Factors Influencing the Adoption of Mobile Banking Technology (In the case of Selected Private Banks in Bonga Town)

A Thesis Submitted to School of Graduate Studies of Jimma University in Partial Fulfillment of Requirement for Award of Degree of Masters of Accounting and Finance

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DECLARATION

I declare that the Research report entitled "**Factors Influencing the Adoption of Mobile Banking Technology in the Case of Selected Private Banks in Bonga Town"** Submitted to Research and postgraduate studies office of Business and Economics College, is original and it has not been Submitted previously in a part or full to any university.

Kocheche Geremew

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Signature_____

CERTIFICATE

We certify that the Research report entitled "**Factors influencing the adoption of mobile banking technology in the case of selected private bank in bonga town"** done by Ms. Kocheche Geremew for the partial fulfillment of Master's degree under our supervision.

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ABSTRACT

The objective of this study is to identify factors influencing the adoption of mobile banking service in Bonga town. For the achievement of this objective quantitative research approach was used, both primary and secondary data were used. From the literature nine determinant variables were identified, six mobile banking related variables were measured using 5-point likert scale and three demographic variables were measured using nominal scale. Questionaries' was distributed to target respondents of customers of four selected private banks for mobile baking users by using convenience sampling method. The study also used purposive (judgmental) sampling technique as it enabled the researcher to select the banks that have high number of mobile banking subscribers. Data was analyzed using descriptive and inferential statistics through binary logistic regression analysis. The research finding indicated that, Perceived ease of use, Perceived usefulness, Trust, Awareness and compatibility have a positive and significant effect on the adoption of mobile banking, whereas perceived risk was found to have a negative and significant effect on the adoption of mobile banking. With regard to demographic variables, gender and age have statistically significant effect on mobile banking adoption but, monthly income has no significant effect on mobile banking adoption in selected private banks in bonga town. The study recommended Ethio telecom as a service provider and bank management has to work together to ensure the security measures are put in place to safeguard the customers adopting this technology.

Key words: *Innovation Diffusion theory, Technology Acceptance Model, Adoption, Compatibility, binary logistic regression*

ACRONYMS

ATM-Automated Teller Machine

BOP-Bottom of Pyramid

CBE-Commercial bank of Ethiopia

FNB-First National bank

IDT-Innovation Diffusion Theory

ICT-Information communication Technology

M-PESA-Money Transfer Service

MPIN-Mobile Banking Personnel Identification Number

PEOU-Perceived ease of use

PDA-Personal Digital Assistant

PU-Perceived usefulness

PR-Perceived Risk

SMS-Short Message Service

SPSS-Statistical Package for social science

TPB-Theory of Planned Behavior

TAM-Technology Acceptance Model

TRA-Theory of Reasoned Action

USSD-Unstructured Supplementary Service Data

UTAUT-Unified Theory of Acceptance and use of Technology

VIF-Variance inflating factor

WAP-Wireless Application Protocol

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CHAPTER ONE

1. INTRODUCTION

1.1. Background of the study

Technological innovations play a crucial role in banking industry by creating the value for banks and customer, that it enables customers to perform banking transaction without visiting the branch banking system. Mobile banking is one of the emerging technologies that have changed the operations of the banking sector using mobile devices (Gardachew, 2010).

In recent years, banks have developed these technological innovative products and offered a wider range of services in an effort to increase customer's satisfaction and efficiency, which is their main goal. Thus banking services are being offered through electronic delivery channel. Mobile banking which provides services via mobile phones and personal digital assistants is among the newest service to be offered (Mari, 2003).

According to Otubu (2009) the term mobile banking can be defined as the use of mobile devices such as mobile phones or tablets to execute banking transaction. Mobile banking is any form of transaction that encompass the transfer of control or right to use goods and service, which is started or concluded by using mobile access to various networks, through the assistance of an electronic devices such as mobile phones or tablets (Tiwari et al.,2005).

Barnes and Corbitt (2001) defined mobile banking as a subset of banking as it allows everyone easy access to their banking operations via mobile handsets, Yu and Fang (2009) the advancement in information communication technology (ICT) plays a major role for world in numerous variety of business activities .Rapid development of information technology has also affected the banking industry world widely in different form. Banks seek always achieve competitive advantage to be first in market so they keep looking for new technology which can improve the banking services.

Huili and chunfang (2011) suggested that mobile banking is significant for appealing to trendy customers, reducing costs per transactions, gaining revenue from service fees, enabling new service channels and supporting future customers. Mobile banking service provide time independence convenience and promptness to customers along with cost saving. Despite this advantage, the use of mobile banking service is much lower than expected in developing

countries (Agwu, 2012). He also stated that, mobile phones and its applications are still highly under-utilized and still low from other electronic banking such as ATM, internet banking, etc. Furthermore, it is noted that, the widespread adoption and large usage of mobile telephones did not reflect on the adoption and use of mobile banking.

Different researches have been done in identifying factors influencing the adoption of mobile banking over the world, but resulted in different findings. Among those, (Nyilwon *et al*., 2019) study on mobile banking adoption among customers within private commercial banking sectors in Yangon, Myanmar .In this study the finding revealed that, Perceived usefulness and perceived ease of use positively affects the adoption of mobile banking technology, on the other hand perceived risk and transaction costs were found to have a negative correlation with the adoption of mobile banking technology.

Mirza *et al* (2015) conducted the study on effective factors of the adoption of mobile banking service by bank customers. In this study the results revealed that, perceived usefulness and compatibility were both found to have strong positive influence on attitude and intention to use mobile banking. Belynda *et al* (2015) study on factors influencing the adoption of mobile banking in Kenya's commercial bank and found that ,perceived risk to be one of the key factor impending the adoption of mobile banking and concluded that, cost was a key factor stopping people from adopting mobile banking.

Although several banks have implemented mobile banking technology but, there are several factors affecting the adoption of this technology by bank customers. Private owned banks in Ethiopia have spent huge amounts in establishing mobile banking systems, but the adoption and usage rate of mobile banking is still lower than the expected and remains insignificant compared to the entire banking transactions. Hence the need to conduct the research in identifying the factors affecting the adoption of mobile banking will have paramount importance in improving the easy adoption of mobile banking. So, the research conducted at different times brought different findings with regard to factors affecting the adoption of mobile banking. Moreover, in Ethiopia as to the knowledge of the researcher is concerned, the research so far done focuses mainly on commercial bank of Ethiopia by neglecting private banks. For these different findings and very few researches in Ethiopia, identifying the factors affecting the adoption of mobile

banking is still researchable. Thus the major concern of this study is identifying factors that affect the adoption of mobile banking from customer's Viewpoint.

1.2 Statement of the problem

New technologies create new market opportunities for the banking sector, and thus managing and satisfying the customers in this new banking environment has become a key issue for the players in the industry. Thus, now the question is all about how to select and exploit new forms of technology in the right way and the right time so that banks can complete successfully. Developing new process without having their returns threatened as a result of wasteful expenditure signifying that bank management must be progressively aware of the opportunities that come with technological change. In order to overcome these challenges service providers are finding it ever more vital to improve their understanding of customer behavior patterns in banking, and consumer's adoption of new banking technology (Jayewardene and Foley, 2000). Identifying major factors that hindering successful adoption of mobile banking will help those Service providers to review their effort and to enhance their communication effectively. However, the situation was challenging due to the fact that the suggested research finding was contradict with each other on some variables.

When compared with the banking industry operated in developed country, the banking industry in Ethiopia is underdeveloped and therefore the need to embark on capacity building arrangements and modernize the banking system by employing the technologies being used in the world, therefore the need to conduct research on mobile banking adoption in Ethiopian context is important to develop the adoption rate and usage of mobile banking

In addition to this, private owned banks in Ethiopia have spent huge amounts in establishing mobile banking systems, but the adoption and usage rate of mobile banking is still lower than the expected and remains insignificant compared to the entire banking transactions. Hence the need to conduct the research in identifying the factors affecting the adoption of mobile banking will have paramount importance in improving the easy adoption of mobile banking.

Some researchers have conducted the study on factors affecting the adoption of mobile banking in Ethiopia specifically in Addis Ababa but they found contradictory results. For instance

Tesfaye , (2018) conducted the study on factors affecting the adoption of mobile banking in Addis Ababa found that effort expectancy, perceived usefulness, perceived ease of use, perceived cost and mobile phone experience are the major factors identifying mobile banking adoption whereas performance expectance perceived risk and perceived trust to have insignificant effect on mobile banking adoption. As the study of Nebyu, (2017) on factors influencing mobile banking adoption in Ethiopia found that perceived ease of use, awareness and trust had a positive impact on mobile banking adoption while perceived risk was found to have negative impact, whereas perceived usefulness found to be has no effect on the intention to adopt mobile banking.

According to Brikty ,(2017) on the study of barriers to the adoption of mobile banking in Addis Ababa found that perceived trust as the most significant factor that impacts the adoption of mobile banking service following perceived usefulness ,awareness and perceived self-efficacy were found to have insignificant effect on mobile banking usage for bank customers located in Addis Ababa.

These problems evidence the need to undertake extensive research on factors affecting the adoption of mobile banking and as the knowledge of the researcher, no study was undertaken specifically in private banks on factors affecting the adoption of mobile banking in bonga town, demographic factors (age, gender and income) were not seen as influencing factor of mobile banking adoption in Ethiopian context, the finding contradiction between Nebyu (2017), and other studies which are mentioned under the research gap on the variable perceived usefulness .

Therefore, this study will fill the gap by integrating Technology acceptance(TAM) and innovation diffusion theory(IDT),perceived risk, trust and awareness in order to identify factors influencing the adoption of mobile banking and construct an empirical study on factors influencing the adoption of mobile banking in bonga town on the basis of the finding of previous research done on other place by adding these demographic variables as influencing variables with existing variables done by other researchers. .Consequently, on the understanding of the factors that influence the adoption and use of mobile banking service from the customer's viewpoint is necessary to promote rapid acceptance of the service. As the result the aim of this study will identify the factors that influence mobile banking adoption on selected private banks in bonga town.

1.3 Objective of the study

1.3.1 General objective

The overall objective of this study is to identify the factors influencing the adoption of mobile banking technology with the specific emphasis on private banks in Bonga town.

1.3.2. Specific objectives

The specific objective will be;

- To examine the effect of perceived ease of use on the adoption of mobile banking technology
- To assess the effect of perceived usefulness on the adoption of mobile banking technology
- To examine the effect of trust on the adoption of mobile banking technology
- To examine the effect of awareness on the adoption of mobile banking technology
- To evaluate the effect of perceived risk on the adoption of mobile banking technology
- To evaluate the effect compatibility on the adoption of mobile banking technology
- To examine the effect of age, gender and income on the adoption of mobile banking technology

1.4. Research Hypothesis

The study has the following research hypothesis:

H1: Perceived ease of use has positive and significant effect on the adoption of mobile banking technology.

H2: Perceived usefulness has positive and significant effect on the adoption of mobile banking technology.

H3: Perceived trust has positive and significant effect on the adoption of mobile banking technology.

H4: Awareness has positive and significant effect on the adoption of mobile banking technology.

H5: Perceived risk has negative and significant effect on the adoption of mobile banking technology.

H6: Compatibility has positive and significant effect on the adoption of mobile banking technology.

H7: There is a significant effect on the adoption of mobile banking technology between male and female.

H8: Age has significant effect on the adoption of mobile banking technology.

H9: Income has no significant effect on the adoption of mobile banking technology.

1.5. Research Questions

1. What is the effect of perceived ease of use on the adoption of mobile banking technology?
2. What is the effect of perceived usefulness on the adoption of mobile banking technology?
3. What is the effect of perceived trust on the adoption of mobile banking technology?
4. What is the effect of awareness on the adoption of mobile banking technology?
5. What is the effect of perceived risk on the adoption of mobile banking technology?
6. What is the effect of compatibility on the adoption of mobile banking technology?
7. What is the effect of age, gender and income on the adoption of mobile banking technology?

1.5. Significance of the study

The study will help the banks to understand major factor hindering to adopt mobile banking successfully, to realize the level of customer's perception on each research dimension, to formulate appropriate strategies in implementing mobile banking technology. Besides, this study will add value for the existing knowledge gap and identify these gaps, provide suggestions for further study in the area of interest. The better understanding of this factor will enable mobile banking service providers to develop suitable business models, awareness programmes and marketing strategies, this understanding will guide policy makers in crafting suitable policy that will enable financial access through mobile banking technology

In addition, this study will have a great importance to banks as it will provide useful information that will be required in implementation of mobile banking technology, finally, the study will benefit customers who have not yet adopted mobile banking technology since the study will reveal important information and benefits of mobile banking technology.

1.6. Scope of the study

This research entirely focuses on factors influencing the adoption of mobile banking technology, particularly in private banks in bonga town, but due to time and financial constraints no attempt was made to take any other segment of the country. Therefore, the geographical scope of this study was limited on the town level. The banks were selected by using purposive sampling technique, the sample respondents were selected by using convenience sampling method due to difficulty of sample assessing sample customers.

1.7. Organization of the study

This study is organized in to five chapters. The first chapter presents the introduction part includes background of the study, statements of the problem, Objectives of the study, Significance of the study, Scope of the study, and organization of the Study. The second chapter shows the literature review while the third chapter contains brief description of the research design. The fourth chapter presents and analyzes the results. Finally, the fifth chapter presents the conclusions and recommendation of the study respectively.

CHAPTER TWO

2. LITRATURE REVIEW

2.1 Introduction

The revolution of mobile commerce can be attributed to the popular ownership and use of mobile personal programmable communication devices like mobile phones and personal digital assistances like laptops, iPods and palmtops among other emerging communication gadgets (Walkungi, 2015).These allow consumers to attract with one another or business in a wireless mode, anytime and anywhere. Mobile commerce is a business transaction conducted through mobile communication networks or the internet (Siau and shen, 2003). Mobile banking is an application of mobile commerce which enables customers to access bank account through mobile devices to conduct and complete bank related transaction such as balancing check, checking account status, transforming money and selling stocks (Tiwari and Buse, 2007).

Masinge (2010) described the use of mobile phone for buying and selling of goods and services is regarded as mobile commerce .This allows customers to make any kind of transactions including service enquiry, transferring money, buying and selling of goods through internet service on their mobile phone. Mobile banking is the latest approach used by financial institutions for the provision of financial service through information and communication technology, whereby customers use a mobile phone or mobile device to access banking services and perform financial transactions (Ramdhony *et al* ., 2013). Traditionally the most wide spread method of conducting banking transaction has been through offline retail banking wireless technology however ,is rapidly changing the way personal financial services are designed and delivered(lee ki soon *et al*., 2007). Mobile banking service created new, convenient and fast delivery channel for customers to enjoy banking service from anywhere, anytime. It also defined as "mobile banking is refers to provision and availing of banking and financial services with the help of mobile telecommunication devices" (Ravichandra Diluxshy *et al*., 2016).

2.1.1. Background of Mobile banking Technology

Currently, the advancement of mobile banking technologies has provide an opportunity for financial providers in introducing new financial innovations .One of the emerging financial innovation introduced by financial providers in an effort to increase customer satisfaction and

efficiency is mobile banking. Most recent development in information communication technology (ICT) has provided the opportunity for customers to access the banking service without necessarily going to the bank branches. This technological development has intensified in recent years and has led to the reduction of financial institution's cost(Mari 2003;saleen and Rashid, 2011).Customers will be able to obtain immediate and interactive banking service anytime and anywhere which in turn initiate great value for them(Mallat *et al*.2004). Mobile banking service also can increase the amount of data processing and improve operational performance .Moreover; adoption of mobile banking has significant impact on reducing costs and facilitating change in retail banking (Laukkanen, 2005).

Mobile banking" helps banks to increase speed, shorten processing periods, improve the flexibility of business transactions and reduce costs associated with having personnel serve customers physically (Ayo *et al*., 2010).The use of mobile phone has facilitated the expansion of markets, social business and public in both developing and developed countries (Spence and smith 2010). Lin (2011) claims that rapid advances in mobile technologies have made mobile banking increasingly important in financial services. The use of mobile banking offers a way of lowering the cost of moving money from place to place (Donner and Tellez 2008; Anyasi and Otubu, 2009).

Porteous(2006) classified mobile banking into two; firstly ,transformational mobile banking which is the provision of mobile services using a mobile phone to reach the unbanked population .Secondly, additive mobile banking in which the mobile phone is simply additional channel that is used to provide banking services to those already banked. This opens a whole new world opportunities for business and retailers to market their goods and services for customers .Customers today are 'on the go 'they appreciate things that are readily available to them and banking is one of the example, today by a touch of a button using electronic banking they can transfer funds to and from their accounts .However, even though mobile technology is widely available amongst customers, they are proportionately few adopters for mobile banking(Deloitte,2010)

2.1.2. Mobile Banking in Ethiopian Banking industry

The electronic banking service was ushered into the Ethiopian market in 2001 when the largest state owned, commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users (Gardachew, 2010). After this the electronic banking services scope was further expanded to mobile banking when Dashen bank signed agreement with ivery ,a south African E-payment technology company, for the introduction of mobile commerce in April 21,2009.According to the agreement, ivery payment technologies has licensed its gateway and micard E-payment processing solution to Dashen bank. Dashen's modbirr users can transfer 500 birr to other mod birr users in 24 hours a day. This would make Dashen bank the first private bank in Ethiopia to acquire E -commerce and mobile merchant transactions. However, mobile banking came into full practice after several years of trials and errors as well as waits and see attitude by customers. Since then, mobile banking has shown a gradual growth across many various parties of Ethiopia (Amanyehun, 2001)

Despite the very high mobile penetration rate ,the use and adoption of mobile banking services remain low, with the advent of new mobile technologies ,such as blackberry ,iPhone, Androids etc. which serve as a catalyst ,mobile banking is one of the edge to draw millions of new users within the world teeming population (Agwu,2012).Many customers who are tried of the old banking systems are looking for time saving alternatives .The review of the existing literature showed that mobile banking has been widely researched in the developed and emerging economies .However there is no enough research for Ethiopian economy ,therefore, this research is believed to fill this gap(researcher).

2.2. Benefits of Mobile Banking

Mobile banking allows anytime, anywhere(within the network coverage)banking with all the inherent advantages(Pousttchi andSchurig,2007).The high penetration of mobile phones across the strata of society makes it a natural tool for taking electronic banking to its next level. It is more than likely that internet banking and mobile banking would exist at allies rather than competitors for each other. Convenience is one of the benefits of mobile banking as banking transactions and other related activities can be performed in the comfort of customer's home or offices. The usefulness of conducting banking transaction at home or from the office eliminates

the difficulties that are associated with driving to the bank the cost of petrol and parking. Mobile banking also allows customers to perform banking transactions 24 hours a day, 7 days a week and 365 days a year (Eckhardt *et al*., 2009).

2.2.1. Benefits of mobile Banking to Banks

Banks can utilize the time saved by channel migration of customers to mobile banking for expansion of business through better marketing and sales activities. Mobile banking enables banks to reduce cost of courier, communication ,paper works etc. and also it reduces costs in setting up a branch and resources to process the transaction, also banks providing mobile banking services can have competitive advantages over those banks which are not providing this service .It has also been found to increases customer loyalty that is using mobile banking customers need not to going bank branches for fund transfer or for information ,which create a good relationship between banks and customers which helps in increasing loyalty towards the banks(Sunil and Durga ,2013). Goswami and Raghavendran(2009) point out, mobile banking service will enable banks not to only increase free based income but also enable significant cost saving ,improve service quality and provides cross selling opportunities .

2.2.2. Benefits of Mobile Banking for Customers

Customers don't need to stand at the bank counter for various requires about their account they can save their valuable time and travelling cost in reaching the banks for their financial transactions(Sunil and Durga ,2013) customers can pay their utilities bills on the time and save themselves from paying penalties, since alerts are received from the bank. Ubiquitous access, convenience and mobility are the main benefits that mobile banking confers to customer (Laforet and Li 2005).Delport (2010) points out that with mobile banking customers no longer need to use scarce time and resources to travel to bank branches. Nevertheless, despite the widespread proliferation of mobile phones and the numerous advantages that mobile banking offers, mobile banking is still not widely adopted (Riquelme and Rios, 2010).

2.3. Technologies Employed to Provide Mobile Banking Services

Customers can use mobile banking technologies for various banking service ranging planning to pay their bills via their cell phones. Mobile technologies used in the mobile banking include the

browser based applications, messaging based applications and client based applications (Kim *et al*., 2009; Tiwari and Buse, 2007).

2.3.1. SMS (Short Message Service)

On the messaging based applications, the communication between the bank and customer is carried out via text messages. For example, by using a registered mobile number, the customer sends a predefined command to the bank, and then uses text messages to conduct transaction with the bank. An example of messaging based application is the unstructured supplementary service data (USSD), which has compatibility with most mobile phones. Existing mobile banking applications based USSD includes WIZZIT in South Africa(WIZZIT 2005),MPESA in Tanzania.(Camner&Sjoblom,2009),M-PESA in south Africa (Nedbank 2010b) and FNB mobile banking(FNB2010).The term "SMS Banking" refers to the provision of banking and financial services via a means of text messaging service known as SMS. SMS allows the financial institution to communicate with their customers.

Almost all mobile phones have the ability to use SMS; SMS is a suitable for sending message from banks for a number of banking operations. In order to create a query, the customer sends a SMS containing the service request to a special number which is considered for this purpose. The customer sends customize SMS (command based instructed with Arabic number) to the bank with the predefined command each offered service, the server of the bank receives the SMS ,interprets the commands and executes commands and instructions, the request is found to be authorized. The authorization is carried out with the help at special mobile banking personnel identification number(MPIN).Furthermore, the requests are only accepted from a mobile phone number that has been registered as the authorized number of operating that particular bank account with the integration made with the mobile banking one can get all financial and non-financial information After completion of the whole process ,the information will be gathered in the oracle database for future reference.

For example:-Dialing to *889# ⟶ inserting the command and the PIN ⟶ Navigation of the financial or non-financial information ⟶ logging off.

2.3.2. Browser based

The browser based application is essentially a wireless access protocol (WAP) –based internet access (Kim *et al*., 2009).This requires a compatible mobile phone which is WAP enabled .The mobile phone is used access banking portals through the internet. Browser based customers' needs to be connected to the internet to use this service. The interface is generated from the server which is transported to mobile device and this allows the content to be displayed through the browser. This method is extremely fast developing on the server that the customer is connected to but, one of its disadvantages is that, it requires the subscriber (customer) to stay online all through the transaction process and could lead to higher cost for the customer.

2.3.3. Client based (Downloadable Applications)

This method requires the customers to use software installations and this will serve as a user interface that can allow customers to use the mobile device while offline to access some basic transactions before going online. Typing details before connecting to the internet could reduce the cost. This client based application is particularly useful because it allows customers to stay offline while preparing transactions such as entry of account details and afterward the transmission is made by sending out the data, this banking process connected offline reduces online connections time and cost(Pendharkar ,2004).This are mobile banking applications that the user should download on their phone. Using the properties of these applications transactions can be encrypted completely in both source and destination. Since this software has been designed for special purpose, mobile banking application designers can optimize the applied interface for the financial transactions.

The independent of application is one of the advantages of this application for financial institutions (Ming, 2007).Once customers have downloaded the software on their phone; they can use the mobile banking applications. In other words the application should be compatible with various needs and functions for a large number of mobile phones and this is expensive. The phone should also support one of the environments such as Microsoft window mobile. Another problem of mobile banking application is that the customer should download the software, install it on their devices and update its new versions, and may be this is a new problem for some of the customers.

2.4. Services Available on Mobile Banking

Mobile banking as defined above includes wide range of services According to (Tiwari and Stephen 2007) these services may be categorized as follows:

2.4.1 Mobile Accounting

Tiwari and Stephan(2007) defined mobile accounting as transaction based banking service that revolve around a standard bank account and are conducted and/or availed by mobile devices .Not all mobile accounting services are however necessarily transaction based, mobile accounting services may be divided into two categories to differentiate between service that are essential to administer an account, moreover, additional services are required that inform a customer about his/her transactions and other activities involving their account. It is for this reason that mobile accounting is offered almost regularly in combination with services from the field of mobile financial information (Renju, 2014).

A. Account operation

The term accounting operation as used in this study, refers to the activity that involves monetary transactions such transactions may involve an external account and internal account. Mobile services that are used to operate an account are (Tiwari and Stephen, 2007).

Money remittances:-Mobile device may be used to instruct the bank to remit money order to conduct one time transaction such as paying bills or transferring funds. This service can also include the facility to cancel or ordered remittance.

Issue standing order:-The house bank may be entrusted with standing orders for payment of regularly recurring payments such as payment of standing payments, monthly rent or telephone bill.

Transfer funds to and from sub accounts: –Funds from one sub account may be transferred to another as and when needed, for instance from a saving account to checking account or other types of account and vice versa (Sunil and Durga, 2013).

Subscribing insurance policies :-Standardized low cost insurance policies like travel insurance policies may be purchased via mobile devices .This service could be particularly attractive in time critical situation ,for instance, if a bank customer has to set out on an urgent ,unplanned journey, he may still be able to a subscribe to travel insurance policy offered by his house bank .

B. Account Administration

The term account administration refers to tactical situation for instance, if a bank customer has to set out on an urgent, unplanned journey, he may still be able to subscribe to travel insurance policy offered by his house bank, this may involve activities like access administration and check book request mobile accounting services that are used to administer the account are (Tiwari and Stephan, 2007; Sunil and Durga, 2013).

Access Administration:-Mobile devices may be used to administer access to an account. For example, to change to the individual PIN or to request new transaction numbers.

Change operative accounts:-Through this device, a customer can change his default operative account and do transactions using a different account. This option is attractive for customers holding several sub accounts, funds of sub accounts may be hereby utilized in a targeted manner without first transferring of the amount to the default account.

Blocking lost cards:-Mobile non voice telecommunication systems such as wireless applications protocol, short message service (WAP, SMS) can be used round the clock to speedily block lost credit and debit cards irrespective of the current geographic location.

Checque book request:-Instead of going personally to the bank, the customers can request for a checque book to be mailed to his/her address as per the records of the bank. This saves his/her valuable time (Sunil and Durga, 2013).

Bill Payment: For those companies which register with the bank for this service, the payment is made on request on mobile phone banking.

Changing a primary account: -*The* customer has the option to change the primary account to another new account number for carrying our transactions (Sunil and Durga, 2013).

2.4.2. Mobile Financial Information

Mobile financial information refers to non-transaction based banking and financial service of information nature (Tiwari and Stephan, 2007).This sub application may be divided into two categories:-Account information and market information (Cruz *et al*., 2010).

A. Account Information

The term accounting information refers to information that is specific to a customer and his bank, even though it does not necessarily involve a monetary transaction. Mobile services that belong to this category are:-

Balance inquires:-Mobile devices may be employed to check the current financial status of own bank or securities account (Sunil and Durga, 2013).

List of latest transactions:-Mobile devices may be used to request a list of the latest transaction performed on an account. This service works with a standard, prespecified number of latest transactions that are reported, as and when demanded, most of the bank provide a list of transactions.

Statement request: - Unlike the request for a list of latest transactions, it generates a list of all transactions in a given period, for instance in a week or in a month statements may be requested either manually, as and when needed electronically with mobile banking account statements can be requested via and/or delivered on mobile devices (Cruz *et al*., 2010).

Transaction and balances: - The bank may be instructed to automatically alert the customer via SMS or whenever transactions (credits as well as debits) exceeding a certain amount are performed on the account. In addition, a similar threshold alert may be activated for the balance status of the account. The customer may be informed via SMS whenever the balance falls below certain predefined level. This service may be useful to help the customers avoid unpleasant situations by not being able to honor his commitments (Cruz *et al*., 2010).

Threshold alerts for stock prices:-The bank may be instructed to send an alert on mobile devices, via SMS when prices of some particular stock fall or jump to predefined threshold value and ask for further instructions (Suoranta and Matila, 2004).

Returned check or checque status:-The customer may be informed without time delay if one of his/her deposited cheque has not been honored and corrective steps are required.

Credit card information:-The customer may check anytime and anywhere the current status of his credit cards and the amount that he may utilize at that given point of time.

Branch and ATM locations:-Mobile devices may help findings the nearest branch or ATM affiliated with a bank. The current location of the customer may be determined by positioning the mobile device. This service may be particularly useful while traveling (Crossman, 2011).

Helpline and emergency contact:-Mobile devices may be provided with content that is required in emergency situation for instance to block a lost credit card and cheque book, the information

may be either embedded in the telephone menu, for example in cooperation with a network carrier or the information may be provided on a WAP page analogue to web page.

Information on the completion status of an order:-The bank may use "push" service to inform the customer via his mobile device regarding whether or not his orders could be carried out. This ensures that urgent information can be provided to the customer while on the move.

Product information and offers:-The bank can provide information about its products and new offers to a customer on the move. A customer can "pull" the information that he wishes to access ,on the other hand the bank can "push" the information or offers that the customer has identified as interesting and is willing to receive.

B. Market Information

The term market information as opposed to account information refers to information with a macro scope. This information is not directly related to the customer account. It is generated either externally like exchange rates or Centeral banks interest rate or internally by the individual bank (Tiwari and Stephan, 2007), for example bank specific interest rates. The individual bank customer does not play a direct role in this process. The information may be later sorted out to cater the individual needs and preferences of a particular customer, if so desired by him and subsequently delivered to a mobile device of his choice or a PDA. Information in his category generally concerns foreign exchange rates ,interest rates ,stock market news and reports and commodity prices(for example gold and raw materials).

2.5. Factors influencing the use of Mobile banking

Several theories are offered in order to identify factors that cause people accept new technologies and information system and use them (Rao and Troshani, 2007).The next section presents some of these theories and based on that conceptual framework for this particular study is formulated.

2.5.1. Technology Acceptance Model (TAM)

TAM first introduced by Fred Davis in1989 to predict user acceptance of new technologies. According to (Davis 1989), TAM suggests that perceived usefulness (PU) and perceived ease of use (PEOU) are the two most important factors in explaining individual user's adoption intentions and actual usage. Davis (1989) defines perceived usefulness as the degree to which a

person believes that using a particular system will enhance hi/her job performance, perceived ease of use refers to the degree to which a person believes that using the system will be free of effort. TAM has been extensively tested and validated and is widely accepted model, which can be modified or extended using other theories or constructs according to author in(Masinge ,2010) and its usage has captured the attention of IS community attested by the authors in(Mathieson *et al*., 2001).

Masinge (2010) conducted the study on factors influencing the adoption of mobile banking service at the bottom of pyramid (BOP) in South Africa, and added perceived costs, trust and perceived risk constructs to TAM. The results of the study revealed that perceived usefulness (PU), perceived ease of use (PEOU), perceived cost and customer's trust had a significant effect on the adoption of mobile banking at the BOP, while perceived risk (PR) was found to have no significant effect. As the result this many other models of extension have been suggested o author in (Luarn and Lini,2005),perceived credibility ,perceived financial cost and perceived self-efficacy has been adopted based on the literature as an extension of Technology Acceptance Model(TAM) to investigate and understand the behavioral intention of users of mobile bankers(Luarn and Lin,2005).

Perceived Usefulness

Perceived usefulness is defined as the extent to which an individual believes that he/she would benefit from using mobile banking. Bhatti, 2007; Kim, and Gupta (2007) argued that an individual often evaluates the consequences of their behavior and makes a choice based on the desirability of perceived usefulness, therefore, perceived usefulness will influence the intention to accept and adopt a system. In the context of mobile banking, one of the reason people use mobile banking is that they find the system useful to their transaction and saves their time as well, benefits are also observed by banks in the form of declining the number of branches which reduces the cost per transaction. Perceived usefulness is found to be the most significant factor influencing the intention to use mobile banking, this finding suggest that if mobile banking to be accepted by users, they should perceive it as a useful and quicker way of doing banking transaction compared with the traditional banking system.

(Luarn and Lin 2005) Found that perceived usefulness is a vital factor determining the mobile customer usage, (Wang *et al*., 2003) also agree that most customers choosing mobile services because they see their benefits, on the other hand, Suoranta (2003) support that lack of awareness of its usefulness and benefits realization are important factors which hinder mobile banking acceptance.

Perceived ease of use

Perceived ease of use refers to the degree to which a person that using a particular system would be free from effort (Davis, 1986). According to (Masrom and Hussein , 2008) the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system. According to (Davis, 1989), future research of Information system (System consisting of the network of all communication channels used within an organization) usage has to address the other variables which affect usefulness, ease of use and user acceptance. Consequently these two determinants may not fully explain the factors which predict the acceptance of a technology application such as mobile banking. Prior studies have extended the original TAM with added constructs such as perceived playfulness (Moon and Kim , 2001), perceived enjoyment (Koufaris, 2002), and perceived credibility (Wang *et al*., 2003).

Perceived Self-efficacy: The concept of perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations (Bandura, 1982). The self-efficacy of mobile banking is defined as a judgment of one's ability to use a mobile banking service (Luarn and Lin, 2005). Self-efficacy could include the knowledge, ability and skills needed to use the new Information Technology.

Perceived Cost: The degree to which an individual views that utilizing mobile banking will incur cost is defined as perceived cost (Lurann and Lin , 2005). These costs could typically include the cost of the mobile devise, network charges, and transaction charges for bank costs as well as costs for data sent via the network infrastructure.

2.5.2. Theory of planned behavior (TPB)

The Theory of Planned Behavior is derived from the Theory of Reasoned Action (TRA).TPB added a perceived behavioral control construct to the TRA. (Ajzen, 1991)Argued that behavioral

intention can find expression in behavior only if the behavior in question is under volitional control, (e.g. if the person can decide at will to perform or not to perform the behavior). In many instances behavior would be influenced by non-motivational factors such as availability of resources (Ajzen, 1991). In TPB (Ajzen, 1985) a third factor called perceived behavioral control is added. It suggests that the actual behavior of a person is influenced by behavioral intention, and it is influenced by either attitude, subjective norms or perceived behavioral control, or all the factors mentioned above. Attitude refers to the degree to which the person has a favorable or unfavorable evaluation of the behavior in the study, subjective norm refers to the perceived social pressure to perform or not to perform the behavior while perceived behavioral control refers to the individual's belief in the ease to execute behavior (Ajzen, 1985).

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

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed through consolidation of eight models that previous research had employed to explain IS usage behavior. To develop the theory, (Venkatesh *et al.* , 2003) firstly reviewed user acceptance literature. This review included the previously discussed theories, TRA, and TAM as well as the motivational model, theory of planned behavior (TPB).

This analysis illustrated that seven constructs appeared to be significant direct determinants of intention or usage (performance expectancy, effort expectancy, and social influence, facilitating conditions, attitude toward using technology, self-efficacy, and anxiety). Of these, (Venkatesh *et al.* , 2003) found that the first four constructs played a significant role as direct determinants of user acceptance and usage behavior. Afterwards, a unified model UTAUT was formulated by integrating different elements across the eight models. Using the original data from the aforementioned theories, the UTAUT model outperformed the eight individual models. A subsequent empirical validation using data gathered from two additional organizations confirmed the theory (Venkatesh, *et al.* , 2003).

2.5.4. Innovation Diffusion theory (IDT)

Rogers(2003) identifies three characteristics of innovations: relative advantage, compatibility and complexity ,adopters have invariably been found to have different perception about these characteristics in comparison with non -adopters .The characteristics of an innovation affects its

rate of adoption, some products catch on immediately, whereas others take a long to gain acceptance. If the innovation is perceived to be better than the existing system (a measure of its relative advantage) is consistent with the need of the potential adopters (a measure of its compatibility) and is easy to understand and use (a measure of complexity) it is more likely that a favorable attitude toward the innovations will be formed (Ching and Ellis, 2004).

Lee *et al*. (2005) found that the perceived relative advantage, compatibility and complexity of the innovation played a key role in the adoption of mobile banking .Therefore this study identifies how these characteristics of innovations influence the adoption of mobile banking in Ethiopia, the remaining parts of this section identifies these characteristics innovations as established in prior studies. Chaipoopirutana, Combs, Chatchawanwan, and Vis (2009) and Lin (2011), claimed that the adoption of mobile banking is complex, as it has the negative relation with the intention to adopt mobile banking.

Rogers (2003) discussed innovation diffusion model's attributes: complexity, compatibility, relative advantage and tradability and found that, relative advantage, compatibility ease of use (opposite of complexity) has a significant effect on attitude to adopt mobile banking service, also suggested that, compatibility has a positive relationship with the adoption of mobile banking. Customers have a favorable attitude towards mobile banking services, if they have positive belief about the relative advantage of mobile banking. On the other hand, (Lee *et al*., 2005) performed eight interviews to collect transcripts from participants and conducted that relative advantage and compatibility were positive factors affecting the adoption of mobile banking.

Relative advantage: describes the degree to which an innovation is perceived as being better than its precursor (Rogers, 1983) .According to (Kotler, 2000) when individuals pass through the innovation-decision process, they are motivated to seek information in order to decrease uncertainty about the relative advantage of an innovation. Potential adopters want to know the degree to which a new idea is better than an existing practice. Hence relative advantage is often the content of network messages with regard to an innovation. Relative advantage, in one sense, indicates the strength of the reward or punishment resulting from the adoption of an innovation. There are a number of sub-dimensions of relative advantage such as the degree of economic profitability; decrease in discomfort; time saving; and effort (Rogers, 1983). This construct is similar to the perceived usefulness in the Technology Acceptance Model, defined as the degree

to which a person believes that a particular information technology would enhance his or her job performance.

Compatibility: is defined as the degree to which an innovation is perceived as being consistent with the existing values, past experiences and the needs of potential adopters. An innovation can be compatible or incompatible with socio-cultural values and beliefs; with previously introduced ideas; or with client needs for innovations (Rogers, 1983).The compatibility of an innovation, as perceived by members of a social system, is positively related to its rate of adoption (Rogers, 1983). The term compatibility refers to the fact that an innovation is more likely to be adopted when it is compatible with an individual's job responsibilities and value system (Agarwal and Prasad, 1998).

Complexity: is defined as the degree to which an innovation is perceived to be easy to understand and use. Adoption will be less likely if the innovation is perceived as being complex or difficult to use (Rogers, 1983). Complexity can be considered as the exact opposite of ease of use in the Technology Acceptance model, which has been found to directly impact the adoption of the Internet (Leaderer *et al*., 1999).Consumers will reject an innovation if it is very complex and not user friendly. In this context, (Cooper and Zmud , 1997) reports ease of use of innovative products or services as one of the three important characteristics for adoption from the customer's perspective. Several researches on mobile banking adoption have combined Technology Acceptance Model and Diffusion of Innovation theory (Riquelme and Rios , 2010).

Perceived Trust

According to (Gefen, 2003), trust is defined as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" Trust is important because it helps customers overcome perceptions of uncertainty and risk and helps to build appropriate favorable expectations of performance and other desired benefits. In any business or commerce deal trust is an important element when dealing with technological and information technology enabled system for commerce activities like electronic commerce an mobile commerce then it is important to comprehend about the security and privacy concerns (Howcroft *et al*.,2002 ; Hosien, 2011). Trust can be developed through spreading the right

information and giving customers or users of mobile banking furnished details about the mobile commerce system to ensure the easily manageable use of mobile banking system (Pavlov, 2009).

Perceived Risk

Perceived risk is the "uncertainty about the outcome of the use of the innovation" (Gerrard and Cunningham, 2003).Perceived risk as defined by (Pavlov, 2009), "It is the users subjective expectation of suffering a loss in the pursuit of a desired outcome". On the study conducted by (Masinge, 2010) on the factors influencing the adoption of mobile banking services at the bottom of pyramid (BOP) in South Africa, perceive risk, perceived cost and trust were added to constructs of TAM. In the study, the risk factor as perceived by bank customers in electronic transactions may comprise of five facets of security/privacy risk, performance risk, time/convenience risk, financial risk and social risk. According to (Lee, 2009), performance risk refers to the loss incurred by malfunctioning of mobile banking servers. Time risk refers to the loss of time and any inconvenience incurred due to the delays of receiving payments or difficulty of navigation.

Awareness is the level of information customers have on mobile banking is one of the major factors impacting the adoption and usage of online banking according to the author in (Sathye, 1999). The research further states that the adoption rate of an innovation could be determined by level of awareness of the customers. The use of mobile banking services is new to many customers and the banks need to create enough awareness to capture the attention of the customers.

2.6. Justification of the model used

Many researches on the acceptance of electronic banking service have used Davis, (1989) technology acceptance model (TAM).It is argued that using TAM solely is insufficient to explain the adoption or non -adoption of technologies (Chong et al., 2010). Several researches on mobile banking adoption have combined the diffusion of innovation theory and technology acceptance model Riquelme and Rios (2010).(Puschel et al.,2010) affirm that taken individually the models have limited predictive power but integrating the two into a single framework results into more predictability .In their investigation on mobile banking, (Puschel et al., 2010) have integrated elements of the technology acceptance model(TAM) of Davis with Roger's innovation diffusion

theory.(Chong et al,.2010) affirm that it is better to use TAM as a base model and extend it by including additional variables based on the study that is being carried out. Akturan and Tezcan (2012) have integrated TAM, perceived benefits and perceived risks to investigate mobile banking adoption. Wessels and Drennan (2010) extended TAM by adding compatibility and perceived risk as constructs for their investigations on customer's acceptance of mobile banking adoption. Therefore the study was combined Technology acceptance model (TAM) and Innovation diffusion theory (IDT) along with perceived risk, perceived trust and awareness constructs to investigate factors affecting the adoption of mobile banking in bonga town, but TAM as a base model .As a result for this study the factors affecting the adoption of mobile banking was perceived ease of use, perceived usefulness, perceived trust awareness, perceived risk, compatibility age, gender and income level.

2.7. Empirical Literature

Under this section, the researcher has reviewed various empirical studies related with factors affecting the adoption of mobile banking and summaries as follows:-

Dineshwar and Steven (2013),the researchers investigated the complex factors that prevent customers from adopting and using mobile banking services in Mauritius ,the researcher used quantitative approach, and also combined the TAM and IDT together with perceived risk and cost to construct to investigate perception of mobile banking in Mauritius .The study revealed that, age, gender and salary had no influence on mobile banking adoption but rather convenience, compatibility and banking needs influenced banking adoption, on the other hand, perceived security risk and reliability were found to be the only obstacles to mobile banking usage but also that mobile banking usage is not associated with age, gender and salary. Therefore, recommended that, banks should develop information programmes that focus on creating positive attitudes towards the security aspect of mobile banking.

Laforet and Li (2005) conducted the study on consumer's attitudes toward online and mobile banking in China. The study used purposive sampling techniques which was adapted to a sample of 500 customers who transact their banking business online. Analysis of finding indicated that, lack of understanding and awareness of mobile banking benefits are the main factors hindering the adoption of mobile banking usage in china. Therefore, recommended that banks should create more awareness through personal interaction with customers, develop quality initiatives in

order to build customer's confidence. A study by Sripalawat et al., (2011) examined positive and negative factors affecting mobile banking acceptance in Thailand. Subjective norms, Perceived usefulness, perceived ease of use were considered as positive factors, and device barriers, Perceived risk, lack of information, and perceived financial cost as negative factors. Therefore, banks should emphasize on strategies to enhance benefit perception of mobile banking by taking these factors into account. Cruz et al.,(2010) Studied the factors inhibiting the adoption of mobile banking among internet users in Brazil They identified risk, cost, complexity, and lack of understanding about the relative advantage of these services as the main determining factors of using mobile banking services.

Cheah *et al*., (2011), this was an empirical study that was conducted with the aim of investigation on the factors that affect the Malaysian customers from adopting mobile banking services. From the study factors such as perceived ease of use perceived usefulness and relative advantage were found to be positively and significantly related to the intention to adopt mobile banking service while perceived risk was found to be negatively correlated with the adoption of mobile banking. Koening et al., (2010) conducted the study on barriers toward mobile banking system adoption among young people in Germany. The study was based on technology acceptance model (TAM) they also used structure equation modeling (SEM) approach to test hypothesis. The result revealed that Compatibility, Perceived usefulness and risk are significant indicators for the adoption of mobile banking system in Germany.

Lues (2012) conducted the study on an application of technological acceptance model (TAM) in adoption of mobile banking in Kenya. The study applied technology acceptance model to examine the factors that influence the adoption of mobile banking in Kenya. The survey was conducted to gather data in this study. The study found that perceived ease of use perceived usefulness, perceived self-efficacy and perceived credibility were significantly influenced customers attitude towards the use of mobile banking. Chitungo and Munongo (2015) conducted the study on analysis of the factors that influence mobile banking adoption in the rural Zimbabwe through extending technology acceptance model. The researcher adopted and use of stratified random sampling and the results of the study revealed that perceived usefulness, relative advantage, personal innovativeness and social norms influenced the intention to accept and use mobile banking.

Kazi and Muhammad (2013), Pakistan inspected that factors affect Pakistan customers from adopting mobile banking services. Data collection was done by surveying 372 respondents from the two largest cities (Karachi and Hyderabad) of the province Sindh by use of judgmental sampling method. The researcher used the correlational research design and analysis was done using multiple regressions in order to come up with the finding. TAM model played a big role in this study, variables such as social influence, perceived risk, perceived usefulness and perceived ease of use to study whether they affect the adoption of mobile banking in Pakistan.

As the study of Yang (2005),on ”Exploring factors affecting the adoption of mobile banking in Singapore” using Technology acceptance model (TAM) and suggested that apart from TAM factors there were other key factors that affect adoption of this technology. They were “consumer innovativeness, past adoption behavior, technology cluster adoption, age and gender” .The result also mentioned that men are more favorable adopters of mobile commerce technology as opposed to women. ***Studies related to mobile banking service in Ethiopia***

Haile 2015) conducted the study on factors affecting the adoption of mobile banking in commercial bank of Ethiopia using the unified theory of acceptance and use of technology (UTAUT).the finding of the study showed that performance expectancy, perceived risk, perceived cost, efforts expectancy and trust were the factors affecting the adoption of mobile banking, on the other hand mobile service quality was found to be insignificant in this study. Therefore, recommended that, policy makers should concern on regulation about security issues, the manner in which mobile banking is implemented.

Kalikidan (2016) conducted the study on factors influencing the usage of mobile banking in Ethiopia, this study used technology acceptance model (TAM) and innovation diffusion theory (IDT) by integrating perceived risk, trust and awareness into the established models. The study was conducted based on data gathered from customers of commercial bank of Ethiopia and united bank in Addis Ababa, survey was conducted using questionnaire .The study found that relative advantage, compatibility, perceived trust, perceived usefulness and perceived risk as major influencing factor for mobile banking adoption whereas, perceived ease of use and awareness were found to have insignificant effect on mobile banking usage for bank customers located in Addis Ababa Ethiopia, and finally recommended that banks to consider investing in campaigns and arranging information session to demonstrate the features of mobile banking

services and its benefits over traditional channels. Mulualem (2015) examined factors affecting the adoption of mobile banking on commercial bank of Ethiopia, Addis Ababa branch using technology acceptance model (TAM) with additional variables name perceived risk. The study found that perceived usefulness and perceived ease of use have positive relationship with the adoption of banking but perceived risk has negative relationship with the adoption of mobile banking. Therefore, recommended that, CBE shall deploy reliable network infrastructure and system to insure mobile banking service operate smoothly so that it can reduce the perceived risk by customers regarding mobile banking technology.

2.8. Research Gap

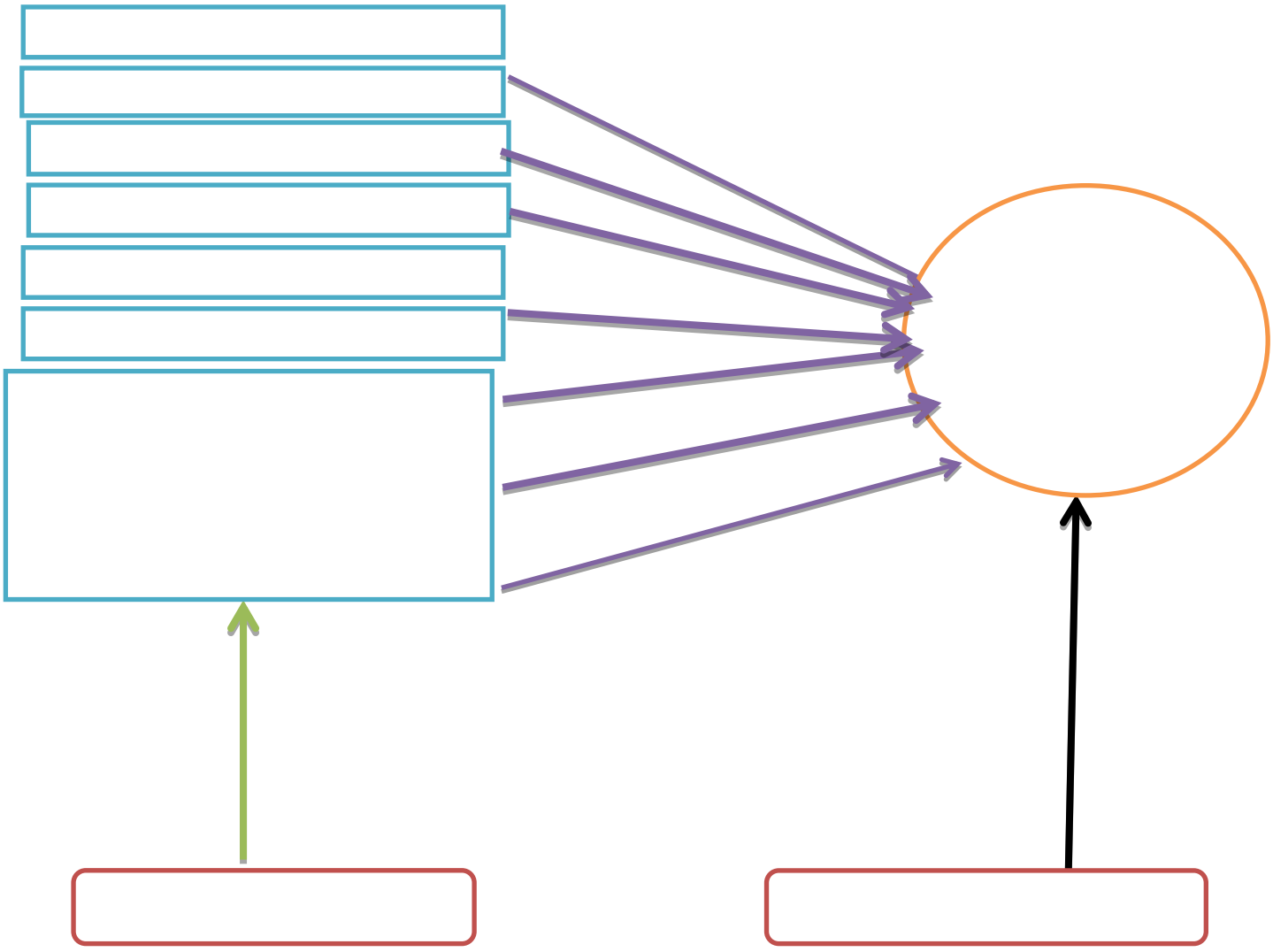
There have been a number of valuable studies in the areas of mobile banking over the years back in North America, Europe, Asia and some from African countries such as Kenya, Ghana, Nigeria and Zimbabwe .Researcher's such as Gerrard, (2003), La foret, (2005),Masinge ,(2010),Teo et al.,(2011), Jabri, (2012),Dineshwar ,(2013) and others presented evidence for a number of variables that influenced customer's behavior intention to use mobile banking, however, being the recent technology to Ethiopian banking industry ,many literatures are not available regarding the topic. The very few literatures available on mobile banking adoption that are conducted only on commercial bank of Ethiopia in Addis Ababa branches by neglecting private banks, the existing researches in Ethiopia include Nebyu ,(2017) carried out the study on factors influencing mobile banking adoption in Addis Ababa ,Worku ,(2017),on determinants of the use of mobile banking services in south Addis Ababa districts, commercial bank of Ethiopia, Kalkidan,(2016) on factors influencing the usage of mobile banking in Addis Ababa, Ayana,(2012) on factors affecting the adoption of mobile banking in Addis Ababa, hence, the outcome of the researches may not be representative and also as per the knowledge of the researcher, still there is no study conducted on this topic under kaffa zone, bonga town, demographic factors (age, gender and income) were not seen as influencing factor of mobile banking adoption in the Ethiopian context so, the researcher filled the gap of the previous research done in Ethiopia by adding this demographic variables as influencing variables with existing variables done by other researchers. Therefore, carrying out this research will help the financial institutions in general and private banks in particular in pinpointing the factors affecting the adoption of mobile banking and also

the study will determine the factors influencing mobile banking adoption in selected private banks in bonga town to provide empirical evidence of this gap.

2.9. Conceptual Framework

Based on the existing theories and ideas in the literature, the researcher formulated an inclusive research framework. This framework illustrates the interaction between the independent variables and the dependent variable.

Figure 1: proposed research model



Source: Compiled by researcher

CHAPTER THRE
3. RESEARCH METHODOLOGY
3.1. Introduction

This section presents the methods which were followed to achieve the research objectives. It highlights the research approach, research design, source of data for the study, sampling techniques and description of data collection tools, and finally the statistical method which was utilized to analyze the data will be discussed.

3.2. Research Design and Approach

Research design is a general blueprint for the collection, measurement and analysis of data with the central goal of solving the research problem (Kothari, 2008).A research design is described as a guide of carrying out a research study and shows the procedure of collecting and analyzing the needed information. It ensures that the study would be relevant to the problem and that it uses economical procedure (John et al., 2007). The general objective of this study is to determine the factors that influence mobile banking adoption in bonga town. The study used a quantitative research approach; it uses statistical methods in describing the patterns of behavior and generalizing finding from the samples to population of interest and employs strategies of inquiry such as experiments and surveys (Creswell, 2003).

In addition, this study was adopted descriptive and explanatory research design, the major purpose of descriptive research is the description of state of affairs as it exists at present, concerning with describing the characteristics of a particular individual or group. The main characteristics of this method are that the researcher has no control over the variables, he/she can only report what has happened or what is happening (Kothari, 2004).Then this study was try to describe and critically determine the factors influencing the adoption of mobile banking technology in bonga own. Explanatory designs try to establish cause and affect relationships. The primary purpose of explanatory research design is to determine how events occur and which ones may influence particular outcome Dawson and Bob (2006). Explanatory studies are characterized by research hypothesis that specify the nature and direction of the relationship between or among variables being studied. Therefore, this study used both descriptive and explanatory method in order to explain the factors influencing mobile banking adoption in bonga town. In addition to this, quantitative research approach is appealing for this study to achieve the

objectives of the study and to test hypothesis because, it contains quantitative component to examine the customer's acceptance and use of mobile banking, the quantitative component was derived from the survey data collected from the customers of selected private banks in Kaffa zone, Bonga town. Therefore, the quantitative approach was applied to analyze the survey data and discover factors affecting the adoption of mobile banking and the relationship between the factors.

3.3. Target population and sampling technique

3.3.1. Target population

In research methods, population is the entire aggregation of items from which samples can be drawn. In this study, the target population was the individual customers of selected private banks who are currently using mobile banking service within Bonga town. The researcher purposively selected four private banks which are, Awash bank, Buna international bank, Wegagen bank and united bank for the purpose of this study because those banks have high number of customers as well as mobile banking users as compared with other private banks in Bonga town. Therefore it is believed that they can represent the other Banks in the town. The customers of each banks who are currently using mobile banking service was the target population for this study, therefore, the target population of this study was 1199 who are using mobile banking services. Mobile banking customers in each bank is listed under table 3.1.

3.3.2. Sampling technique

The population of this study was the customers of 1199 of four selected private banks who are using mobile banking in bonga town, according to half year performance report at December 31,2019.Based on the formula by Yemane (1967) provide simplified formula to calculate the sample size by considering 95% confidence level and p=5% level precision

$$\boldsymbol{n = N/\ (1 + N\ (e)\ 2n = N/\ (1 + N\ (e)\ 2\ = 1199/1 + 1199(0.05)2}$$

$$\boldsymbol{= 299.93 \sim 300}$$ **Where, e=error term**

Therefore, out of 1199 mobile banking users the researcher selected 300 customers randomly as a sample on proportional basis.

Table 3.1 Mobile Banking customers in each bank in Bonga town

Bank	Number of customers	Proportion	Percentage	sample
Awash bank	918	918/1199*300	77%	230
Wegagen bank	148	148/1199*300	12%	37
United bank	67	67/1199*300	5.50%	17
Buna international bank	66	66/1199*300	5.50%	16
Total	1199	1199	100%	300

Source: semi-annual report of each bank under Bonga town at December 31, 2019.

3.4. Data Sources and data collection instruments

In this study both primary and secondary data were used, primary data was collected from the customers of the respective banks through self-administered questionnaires, the secondary data was collected from annual reports used for the study, because these documents are written documents. As a research instrument, self-administered questionnaire was used to gather data from the respective bank customers. The questionnaires were consisted of both open ended and closed ended questionnaires. To ensure the success, the questionnaires are short and precise with questions moving from easy to difficult ones (Kothari, 2004). Data which was relevant to answer the research questions to meet the research objectives were included and a five points likert scale were used. These were, 1=strongly agree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree were used to measure the respondents concerning the variables. For demographic variables nominal scale were used which is simply a system of assigning number symbols to events in order to label them.

3.5. Data collection procedure

The questionnaire was distributed to four selected banks in bonga town. The banks were selected based on purposive (judgmental) non probability sampling as it enabled the researcher to select those banks that have high number of mobile banking subscribers. Then the questionnaire was

distributed to the respondents by using convenience sampling method, because the respondents who are conveniently available to provide information. The respondents were randomly selected in the banking halls by asking whether they use mobile banking or not and invited to complete the questionnaires if they answered that they have used mobile banking services.

3.6. Methods of data analysis

After collection of the data but, before preceding to analysis the collected data was checked for its reliability and normality test using cronbach's alpha. Descriptive statistics such as frequency distribution was used to assess the demographic profile of the respondents to make the analysis more meaningful, clear and understandable. Accordingly, the relevant data was obtained the standard from using tables, frequencies and percentage to analyze and interpret the information. In this study, in order to test the influence of independent variables on dependent variable which is mobile banking adoption, binary logistic regression analysis was used due to the nature of the dependent variable which is binary/dichotomous: 0-not actively using mobile banking and 1-actively using mobile banking, because, the target population for this were only mobile banking users. The analysis of data with the help of statistical software called statistical package for social sciences (SPSS) version 23.

3.7. Model specification of logistic regression model

The construction of qualitative choice models in which the dependent variable takes on a dichotomous or polychotomous character, have been applied to economic, business and marketing analysis (Greene, 2003). Generally, the purpose of Qualitative choice models determine the probability (or likelihood) that a decision-maker, with a given set of attributes, makes one choice rather than the alternative (Liao, 1994). Bartoloni and Baussola (2001) use a logit analysis to explain technological diffusion, whether or not a firm introduces new process (or product innovations).

Amemiya (1981) suggested that using qualitative choice modeling in economic and behavioral research has become more important because of the existence of many discrete variables. Ennew and Binks (1996) use a logit model to identify factors affecting bank customer retention and defection. Gan et al. (2006) apply a logit analysis to examine the consumers' choice of banking channels in New Zealand.

In this study, whether an individual chooses to adopt (actively use mobile banking) or not adopt (not actively use mobile banking) falls into the realm of qualitative choice. Qualitative choice models are used to compute probability of choices being made, and they attempt to relate the probability of making a particular choice to various explanatory factors (Sellar et al, 1982).Probabilities have to be between zero and one. Using linear probability model and ordinary least squares (OLS) is not preferable due to the return of probabilities outside the unit interval (Stynes and Peterson, 1984). In addition, the use of a linear probability model causes heteroscedastic errors and as a consequence, t-tests of significance are not valid (Miller and Hay, 1981). Therefore, it is preferable to use logistic regression.

Logistic regression is statistical method for analyzing a data set in which there are one or more independent variables that determine an outcome. In binary logistic regression the dependent variable is binary or dichotomous .Therefore binary logistic regression model was used for this study because, the dependent variable is dichotomous and measured by actively using/not actively using mobile banking because the target population for this study were only mobile banking users. In this case, the dependent variable is binary; it contains only data coded as 1, or simple 0. Based on theoretical review and empirical considerations the following model would specify by using logistic regression model. The mathematical or functional expression of the model is given as follows;

$$\text{Ln}\left(\frac{p}{1-p}\right) = \boldsymbol{\beta o} + \boldsymbol{\beta_1 X_1} + \boldsymbol{\beta_2 X_2} + \boldsymbol{\beta\_3\ X\_3} + \ldots\ldots\ldots + \boldsymbol{\beta_p X_p} + \varepsilon$$

$$\text{Ln(ODDs)} = \mathbf{ln}\left(\frac{p}{1-p}\right) = \beta 0 + \beta\ 1\ \text{PU} + \beta 2\ \text{PEU} + \beta 3\text{PT} + \beta 4\ \text{CA} + \beta 5\text{PR} + \beta 6\text{CM} + \beta 7\text{CAG} + \beta 8\text{CG} + \beta 9\text{IR} + \varepsilon$$

Where, P is the probability of customers actively using mobile banking technology, 1-P is the probability of customers not actively using mobile banking technology,

PU=Perceived usefulness

PEU=Perceived ease of use

PT= Perceived Trust

CA=Customer awareness

PR=Perceived risk

CM=Compatibility

CAG= Customer's Age

CG= Customer's Gender

RIL= Respondents Income level

ε = error term

Definition of variables

Dependent variable-Mobile banking adoption

Perceived usefulness: - is the extent to which an individual believes that he or she would benefit from using mobile banking (Davis, 1986).In this study minimizing number of customers who come to the bank hall and accessing the bank account with no time limit are the predictors of perceived usefulness .

Perceived ease of use:-is the degree to which a person believes that using a particular system would be free of effort (Davis, 1986).The predictors for perceive ease of use applied in this study are guidelines provide by the bank, how simple is the registration process and how easy is learning mobile banking .

Perceived Trust:- is defined as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" Trust is important because it helps customers overcome perceptions of uncertainty and risk and helps to build appropriate favorable expectations of performance and other desired benefits (Gefen, 2003

Awareness:- is the level of information customers have on mobile banking is one of the major factors impacting the adoption and usage of online banking according to the author (sathye,1999). The research further states that the adoption rate of an innovation could be determined by level of awareness of the customers

Perceived Risk

Perceived risk is the “uncertainty about the outcome of the use of the innovation” Gerrard and Cunningham (2003).Perceived risk as defined by (Pavlov, 2009), “It is the user’s subjective expectation of suffering a loss in the pursuit of a desired outcome”.

Compatibility: an innovation can be compatible or incompatible with socio-cultural values and beliefs with previously introduced ideas or with client needs for innovations (Rogers, 1983).The compatibility of an innovation, as perceived by members of a social system, is positively related to its rate of adoption (Rogers, 1983

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATION

4.1. Introduction

In this chapter the data collected from the respondents is analyzed by using binary logistic regression analysis. The results are presented and discussed as per to achieve the pre-established research objectives. In order to determine the factors influencing the adoption of mobile banking technology, primary data was collected from the selected sample respondents through self-administered questionnaires, a total of 300 questionnaires were distributed to the customers of selected private banks in Bonga town, out of this questionnaires 295 were filled properly and returned.

4.2. Reliability Analysis

Before analyzing the collected data the reliability of the main items of questionnaires was tested by using cronbach's alpha. Higher alpha coefficient indicates higher scale reliability. Specifically George and Mallery (2003) suggested that the scales with 0.60 alpha coefficients and above are considered to be acceptable.

Table 4.1. Reliability test (Cronbach's alpha)

	Alpha coefficients
Perceived ease of use	0.623
Perceived usefulness	0.734
Perceived trust	0.732
Awareness	0.662
Perceived risk	0.767
Compatibility	0.732
Total reliability	0.80

Source: Analysis of survey data, SPSS Ver23.

4.3. Descriptive Analysis

This study adopted descriptive and explanatory research design, the purpose of descriptive research is the description of state of affairs as it exists at present, concerning with describing the characteristics of a particular individual or group. The main characteristics of this method are that the researcher has no control over the variables, he/she can only report what has happened or what is happening (Kothari, 2004).Therefore, the output for demographic Variables using descriptive analysis is presented hereunder .

Table 4.2.Respondents sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	241	81.7	81.7	81.7
	Female	54	18.3	18.3	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23**.**

As indicated in the above table 4.1, 241 of the respondents were male which represents 81.7% of the total respondents, while 54 were female which represents 18.3% of the total respondents. This result indicated that, both males and females were represented in the sample for this study, but the majority of the respondents were males. This output revealed that there is higher percentage of males than females. This represents there is a difference between male and female in the adoption of mobile banking

Table 4.3.Respondents age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<25	88	29.8	29.8	29.8
	25-35	159	53.9	53.9	83.7
	35-45	46	15.6	15.6	99.3

	>45	2	.7	.7	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23**.**

As it was displayed in the above table 4.2, (88) 29.8% of the respondents were less than 25 years, (159) 53.9% of the respondents were between 25 and 35 years, (46) 15.6% of the respondents were between 35 and 45 years, while (2) 0.7% of the respondents were above 45 years. This output revealed that, most of private bank customers are potential workforce between the age group 25 and 35 years and the segment will be a potential target market of the mobile banking service channel. It has been suggested that the adopters of technology based services are relatively young.

Table 4.4.Educational level of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school completers	22	7.5	7.5	7.5
	Diploma	59	20.0	20.0	27.5
	First degree	121	41.0	41.0	68.5
	Masters and above	93	31.5	31.5	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23**.**

As indicated in the table 4.3, (22)7.5% of the respondents replied that, they are high school completers, (59)20% of the respondents indicated that they have diploma, (121)41% of the respondents indicated that they have first degree and (93)31.5% of the respondents indicated that they have master's degree and above education. Then the output revealed that, the majority of the respondents were educated.

Table 4.5. Occupation of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	government employee	17	5.8	5.8	5.8
	private employee	194	65.8	65.8	71.5
	Other	84	28.5	28.5	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

As indicated in the above table 4.4, the majority of the respondents were private employees with 65.8% of the total respondents and 5.8% of the respondents were government employees, while 28 % of the respondents were others.

Table 4.6.Martial status of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	92	31.2	31.2	31.2
	Married	195	66.1	66.1	97.3
	Divorce	5	1.7	1.7	99.0
	widow/widowed	3	1.0	1.0	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

The above table shows that, 31.2% of the respondents were single, 66.1% of the respondents were married, 1.7% of the respondents were divorced and 1% of the respondents were widow/widower. This shows that, majority of the respondents were married.

Table 4.7.Monthly income of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<3001	40	13.6	13.6	13.6
	3001-6000	96	32.5	32.5	46.1
	6001-10000	84	28.5	28.5	74.6
	>10000	75	25.4	25.4	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

From the sample respondents, 13.6% of the respondents indicated that they have earned below 3000 birr, 32.2% indicated that they have monthly income between 3001 and 6000 birr, 28.5% replied that, they have earned between 6001 and 10000 birr whereas, 25.4% indicated that they have earned above 10000 birr. The data revealed that majority of saving account holders monthly income level falls between 3001 and 6000 birr.

Table 4.8. Do you actively use mobile banking service provided by your bank?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	27	9.2	9.2	9.2
	Yes	268	90.5	90.5	99.7
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

The above table 4.8 shows that, from total respondents 268(90.8%) of the respondents replied that they are actively using mobile banking whereas 27(9.2%) of the respondents replied that they are not actively using mobile banking. These outputs revealed that majority of the respondents (customers) are active users of mobile banking.

Table 4.9.Please indicate your bank

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	united bank	12	4.1	4.1	4.1
	awash bank	230	78.0	78.0	82.0
	buna international bank	16	5.4	5.4	87.5
	wegagen bank	37	12.5	12.5	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

The researcher purposively selected four private banks which are awash bank, Buna international bank, Wegagen bank and united bank for the purpose of this study; the banks were selected based on purposive (judgmental) sampling techniques as it enabled the researcher to select those banks that have high number of mobile subscribers. Among those banks Awash bank have high number of mobile banking users compared with other private banks in Bonga town which are (918) in number followed by Wegagen bank (148), united bank (67), and buna international bank (66) respectively. Since, the total population for this study were the users of mobile banking from each bank (1199), and 300 respondents were selected from each bank as a sample on proportional basis. Therefore, as shown in the above table, majority of the respondents are the customers of awash bank which constituted 78% followed by wegagen bank 12.5%, buna international bank 5.4% and united bank 4.1% respectively.

Table 4.10. Are service charges for mobile banking fair?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	42	14.2	14.2	14.2
	Yes	253	85.8	85.8	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

With regard to service charges for mobile banking as shown in the above table 4.9 253(85.8) of the sample respondents replied that the service charge for mobile banking is fair. On the other hand 42(14.2%) of the respondents replied that, service charge for mobile banking is not fair. Currently because of Covid19 most banks have removed service charges on all electronic banking outlets.

Table 4.11.which one is the main reason for you to use mobile banking?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	better information	17	5.8	5.8	5.8
	24 hour service	215	72.9	72.9	78.6
	simplification process	55	18.6	18.6	97.3
	Other	8	2.7	2.7	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

As indicated in the above table, 215(72.9 %) of the respondents replied that the reason they use mobile banking for its 24 hour service, 55 (18.6 %) replied that they use mobile banking for its simplification process, 17 (5.8 %) of the respondents replied that they use mobile banking for its better information and 8(2.7 %) for other reason that they were explained in open ended question

including ,using mobile banking would save time, energy or money that incurred for transport as compared with other banking activities. These outputs revealed that, majority of the respondents are using mobile banking for its 24 hour service.

Table 4.12.Are you satisfied with the use of mobile banking?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	31	10.5	10.5	10.5
	Yes	264	89.5	89.5	100.0
	Total	295	100.0	100.0	

Source: Analysis of survey data, SPSS Ver23.

With regard to satisfaction level of using mobile banking 264 (89. 5%) the respondents replied that they were satisfied with using mobile banking and 31 (10.5%) of the respondents replied that they were not satisfied with using mobile banking.

4.4. Inferential Analysis

The Binary Logistic Regression Outputs

In order to examine the relationship between explanatory variables and the adoption of mobile banking, binary logistic regression is used. Because the nature of dependent variable is dichotomous (0-not actively using mobile banking and 1-actively using mobile banking because, the target population for this study were only the users of mobile banking service. Therefore, Binary logistic regression is employed to predict the adoption of mobile banking based on customer's demographic characteristics and the adoption of mobile banking related factors. The demographic variables were gender, age, and monthly income, and adoption of mobile banking related factors such as perceived ease of use, perceived usefulness, perceived trust, awareness, perceived risk and compatibility. The regression was run using the „natural log of odds" as the link function as follows:

$$\mathbf{Ln}\left(\frac{p}{1-p}\right) = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots\ldots + \beta_p X_p + \varepsilon$$

Where, P is the probability of customers actively using mobile banking technology coded as "1", 1-P is the probability of customers not actively using mobile banking technology coded as „0". Running the binary logistic regression using IBM SPSS version 23 provides the outputs presented as follows in three sections. The first section presents tests of the model quality and fitness and the model summary. The second section presents the results of the logistic regression for demographic variables and the third section presents the results of the logistic regression for adoption of mobile banking related factors. The logistic regression estimated the marginal effects of each of the explanatory variables along with the respective statistical tests of significance.

4.4.1. Model summary and Model fitness tests

a. Multi collinearity tests

Even though logistic regression does not make many of the assumptions unlike linear regression, multi-collinearity if any can still be a problem. Field, (2009) noted that logistic regression result can be biased due to the effect of collinearity among the predictor variables. Hence it is essential to make sure that there is no strong collinearity among the predictor variables. The SPSS does not have option for testing multicollinearity for logistic regression. However, Field, (2009) suggested that it is possible to obtain statistics such as the tolerance and Variance inflation factor (VIF) by simply running a linear regression analysis using the same outcome and predictors. It is due to the fact that tests of multicollinearity examine only the explanatory variables; hence they are independent of the type of regression model employed. Multicollinearity was diagnosed through such procedure. To diagnose the presence of multicollinearity in the logit model the tolerance test or variance inflecting factor (VIF) was performed it shows how much of the variability of the specified independent variable is not explained by the other independent variables in the model. Table 4.20 and 4.21 in the appendix shows that all the observed tolerance values are greater than 0.10 and VIF are less than 10 indicating that there is no problem of multicollinearity in the logistic regression model.

b. Omnibus Tests of Model Coefficients and Model Summary

A comparison test of the full model containing all the predictor variables and the null model containing only the intercept was done. The Omnibus Tests of Model Coefficients gives an overall indication of how well the model performed (Pallant, 2011). This is referred to as a

„goodness-of-fit" test. Therefore, Omnibus test is applied to check the overall significance of the independent variables in the model, as a result the chi square is 150.014 which means statistically significant at 5% the level of significance.

Table 4.13: Table Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	150.014	13	.000
	Block	150.014	13	.000
	Model	150.014	13	.000

Source: SPSSVer.23

The Model Summary table provides the -2Log likelihood (-2LL) and pseudo R2 values for the full model (with predictor variables included). The -2Log likelihood of the model containing all the explanatory variables is 252.052, which is much higher than the -2log likelihood of the null model (150.014). Thus the full model explains more of the variation in mobile banking adoption among respondents as compared to the null model. The Nagelkerke R square shows that independent variables explained approximately 53.6% of the variation in mobile banking adoption. This gives the regression a good fit while remaining 46.4% of the total variation in mobile banking adoption is accounted for by the factors included in the error term.

Table 4.14: Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
252.052[a]	.399	.536

Source: SPSS.Ver2

C. **Hosmer and Lemeshow Goodness of fit Test**

The Hosmer and Lemeshow Test is a commonly used assessment of goodness –of –fit for logistic regression models. The true logistic regression model was fit to the data when Hosmer – Lemeshow test p-value is >0.05 (Allison, 2013). So, this model fulfills this test since .142>0.05

Hence, it is possible to conclude that the model is fits the data well, since the p-value of the Hosmer and Lemeshow Test is much higher than 5% level of significance.

Table 4.15.Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	12.202	8	.142

Source: SPSSVer.23.

d. Classification Table

The classification table shows that the model is able to correctly classify 77.6% of respondents who are customers not actively used mobile banking and 75.2% of those who are customers' actively using mobile banking. Overall, the model correctly classified 76.4% of respondents. The classification table greater than 50%, this indicates the variable is important in the model or the model is fit the data well.

Table 4.16: Classification Table

Observed		Predicted		
		Mobile banking adoption		
		Not actively used mobile banking	Actively using mobile banking	Percentage Correct
Mobile banking adoption	Not actively used mobile banking	132	38	77.6
	Actively using mobile banking	31	94	75.2
Overall Percentage				76.4

Source: SPSS.Ver23.

Variables in the Equation" table summarizes the importance of the explanatory variables individually whilst controlling for the other explanatory variables in explaining the factors influencing the adoption of mobile banking technology in selected private banks in Bonga town. The table provides the estimated coefficient (B) of the predictor variables and the constant, the

associated standard error of the beta coefficients, the Wald statistic (to test the statistical significance), the p-value (labeled sig.) and the Odds Ratio (Exp (B)) for each variable.

In the left most column listed are the predictor variables such as gender, age, monthly income, perceived ease of use, perceived usefulness, perceived trust, awareness, perceived risk and compatibility. The column labeled **B** lists down the estimated beta coefficients of the explanatory variables and the constant. The beta coefficient values show the magnitude of the partial effect of each of the predictor variables on the customers‟ using mobile banking technology. The signs of the coefficients indicate the direction of the association between the dependent variable and the predictor variables. Negative signs indicate using mobile banking technology is lower with increased values of the predictor variables; while positive signs indicate using mobile banking technology is higher with increased values of the predictor variables. The column titled S.E. presents the associated standard errors of the estimated beta coefficients. The Wald statistics column presents the test statistics for significance of each of the beta coefficients with 1 degree of freedom for each predictor variable including the constant as presented in the df column.

Listed down in the Sig. column are the p-values of the coefficients which are used to test the significance of the association between the dependent variable and the independent variable. The p-values indicate that all the predictor variables are significant predictors of using mobile banking technology in selected private banks (Table 4.17 and Table 4.18). The column labeled, Exp (B) listed down the respective odds ratio for the predictor variables including the constant. They are the exponentiation of the beta coefficients, to simplify the interpretation of the marginal effects of the predictor variables on the dependent variable. The estimated coefficients show the marginal effect of each of the predictor variables on the „natural log of the odds‟. Therefore, the estimated beta coefficients were exponentiated to see the marginal effect of each of the predictor variables on the odds ratio (odds of using mobile banking). The last most columns show the interval estimate of the true odds ratio of the population at 95% confidence level.

4.4.2. Logistic Regressions Analysis for Demographic Variables

The regression results revealed that gender, and age are statistically significant effect on mobile banking adoption, but monthly income is not statistically significant effect on mobile banking

adoption in selected private banks in Bonga town at 5% level of significance. This shows gender, and age has significant effect on the adoption of mobile banking. The beta coefficient of gender for female customer is negative and significant; indicating the odds of actively using mobile banking is lower for female customers than that of male ones. In other words, the probability of actively using mobile banking is higher for male customer than that of female ones.

The odds ratio for gender indicates that, when holding all other variables constant, a female customer is 0.572 less likely to use mobile banking than male customers. From 295 mobile banking customers only 53 females were active users and the remaining 241 customers were males. This confirms the hypothesis that male use of mobile banking innovations increases the adoption. The finding is in agreement with that of previous research, Yang (2005), Worku (2017) found that males and females differ significantly in several dimensions males exhibiting more positive beliefs and attitudes about E-commerce than females. They suggested that such differences stem from gender roles and socialization processes. As shown in the table below, Gender for female customer has a coefficient of -0.558 with its p value of 0.033. Keeping other variables constant gender has statistically significant effect on the adoption of mobile banking. Therefore, p value which is 0.033<0.05 and hence, the researcher rejected hypothesis.

Table 4.17: logistic regression analysis for demographic variables

Demographic Factors		B	S.E.	Wald	Df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
								Lower	Upper
Gender	Male								
	Female	-.558	.262	4.545	1	.033	.572	.343	.956
Age	<25								
	25-35	.807	.277	8.465	1	.004	2.241	1.301	3.859
	35-45	-.025	.583	.002	1	.966	.976	.311	3.057
	>45	.086	.513	.028	1	.866	1.090	.399	2.980
Monthly income	<3000								
	3001-6000	-.462	.577	.641	1	.424	.630	.203	1.952

	6001-10,000	-.485	.564	.741	1	.389	.615	.204	1.858
	>10,000	-.453	.626	.525	1	.469	.635	.186	2.167
	Constant	.095	.551	.030	1	.863	1.100		

Source: SPSSver.23.

The beta coefficient for age interval found between 25 and 35 is positive and significant at 5% level of significance; this indicates the odds of likely to use mobile banking technology are higher for younger customers as compared to older bank customers. The odds ratio for age interval found between 25 and 35 indicates that, when holding all other variables constant, customers age group between 25 and 35 is 2.241 more likely to use mobile banking than older age groups (>45 years). Therefore, this results shows that, there is a statistically significance effect on mobile banking adoption based on customer's age. As show in the table above, Age interval found between 25 and 35 has a coefficient of 0.807 with its p value of 0.004. This result indicated that, keeping other variables constant Age has statistically significant effect on the adoption of mobile banking. Age has measured by the number of active users of mobile banking for this study, the active users of mobile banking were found between25-35 age interval which are 159 customers in number out of 295 users Therefore, the researcher rejected hypothesis, since p value less than 0.05(0.004<0.05).The findings contradicts with Dineshwar and Steven (2013), discovered that age and gender has no influence on mobile banking adoption.

The hypothesis that higher incomes amongst customers increase the likelihood of adopting mobile banking innovations is not accepted. This is because of the negative β value of each category as we can see from regression table 4.17 above. It is often postulated that customers with higher income levels are no difference to adopt mobile banking products than their counterparts with low income levels As it can show in the table above, Income level found between 3001 and 6000 has a coefficient of -0.462 with p value of 0.424, income level found between 6001 and 10,000 has a coefficient of -0.485with its p value of 0.389, income level greater than 10,000 has a coefficient of -0.453 with p value of 0.469. It can be seen that, keeping other variables constant income has statistically insignificant difference on the adoption of mobile banking, or there is no difference to adopt mobile banking between higher and lower

income in selected private banks in bonga town. That means, being having high or low income doesn't affect the adoption of mobile banking; it is based on the needs of individual customers.

Therefore, there is no reason to reject the hypothesis. Because the p values for each income category were greater than 0.05.This finding contradicts with Worku (2017) discovered that, customers with higher income level are more likely to adopt mobile banking.

Therefore, the final fitted regression model for demographic variables can be:

Ln (ODDs) = $\ln(\frac{p}{1-p})$ =0 .095-.558Sgender+.807Age+$\boldsymbol{\varepsilon}$

Where, P is the probability of customers actively using mobile banking technology, 1-P is the probability of customers not actively using mobile banking technology.

Here the coefficients indicate the partial effect of each of the predictor variable on the odds ratio (ratio of odds of active use of mobile banking to odds not actively using mobile banking). The predictor variables with Exp (B) value of greater than 1.00 such as age group between 25 and 35 has a positive effect on the adoption of mobile banking. On the other hand, predictor variables with Exp (B) value of less than 1.00 have a negative effect on the adoption of mobile banking such as gender (Female category), this shows female customers does not use mobile banking actively as compared to male.

4.4.3. Logistic Regressions Analysis for adoption of mobile banking related factors

Table 4.18 shows the regression results for the adoption of mobile banking related factors in selected private banks at 5% level of significance. The result shows perceived ease of use, perceived usefulness, perceived trust; awareness and compatibility have a positive effect on the adoption of mobile banking, but perceived risk has a negative effect on the adoption of mobile banking.

Table 4.18: Logistic Regressions Analysis for adoption of mobile banking related factors

Mobile Banking Adoption Related Factors	**B**	**S.E.**	**Wald**	**Df**	**Sig.**	**Exp(B)**	**95.0% C.I.for EXP(B)**	
							Lower	**Upper**

Perceived ease of use (PEU)	.702	.248	8.040	1	.005	2.018	1.242	3.279
Perceived usefulness (PU)	.872	.247	12.449	1	.000	2.393	1.474	3.884
Perceived Trust (PT)	.608	.251	5.859	1	.015	1.836	1.123	3.003
Awareness (AW)	.501	.240	4.373	1	.037	1.650	1. 1.0 32	2.639
Perceived risk (PR)	-.705	.332	4.502	1	.034	.494	.257	.948
Compatibility (CM)	.505	.255	3.930	1	.047	1.657	1.006	2.731
Constant	-11.60	2.237	26.919	1	.000	.000		

Source: SPSSver.23.

The result showed that the coefficient β and p-value of Perceived Ease of Use was positive and significant (β = 0.702, p< 0.05 which is 0.005<0.05). As indicated by the β value=0.702 which is significant at 5% level of significance. The results indicate that the level of perceived ease of use is positively related to the likelihood of consumers adopting mobile banking. The odds ratio for perceived ease of use indicates that, the odds of mobile banking usage is increased by 2.018 times due to a one unit change in perceived ease of use , while other things remain constant and it is statistically significant at 95% level of confidence. Therefore, perceived ease of use has a positive effect on the adoption of mobile banking. Hence, the researcher rejected the hypothesis. The finding is consistent with past studies conducted related to adoption of mobile banking services such as, Sripalawat *et al.*, (2011) Mulualem (2015), Kalkidan (2016) ,Work (2015) Lules (2010), Luarn and Lin (2015), and many other previous studies.

The result revealed that perceived usefulness of mobile banking innovations increases the adoption of its services. This is indicated by a significant level of 5% and a beta (β) value of 0.872, which can be observed in logistic regression table (see Table 4.18). This shows that perceived usefulness has a significant and positive effect on the adoption of mobile banking technology. The odds ratio for perceived usefulness indicates that, the odds of mobile banking usage is increased by 2.393 times due to a one unit change in perceived usefulness, while other things remain constant and it is statistically significant at 95% level of confidence. Therefore, this result shows perceived usefulness has a positive effect on the adoption of mobile banking in

selected private banks in bonga town. As perceived usefulness is the gap of this study when comparing the result it is consistent with a study by Cheah *et al*., (2011), Koening et al., (2010),Lues (2012), Kalkidan, (2016) and Mulualem (2015) and other previous studies which were listed on the empirical literatures contradicting with Nebyu(2017) discovered that perceived usefulness has a positive and insignificant effect on the adoption of mobile banking, regarding this variable the paper filled the gap between Nebyu(2017) and others by opposing the finding of Nebyu(2017) and supporting other listed before. Because most customers choose to adopt mobile banking service because they see the benefit they could obtain, convenience, anytime and anywhere accessibility. Therefore, this is the reason for significant relationship between perceived usefulness and mobile banking adoption.

As it is shown in Table 4.18 above, coefficient of Perceived trust is 0.605 which is significant at 5% level of significance with its p value 0.015.It can be seen that, maintaining other explanatory variables constant, perceived trust was found to have positive and significant effect on the adoption of mobile banking The odds ratio for perceived trust indicates that, the odds of mobile banking usage is increased by 1.836 times due to a one unit change in perceived trust, while other things remain constant and it is statistically significant at 95% level of confidence. Therefore, this result indicates perceived trust have a positive effect on the adoption of mobile banking. The greater the level of perceived trust on technology associate with the use of a particular self-service product, the more likely they are to adopt it. Hence, the researcher rejected. The study was in line with previous study by Nebyu (2017), Haile (2015), Ali Quazi and Milind Sathye, (2014). Therefore, it is imperative for stake holders to plan higher security in providing mobile banking services in order to achieve higher consumer acceptance.

As it is shown in Table 4.18 above, coefficient of awareness is 0.501 which is significant at 5% level of significance with its p value 0.037.It can be seen that, maintaining other explanatory variables constant, awareness was found to have positive and significant effect on the adoption of mobile banking The odds ratio for awareness indicates that, the odds of mobile banking usage is increased by 1.650 times due to one unit change in awareness, while other things remain constant and it is statistically significant at 95% level of confidence. The previous study indicates awareness is the level to which an individual can choose to use a system, image is the extent to

which individuals believe the use of a system will increase their social status within a group or how well others perceive them (Venkatesh and Davis, 2000). Therefore, awareness has positive and significant effect on the adoption of mobile banking technology and hence, the researcher rejected the hypothesis. This result can be explained that, majority of customers will adopt mobile banking service when they receive the information about the use of mobile banking from their bank. The result is in line with Laforet and Li (2005), but contradicts with Kalkidan (2016), discovered that awareness has insignificant effect on the usage of mobile banking.

As it is shown in table 4.18, the coefficient of perceived risk is -0.705 which is significant at 5% level of significant with its p value 0.034.It can be seen that, maintaining other explanatory variables constant, perceived risk was found to have negative and significant effect on the adoption of mobile banking. The odds ratio for perceived risk indicates that, the odds of mobile banking usage is decreased by 0.494 times due to a one unit change in perceived risk, while other things remain constant and it is statistically significant at 95% level of confidence. Therefore, this result indicates perceived risk has a negative effect on the adoption of mobile banking in selected private banks in bonga town. The significant negative result could imply that bank customers are not confident in mobile banking services. Customers are safety seekers, and they want to keep away from risks. This is because electronic banking services are in inherently risky environment due to the absence of personal contact, physical product evaluation, warranties, or contracts and the customers usually have difficulties in asking for compensation when transaction error occurs. Thus, this may explain why many customers are hesitant to use mobile banking services. Hence, the researcher failed to reject the hypothesis, since its p value greater than 0.05. This result is in line with many past studies by (Ravichandra D *et al.,(*2016), Sripalawat *et al.,* (2011) , Kalkidan (2016),Hana(2018), Dineshwar and Steven (2013) but contradicts with Koening *et al.,* (2010). This result can be explained that, majority of customers perceived higher risk and uncertainty such loss of their money due to wrong account number or wrong input of amount of money, this discourage the adoption of mobile banking by customers as they are risk averse. Therefore, it is imperative for stake holders to plan higher security in providing mobile banking services in order to achieve higher consumer acceptance.

As it is shown in table 4.18, the coefficient of compatibility is 0.505 which is significant at 5% level of significant with its p value 0.047.It can be seen that, maintaining other explanatory variables constant, compatibility was found to have positive and significant effect on the adoption of mobile banking. The odds ratio for compatibility indicates that, the odds of mobile banking usage is increased by 1.657 times due a one unit change in compatibility, while other things remain constant and it is statistically significant at 95% level of confidence. Therefore, this result shows compatibility has a positive effect on the adoption of mobile banking in selected private banks. Hence, the researcher rejected hypothesis were, since its p value greater than 0.05.This result is in line many past studies by Koening *et al.,* (2010), Kalikidan (2016), Dineshwar and Steven (2013) Lee *et al*. (2005)and many other previous studies found that, compatibility has a positive effect on mobile banking adoption. This result can be explained that, customers perceive mobile banking as consistent with their existing beliefs, values lifestyle and past experience; they are more likely to use this service.

Therefore, the final fitted regression model can be: Ln (ODDs) $= \ln(\frac{p}{1-p}) =$ -11.60+0.702PEU+0.872PU+0.608PT+0.501AW-0.705PR+0.505CM+ $\boldsymbol{\varepsilon}$ Where, P is the probability of customers actively using mobile banking technology, 1-P is the probability of customers not actively using mobile banking technology. Here the coefficients indicate the partial effect of each of the predictor variable on the odds ratio (ratio of odds of active use of mobile banking to odds not using mobile banking actively). The predictor variables with Exp (B) value of greater than 1.00 such as perceived ease use, perceived usefulness, perceived trust, awareness and compatibility have a positive effect on the adoption of mobile banking. On the other hand, predictor variables with Exp (B) value of less than 1.00 have a negative effect on the adoption of mobile banking such as perceived risk has negative effect on the adoption of mobile banking.

Table 4.19. Accept-reject decision in terms of alternate hypothesis

No	Hypothesis	Alternate hypothesis	Regression result
H1	Gender has significant effect on the	Accepted	B= (-558),Ex(B)=0.572,sig.0.033

	adoption of mobile banking		
H2	Age has significant effect on the adoption of mobile banking	Accepted	B=0.807,Ex(B)=2.241,sig.0.004(Age interval between 25 and 35)
H3	Income has insignificant effect on the adoption of mobile banking	Rejected	Between 3001 and 6000 B=(-0.462),Ex(B)=(0.630),sig.0.424,between 6001 and 10,000 B=(-0.485),Ex(B)=0.615,sig.0.389, >10,000,B=-(0.453),Ex(B)=0.635,sig.0.469
H4	Perceived ease of use has positive and significant effect on the adoption of mobile banking	Accepted	B=0.702,Ex(B)=2.018,sig.0.005
H5	Perceived usefulness has significant and positive effect on the adoption of mobile banking	Accepted	B=0.872,EX(B)2.393 ,sig.0.000
H6	Perceived trust has positive and significant effect on the adoption of mobile banking	Accepted	B=0.608 Ex(B)=1.836 ,sig.0.015
H7	Awareness has positive and significant effect on the adoption of mobile banking	Accepted	B=0.501 Ex(B)= 1.650 ,sig.0.037
H8	Perceived risk has negative and significant effect on the adoption of mobile banking	Rejected	B= (-0.705) Ex(B)= 0.494 sig.0,034
H9	Compatibility has positive and significant effect on the adoption of mobile banking	Accepted	B=0.505,Ex(B)=1.657, sig.0.047

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1. Introduction

The purpose of this research is to examine and identify factors that influence the adoption of mobile banking technology by bank customers in selected private banks in Bonga town, specifically on the customers of united bank, Awash bank, Buna international bank and Wegagen bank, those who are currently using mobile banking.

5.2. Conclusion

To achieve the main objectives of this study, the researcher tries to use the combination two basic frame works innovation diffusion (IDT) and Technology acceptance Model (TAM). Perceived ease of use was found to have a significant and positive influence on the adoption of mobile banking. This result suggests that using mobile banking is simple, easy compared with other banking transaction, the customers should perceive it as free of effort. Therefore, one can conclude that people will adopt mobile banking service when the service is easy to use. This is due to the fact that, technology to be adopted needs to be perceived as easy to use by the user as tested by TAM (Davis, 1985). Perceived usefulness was found to have a significant and positive influence on mobile banking adoption. This result suggests that for mobile banking technology to be accepted by users or customers they should perceive it as a useful, better and important way of doing banking transactions as compared with other banking activities (transactions).Therefore it can be concluded that people will adopt mobile banking services when the service is useful and important in performing their banking activities. This is due to the fact that, technology to be adopted needs to be perceived as important and better to use as tested by TAM (Davis, 1985). Perceived trust was found to have a significant and positive effect on mobile banking adoption. This result suggests that people believe mobile banking is secured and their information is kept confidential that they are encouraged to adopt mobile banking. It can be concluded that, the customers feel transactions on mobile banking is secured and privacy is secured, they are encouraged to adopt mobile banking. This is due to the fact that, the technology to be adopted by users if their information is kept confidential as tested by IDT (Gefen, 2003).

Awareness was found to have a significant and positive effect on mobile banking adoption. This result suggests that having awareness about using mobile banking service have a significance and positive influence on mobile banking adoption, this can be concluded that, customers will adopt mobile banking service when they receive the information about the use of mobile banking from their bank as tested by IDT(Sathye,1999). Perceived risk was found to a significant and negative effect on mobile banking adoption. This implies that, if individual's perceived higher risk and uncertainty such as loss of their money due to wrong account number or wrong input of amount of money, this discourages the adoption of mobile banking by customers as they are risk averse as tested by IDT (Pavlov, 2009). Compatibility was also found to have a significant and positive influence on mobile banking adoption, this result suggests that customers perceive mobile banking as consistent with their existing beliefs, values, life style and past experience and the needs of potential users, therefore there is increase in the adoption of mobile banking as tested by IDT(Rogers,1983). With regard to demographic factors, gender and age have significant effect on mobile banking adoption but, monthly income have no significant effect on mobile banking adoption in selected private banks in Bonga town. This result confirms the hypothesis that male use of mobile banking innovations increases the adoption. The finding is in agreement with that of previous studies (Venkatesh & Davis, 2000) who found that males and females differ significantly in several dimensions males exhibiting more positive beliefs and attitudes about E-commerce than females. They suggested that such differences stem from gender roles and socialization processes. With regard to customer's age the active users of mobile banking were between 25 and 35 age interval, this result shows that, most of the customers who are active users of mobile banking were the younger customers compared with adults or older customers. Therefore, this results shows there is a statistical and significance differences in mobile banking usage based on customer's age. Monthly incomes have no significant difference in mobile banking usage in selected private banks in Bonga town. This result indicates that customers with higher income levels have no difference to adopt mobile banking products than their counterparts with low income levels.

5.3. Recommendations

From the six mobile banking related factors (variables) perceived ease of use, perceived usefulness, perceived trust, Awareness and compatibility were found to have a positive and

significance effect on the adoption of mobile banking whereas the only perceived risk were found to have significant and negative effect on the adoption of mobile banking. With regard to demographic factors, age and gender has significant effect on the adoption of mobile banking while monthly income has no effect on the adoption of mobile banking. Therefore, based on the above conclusion, the following recommendations are put forward for banks to improve the adoption of mobile banking for customers in selected private banks in Bonga town.

- Ethio telecom as a service provider and bank management has to work together to ensure the security measures are put in place to safeguard the customers using this technology. This can be achieved by continuously innovate and offer better security reliable applications, designing structured advertisement and staff interaction so as to change the customer's perception with regard to risk and trust.
- Banks should increase customer awareness on mobile banking through increased banking education and online instructions in Bonga town.
- Banking institutions should take the advantage of value adding characteristics of mobile banking in promoting perceived usefulness Bonga town. In addition, they should continue to innovate and invest in mobile banking services which allow users to have more alternative and get more values from mobile banking services.
- Banks should emphasize the benefits in the aspect of cost saving ubiquity, flexibility and mobility by using mobile banking services. Eventually banks might educate users the benefit of using mobile banking service through promotional mix such as advertisement, sales promotion and public relation. In addition Banks should cooperate with telecommunication companies and mobile manufactures to develop easier to use mobile services in Bonga town.
- Banks should design mobile banking products that might need to emphasize their service fits with customer's lifestyle, culture and language in Bonga town.
- Banks should provide education on the benefit of mobile banking services especially for women and Elders in the town.

5.4. Limitations and suggestions for Future Study

Based on the finding and conclusion made in this study there are issues that need further research. Among these, there is the need to conduct the research on why customers are

aware of using mobile banking services but they do not want to use it, the study is restricted only on four private banks in Bonga town, there is the need to carry the study in other private banks, and Micro finance institutions and this study was conducted in Bonga town, future study may conducted in other areas.

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APPENDIX I

JIMMA UNIVERSITY

COLLAGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

Dear Respondents,

The purpose of this questionnaire is to enable me to carry out a research on" Factors influencing the adoption of Mobile banking" for the partial fulfillment of master's degree in accounting and finance. The research mainly focuses on private banks in bonga town, kaffa zone. I would like to assure you that the information you provide will be used only for the purpose of achieving academic award.

Thank you in advance for your kind cooperation and dedicating your time!!

N.B

- Writing your name is not necessary
- Put " √ " for your choice in the box provided

Part A: Demographic factors

1. Gender Male ☐ Female ☐
2. Age <25 ☐ 25-35 ☐ 35-45 ☐ >45 ☐
3. Educational level :High school complete ☐ Diploma ☐ First degree ☐

Masters and above ☐

4. Occupation : Government employee ☐ Private employee ☐ Other ☐
5. Marital status : Single ☐ Married ☐ Divorce ☐ Widowed/widower ☐
6. Monthly income: <3000 ☐ 3001-6000 ☐ 6001-10,000 ☐ >10,000 ☐

Part B: Factors influencing mobile banking adoption

Please indicate the extent to which you agree or disagree with each of the following statements. Tick (√) mark in the table under the options given the number you selected to reflect your rating

Note: 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly agree

No		Rating point				
		1	2	3	4	5
	Perceived ease of use					
1	I think that learning to use mobile banking would be easy					
2	I think that it is easy to use mobile banking to accomplish my tasks					
3	I think it is easy to become skillful at using mobile banking					
4	Overall, I think mobile banking is easy to use					
	Perceived usefulness					
5	I think mobile banking enables one to do banking activity more quickly					
6	I think mobile banking enables one to complete banking activity conveniently					
7	I think mobile banking is useful in conducting banking activities					
	Perceived Trust					

8	I believe that my transactions are secured while using mobile banking					
9	I believe that my privacy is secured while using mobile banking					
10	The bank's mobile banking service is totally trustworthy					
	Awareness					
11	I am aware that my banks offers mobile banking services					
12	I am aware of all various available services on mobile banking					
13	I receive enough information about mobile banking service					
	Perceived risk					
14	Mobile banking may not perform well because of network problem					
15	When transferring money through mobile banking I am afraid that I will lose my money due to different mistakes like using wrong account number, wrong input of the amount of money					
16	I am not confortable of using mobile banking as carrying my phone and my code together will expose me to marauds					
17	Overall using mobile banking is risky					
	Compatibility					
18	Using mobile banking fits well with the way I like to control and manage my banking transactions					
19	I use the current banking services (e.g. phone banking, and internet banking) now because they are already a part of my daily life					

20	I feel confident while using mobile banking through mobile phones					

Part C: Specific questions

21. Do you actively use mobile banking services provided by your bank? Yes ☐ No ☐

22. Please indicate your bank? Wegagen bank ☐ United bank ☐ Awash bank ☐ Buna international bank ☐

23. Are service charges for mobile banking fair? Yes ☐ No ☐

24. Which one is the main reason for you to use mobile banking?

Better information ☐ 24 hour service ☐ Simplification of the process ☐

Other ☐

25. Are you satisfied with the using of mobile banking? Yes ☐ No ☐

Open ended questions

26. What additional benefits have you obtained because of using mobile banking?

27. What additional challenges have you faced while using mobile banking?

28. What suggestions you can give to the development of technology to Ethiopian banking industry in general and your bank in particular?

Thank You for Your Cooperation!!

Appendix II

Table 4.20: Multicollinearity test for demographic variables

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	respondents sex	.989	1.011
	respondents age	.973	1.028
	monthly income of the respondents	.982	1.018

Table 4.21: Multicollinearity test for mobile banking related factors

Model		Collinearity Statistics	
		Tolerance	VIF
	Perceived ease of use (PEU)	.714	1.400
	Perceived usefulness (PU)	.676	1.480
	Perceived Trust (PT)	.493	2.030
	Awareness (AW)	.553	1.808
	Perceived risk (PR)	.650	1.539
	Compatibility (CM)	.545	1.836