The correlation between Adoption of internet banking, Perceived Ease of Use, intention to Use, perceived risk, prior knowledge, intention to use, and convenience are 0.874, 0.629, 0.673, 0.351, 0.335 and 0.261 respectively this value tells about correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, perceived risk, prior knowledge, intention to use, and convenience are positive and strong.

The correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, perceived risk, prior knowledge, intention to use, and convenience are 0.566, 0.629, 0.675,

0.292, 0.311 and 0.143 respectively this value tells about correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, perceived risk, prior knowledge, intention to use, and convenience are positive and strong and Adoption of internet banking is 0.566 this value shows a positive and moderate correlations.

The correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to use, prior knowledge, intention to use, and convenience are 0.546, 0.673, 0.665, 0.406, 0.406 and 0.238 respectively this value tells about correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, prior knowledge, intention to use, and convenience are positive and strong and Adoption of internet banking is 0.546 this value shows a positive and moderate correlations.

The correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to use, perceived risk, intention to use, and convenience are 0.232, 0.351, 0.292, 0.406, 0.4619 and 0.414 respectively this value tells about correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, intention to use, and convenience had positive and moderate correlations.

The correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to use, perceived risk, prior knowledge, and convenience are 0.315, 0.335, 0.311, 0.406, 0.619 and 0.578 respectively this value tells about correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, prior knowledge, and convenience had positive, strong and 0.578 implies moderate correlations.

The correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to use, perceived risk, and prior knowledge are 0.315, 0.335, 0.311, 0.406, 0.619 and 0.578 respectively this value tells about correlation between Adoption of internet banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, prior knowledge, and had positive, strong and 0.578 implies moderate correlations.

## 4.5. Regression Analysis

In this topic the study is going to describe the relationship between the dependent variable (Adoption of internet banking) and the independent variable; Perceived Usefulness, Perceived Ease of Use, intention to use, perceived risk, prior knowledge and convenience. To do this, let start with the overall significance of the regression model test.

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	283.602	6	47.267	226.444	.000 <sup>b</sup>
Residual	78.902	378	.209		
Total	362.504	384			

a. Dependent Variable: Ib adoption

b. Predictors: (Constant), convenience, ease of use, prior knowledge, Perceived usefulness, intention to use, perceived risk

**Table 6:** Anova Tabel

As we see from the above ANOVA table the P value is 0.00 which is less than the level of significance or 0.05. Therefore the overall regression model is significant. The value of  $R^2$  (in table 9) is .885 which implies that about 88.5% of variation in adoption of internet banking service is expressed in the variation Perceived Usefulness, Perceived Ease of Use, intention to use, perceived risk, prior knowledge and convenience.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.885 <sup>a</sup>	.782	.779	.45688	1.867

a. Predictors: (Constant), convenience, ease of use, prior knowledge, Perceived usefulness, intention to use, perceived risk

b. Dependent Variable: ib adoption

**Table 7:** Model summary

Before we come to the individual variable, first we should check the assumption of multiple linear regression models that is, the assumptions of multi co linearity.

The assumption of multi co linearity is checked by VIF (Variance Inflated Factor). As we see from table 7 all the VIF is less than 10, therefore there is no multi co linearity problem.

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.180	.228		.790			
Perceived Usefulness	.351	.084	.292	4.162	.260	3.840	3.840
Perceived Ease of Use	.490	.075	.425	6.514	.300	3.333	3.333
prior knowledge	.274	.088	.227	3.109	.240	4.162	4.162
intention to use	.275	.047	.129	3.688		3.952	3.952
convinces	.203	.037	.024	3.819	.230	4.224	4.224
perceived risk	.311	.041	.103	2.790		4.344	4.344

**Table 8:** Coefficients of the selected variable

The P value of all variables (perceived usefulness, perceived ease of use, prior knowledge, intention to use, convinces and perceived risk) is less than 0.05. That is the variables perceived usefulness, perceived ease of use, prior knowledge, intention to use, convinces and perceived risk have a significance effect on the adoption of internet banking. The coefficient of Perceived Usefulness is 0.351 this value tells about, if the Perceived Usefulness is increased by one percent, the adoption of internet banking is improved by 35.10%. According to the above table 5, the coefficient of perceived ease of use, prior knowledge, intention to use, convinces and perceived risk is 0.490, 0.274, 0.275, 0.203 and 0.311 respectively. This figure tells about if the perceived ease of use, prior knowledge, intention to use, convinces and perceived risk is increased by one percent automatically the value of adopting internet banking can improve with 49%, 27.4%, 27%, 20% and 31% respectively.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1. Introduction

The findings of this empirical study provide support for the theoretical model embracing TAM. The mean value of descriptive statistics the perceived usefulness, perceived ease of use, prior knowledge, intention to use, convinces and perceived risk are in the range of higher level and the variable adoption of internet banking is in the level of moderate level.

According to the correlation matrix, all the Pearson Correlation coefficients are significant because all the significant value is less than the 5% level of significant. Therefore the correlation between adoption of internet banking against perceived usefulness and perceived ease of use, perceived risk, prior internet knowledge, intention to use, and conveniences is 0.874, 0.566, 0.546, 0.232, 0.315 and 0.217 respectively. The correlation between perceived usefulness, perceived ease of use, attitude toward use and behavioral intention to use is strong and positive and the correlation between perceived usefulness and adoption of internet banking is strong and positive.

The overall regression model is significant. The value of  $R^2$  is 0.782 which implies that about 78.2% of variation in adoption of internet banking service is expressed in the variation on perceived usefulness and perceived ease of use, perceived risk, prior internet knowledge, intention to use, and conveniences.

The coefficient results show that the adoption of internet banking is primarily and positively affected by perceived ease of use ( $\beta= 0.490$ ), Perceived usefulness ( $\beta= 0.351$ ), perceived risk ( $\beta= 0.311$ ), intention to use ( $\beta= 0.275$ ), prior internet knowledge ( $\beta= 0.274$ ) and convenience ( $\beta= 0.203$ ). This figures tells about if the perceived usefulness and perceived ease of use, perceived risk, prior internet knowledge, intention to use, and conveniences is increased by one percent automatically the value of adopting internet bank can improve with 49%, 35%, 31.1%, 27.5%, 27.4% and 20.3% respectively. This implies that the perceived ease of use is the most important

predictor of the adoption of internet banking. Perceived usefulness also has a significant impact ( $\beta= 0.351$ ) and appears to be the second determinant of a customer's adoption of e-banking.

Moreover, perceived usefulness and perceived ease of use has an indirect influence, on risk, intention to use, prior internet knowledge and conveniences on the adoption of internet banking which indicated that perceived usefulness and perceived ease of use has both direct and indirect influences on the adoption of internet banking.

As we know from previous research, perceived usefulness and perceived ease of use was always an important determinant of attitude in TAM (Chau, 1996; Davis et al., 1989). Attitude toward to use also has a significant impact on behavioral intention to use internet banking. Perceived risk also has a significant impact on the adoption of internet banking.

## **5.2. Summary**

Internet banking service currently not only in developed country but also in our country becomes mandatory transaction to save our time, cost, and energy and to become user of new technology. In the objective of the study the researcher tries to identify the most variables factors and to study each variables relation and effect on internet banking services, then the study clearly shows the most variables factor is perceived usefulness and perceived ease of use, perceived risk, prior internet knowledge, intention to use, and conveniences have valuable or direct and indirect impact on consumer adoption of e banking.

Based on the descriptive analysis the most internet banking users are under age of 30-39 years, males are the dominant users and also degree and diploma holders.

## **5.3. Recommendations**

To attract customers, commercial bank of Ethiopia should develop perceived ease of use and perceived usefulness completing financial products' offer on internet banking at a very close level they offer at the branch. This is good for the customer and for eliminating bank costs and building the good image.

Bank managers to pay attention to potential customers of their innovative services characterized in this study, and customize the services for better customer adoption of internet banking. It might be important to develop a marketing strategy for internet banking; however, banks need to

closely demonstrate concern for ease of use, perceived usefulness, with concrete solutions to change customer's attitude and behavioral intention in the adoption of internet banking.

To bring many customers to the bank and to make them users of internet banking technology not only the manager but also all staffs should participate in the process by making the process easy.

On the other hand, the study could be conducted at a stage of service launching, or at a pre test in order to investigate customers' behavior towards the adoption of the new internet banking service. Any corrective actions if necessary could then be made at an early stage so that bank management can improve the new service and accelerate the usage rate to recoup the investment costs earlier.

#### **5.4. Future Areas of Research**

Since the study has descriptive design, future research could undertake a more in-depth longitudinal study. Future research may be conducted by further extending and refining the models or other best new methods, since the CBE Addis Ababa city branches spread rapidly the listed variables may not be the only factors so that this research must be tolerate broadly in detail and in other technologies or in integrated approaches.

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## Appendices

### Appendix 1: Questionnaire

ADDIS ABABA UNIVERISTY  
SCHOOL OF COMMERCE  
SCHOOL OF GRADUATE STUDIES  
DEPARTMENT OF MARKETING MANAGEMENT  
DISTANCE PROGRAM  
QUESTIONNAIRE  
INTRODUCTION

#### DEAR RESPONDENT,

My name is Yoseph Degu. I am attending MA (Marketing Management) program at Addis Ababa University School of Commerce. I am conducting a research thesis on the title “Factors affecting the Adoption of Internet Banking services” in case of commercial bank of Ethiopia. Addis Ababa City branches. Now I need to collect information from you for the successful completion of my research study. Please assist me by giving correct and complete information.

General Instructions: For your free and genuine responses, please tick (√) mark one choice

---

### Section one Demographic Details

#### 2.1 Gender

Male	
Female	

#### 2.2 Age category

18-29	
30-39	
40-49	
50<	

### 2.3 Monthly Income

Less than 2000 Birr	
R 2000 to 3999 Birr	
R 4000 to 4999 Birr	
R 5000 to 9999 Birr	
Over 10000 Birr	
OTHER	

### 2.4 Educational qualifications

degree/diploma or above	
Matric	
Some high school	
Other (Specify)	

Please tick (√)

Question	Answer				
	Section 2				
	1	2	3	4	5
<b>Perceived Usefulness</b>					
1. Internet banking will enable me to accomplish my banking task more quickly.					
2. Internet banking will make it easier for me to do my banking.					
3. Using internet banking will decrease my cost of banking.					
4. Internet banking saves time compared to traditional banking					
<b>Perceived Ease of Use</b>					
5. internet banking is easy to use					
6. Internet banking is not complicated to use.					
7. I can use internet banking without anyone helping me.					

**Perceived Risk**

8. Using internet banking may expose me to fraud or monetary lose.					
9. I am not confident with the security aspects of internet banking.					
10. Internet banking is not as secure as conventional banking (going directly to the branch).					
11. Using internet banking is not safe .					

**Prior internet usage knowledge**

12. I had a good experience how to use internet					
13. I think my previous experience help me how to use internet banking					

**Intention to Use**

18. its convinent					
19. avoiding staying in line & time saving					

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**Convenience**

Internet banking is convenient, in terms of time saving					
Internet banking is convenient, in terms of 7 days and 24 hours services					
In-branch banking involves too much queuing time					
Internet banking makes it easier for me to do my banking					
Using Internet banking services enables me to complete banking activities more quickly					
Internet banking is a convenient way to manage my finances					



ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	283.602	6	47.267	226.444	.000 <sup>b</sup>
	Residual	78.902	378	.209		
	Total	362.504	384			

a. Dependent Variable: IB adoption

b. Predictors: (Constant), convenience, ease of use, prior knowledge, Perceived usefulness, intention to use, perceived risk

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.180	.228		.790			
Perceived Usefulness	.351	.084	.292	4.162	.260	3.840	3.840
Perceived Ease of Use	.490	.075	.425	6.514	.300	3.333	3.333
prior knowledge	.274	.088	.227	3.109	.240	4.162	4.162
intention to use	.275	.047	.129	3.688		3.952	3.952
convinces	.203	.037	.024	3.819	.230	4.224	4.224
perceived risk	.311	.041	.103	2.790		4.344	4.344