

*Factors affecting customer`s internet banking adoption in  
commercial bank of Ethiopia, jimma city branches.*

*A Thesis Submitted for Partial Fulfillment of the Requirements for the  
Award of the Degree of Master of Business Administration (MBA)*

**BY:**

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**JIMMA UNIVERSITY**

**COLLEGE OF BUSINESS AND ECONOMICS**

**MBA PROGRAM**

**JUNE, 2021**

**JIMMA, ETHIOPIA**

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*And*

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## **DECLARATION**

Here with I, declare that, this thesis is prepared for Partial Fulfillment of the Requirements for the Award of the degree of Master of Science in Business Administration entitled ,“Factors Affecting Customer’s Adoption Of Internet Banking Services In Commercial Bank Of Ethiopia , Jimma City Branches” is prepared with my own effort. This work is original and has not presented for a degree in any university. I have made it independently with the close advice and guidance of my advisors and all source of material used for the thesis have been duly acknowledged.

Stu.Researcher’s Name

Date

Signature

Misael Bekele

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## CERTIFICATE

This is to certify that the thesis entitled “factors affecting customer`s adoption of internet banking services in commercial bank of Ethiopia , Jimma city branches’, submitted to Jimma university for the award of the degree of master of business administration (MBA) and is a record of confide research work carried out by Mr. Misael Bekele, under our guidance and supervision.

Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree or diploma.

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Demisse Beyene (MBA)    Date \_\_\_\_\_Signature \_\_\_\_\_

## Statement of Approval

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

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*Name of Head of Department.....Signature .....Date.....*

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*Misael Bekele*

*June, 2021*

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## *List of Acronyms*

*CBE Commercial bank of Ethiopia*

*PU Perceived usefulness*

*PEU Perceived ease of use*

*PR Perceived risk*

*A Awareness*

*I Infrastructure*

*IBA Internet banking adoption*

*IB Internet banking*

*DOI Diffusion of innovation*

*TPB Theory of Planned Behavior*

*TAM Theory Acceptance model*

*E-banking Electronic banking*

## Abstract

*The study investigates factors that affect the adoption of internet banking in commercial bank of Ethiopia, jimma city branches. The variables are chosen from previous studies and the study was conducted based on the data gathered from fourteen chosen CBE, Jimma city branches. This study was adopted quantitative research approach with descriptive and explanatory research design. To collect data from respondent's simple random and stratified sampling techniques were used. Primary data was collected from 365 customers that are using at least one e-banking system and the questionnaire is prepared with five scales Likert statements. Data was analyzed using multiple linear regression models with SPSS. This study was found that perceived risk, perceive ease of use, perceived usefulness, awareness and infrastructure were significantly associated with internet banking adoption. However, perceived risk is the most significant factor which affect the dependent variable positively .Perceived usefulness, awareness, perceived ease of use and infrastructure has found to be positively significant factors to influence internet banking adoption in descending order respectively. The study recommended banks should launch privacy and security features and continuously review and upgrade the existing system of security to the level that minimize risk, also banks to facilitate internet banking at a very close level they offer at the branch and giving the service at low cost which adds value to customers and decrease their time. The researcher recommended that banking sectors should develop guidance's in the internet banking apps and besides this creating awareness about overall importance of internet banking adoption and their fear of risks is crucial for increase customer's usage rate. Banks and the concerned organs (like ethio telecom) should work with collaboration to improve the quality of internet access and also mobile application should be developed to use internet banking services that let customers easy access the system because most of the customers can not gain computer access in their homes.*

**Key words:** *Adoption, perceived usefulness, perceived ease of use, perceived risk, infrastructure*

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Background of the Study

Internet banking was first introduced around the early 1980s and started gaining momentum in developing countries in the mid-1990s (Peterson 2006). The banking industry worldwide provides Internet banking to offer customers easy access to banking services (Adapa 2011). Interconnectivity of personal computers across the country and intercontinental relationship through the internet has opened a wealth of opportunities in every day to day activities of life (Jasmine & Pavithra, 2018). According to (Gautama & Khare, 2014 ) internet banking refers to the use of a bank's website through which customers access their banking accounts, conduct financial transactions, and obtain general information regarding banking products and services with an Internet connection at any time they wish. It is viewed as a supplemental channel used in combination with other channels to provide convenient banking services. By using Internet banking, banks attempt to change the mix of financial services provided and how they deliver these services (Srikanth & Rao, 2013).

Internet banking, also called as Online banking, or virtual banking, is an electronic payment system that provides customers of a bank to conduct a range of financial transactions through the Bank's website. The transactions over internet by customer are directly connected to Bank's core banking system and the updated on the same time (Nethananathan et al., 2018). The advent of internet technology has revolutionized the way business and services are provided by companies and businesses all over the world. It provided innumerable service innovations for the consumer (Sabi, 2014). They started using the internet technology to deliver banking and financial services. The technological change has brought the rapid transmission of information, the easy way for marketing banking products and enhanced the customer's access and awareness (George & Gireeshkumar, 2012). Banks can use the opportunities offered by the internet as strategic tools and revolutionized the way they operate. Internet Banking (IB) can be

characterized as a financial transaction over the Internet through a bank's website. It enables financial institution customers, individuals or business, to access accounts, transact money or gather information on financial products, at anytime and anywhere as long internet connectivity is available (Shao, 2007; Prakash & Malik, 2008). With Internet Banking, customers can conduct their banking activities quickly and efficient without leaving their homes or offices. Internet Banking decreases the transaction costs for the customer (Dong, 2008).

The usage of Internet Banking has advantages for both the banks and for the customers. It has become one of the premier channels for institutions in the financial industry to conduct business. The speed of conduction personal and commercial activities with their customer increased. The financial institutions can replicate the traditional activities, which take place in a bank, over the internet. This shift to online transactions lowers the operational and overhead costs for the financial institutions. The reason for these cost savings is the automation of processing customer transactions (Dong, 2008). Many banks around the world benefited from internet banking. Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labor intensive methods with automated processes thus leading to higher productivity and financial performance (Malhotra, 2009).

In developing countries, the low penetration level of internet users has created opportunities for banks to expand to a broader customer base. However, many people prefer the traditional ways (personal contact) of attaining financial services when doing business, which could justify the low adoption rate of online banking. Thus, to increase the usage rate, banks need to manage the factors that affect consumer adoption of online banking better (Montazemi & Qahri-Saremi, 2015). On the customers' part, they need to be made aware of e-banking services and feel secure and comfortable with using e-banking services as such services are radically new to them. Understanding consumers' decisions in adopting e-banking is important for both bankers and regulators in order to formulate appropriate strategies that will guarantee effective implementation and adoption of e-banking, and increase e-banking adoption rates (Liébana-Cabanillas, 2017).

According to (Kiyota,Peitsch, &Stern, 2017) , the Ethiopian banking sector is subjected to Governmental reforms and policy changes. Started from 1991 the government of Ethiopia privatizes the banking sector without allowing for foreign participation. Due to this, The Ethiopian banking sector remains isolated from the impact of globalization. This restriction has a negative impact on the development and transfer of technology in the sector. Ethiopian banking system is underdeveloped compared to the rest of the world, (Garedachew, 2010). In the country banks mostly apply traditional banking systems rather than adopting electronic banking systems including internet banking. Cash and checks are still a dominant medium of exchange (Zelege, 2014, &Teka, 2017). As a result, the country has not yet realized the full benefit of technological advances in internet banking system. Hence, it becomes imperative for bank managers to understand the factors that can hinder or facilitate the acceptance and usage of e-banking, enabling them to formulate strategies to improve the take up of online banking (Tarhini, 2016).

## **1.2. Statement of the Problem**

In rapidly changing and highly competitive environment success in the banking industry especially depends on having use of the appropriate technology along with retention of well trained and motivated employees who have the capacity to exploit the Bank's existing technology as well as look for better advancement (Zelege, 2016). With the development of computer technology as a commercial tool, digital banking can be used to attract more customers to perform banking transactions in related banks. According to (Teka,2017& 2020), electronic banking services have not been widely used by most bank customers in Ethiopia; most bank customers continue to conduct most of their banking transactions using traditional methods and also e-banking channels such as internet banking are in an infant stage.

CBE have spent huge amounts in establishing internet banking services which is one of digital banking systems, but the adoption and usage rate is still lower than expected and remains insignificant compared to the entire banking transactions. For instance according to (cbe 2019/ 2020 annual report), a total of 3,999,999 new customers were recruited at the reporting budget year, from those 2,654,429 new active card users, 2,308,906 new active mobile banking users and only 8,125 new active internet banking users were

recruited (66.4%, 57.8% and 0.2% from the total new customer respectively), which is very low achievement on internet banking services. As stated on the report, one of major areas which needs improvement and challenges affecting the performance of the bank was large number of inactive internet banking users and as a result there was high crowd of customers at branch to get the traditional service method. This in turn can create customer dissatisfaction, increase transaction cost and service time delivery which are negative performance indicators for banks. To overcome the situation action plan was drawn to minimize inactive users and to increase internet banking users (cbe 2019/20 annual report). In addition, there is and there will be concern that CBE effort may not bring much result if the factors affecting adoption of internet banking technology are not established. Commercial bank of Ethiopia Jimma city branches are also at the domain of commercial banks of Ethiopia , they are victims of this low internet banking users, unless taking some strategic measures to improve the problems that hinder customer`s adoption of internet banking to take advantage of their rivals.

In order to encourage further e-banking adoption, a better understanding of the barriers and drivers impacting e-banking adoption is critical (Zhao, AL, 2008). Banks should concentrate on their corporate websites to make it more user-friendly since customers should perceive it as easy to use. They can also educate how to use Internet banking services to customers and Banks should install security features such as encryption devices, which safeguard sensitive information ( Debele, 2020), and Considering the low extent of development of ICT infrastructure ,e-banking has not really been able to diffuse into society given the low rate of internet access (Banji& Catherine 2004). These phenomena have a large effect on e- banking diffusion and lead the population unbanked. Also most bank customers continue to conduct most of their banking transactions using traditional methods (Teka, 2020), this is because of lack of awareness about that hinders customers to adopt the technology.

In Ethiopia, some recent researches have been conducted on this area like that of (Yoseph,2017; Zeleke,2016; Teka, 2017& 2020; Belete&Tsegaye, 2018; Debele,2020) But most of researches studied about e-banking adoption in general and mobile banking in particular. However this research specifically focuses on factors affecting customer`s

adoption of internet banking service in jimma city to fill the gap in this area. Although, there are very few research conducted on the specific problem area, some findings are contradicted with each other. One of those studies (Debele,2020), studied perceived ease of use, perceived usefulness, culture, attitude and perceived risk are the most important factor to have a strong and significant relationship with adoption to use internet banking, also finding indicates that perceived risk is the most important factor to have a strong and significant relationship with adoption to use internet banking . (Yoseph, 2017) contradict to (Debele,) finds that perceived risk were statistically insignificant in affecting adoption of internet banking. This would be analyzed as the research gap. Besides this by taking factors, which affect the adoption of internet banking services in relation with perceived ease of use, perceived usefulness, the perceived risk, how lack of awareness affect internet banking adoption and the extent in which how infrastructure affect customer adoption of internet banking will be analyzed . So the study will conduct and analyze the most important factors that influence adoption of internet banking in commercial bank of Ethiopia Jimma city branches by giving emphasis for the above organizational problem and research study gap.

### **1.3. Research Questions**

The study focuses on the following basic research questions:

What are the main factors affecting customers internet banking adoption in CBE Jimma city branches?

Does perceived usefulness by customers has influence on internet banking adoption?

Does perceived ease to use by customers has effect on internet banking adoption?

Does customer's perceived risk can has influence on internet banking adoption?

Does customer's awareness on internet banking service can have influence on internet banking adoption?

Does accessibility of infrastructure has effect on internet banking adoption among commercial bank of Ethiopia in Jimma city?



## **1.4. Objectives of the Study**

### ***1.4.1. General Objective***

The main objective of the study is to identify factors affecting customer's adoption of internet banking services in commercial bank of Ethiopia, Jimma city branches.

### ***1.4.2. Specific Objectives***

The specific objective of the study is:-

To assess the influence of perceived usefulness on internet banking adoption among commercial bank of Ethiopia in Jimma city branches.

To analyze the influence of perceived ease to use on internet banking adoption among commercial bank of Ethiopia in Jimma city branches.

To examine the influence of perceived risk on internet banking adoption among commercial bank of Ethiopia in Jimma city branches.

To identify the influence of awareness on internet banking adoption among commercial bank of Ethiopia in Jimma city branches.

To investigate the influence of infrastructure on internet banking adoption among commercial bank of Ethiopia in Jimma city branches.

## **1.5. 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 will have effect on adoption of Internet banking.

H2: Perceived ease of use will have effect on adoption of internet banking.

H3: Perceived risk will have effect on adoption of internet banking.

H4: Awareness will have effect on adoption of internet banking.

H5: Infrastructure will have effect on adoption of internet banking.

## **1.6. Significance of the Study**

Primarily being study in this topic gives the researcher fundamental knowledge in the area of internet banking services besides the MBA award from the university. Furthermore the findings of the study believed to assist the stakeholders in the banking sector, economic planners and policy makers in the public sector to understand the factors affecting which influence internet banking adoption and its impact on people's lives. In other side it helps for understanding the factors affecting related with adoption of new technology and service distribution channels and its advantages in providing service to their customers, which have potential value to financial institutions, particularly the banks. The study enhances institution's ability to provide the conditions conducive to the introduction and acceptance of innovations and might be used to map out an institutional framework for internet banking adoption. Consequently, there would be some beneficial application of this research to Ethiopian banks and researchers that can be used to improve the banking sector and enhance the quality of the services in Ethiopia for the future. Also, believed that it helps bank managers and top managements to identify affecting factors that hinder the adoption of internet banking in order to increase the use of service as well as to encourage the general acceptance of new IT services and to monitor the development and growth of internet technology. Besides, it can add on to the existing literature concerning internet banking in the Ethiopian context, so that banks in Ethiopia can use the research as an indicator for what they should do. Finally, this research would help the Ethiopian banking industry by recommending possible solutions and strategies to the problems in internet banking adoption.

## **1.7. Scope and Limitation of the study**

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

The study has been focused on the internet banking adoption of CBE customers in Jimma city and aimed to examine the factors which may affect for internet banking users. Because the student researcher is an employee of the organization that understands the problem area and has a will to be a part of solution, the study area primarily focuses on CBE, Jimma city branches. Though CBE has many branches, the cost and time required to conduct the study was so expensive, because of that the study was restricted to Jimma

city. Jimma is chosen as a studying area because it is one of the biggest towns in Ethiopia and has a diverse population which ensures a wide spread of potential respondents to the study. There are many factors affecting the adoption of internet banking like demographical factors, environmental factors, governmental factors etc. However the researcher selects only few variables that might have adverse effect on the result of the findings.

### ***1.7.2. Limitation of the study***

Due to the limited geographical scope, the study lacks the response of customers out of Jimma city, as a result the finding might not be as expected in terms of the findings. It is also faced that respondents were not properly responded to the whole content of the questionnaire due to misunderstandings, lack of knowledge, or commitment to the subject matter.

## **1.8. 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 presents data analysis, discussion and interpretation and finally chapter five presents the summary, finding, conclusion and recommendations of the study.

# CHAPTER TWO

## 2. REVIEW OF RELATED LITERATURE

### 2.1. Definition of the Internet Banking

Internet technology affects the transformations of banks to terminate old models of how banking services are developed and delivered. This application of the internet on banking services is known as internet banking. According to (Gautama &Khare, 2014 ) internet banking refers to the use of a bank’s website through which customers access their banking accounts, conduct financial transactions, and obtain general information regarding banking products and services with an Internet connection at any time they wish.

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”.In1980, 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.

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

Internet banking also known as Online banking is a web-based application developed by banks and other financial institutions to offer customers fast and easy access to financial services and transactions (Chandio et al., 2017; Mujinga, Eloff, &Kroeze, 2018; Sharma &Lenka, 2015). Bank leaders also view online banking as a cost-effective alternative to traditional in-branch services (Chandio et al., 2017).

According to official website of Commercial bank of Ethiopia, electronic transaction cost is significantly less when done online instead of at a branch. Also banks are benefitted from online banking by Planning for future projects, overcoming the problem of day-to-day works, 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. According to the website, decision making is easier through online banking by providing information to the decision makers. On the other hand, as a result of reduction the cost of administrative work banks are benefitted from online banking.

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

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).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.

#### **2.4. 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.

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). Internet 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).

## **2.5 . Problems that hinder the Adoption of Internet Banking**

There are many obstacles and problems that have an impact on the application of an electronic banking project. According to some researchers (( Teka, 2017),(Gondar, E,2018),(Abdulkadir, 2015)some of these barriers are: Lack of well-trained employees among the branches and banks, Resistance to change by customers fearing for the hackers, the local shortage of the capacity at the level of the information technology sector and telecommunications, delays in the development of the legal and regulatory framework which forms the basis for the electronic banking project and, lack of personal computers.

## **2.6. Theoretical Framework**

### ***2.6.1. Technology Acceptance Model (TAM):***

Technology acceptance model (TAM) has been developed by Davis (1989) is the most famous model to determine the acceptance and use of new information technology within organizations (Park, 2009). The goal of TAM is to provide an explanation of the determinants of technology acceptance and user behavior across a broad range of end-user computing technologies (Mwiya et al., 2017). Even though Technology acceptance model (TAM) was also criticized for not addressing external factors like the effect of social factors (subjective norm) and important variables for adopting information technology like customer awareness, perceived risk and perceived trust, many authors preferred it for studying factors determine technology adoption (Wondwossen& Sharma, 2019).

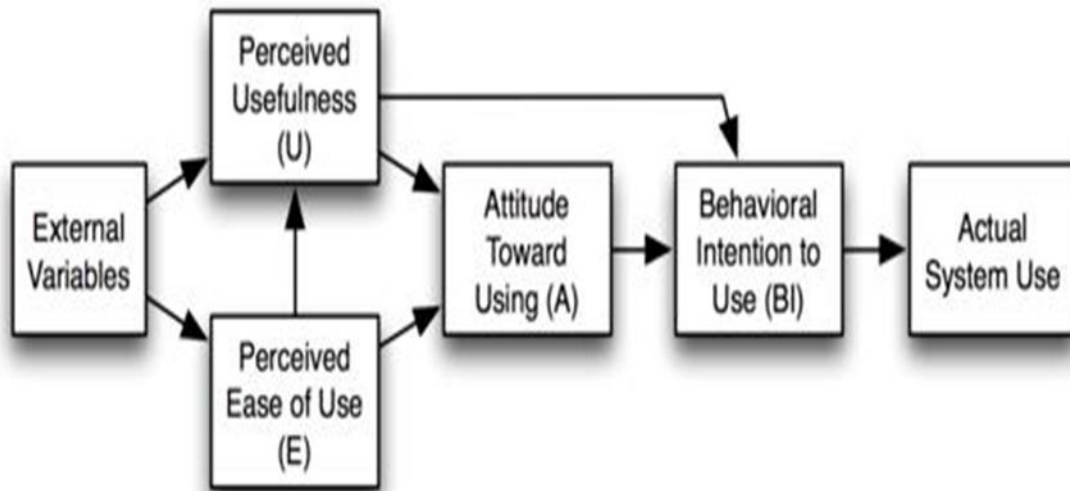
The model suggests that the perceived usefulness and perceived ease of use of a technology are the main factors that influence a potential user's decision on whether or not to use the technology.

**The „Ease of Use“ (Perceived Ease of Use)** refers to the degree in which the user thinks that the system used will be easy to use and free of effort. A complicated system to use will be perceived as less useful and probably will be abandoned by the user. Perceived usefulness explains the user's perception to the extent that the system will improve the user's day to day workplace performance (Surrendering, 2012). Furthermore, perceived ease of use has an impact on perceived usefulness which stems from the fact that the easier a system is to use, the more useful it can be.

**Perceived Usefulness** on the other hand is related to users' perception of the degree to which using a system will be beneficial (Alsabbagh & Molla, 2004). It provides diagnostic lenses into how actual use and intention to use or attitude towards using are influenced. The near-term results are synonymous with postulates of PU; and the long-term consequences refer to consequential results in one's career or social image, which reflects Rogers' (1995) important motivation for adoption of innovation. The attainment of perceived near-term usefulness paves way for long-term usefulness (Hart O. et al, 2012). It relates with the cost and time saving and it considered from the perspective of improving service delivery and creating more access to users. Decomposing PU as (Triandis, 1980) and (Chau, 1996) did explicitly provides more specific lenses into understanding user perception of Information Technology's usefulness.

Perceived Ease of Use refers to the level of amount where an individual believes that using a particular system would be free of physical and mental effort. It measures the prospective user's assessment of the mental efforts required of the use of the target applications (Davis, 1993). Opija (2008) claimed that innovations with perceived difficulties of user interface and steep learning curve, which thought risky to adopt. Empirical findings confirm the positive relationships between attitude towards use and ease of use (Venkatesh & Davis, 2000) and show that PEOU is a proven key determinant of users' intention to accept IT (Venkatesh, 2000). Thus, ease of use is a powerful determinant of intention to accept innovation(s) (Hart O. et al, 2012).





*Figure 1 TAM model by Davis 1989*

### **2.6.2. Diffusion of Innovation (DOI)**

As Rogers explained DOI is a theory of how, why, and at what rate new ideas and technology spread through cultures, operating at the individual and firm level. DOI theory sees innovations as being communicated through certain channels over time and within a particular social system. Individuals are seen as possessing different degrees of willingness to adopt innovations, and thus it is generally observed that the portion of the population adopting an innovation is approximately normally distributed over time. Breaking this normal distribution into segments leads to the segregation of individuals into the following five categories of individual innovativeness (from earliest to latest adopters): innovators, early adopters, early majority, late majority, laggards (Rogers 1995). The innovation process in organizations is much more complex. It generally involves a number of individuals, perhaps including both supporters and opponents of the new idea, each of whom plays a role in the innovation-decision (Rogers, 1995).

Based on DOI theory at firm level, Rogers stated innovativeness is related to such independent variables as individual (leader) characteristics, characteristics of innovation, and external characteristics of the organization.

**Perceived risk** is the degree to which an invention is perceived as difficult to understand and use. Some innovations are readily understood by most members of a social system; others are more complicated and will be adopted more slowly.

Risk is a function of the magnitude or extent of goals that a person tries to reach and the seriousness of the atonement that one must endure while not reaching them (Mitchell, 1999). Stone and winter (1987) defined risk as an individual expectation of potential losses. The higher probability of a loss, the more risk is perceived by the individual (Farzianpour , 2014). Perceived risk is considered a fundamental concept of consumer behavior and is often used to explain customers' risk perceptions and reduction methods (Mitraet al., 1987; Shin, 2010). Bauer (1960) initially presented the idea of perceived risk. He characterized risk as far as the instability and outcomes connected with a consumer' activities (Farzianpour , 2014).

### **2.6.3. Theory of planned behavior (TPB)**

The original version of the Theory of Planned Behavior model developed by IcekAjzen (1985), "From intentions to actions: was an extension of theory of reasoned action (TRA) which accounted for conditions where individuals did not have complete control over their behavior which was broken down further into intended behavior and perceived behavioral control (Balabanoff, 2014). The TPB model focuses on behavioral intention being a function of attitude and subjective norm. In TPB the attitude (AT), subjective norms (SN), perceived behavior controls (PBC) are the three most important factors explaining new technology adoption.

To more reasonably explain and to predict human behavior on different conditions, In addition to the pure Theory of Planned Behavior, the decomposed Theory of Planned Behavior model (DTPM) was introduced. This model is based on the idea of Taylor and Todd (1995) that believed TPB can be broken down into multidimensional constructs (Faezeh,NorSaadah, &Awang, 2015). The attitude part of TPB is decomposed into the three constructs which included perceived usefulness (relative advantage), perceived ease of use, and compatibility with technology innovation (Tao & Fan, 2016).

The DTPB is a kind of improved behavior model which is based on the innovation diffusion theory (IDT), TPB, TAM, and it adopts the multidimensional belief structure to study individual antecedents of constructs. Therefore, it is very resilient to consider multiple impact factors for

adoption of the technology and it can help the managers to consider the factor of affecting the consumers' behavior (PC Lai, 2017).

**Lack of awareness-**(Abdulselem, 2019) founded that in Ethiopia there is lack of customer awareness with E-banking services. This means that both marketers in banks and financial institutions, and consumer educators still need to make an effort to investigate customer's attitude towards the adoption of Internet banking. Measuring customer attitude has become a critical issue in the contemporary business world. (Octovian and Daniela, 2006) mentioned that Romanian customers were not adopting internet banking services because of unawareness and sufficient information about internet banking. In a parallel the study by (Octovian and Daniela ,2006) and (Omar , 2011), it was discovered that most of the bank customers are still not aware of internet banking services, although customers would possibly adopt internet banking due to their willingness to accept change and innovation, and to appreciate ease of navigation on banks website with resulting time savings.

#### **2.6.4. External factors**

##### **Infrastructure**

The other challenge for the adoption of e- banking is proper infrastructure. For the effective deployment of e-banking, it is necessary to have a reliable and cost effective infrastructure that can be accessible to the majority of the population. According to Kumaga (2010), low level of internet penetration and poorly developed telecommunication infrastructure impede smooth development and improvements in e-commerce in developing countries. In this regard, a study made by Microfinance Nigeria (2010) indicated that efforts made by the Nigerian government and other financial and ICT stakeholders to move Nigeria's payment system from a cash-dependent platform to the globally acceptable electronic- driven alternative way is impeded by shortage of well-developed telecommunication infrastructure. Considering the low extent of development of ICT infrastructure in developing countries, when compared with the developed countries E-banking has not really been able to diffuse into society given the low rate of internet access (Banji& Catherine 2004).

## 2.7. Empirical review

Internet banking adoption has gained special attention in academic studies during the past years so as to investigate factors of adoption .Some of the researchers work will be discussed below:

- (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. 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.

- (Kazi ZH, 2015), investigates factors that influence the adoption of online banking services in Hyderabad. The researcher used theoretical model provided that conceptualizes and links different factors influencing the adoption of online banking in Hyderabad.. The results showed that use of online banking is influenced by channel convenience, perceived risk, security perception, prior internet knowledge and information on online banking. The results also determine that demographic factors also impact significantly on online banking. Finally, this paper suggests that an understanding the factors affecting intention to use internet banking is very important to the practitioners who plan and promote new forms of banking in the current competitive market

-(Arora & Kaur, 2018) , found that, many consumers are still not willing to use online banking because of the risk involved in conducting transactions online, hidden charges, lack of trust and system failure.

- (Bend, 2020), examine the relationship between Perceived usefulness, Perceive ease of use and customer adoption of e-banking services in Barbados. He used standard multiple linear

regression to assess the relationship between the independent and dependent variables and finds that PU and PEOU are significantly associated with customer adoption of e-banking services.

In Africa, also some researches have been made from this , (Thinamano & Mokwena, 2018), examined that perceived compatibility, trainability and external variables such as awareness and security were found to have significant influence in the adoption of Internet banking in South African rural areas, whereas relative advantage was found not to be a significant factor. Security and the complexity of Internet banking were also revealed as some of the factors hampering the intention to adopt Internet banking in South African rural areas.

- (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.

In Ethiopia also few recent researches have been conducted, one of the most recent study (Debele, 2020), examines the factors affecting the adoption of internet banking by customers in selected Banks in Jimma town. He used explanatory design analyze the data collected through cross-sectional survey questionnaire from a sample of 372 bank customers. The major findings of the study include the four internet banking factors i.e., perceived ease of use, perceived usefulness, culture, attitude and perceived risk internet banking found to be positively and significantly related. The finding indicated that perceived risk is the most important factor to have a strong and significant relationship with adoption to use internet banking. Finally he recommended that Banks should concentrate on their corporate websites to make it more user-friendly since customers should perceive it as easy to use. They can also educate how to use Internet banking services to customers and Banks should install security features such as encryption devices, which safeguard sensitive information. In this paper perceived risk is found the most important factor to have a strong and significant relationship with adoption to use

internet banking. This result contradicts with (Yoseph, 2017). This will be investigated by the researcher as gap.

- (Shitahun & Aemro, 2020), conducted a paper to measure customer's attitude towards internet banking adoption in Ethiopia using TAM and DTPB. Descriptive and explanatory research design was adopted. The sample size of 400 customers of Ethiopian public and private banks was drawn from Bahir Dar city, Jinka town, and Injibara town. The study findings of correlation analysis showed that all constructs TAM and DTPB (Compatibility, Subjective norm, trust, perceived usefulness and perceived ease of use) were positively and significantly affect customer's attitude towards IB adoption. The result also found that the variable perceived usefulness plays the most important role, followed by compatibility and perceived ease of use in predicting customers attitude towards IB, while trust has lower predicting power than others.

- (Teka, 2020), studied factors that affect customers' usage of electronic banking services. The type of research applied in this study was explanatory in nature. A research model was developed by integrating the constructs of Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB). A total of 420 actual users of e-banking services were used as a sample. A well-structured questionnaire was used to collect the relevant information. The data analyzed using Structural Equation Modeling revealed that perceived usefulness, perceived ease of use, attitude towards e-banking, perceived behavioral control, subjective norms, behavioral intention, awareness as well as the availability of internet/network connection have a significant positive impact on users e-banking usage practice. However, perceived risk has a significant negative impact. Finally the finding suggested that banks in Ethiopia should create awareness to their customers with regard to the usage and benefits of e-banking service delivery channels.

-(Dagnew, 2019),conducted a research that aimed at identifying factors that affect E-banking adoption in Ethiopia, in case of the commercial banks in Gondar city. The study used both quantitative and qualitative (mixed) research approach with a Survey design to collect and analyze the data. Primary data was collected through questionnaire and interview and Secondary data from different source such as documents and reports related with the issues of E-banking system were used in this study. 471 samples of customers were selected randomly from these selected banks and managers of the main branches of these selected banks were also interviewed to strengthen the results of the study. Collected data were analyzed using descriptive and

inferential statistics. Logistic regression model was developed and employed to test the hypothesis proposed in this study. The research found that Income, computer experience, perceived usefulness, awareness, perceived ease of use and perceived security have positive and significant effect on E-banking adoption whereas age, educational and perceived availability of infrastructure found that no significant effect on E-banking adoption . However the finding that infrastructure have not significant effect on e-banking adoption contradicts from some research works like (Belete & Tsegaye, 2018), (Teka, 2020) and Ayana (2014). This factor will be investigated by the researcher as a gap.

- (Belete & Tsegaye,2018), studied by underlying behavioral drivers and impediments of adopting internet banking. Primary data was collected using questionnaire survey from 123 sample clients of three selected branches of Commercial Bank of Ethiopia. Behavioral aspects of clients attributable to the adoption of internet banking were solicited and subjected to binary logistic regression analysis. The research found that perceived usefulness, perceived ease of use, trust, attitude, perceived cost and infrastructure factor significantly determine internet banking adoption with the last two determining negatively. However, the finding that infrastructure found negatively and significantly determines internet banking adoption contradicts from some research works. Finally, the authors give suggestions for the banks, that to build up behaviors of clients towards perceiving internet banking as less risky and least costly technology.

-(Teka, 2017), investigated challenges that negatively influence users' effective utilization of e-banking services, the study identified that frequent network/internet interruption, frequent power interruption, lack of awareness about e-banking service delivery channels, fear of security issues and frequent breakdown of automated teller machine (ATM) are the major ones that seriously influence users' full adoption or usage of e-banking services.

- (Yoseph, 2017), investigated 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 the researcher used internal portals 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. The result found that, perceived risks were statistically insignificant in affecting adoption of internet banking. This result however contradicts from some research works as discussed in the above section and will be investigated by the researcher as a research gap. The study suggests that focusing on these internet banking variables could further reduce the probability of default while customer adoption of internet banking

## **2.8. Conceptual frame work**

The conceptual frame work is developed based on the variables from TAM, TBP, DOI and the external factors. The goal of TAM is to provide an explanation of the determinants of technology acceptance and user behavior across a broad range of end-user computing technologies (Mwiya et al., 2017). The model suggests that the perceived usefulness and perceived ease of use of a technology are the main factors that influence a potential user's decision on whether or not to use the technology. The fig below shows dependent and independent variables and the relation among them. The Independent variables are perceived use of ease, perceived usefulness, perceived risk, awareness and infrastructure. The relation between them will be investigated.

Perceived usefulness explains the user's perception to the extent that the system will improve the user's day to day workplace performance (Surrendering, 2012).

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

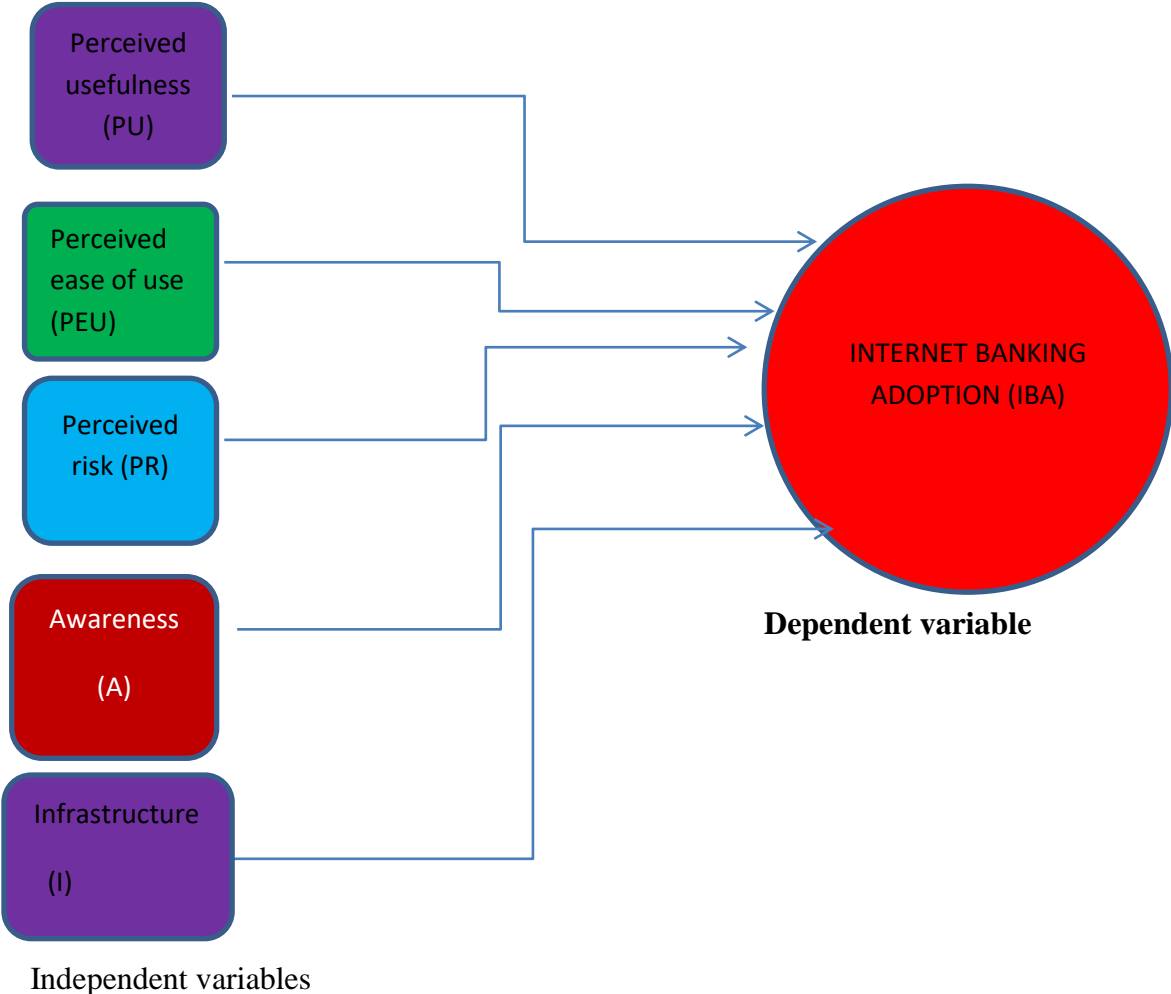
Perceived risk important factor that consumers consider before adopting an innovation is the level of risk involved, (Arora &Kaur, 2018) the banks should put more emphasis on implementing e-banking risk management practices in order to increase usage of e-banking services among consumer

Awareness-(Abdulselam, 2019) founded that in Ethiopia there is lack of customer awareness with E-banking services. This means that both marketers in banks and financial institutions, and consumer educators still need to make an effort to investigate customer’s attitude towards the



adoption of Internet banking. Measuring customer attitude has become a critical issue in the contemporary business world.

Infrastructure-The other challenge for the adoption of e-banking is proper infrastructure. (Kumaga, 2010), low level of internet penetration and poorly developed telecommunication infrastructure impede smooth development and improvements in e-commerce in developing countries.



*Fig .2. Conceptual model Modified and developed by the researcher*

# CHAPTER THREE

## 3. RESEARCH DESIGN & METHODOLOGY

### 3.1. Research Design

The study employs explanatory and descriptive research designs. As noted by (Kothari, 2004), explanatory research design examines the cause and effect relationships between dependent and independent variables. Descriptive studies conduct in investigative research, to enable researchers to get information, summarize, present data and deduce its meaning for the reason of explanation (Creswell, 2014). The descriptive research uses the tools like mean, median and frequency. According to (Babbie, 2014) descriptive design is adopted when gathering information in relation to people's attitude, sentiments and behaviors. Descriptive research design is more appropriate because the study sought to build a profile about the factors affecting customer's adoption of internet banking in commercial bank of Ethiopia, Jimma city branches. Therefore the study assesses the relationship between the independent and dependent variables.

### 3.2. Target population

The study target of this research is customers of commercial bank of Ethiopia of Jimma city branches. The study uses quantitative methods to gather the data from the population. The total customer of jimma city branches are 292802. The researcher used a total study population of 10.000 who at least used one e-banking or digital banking system. This total study is selected because the total internet banking users are very few (around 500 customers according to 2019/2020 report) compared to the total customers and it was not assumed as appropriate by the researcher. Besides this study population is selected to get customers who are literate to respond the questionnaire and to eliminate the customers who are living out of Jimma city even if they are registered as one of the city branch customers in the report.

Finally from that total population a study sample is drawn by simple random method and then stratified sampling techniques was used to get sample size based on the branches grade level.

### 3.3. Sources of Data

#### 3.3.1. Primary data sources

The primary data sources of the study are customers of CBE, Jimma city branches who at least used on e-banking system .The primary data used for the non-numerical expressed variables from self-administered questionnaires.

### ***3.3.2. Secondary data sources***

Secondary sources that were considered include: different literature reviews such as books, annual reports, manuals and published and unpublished document and other related materials.

## **3.4. Data Collection Method**

### ***3.4.1. Questionnaires***

As indicated in the above, the customers of randomly selected from stratified sampling system of four stratum, which were structured from fourteen different grade level were selected. A total of 399 questionnaires were distributed to the respondents. The questionnaires were structured in close-ended type and responses to the questions were measured on a five Likert rating scale where: Strongly Agree (SA) = 5; Agree (A) = 4; Neutral (N) =3, Disagree (D) = 2; and Strongly Disagree (SD) = 1; the use of Likert scale is to make it easier for respondents to answer question in a simple way. According to (Johns, 2010), he noted that in statistical terms the level of measurement of the Likert response scale is ordinal rather than interval: that is, we can make assumptions about the order but not the spacing of the response options. Thus, descriptive statistics that can perform ordinal data like mean (or average response), mode (or more frequent standard deviation were used to interpret the data obtained from respondents. The closed ended questions allowed respondents to respond from limited options stated and they are generally easier to evaluate, furthermore the questionnaires used in an effort to conserve time and money as well as to facilitate an easier analysis.

## **3.5. Sample Size and Sampling Techniques**

According to (Orodho, 2003), sampling involves selecting a given number of subjects from a defined population so as to represent the entire population. The study adopts stratified and simple random sampling technique. Stratified sampling is a technique which attempts to restrict the possible samples to those which are ``less extreme" by ensuring that all parts of the population are represented in the sample in order to increase the efficiency. Stratification may often produce a gain in precision of the estimates of characteristics of the whole population (Kareem, &

Oshungade, 2015). The cost of conducting the survey was expected to be less for stratified sampling when strata are formed keeping administrative convenience in mind. (Cooper and Schindler, 2014) defined simple random sampling as the basic sampling technique whereby a sample for study from a population was selected. Simple random sampling normally reduces the sampling error in the population. This technique is free of classification error, and it involves least possible advance knowledge of the population other than the frame.

NO	BRANCHES	NO. CUST	STUDY POP.
1	Sedecha	9137	
2	Bishishe	10089	
3	BECHO BORE	3701	
4	ALBEREKA	3227	
5	Awetu	9109	
6	Ferenj Arada	7029	
7	AL Amana	2220	
<b>GRADE 1</b>	<b>SUM</b>	<b>44512</b>	<b>1520.208195</b>
8	Shenen Gibe	14271	
9	Jiren	26323	
10	Mentina	16713	
11	Ginjo Guduru	17313	
<b>GRADE2</b>	<b>SUM</b>	<b>74620</b>	<b>2548.47986</b>
12	Aba Jifar	21424	
<b>GRADE 3</b>	<b>SUM</b>	<b>21424</b>	<b>731.6889912</b>
13	Hirmata	56131	
14	Jimma Main	96115	
<b>GRADE 4</b>	<b>SUM</b>	<b>152246</b>	<b>5199.622953</b>
	<b>TOTAL SUM</b>	<b>292802</b>	<b>10000</b>

*Table 1: CBE branches and their garde in Jimma city (source: JD report Dec30, 2021)*

As shown in table 1 above, there are fourteen CBE branches of different grade levels in Jimma city. All branches perform similar tasks, and share the same role in achieving the Company's objectives. Since the branches perform similar tasks, the researcher used simple random sampling technique to select the sample size from the total study population of Jimma city branch customers. After selecting the sample, the researcher used stratified sampling to select the sample size based on their branches grade. Accordingly there are 14 branches and 292802 customers (December 30, 2021 performance report) which are structured in different grade level ranging from grade1 to grade 4. But for this study purpose the researcher used a total study population of 10.000 customers from the total who at least used one e-banking or digital banking system for the reason as described in target population sub chapter above The researcher tried to identify the total number of every each branch customer and summarizes each branch in their grade category, this leads to four groups which was selected by their grade level (grade1, grade 2, grade 3 and grade 4) which forms four strata.

After getting the sample size the researcher used stratified sampling technique to get those respondents from each grade level which is taken as a stratum. This is because the branches are classified by their grade level and the number of customers under such different branches varies accordingly.

To determine the sample sizes that represent the study area, the researcher used (Yamane Taro, 1967) sampling formula.

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

$$n = 10000 / 1 + 10000 (0.05)^2$$

$$n = 385$$

Where; "n" is the sample size, "N" is the population size and "e" is the level of precision. At 95% confidence level, degree of variability=0.05 and level of precision/sampling error= 5%.

Stratified sampling formula:

$$n_h = N_h / N * n$$

Where:

$N_h$  = is the population size for stratum h

$N$  = Total population size

$n$  = sample size

$n_h$  = is the sample size for stratum h

Grade of Branches	no of branches	No. study.pop	Total no of stratified sample
Grade 1	7	1520	$1520/10000*385=59$
Grade 2	4	2548	$2548/10000*399=98$
Grade 3	1	732	$732/10000*385=28$
Grade 4	2	5200	$5200/10000*385=200$
Total	14	10000	385

**Table 2: stratified sample size based on grade level**

As shown in the table 2 above the researcher used each grade as strata and after calculating the sample size for each stratum with stratified sampling technique, a total of 385 questionnaire was distributed randomly.

### **3.6. Method of Data Processing and Analysis**

Data that was collected through quantitatively was organized according to the relationship they had in answering the proposed research questions. Quantitative data, responses were categorized and tallied before presentation, analysis and interpretation of the data. Data was analyzed using Statistical Package for Social Sciences (SPSS Version 20.0) and the entire questionnaires were received and coded to facilitate the data entry. After data cleaning which entailed checking for errors in entry, descriptive statistics such as frequencies, percentages, mean score and standard deviation was calculated for all the quantitative variables and information present in form of tables. Multiple linear regression analysis used to establish the relations between the independent and dependent variables. Multiple linear regressions model was used because the study uses, more than one independent variables to predict a dependent variable.

### 3.7. Model Specification

Based on the theoretical review and empirical considerations the following model was developed by using linear regression model. The mathematical (functional) expression of the model is given as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

Where:

Y= Internet Banking Adoption

$\beta_0$ =Constant

$\beta_1, \beta_2, \dots, \beta_6$ = Coefficients of the independent variables showing how they influence Y or regression coefficients

X1=Perceived usefulness (relative advantage); 1 if respondents perceive internet banking is useful, 0 otherwise.

X2= Perceived ease to use); 1 if respondents perceive internet banking is easy to use, 0 otherwise.

X3 = Perceived risk; 1 if respondent perceives commercial bank as secure, 0 otherwise.

X4=Awareness; 1 if respondents awareness to internet banking is useful, 0 otherwise.

X5= Infrastructure; 1 if respondent of commercial bank as infrastructure, 0 otherwise.

$\epsilon$ =error term, represents error terms for intentionally/unintentionally omitted or added variables. It has the characteristics of zero mean, constant variance and non- auto correlated.

<b>Variable Name</b>	<b>Symbol</b>	<b>Measurement</b>
Internet Banking Adoption(dep)	IBA	Ordinal level
Perceived Usefulness (Independent)	PU	Ordinal level
Perceived Ease to Use (Independent)	PEU	Ordinal level
Perceived Risk (Independent)	PR	Ordinal level
Awareness (Independent)	A	Ordinal level
Infrastructure(Independent)	I	Ordinal level

***Table 3: Variable types and measurement scale***

The above equation model that explanation for individual explanatory variables which are specified for this particular study is given as follows. Accordingly, the dependent variables are regressed on independent variables including perceived usefulness, perceived ease to use, perceived risk, awareness and infrastructure.

### **3.8. Methods of administration/ Quality criteria**

According to (Hai, 2003), validity and reliability of the measures need be assessed for the instrument.

#### **3.8.1 Validity**

Content validity determined by pre-testing. These determine whether the item will correctly word in order to avoid miss-interpretation when they are finally administered to the samples in the main study &after pre-testing, the instruments were adjusted.



	N	Mean	Std. Deviation
Perceived Usefulness	365	4.1726	0.6417
Perceived Ease of Use	365	4.1622	0.65213
Perceived Risk	365	3.537	0.65773
Awareness	365	3.594	0.79908
Infrastructure	365	3.4504	1.03312
Valid N (listwise)	365		

**Table 4 : Descriptive statics Source: This study survey 2021**

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.

### **3.8.2. Reliability**

no	variables	no item under each variable	Cronbach's alpha	Remark
1	perceived usefulness	5	0.751	good coefficient
2	perceived ease of use	5	0.756	good coefficient
3	perceived risk	5	0.722	good coefficient
4	awareness	5	0.706	good coefficient
5	infrastructure	5	0.85	good coefficient
6	internet banking adoption	4	0.713	good coefficient

**Table 5 Reliability: Source: This study survey 2021**

Reliability refers to the consistence, stability, or dependability of the data. A reliable measurement is one that if repeated a second time gives the same results as it did the first time. If the results are different, then the measurement is unreliable.

According to (Mugenda, 2008), an internal consistency technique using Cronbach's alpha will be used to measure the reliability of the data collection instruments. Cronbach's alpha is a coefficient of reliability that gives an unbiased estimate of data generalization (Zinbarg, 2005) and Cronbach's alpha should be 0.700 or above (Nunnally, 1978). Accordingly, before the questionnaires were formally distributed, a pre-trial reliability analysis was performed on 25 completed questionnaires to appropriately adjust the questionnaire design. Since the value of Cronbach's alpha in this study is above the base line, so it can be concluded that the measures used in this study are valuable and highly reliable.

### **3.8. Ethical Consideration**

Ethical clearance was primarily obtained from Jimma University College of Business & Economics and then permission from CBE branches of Jimma city. Finally informed written and verbal consent were obtained from the study subjects and data collection was undertaken on the basis of their voluntarily participation. Participating respondents was ensured that information obtained would be strictly confidential.

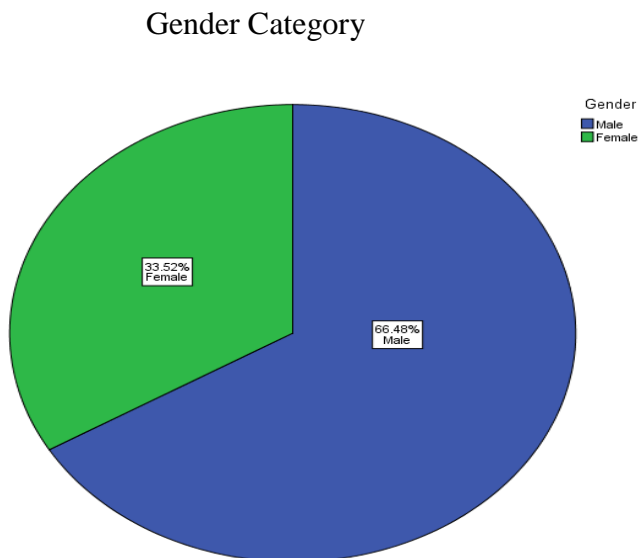
# CHAPTER FOUR

## 4. RESULTS AND DISCUSSIONS

### 4.1. Introduction

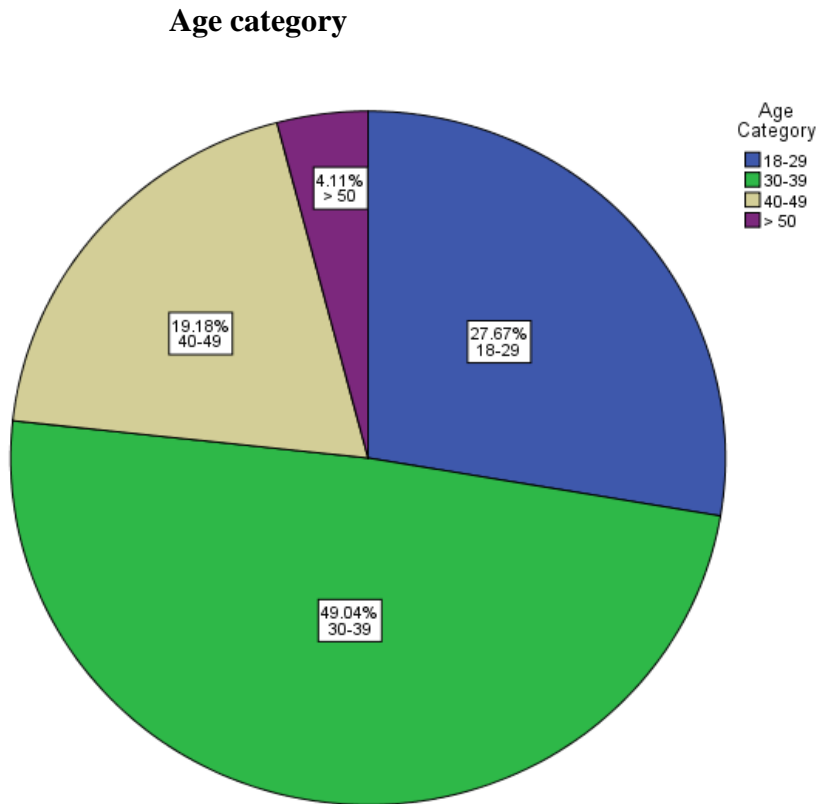
This chapter contains the findings and analysis of the research study based on interpretation of the data collected. The researcher distributed a total of 385 questionnaires to systematically organized 4 groups (strata) based on their grade level from 14 CBE, Jmma city branch customers in simple random basis. Out of the total 385 questionnaires, 365 valid and useable questionnaires were obtained to enable a meaningful analysis of the data with 95% return rate which good in its reliability. From the remaining 20 respondents, some of them did not give back the questionnaire and some of them were cancelled due to the lack of seriousness in their answers. The research findings are related to the results of the effects of perceived usefulness, perceived ease of use, perceived risk, awareness and infrastructure on the system variable in the adoption of internet banking.

### 4.2. Demographic Characteristics of the Respondents



*Fig 3: Pie chart for male and female respondents*

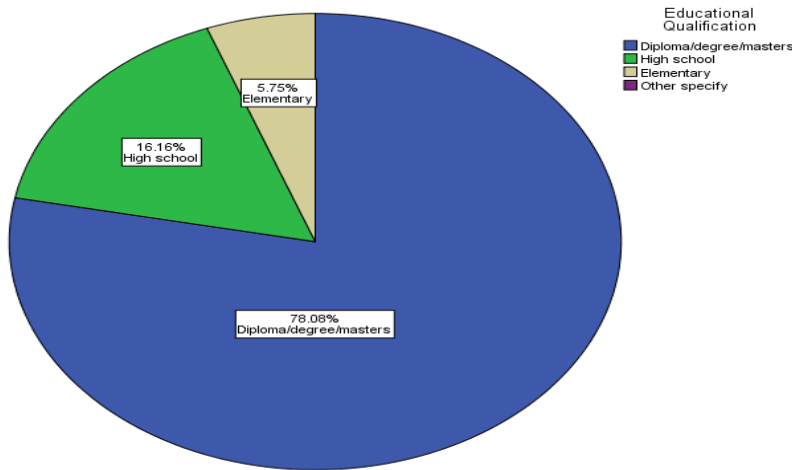
As you see in the above figure, majority of the respondents (66.30%) were males and the rest 33.70% of the respondents were females. Male customers are more participated than female customers in this study. The study result shows that IB adoption is highly prevalent to male customers.



**Fig 4: pie chart for Age category of the respondents**

As we can see in the fig 4 above, among the respondents 49.0 % are in the age category of 30-39, 27.67% are at the range of 18-29 age groups, also 19.18% are at the range of 40-49 and the other 4.11% of the respondents fall in the age >50. Most of the respondents are at range of 30-39. This shows from those customers the age group of 30-39 is more participated in this study than the rest age groups. The second most participant of the study is customers of the age group of 18-29. The third age group of 40-49, customers is more participated next to customers of the age group of 30-39 & 18-29. An age group of >50 are the least participated in this study. This generally shows customers of at late and early young stage are more likely participated in this study and internet banking adoption is highly prevalent to those aged groups.

## Educational Background



*Fig 5: pie chart for Educational Background*

Also in fig 5 above we can see that most of the respondent's (78.08%) educational background is professionals that means they have at least diploma or more. The others 16.16% are at high school grade level and the remaining 5.75% of the respondents are at elementary level. The study shows most of the respondents are more educated (equals or more than diploma) and this implies education plays important role in influencing internet banking adoption. Generally, factors for internet-banking adoption can be considered as different in different sex, age and education level of the respondents

## 4.2. Descriptive Statistics

According to (Marczy, Dematteo, & Festinger, 2005), a statistical approach for determining equivalence between groups is to use simple analyses of means and standard deviations for the variables of interest for each group. The mean indicates to what extent the sample group averagely agrees or does not agree with the different statement. The lower the mean, the more the respondents disagree with the statement. The higher the mean, the more the respondents agree with the statement. On the other hand, standard deviation shows the variability of an observed response from a single sample.

<b>Descriptive Statistics</b>			
	N	Mean	Std. Deviation
<b>Internet Banking Adoption</b>	365	3.6652	.62373
<b>Perceived Usefulness</b>	365	4.1726	.64170
<b>Perceived Ease of Use</b>	365	4.1622	.65213
<b>Perceived Risk</b>	365	3.5370	.65773
<b>Awareness</b>	365	3.5940	.79908
<b>Infrastructure</b>	365	3.4504	1.03312
<b>Valid N (list wise)</b>	365		

***Table 6: Descriptive statistics for selected variable***

As shown in the table above Perceived usefulness and Perceived ease of use with mean score of (4.1726) with std. deviation of 0.642 & mean score of (4.16) with std. deviation of 0.652 respectively implies that it is the most significant factor among respondents to adopt internet banking. Also this implies the effectiveness, cost, time, flexibility and benefit or comparative advantage of the system has the most significant influence on internet banking adoption.

Awareness with mean score of (3.6) with std. deviation of 0.8 comes the other most significant factor among respondents to adopt internet banking adoption. Next to the above three variables, perceived risk becoming the fourth influential factor with mean of (3.54) and std. deviation (0.65) for internet banking adoption. This shows that the comparative disadvantage of internet banking channels negatively affects the adoption of internet banking. Infrastructure comes at the end to influences internet banking adoption with mean (3.45) and standard deviation of (1.03). This implies personal accessories like laptop & mobile, the quality of the internet provided by Ethio telecom & CBE have significant influence to adopt internet banking among respondents.

### **4.3. Correlation Analysis**

Correlation Analysis is a measure of association between two continuous variables. Correlation measures both the size and direction of relationships between two variables. In this topic the

researcher analyzes the relationship between internet banking adoption with other variables and relation between some of the variables with each other.

		Correlations					
		Internet Banking Adoption	Perceived Usefulness	Perceived Ease of Use	Perceived Risk	Awareness	Infrastructure
Internet Banking Adoption	Pearson Correlation	1					
	Sig. (2-tail)						
Perceived Usefulness	Pearson Correlation	.485	1				
	Sig. (2-tail)	.000					
Perceived Ease of Use	Pearson Correlation	.476	.793	1			
	Sig. (2-tail)	.000	.000				
Perceived Risk	Pearson Correlation	.712	.174	.171	1		
	Sig. (2-tail)	.000	.001	.002			
Awareness	Pearson Correlation	.688	.534	.517	.572	1	
	Sig. (2-tail)	.000	.000	.000	.000		
Infrastructure	Pearson Correlation	.626	.321	.329	.611	.691	1
	Sig. (2-tail)	.000	.000	.000	.000	.000	
	N	365	365	365	365	365	365

**Table 7: The correlation matrix for the study variables.**

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 the dependent variable with, Perceived Usefulness, Perceived Ease of Use, perceived risk, Awareness and Infrastructure are 0.485, 476, 0.712, 0.688 and 0.626 respectively. Based on the

classification of (Dancy & Reidy's, 2004), the correlation between Adoption of internet banking, perceived risk, awareness, and infrastructure are strong and positive and the correlation between perceived usefulness and perceived ease of use with adoption of internet banking is moderate and positive.

Over the five explanatory variables that affect internet banking adoption; Perceived risk(0.712), Awareness (0.688), Infrastructure (0.626), Perceived usefulness(0.485), and Perceived ease of use (0.476) shows from strong to moderate positive relationship with internet banking adoption in a descending order. But the factor perceived risk stated in the question with negative questions and imply that perceived risk affects inversely internet banking adoption.

#### **4.4. Regression Analysis**

Multiple regression analysis is a family of statistical techniques that can be used to explore the relationship between one dependent variable and a number of predicting variables (Pallant, 2016). As developed by different research scholars the assumption to conduct multiple regression analysis includes adequacy of sample size, multicollinearity, independence of 50 residuals, heteroscedasticity, normality, linearity and outliers. Based on this all that prerequisite to conduct multiple linear regressions has been tested for this study purpose.

**Adequacy of Sample size-**Adequacy of sample size was determined by formula developed by (Tabachnick & Fidell, 2013), that takes into account consideration a number of independent variables and number of respondents that researcher wishes to use i.e.  $N > 50 + 8m$ , m is number of independent variables (PU, PEU, PR, A, and I) and N is sample size of study. Thus,  $365 > 50 + 8(5)$ ;  $365 > 90$ , based on this value, adequacy of sample size was clearly satisfied by this study.

**Multicollinearity test-** Multicollinearity is viewed here as an interdependency condition. Multicollinearity exists whenever an independent variable is highly correlated with one or more of the other independent variables in a multiple regression equation.



Model		Coefficients <sup>a</sup>					Collinearity Statistics	
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	-.200	.172		-1.162	.246		
	Perceived usefulness	.173	.055	.164	3.143	.002	.347	2.880
	Perceived Ease of Use	.142	.053	.137	2.669	.008	.358	2.797
	Perceived Risk	.505	.042	.498	12.128	.000	.563	1.775
	Awareness	.143	.043	.172	3.374	.001	.366	2.733
	Infrastructure	.069	.030	.106	2.309	.022	.452	2.210

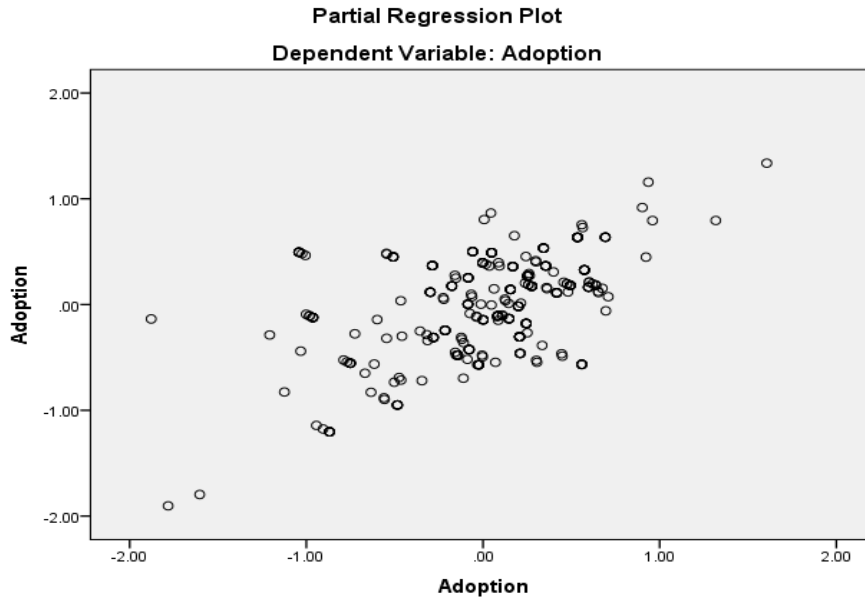
a. Dependent Variable: Interenet banking adoption

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

Multicollinearity can also be detected with the help of tolerance and its reciprocal, called variance inflation factor (VIF). According to Hair et al. (1999), the maximum acceptable level of VIF is 10. A VIF value over 10 is a clear signal of multicollinearity problem. If the value of tolerance is less than 0.2 or 0.1 and, simultaneously, the value of VIF 10 and above, then the multicollinearity is problematic.

As we can see from the above table 8, the tolerance is greater than 0.2 or 0.1 and VIF is less than 10, hence there is no multicollinearity problem.

**Heteroscedasticity**-The another assumption to undertake multiple linear regression analysis is heteroscedasticity; Which occurs if there are dots which form a definite pattern regularly as waves and it occurs if there are no certain patterns which are clear and the dots spread above and below the zero on the Y-axis (Pallant, 2016). From (figure 6 below), we can see that the patterns of the dots are not mostly spreading above and below the zero point of Y-axis and most score was concentrated on center along with zero point. For that reason, there was no heteroscedasticity problem in this regression analysis.



**Fig 6: Heteroscedasticity result**

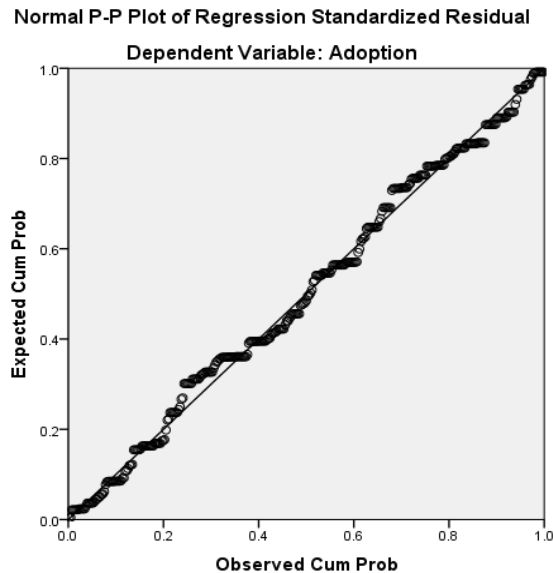
**Residual Statistics-** Another assumption to multiple regression analysis is checking outliers; as suggested by (Tabachnick and Fidell, 2013) it exists when cases that has a standardized residual of  $> 3.3$  or  $< -3.3$ ; as we can see from table 9 below the value of standardized residual value for this study was minimum of  $-2.682$  which is not less than  $-3.3$ ; and maximum  $2.388$  which is not greater than  $3.3$  so this assumption was clearly satisfied.

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5575	4.4797	3.6496	.47944	365
Residual	-1.08984	.97053	.00000	.40337	365
Std. Predicted Value	-2.278	1.731	.000	1.000	365
Std. Residual	-2.682	2.388	.000	.993	365

a. Dependent Variable: Adoption

**Table 9: Residual statistics**

**Normality test-** The purpose of normality test is whether the regression model of the underlying factors of internet banking adoption has a normally distributed or not violated multicollinearity assumption to conduct multiple linear regression analysis.



**Fig 7: Normality test results**

Normality test can be identified by using graph of P-P Plot. As suggested by (Pallant, 2016), data will distribute normally if the value of P-P Plot line reasonably is close to straight diagonal line of the graph from bottom left to top right. Regression model is good if the data distribution is normal or near normal. Normal P-P Plot graph regression standardized residual shows that line near the diagonal line and follow the direction of the diagonal line. As we can see from (fig 7 above) this test shows that there was no major deviation from normality and data was approximately distributed normal.

#### **4.4.1 Regression Model Summary**

Regression analysis is a mathematical measure of the average relationship between two or more variables in terms of the original units of the data. Regression clearly indicates the cause and effect relationship between the variables. In regression, the variable corresponding to cause is taken as independent variable and the variable corresponding to effect is taken as dependent variable. In order to examine the influence of factors on user`s IB adoption, multiple linear regression analysis has been conducted. In this topic the study describes the relationship between

the dependent variable (Adoption of internet banking) and the independent variable; Perceived Usefulness, Perceived Ease of Use, perceived risk, Awareness and Infrastructure.

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

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.415	5	20.883	144.273	.000 <sup>b</sup>
	Residual	48.200	359	.145		
	Total	152.615	364			

a. Dependent Variable: Adoption

b. Predictors: (Constant), Infrastructure, Perceived usefulness, Perceived Risk, Awareness, Perceived Ease of Use

**Table 10: Anova table**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827 <sup>a</sup>	.684	.679	.38046

a. Predictors: (Constant), Infrastructure, Perceived usefulness, Perceived Risk, Awareness, Perceived Ease of Use

**Table 11: Model summary table**

As we see from the above ANOVA table 10 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 R in (table 11) is 0.827, which implies there is a strong correlation between dependent and independent variables. The value of R<sup>2</sup> (in table 11) is 0.684 which implies that about 68.4% of variation in adoption of internet banking service is expressed in the variation Perceived Usefulness, Perceived Ease of Use, perceived risk, Awareness and Infrastructure. The study tells that (R-square= 0.68.4), means the model explains 68.4% the variability of the response data around its mean. On the other hand 31.6% of variation in this study is not expressed in the model or 31.6% of the independent variables are not contained in this study model which affect internet banking adoption.

#### ***4.4.2 F-test for IB Adoption***

ANOVA table shows that level of significance; all predicting variables are related to underlying factors of IB adoption and the relationship between them is as compared to alpha value 0.05. (Table 10), reveals that the level of significance that it is acceptable or not acceptable. But results in table was revealed that significance level is 0.000 which is less than 0.05 and it is acceptable and shows strong impact of independent variable on internet banking adoption. This table posited that the value of F equals to 144.273 Count significant 0.000. Because the sig <0.05 means the confidence of this predictions greater than 95% and the probability of this prediction error is less than 0.05 which sig 0.000. Therefore, the model was significant with linear relationship in multiple regressions and it indicates that the variation explained by the model not due to chance.

#### ***4.4.3. Regression Analysis for Internet Banking Adoption***

The P value of all variables (perceived usefulness, perceived ease of use, perceived risk, awareness and infrastructure) is less than 0.05. That is the variables perceived usefulness, perceived ease of use, perceived risk, awareness and infrastructure have a significance effect on the adoption of internet banking. In the above table 8, the coefficient of Perceived Usefulness is 0.173 this value tells about, if the Perceived Usefulness is increased by one percent, the adoption of internet banking is improved by 17.3%. According to the above table 8, the coefficient of perceived ease of use, perceived risk, awareness and infrastructure is 0.142, 0.505, 0.143 and 0.069 respectively. This figure tells about if the perceived ease of use, perceived risk, awareness and infrastructure is increased by one percent automatically the value of adopting internet banking can improve with 14.2%, 50.5%, 14.3% and 6.9% respectively. Although, Perceived risk is the most affecting factor of internet banking adoption, it affects negatively since the questionnaires are prepared in negative way.

#### **4.5. Summary of regression Analysis**

Summary of the regression analysis is presented below in the table

Hyphothesis	Result	Reason
<p><b>HA1:</b> Perceived usefulness will have effect on adoption of Internet banking.</p> <p><b>H01:</b> Perceived usefulness will not have effect on adoption of Internet banking.</p>	<p>HA1: Accepted</p> <p>H01: Rejected</p>	<p>B= 0.173</p> <p>P=0.002: &lt; 0.05</p>
<p><b>HA2:</b> Perceived ease of use will have effect on adoption of internet banking.</p> <p><b>H02:</b> Perceived ease of use will not have effect on adoption of internet banking.</p>	<p>HA2: Accepted</p> <p>H02: Rejected</p>	<p>B=0.142</p> <p>P=0.008: &lt; 0.05</p>
<p><b>HA3:</b> Perceived risk will have effect on adoption of internet banking.</p> <p><b>H03:</b> Perceived risk will not have effect on adoption of internet banking.</p>	<p>HA3: Accepted</p> <p>H03: Rejected</p>	<p>B=0.505</p> <p>P=0.000: &lt; 0.05</p>
<p><b>HA4:</b> Awareness will have effect on adoption of internet banking.</p> <p><b>H04:</b> Awareness will not have effect on adoption of internet banking.</p>	<p>HA4: Accepted</p> <p>H04: Rejected</p>	<p>B=0.143</p> <p>P=0.001: &lt; 0.05</p>
<p><b>HA5:</b> Infrastructure will have effect on adoption of internet banking.</p> <p><b>H05:</b> Infrastructure will not have effect on adoption of internet banking.</p>	<p>HA5: Accepted</p> <p>H05: Rejected</p>	<p>B=0.069</p> <p>P=0.022: &lt; 0.05</p>

**Table 12: Summary of the overall research hypothesis.**

As we see from table 12 above, among the five explanatory variables perceived risk which consists like security, trust, confidence, reliability, risk on internet banking transactions is the most contributor to internet banking adoption and significant with multiple regression results of P=0.000 which is is < 0.05.

Perceived Usefulness which incorporates the effectiveness of the system, cost & time issues, the speed takes to accomplish tasks and the multiple interaction of the system; is found the second

most significant factor to the dependent variable with the multiple regression results of  $P = 0.002$ , which is less than  $0.05$ .

The other independent variable customer awareness is third dominant factor for internet banking adoption with  $P=0.001$  which is less than  $0.05$  and statistically significant.

Perceived Ease of Use which incorporates like the flexibility features of the system, easiness or ability to use the system and user friendly approach of the system; is the fourth influencing factor of internet banking adoption with the multiple regression result of  $P=0.008$ , which is less than  $0.05$  and statistically significant.

Based on the above table 8, Infrastructure which consists personal accessibility like computers & smart phones, quality of internet and infrastructures provided by Ethio telecom & Commercial bank of Ethiopia; is the fifth and least dominant factor of internet banking adoption with multiple regression results of  $P=0.022$ , which is less than  $0.05$  and statistically significant.

Generally, based on the above results and discussion the research model was developed by the researcher based on the study model.

To express the dependent variable (adoption of internet banking) and independent variable (Perceived Usefulness, Perceived Ease of Use, Perceived risk, Awareness, and Infrastructure), the mathematical (functional) expression of the model is given as follows:

Let:

$Y$ = Adoption of internet banking,

$X_1$ =perceived usefulness,  $X_2$ =perceived ease of use,  $X_3$ = perceived risk , $X_4$ = awareness

$X_5$ = infrastructure

Therefore, the general relationship is written mathematically as follow:

$$Y=0.173X_1+0.142X_2+0.505X_3+0.143X_4+0.069X_5$$

## 4.6 Discussion of statistical results

According to study most of the explanatory variables perceived usefulness, perceived ease of use, perceived risk, awareness and infrastructure of CBE Jimma city branches, were identified as critical to internet banking adoption.

Based on the result of multiple regression model perceived risk was the most among the independent variable which affects internet banking adoption. In this study perceived risk come the first influential factor for internet banking adoption based on the result of multiple regression models with unstandardized coefficient of 0.505 and p value of 0.000 which is statically significant. This finding supported by studies of (Kazi ZH, 2015), investigates factors that influence the adoption of online banking services in Hyderabad and found that online banking is influenced by perceived risk. Another study, (Sujatha & Shivany, 2018), stated that Perceived risk is important factor that consumers consider before adopting an innovation is the level of risk involved. Also in Ethiopia studies support the finding of the result, like (Debele, 2020), examines the factors affecting the adoption of internet banking by customers in selected Banks in Jimma town. The major findings of the study include the four internet banking factors i.e., perceived ease of use, perceived usefulness, culture, attitude and perceived risk internet banking found to be positively and significantly related. The finding indicated that perceived risk is the most important factor to have a strong and significant relationship with adoption to use internet banking. Banks should install security features such as encryption devices, which safeguard sensitive information and also banks should educate how to use Internet services. Since perceived risk is significant to determine customers' intention to use internet banking, security must be given a high priority and must be linked with conventional means of banking to boost the trust and confidence that customers may have to use internet banking products and services.

The second dominant factor in the order of its influence on internet banking adoption was perceived usefulness (relative advantage) with the unstandardized Coefficient value of 0.173 and P-value of 0.002. (Bend, 2020), examine the relationship between Perceived usefulness, Perceive ease of use and customer adoption of e-banking services in Barbados. He used standard multiple linear regression to assess the relationship between the independent and dependent variables and finds that PU and PEOU are significantly associated with customer adoption of e-banking services. Another study (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. The results showed that the original constructs of TAM i.e. perceived Usefulness (PU), was significant to customers' intentions to adopt online banking. In Ethiopia, some studies support the finding of this study, for example, (Shitahun & Aemro, 2020), conducted a paper to measure customer's attitude towards internet banking adoption in Ethiopia using TAM and DTPB and found that perceived usefulness is significantly affect customer's attitude towards IB adoption. Also other studies (Yoseph,2017; Teka, 2020; Dagneu, 2019; Belete&Tsegaye, 2018 and Debele, 2020), found in their studies as perceived usefulness was positively affect internet banking adoption and significant factor. To increase customers usage rate, commercial bank of Ethiopia Jimma city branches should develop perceived usefulness (relative advantage) completing financial products' offer on internet banking at a very close level they offer at the branch and giving the service at low cost which adds value to customers and decrease their time compared to traditional banking system.

Next to perceived risk and perceived usefulness, Awareness is the third dominant factor to influence internet banking adoption with unstandardized coefficient of 0.143 & p-value of 0.001. Some studies which support this findings are like:- (Rakesh&Ramya, 2014), (Teka, 2017) (Dagneu, 2019)and(Abduselam, 2019) . (Teka, 2020), studied factors that affect customers' usage of electronic banking services by integrating the constructs of Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB), and found that awareness has a significant positive impact on users e-banking usage practice. (Abduselam, 2019) founded that in Ethiopia there is lack of customer awareness with E-banking services. This means that both marketers in banks and financial institutions, and consumer educators still need to make an effort to investigate customer's attitude towards the adoption of Internet banking. Measuring customer attitude has become a critical issue in the contemporary business world. In order to increase internet banking adoption among customers , Commercial bank of Ethiopia, Jimma city branches should launch campaigns to create direct awareness to potential adopters in regular basis to aware the overall importance of internet banking adoption.

Perceived ease of use (simplicity or user friendly of the system) is the forth dominant factor to influence internet banking adoption with unstandardized coefficient of 0.142 and P-value of 0.002. Simplicity of carrying out internet banking channels to use influences internet banking

adoption of CBE customers in Jimma city. (Milanzi, 2013) and (Lusaya, 2018)) studied that customers perceive e-banking in terms of its usefulness, ease of use, and becoming a matter of need and holds the key that might help the banking industry to formulate their marketing strategy.(Al-smadi, 2012), discussed that perceived ease of use has a positive and significant impact on customers' attitude toward electronic banking services. (Fonchamnyo, 2013) provides evidence that clearly reflect that customers perceive e-banking in terms of ease of use .Another study, (Lusaya, 2018) stated that customer can only adopt a service or product if she/he has full information regarding its use and also concluded that familiarity is very important in the use of e-banking. Technological acceptance is based on the familiarity and complexity of the service. In our country also studies support the finding like:- (Yoseph,2017; Shitahun & Aemro, 2020; Dagneu, 2019; Teka,2020; Belete&Tsegaye, 2018 and Debele, 2020), found in their study that perceived use of ease has a positive effect on internet banking adoption and significantly affect internet banking adoption. So to increase customer's internet banking adoption, commercial bank of Ethiopia should participate in the process by making the process easy in coordinated way.

Finally Infrastructure which consists personal equipments like, computers & mobiles, quality of internet and infrastructures provided by Commercial bank of Ethiopia and Ethio telecom, comes the fifth dominant factor with the unstandardized coefficient of 0.069 and P-value of 0.022. (Arora & Kaur, 2018), found that, one of the factor which makes many consumers not willing to use online banking is because system failure or lack of infrastructure. (Abbasi, 2017), studied factors affecting customers' adoption of internet banking in Pakistan and finds that access to internet was a critical factor which influences internet banking adoption. Another study supports the above findings was ,(Teka, 2020), which studied factors that affect customers' usage of electronic banking services and found that availability of internet/network connection have a significant positive impact on users e-banking usage practice. Based on the above factors, Commercial bank of Ethiopia should try their best efforts to develop necessary infrastructures which are basic for internet banking adoption. Also to increase internet banking adoption among customers, Commercial bank of Ethiopia, Jimma city branches should invest to make sure that the internal infrastructures fits the overall internet banking service needs of the customer to get service in quality manner and should develop internet banking applications that can be processes in mobile devices, because most of the customers cannot get access to computers and computer data.

# CHAPTER FIVE

## 5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

### 5.1. Summary of Findings

This paper developed based on a theoretical model of user adoption on internet banking services, Technology acceptance model (TAM), Diffusion of Innovation (DOI) and Theory of planned behavior (TPB), and attempted to explore the influencing factors which play a role in user's adoption of internet banking. By collecting questionnaire survey data, the study proceeded statistical analysis and multiple linear regressions modeling analysis with SPSS, and tested the theoretical model and further made a discussion on the results of data analysis. This study is concerned with an investigation of factors that could affect internet banking adoption on commercial bank of Ethiopia Jimma city customers. These factors include Perceived usefulness & Perceived ease of use (from TAM), Perceived risk (from DOI), Awareness (from TPB) and Infrastructure (from external factors).

- Perceived risk is found to have the most strong influence on internet banking adoption (coefficient,  $\beta = 0.505$ ). Since the study questionnaires for perceived risk is prepared in negative way, also the influence is an indirect (negative) way.
- Furthermore, Perceived usefulness, perceived ease of use and ,awareness and infrastructure were found to have positive and significant influence on internet banking adoption with  $\beta$  beta coefficient= 0.173,0,142,0.143 and 0.069 respectively.
- The overall regression model is significant. The value of R<sup>2</sup> is 0.684 which implies that about 68.4% of variation in adoption of internet banking service is expressed in the variation on perceived usefulness and perceived ease of use, perceived risk, awareness and infrastructure.

Also , the demographic factors not considered as a factor for internet banking adoption in this study, it has been showed in descriptive analysis as most of the respondents are males , whom most of them age group fails in the age of 30-39 and most of them have professional education level (greater than equal to diploma level at their).

## **5.2. Conclusions**

Internet banking are not well adopted by commercial bank of Ethiopia customers due to fear of risks,( security issues), difficulty or unfamiliarity of the system, lack of customers trust, lack of awareness towards the technology and lack of overall infrastructure or lack of personal equipment's to use internet banking. In general, the findings of the study highlight factors influencing the adoption of internet banking in commercial bank of Ethiopia. Barriers identified in this study while adopting the e-banking services may help to cursor the best alternative course of actions to enhance its development. It will also be valuable by increasing awareness and understanding towards the system.

## **5.4. Recommendations**

As per the assumption of the researcher the primary interested groups to these study findings are stake holders, policy makers and banks in Ethiopia who have already or planning to introduce internet banking service for their customers. The identification and confirmation of factor affecting the adoption of internet banking provides banks with information on what is expected and what is required to make these channel more utilized among their customer base.

Hence, the researcher strongly recommended the following issues:-

- With regards to perceived risk which is the most factor which affect internet banking adoption, banks should launch privacy and security features and continuously review and upgrade the existing system of security to the level that minimize risk. Also banks should let customers to use internet banking whenever they need at any place without fear.
- To increase customers usage rate, 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 and giving the service at low cost which adds value to customers and decrease their time compared to traditional banking system. Also the banking sectors should develop guidance's in the internet banking apps that let customers to use the system easily without difficulties. This is good for the customer and for eliminating bank costs and building the good image. To bring many customers to the bank and to make them users of internet banking technology ,all banking organs should participate in the process by making the process easy in coordinated way.

- Banks should launch campaigns to create direct awareness to potential adopters in regular basis to aware the overall importance of internet banking adoption. Besides this the bank should create social Medias which teach the customers about internet banking services in easy and friendly way.
- Without an adequate development level and quality of infrastructure, internet -banking adoption and use cannot do well, so the banks with collaboration with the concerned organs should try their best efforts to develop necessary infrastructures which are basic for internet banking adoption. Also the banking industry should invest to make sure that the internal infrastructures fits the overall internet banking service needs of the customer to get service in quality manner. Besides this commercial bank of Ethiopia should develop internet banking applications that can be processes in mobile devices, because most of the customers cannot get access to computers and computer data.

## **5.5. Future Research Areas**

This study was conducted to explore factors affecting the adoption of internet-banking Service targeting commercial bank of Ethiopia Jimma city branches, so the following could be considered for future research:-

- The study on factors affecting adoption of internet banking service focusing on the fourteen selected Jimma city branches and extended to a more comprehensive study that incorporate upcountry (Outside of Jimma city ).
- The study can also be extended to include all other Commercial Banks found in Ethiopia so that the findings can be useful to conclude about E-banking services in Ethiopian context.
- Some factors were examined in this study, hence future studies should attempt to draw profiles based on characteristics other than these factors.
- Opinion of unbanked was not factored in to this study and the factor identified would be predominantly users of mobile banking services who had existing bank account only in CBE.
- Future research may be conducted by further extending and refining the models or other best new methods.

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**Appendix 1: Questionnaire**  
**Jimma University**  
**College of Business and Economics**  
**Department of Management**

**INTRODUCTION**

**DEAR RESPONDENT,**

I am attending MBA (Masters of business administration) program at Jimma university college of business and economics. I am conducting a research thesis on the title “Factors affecting the customers Adoption of Internet Banking services” in case of commercial bank of Ethiopia, Jimma 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.

**Thank you**

**Misael Bekele**

For further information please contact the student researcher

At phone no 0913923257 or

e-mail - [misbek74@gmail.com](mailto:misbek74@gmail.com)

**Section one :Demographic Details**

For your free and genuine responses, please tick (v) mark one choice

**1.1 Gender**

Male	
Female	

**1.2. Age Category**

18-29	
30-39	
40-49	
> 50	

**1.3. Educational Qualification**

Diploma/degree/masters	
High school	
Elementary	
Other specify	

**Section two : Independent variables (Factors affecting customer adoption of internet banking services)**

Below are lists of statements pertaining to factors affecting customer adoption of internet banking. please tick (√) your choices from the options that range from strongly agree to strongly disagree.

**1 =Strongly Disagree, 2=Disagree, 3= Neutral, 4=Agree and 5=Strongly Agree**

Section two Questions	Section two Answers				
	1	2	3	4	5
<b>2.1 . Perceived usefulness</b>					
1. Internet banking will enable me to accomplish my banking task more quickly.					
2. Internet banking saves time compared to traditional banking.					
3. Using internet banking will decrease my cost of banking.					
4. Internet banking improves my effectiveness in using banking activities.					
5. Internet banking system addresses almost all my banking needs.					
<b>2.2. Perceive ease of use</b>					
6. internet banking is easy to use					
7. Internet banking will make it easier for me to do my banking.					
8. I can use internet banking without anyone helping me.					
9. Internet banking has flexible features.					
10. Internet banking system provides guidance in its application.					
<b>2.3. Perceived risk</b>					
11. I think internet banking services are more risky than other banking options.					
12. I think the amount of time to use internet banking is higher than the conventional banking.					
13. Internet banking is not as secure as conventional banking (going directly to the branch).					
14. I am not confident with the security aspects of internet banking.					
15. I am not sure that I can use internet banking whenever I need at any place					

	1	2	3	4	5
<b>2.4. Awareness</b>					
16. I heard about internet banking services.					
17. The banks teach me about the overall importance of internet banking.					
18. I have enough information about internet banking services.					
19. I can teach to others about internet banking					
20. CBE has its own website, social media or any media which customers can interact and get information about IB services.					
<b>2.5. Infrastructure</b>					
21. I have accessibility (like, laptop, desktop, internet access etc.) to use internet banking.					
22. Ethio Telecom provides high speed internet and mobile connection.					
23. The quality of internet connection affects me to use internet banking.					
24. Commercial bank of Ethiopia provides high quality internal internet facility for customers.					
25. I can use my mobile for internet banking service					

**Section three: Dependent variable (Internet Banking Adoption)**

**1 =Strongly Disagree, 2=Disagree, 3= Neutral, 4=Agree and 5=Strongly Agree**

Section three Questions	Section three Answers				
	1	2	3	4	5

<b>3. Internet banking adoption</b>					
1. I am using internet banking service					
2. I will collaborate with my bank to use Internet banking.					
3. I advise others to use internet banking					
4. I will increase my usage rate					

**THANK YOU!**