FACTORS AFFECTING THE ADOPTION OF E-BANKING IN CASE OF COMMERTIAL BANK OF ETHIOPIA (WOLKITE BRANCH)

Wolkite University

We Strive for Wisdom!

A RESEARCH PROPOSAL SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR BACHELOR OF ARTS DEGREE IN ACCOUNTING

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Abstract

This paper examines the adoption of E-banking in the banking industry concerning the barriers that can influence firms from taking advantage of the E-banking system. The study was conducted based on the data gathered from bank in the Wolkite city, a state-owned bank (commercial bank of Ethiopia).

A quantitative research approach was used to answer the research questions that emerged through reviewing existing literature and the researcher's experiences regarding the E-banking system in a Wolkite city. The study statistically analyzes data obtained from the survey questionnaire. A research framework was developed based on the technology-organization-environment framework and the Technology acceptance model to guide the study.

The study's result indicated that the Ethiopian banking industry faces major barriers to adopting Electronic banking, including technological factors, security risks, and lack of trust. The study also identified perceived ease of use and usefulness as drivers of adopting an E-banking system.

The study suggests a series of measures that could be taken by the banking industry

DECLARATION

I, the undersigned, declare that this study is my original work and has not been presented for a degree program in any other university, and that all sources of materials used for the study have been duly acknowledged.

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List of abbreviations

ATM	Automated teller machine
AVR	Automated voice response
CBE	Commercial bank of Ethiopia
CSFs	Critical success factors
DIT	Diffusion of innovation theory
E-banking	Electronic banking
E-commerce	Electronic commerce
ECX	Ethiopian commodity exchange
EFT	Electronic fund transfer
E-payment	Electronic payment
ICT	Information communication technology
IT	Information technology
NBE	National bank of Ethiopia
PC	Personal computer
PEOU	Perceived ease of use
POS	Point of sale
PIN	Personal identification number
PSBs	Public service banks
PU	Perceived usefulness
SME	Small and Medium enterprise
SMS	Short message service
SPSS	Statistical package for social science
TAM	Technology acceptance model

CHAPTER ONE
INTRODUCTION

1.1 Back ground of the study

The rapidly growing information and communication technology (ICT) is knocking the front-door of every organization in the world, where Ethiopian banks would never be exceptional. In the face of rapid expansion of electronic payment (E-payment) systems throughout the developed and the developing world, Ethiopian's financial sector cannot remain an exception in expanding the use of the system (Gardachew 2010, p.2). Technological innovations play a crucial role in banking industry by creating value for banks and customers, that it enables customers to perform banking transactions without visiting a brick and mortar banking system. On the other hand E-banking has enabled banking institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space (Turban 2008). However, mirroring the development of E-commerce, the adoption and diffusion of electronic banking (E-banking) system is not well developed in Ethiopia. All banks in Ethiopia are too late to move with technological advancement and they should clearly chart out the time schedule for their integration and technological advancement.

As it is stated in different E-banking literature some of the problems related with adoption of E-banking are: Low level of internet penetration and poorly developed telecommunication infrastructure. Lack of suitable legal and regulatory framework for E-commerce and E-payment is another impediment for the adoption of new technology in banking industry. Low literacy rate is a serious impediment for the adoption of E-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-banking, they should not only know how to read and write but also possess basic ICT literacy (Gardachew 2010). But risks related with security issue, lack of competition among local & foreign banks and social awareness on the E-banking system were not addressed.

In order to encourage further E-banking adoption in developing countries, a better understanding of the barriers impacting E-banking adoption is critical (Zhao *et al*. 2008). By gaining an in-depth understanding of the factors and conditions that influence developing country's ability to fully adopt and realize its benefits, strategic implications can be generated for

the researchers and practitioners regarding how to promote the growth of E-banking in the developing countries. However, despite the importance of these adoptions, Limited studies are currently available in developing countries, especially in Ethiopia. Therefore, more studies are still required to understand the relevance of E-banking in the country to identify areas in which the country lags behind that inhibit their E-banking adoption and diffusion. Therefore, to address the current gap in the literature, this study is focusing on the investigation of factors affecting the adoption of E-banking system in three commercial banks in wolkite city and recommend appropriate actions to be taken to promote E-banking system.

1.2. Statement of the problem

When compared with the banking industry operated in developed country, without doubt the banking industry in Ethiopia is underdeveloped and therefore, there is an all immediate need to embark on capacity building arrangements and modernize the banking system by employing the state of the art of technology being used anywhere in the world. With a growing number of import-export businesses, and increased international trades and international relations, the current banking system is short of providing efficient and dependable services (Gardachew 2010). In E-banking system, information is electronically transmitted over wireless communication channels and the internet. These processes raise issues of how users are authenticated, how integrity of data is maintained and importantly the confidentiality of this data. One of the issues raised with adoption of new technology is Perceived risk or uncertainty about the outcome of the use of the innovation (Gerrard & Cunningham 2003) or uncertainty that the use of the innovation is secure. Uncertainty arises from a predictive validity of the attributes (for example functionality and security) that is, how well users of new technology will predict future performance (Cox 1967). Risk is a subjective determined expectation of loss; the greater the expected probability of loss, the higher the risk perceived (Mitchell 1999), and thus the lower the motivation to adopt an innovation (Mitchell 1999).

Even though E-banking has a lot of benefit in delivering service to customers, in Ethiopia customers were missed to enjoy with the technological advancement in banking sector which has been entertained elsewhere in Africa and the rest of the world. This is due to lack of awareness or competition among banking industries. The modern E-banking methods like Automated teller machine (ATM), Debit cards, Credit cards, Tele banking, Internet banking, Mobile banking and

others are new to the Ethiopian banking sectors. E-banking which refers to the use of modern technology that allows customers to access banking services electronically whether it is to withdraw cash, transfer funds, and to pay bills, or to obtain commercial information and advices are not well known in Ethiopia.

Considering the low extent of development of ICT infrastructure in developing countries, when compared with the developed countries E-banking has not really been able to diffuse into society given the low rate of internet access (Banji & Catherine 2004).

Therefore, the current study‘s main area is Factors Affecting Adoption of e-banking: Evidence from commercial bank of Ethiopia (wolkite branch). .There are three reasons for concentrating on this topic: 1) Limited research on e-banking particularly in commercial bank of Ethiopia (wolkite branch). ,

2) Commercial bank of Ethiopia (wolkite branch) with large customer base would be a potentially profitable market for e-banking services that assist the bank at large.

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

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

Mola,(2012) conducted research on E-banking: Opportunities and Challenges of general importers in Addis Ababa. The aim of the study was focused on assessing the current practices, opportunities, and challenges of E-banking in Addis Ababa city particularly on general imports. Singh et al. (2016) conducted research on Consumer acceptance of apparel e-commerce–Ethiopia. The aim of the study was focused on determining the main barriers that prevent the consumers from online apparel product shopping.

Tilahun & Kifle (n.d.), conducted research on E-commerce Framework for Micro and Small Enterprises in Ethiopia. The primary purpose of this study was to develop an e-commerce framework for MSEs in Ethiopia. Hassen & Svensson (2014) conducted research on The Role of E-commerce For the Growth of Small Enterprises in Ethiopia, The paper aim was to define an adoption level of e- commerce in small Ethiopian

enterprises and show that their business requirements and perceived benefits of e-commerce are related to business growth.

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

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

Therefore, as discussed above almost all researchers in Ethiopia explore the factors that influence the adoption of e-commerce were limited in one way or another & didn‘t observe the current big & very critical issue in connection with payment & settlement aspects of e-commerce (i.e. the banking industry), & remain a largely unexplored area, Thus, this study conducted by focusing on the banking industry, that play a pivotal role for the success of ecommerce adoption & it attempts to add something to knowledge gap & to bridge in the literature about e-commerce and shed some light on the adoption of e-banking. Therefore, this study was designed to identify the e-banking adoption situation in commercial bank of Ethiopia (wolkite branch).

This implies that prior research works did not give an emphasis on factor affecting adaptation of e- banking from the view point of commercial bank of Ethiopia (wolkite branch) and in the study area, there has not yet been detail research works made available to e-banking service from the context of commercial bank of Ethiopia (wolkite branch). Moreover, e-banking is a new technology in Ethiopia which needs a lot of effort

and resources to be easily adopted by bank. Hence, in order to help banks improve e-banking adoption, it is necessary to assess factors that affect bank's" to adopt e-banking service channels. Therefore, this research is to probe the adoption E-banking system of the Bank. The bank is not implementing sufficient e-banking services to its users to meet the target plan, so the study will try to identify the root cause of the crack in between deliveries of these advanced e-banking services and attain its e-banking users (target). Finally, to recommend factors of adoption of E-banking system that minimizes the gap. Therefore, the researcher will motivated to fill those aforementioned gaps (focused area gap and contextual gap) and tried to conduct a research by assessing factor affecting adoption of e-banking services in commercial bank of Ethiopia (wolkite branch).

1.3. Objective of the study

General objective

- Identify the factors affecting the adoption of E-banking in case of commercial banks.

Specific objectives

The specific objective of the study is to:

1. Investigate the relationship between technological factor and e-banking
2. Investigate the relationship between environmental factors and e-banking
3. Investigate the relationship between organizational factors and e-banking

1.4. Research Hypothesis

H1; There is significant relationship between Technological Factors and E-banking.

H2; There is significant relationship between Technological Factors and E-banking.

H3; There is significant relationship between Technological Factors and E-banking.

1.5. Significance of the study

The outcomes and results of this research will have potential value to financial institutions, particularly banks to understand the challenges related with adoption of new technology and its advantages in providing service to their customers. In addition, this study expected to help other researchers who will be interested to conduct further study regarding the issue under investigated by providing important information. Finally based on the factors found to be influencing bankers decision on E-banking system, the study may provide recommendations for banks about changes needed to accelerate adoption of the system to deliver service to customers through technological innovation.

1.6. Scope of the study

Initially the study was confined itself to surveying, of the purposely selected banks. Commercial banks were purposely selected it excluded other financial institutions to explore the intent of the study. Those bank were selected from the total population; based on their familiarity with technological innovations in Ethiopia. Any way the purposive sampling procedure decreases the generalizability of findings and this study might not be generalizable to all areas of financial institutions.

1.7 Limitation of the study

When conducting this research work, various problems or limitations could have helped the effectiveness of the study. One of them is the researchers need more experience and skill during my research process. Second, our learning system, i.e., the Modular approach, leads to time constraints. And finally, as we know, we are undergraduate students, so the financial constraint is also listed limitation.

1.8 Organization of the paper

The research paper is divided into five chapters. chapter one presents the introduction part, which contains, back ground of the study, statement of the problem, research questions, objectives of the study, research method adopted, scope & limitations of the study and significance of the research paper.

Chapter two presents the literature review regarding the definition of E-banking, Evolution of E-banking system, frameworks for the research and sets out some empirical studies regarding the issues under investigated. Chapter three presents research methodology, which contains: first introduce research purpose, second the research approach used in the study, third, research design, definition of the target population, measurement instrumentation, method of data collection and finally method of data analysis. The research results and discussion is presented in chapter four. The final part chapter five summarizes the findings, conclude the paper, and forward some recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 theoretical literature

The purpose of this chapter is to review the literature in the area of E-banking adoption and mainly focused on the factors affecting E-banking system adoption. This review of literature establishes a framework, which can guide the study.

The review has six sections. Section 2.1, presents the definition of E-banking followed by the evolution of E-banking system in section 2.2. A review of E-banking in Ethiopia were presented in section 2.3, The literature on factors influencing adoption of E-banking system and two basic frame works used to guide the study were presented in section 2.4, while the empirical studies related with E-banking system is presented in section 2.5. Finally, barriers related to the adoption of e-banking system were presented in section 2.6.

2.1. Definition of E-banking

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

The term of E-banking often refers to online banking/Internet banking which is the use of the Internet as a remote delivery channel for banking services (Furst & Nolle 2002, p.5). With the help of the internet, banking is no longer bound to time or geography. Consumers all over the world have relatively easy access to their accounts 24 hours per day, seven days a week. Another definition of E-banking is that. E-banking is the use of a computer to retrieve and process banking data (statements, transaction details, etc.) and to initiate transactions (payments, transfers, requests for services, etc.) directly with a bank or with other financial service provider remotely via a telecommunications network (Yang 1997, p.2). It should be noted that electronic banking is a bigger platform than just banking via the internet.

E-banking can be also defined as a variety of platforms such as internet banking or (online banking), TV-based banking, mobile phone banking, and PC (personal computer) banking (or offline banking) whereby customers access these services using an intelligent electronic device, like PC, personal digital assistant (PDA), automated teller machine (ATM), point of sale (POS), kiosk, or touch tone telephone (Alagheband 2006, p.11). Different forms of E-banking system were discussed as follows.

1. Automated Teller Machines (ATM) - It is an electronic terminal which gives consumers the opportunity to get banking service at almost any time. To withdraw cash, make deposits or transfer funds between accounts, a consumer needs an ATM card and a personal identification number (PIN).

2. **Point-of-Sale Transfer Terminals (POS) -** The system allows consumers to pay for retail purchase with a check card, a new name for debit card. This card looks like a credit card but with a significant difference. The money for the purchase is transferred immediately from account of debit card holder to the store's account (Malak 2007).

3. Internet / extranet banking- It is an electronic home banking system using web technology in which Bank customers are able to conduct their business transactions with the bank through personal computers.

4. Mobile banking- Mobile banking is a service that enables customers to conduct some banking services such as account inquiry and funds transfer, by using of short text message (SMS).

Banks offer Internet banking in two main ways. An existing bank with physical offices can establish a Web site and offer Internet banking to its customers in addition to its traditional delivery channels. A second alternative is to establish virtual branchless or Internet-only, Bank almost without physical offices. Virtual banks may offer their customers the ability to make deposits and withdraw funds via ATMs or other remote delivery channels owned by other institutions (Furst & Nolle 2002, p.5). In the context of this study E-banking will not considered as only transferring of service by using internet connection rather it considered as multi-channel service provided through ATM, internet banking, Mobile banking (Mod birr system), point sale terminal and telephone banking.

2.2. The evolution of E- banking system

Electronic innovation in banking industry can be traced back to 1970, when the computerization of financial institutions gained momentum (Malak 2007**)**, However; a visible presence of this was evident to the customers since 1980, with the introduction of ATM. Innovative banking has grown since then, aided by technological developments in the telecommunications and information technology industry. The early decade of the 1990s witnessed the emergence of automated voice response (AVR) technology. By using the AVR Technology, banks could offer telephone banking facilities for financial services. With further advancements in technology, banks were able to offer services, through PC owned and operated by costumers at their convenience, through the use of intranet propriety software. The users of these services were, however, mainly corporate customers rather than retail ones (Sohail & shanmugham 2003). The security first network bank was the first Internet banking in the world that was built in 1995 in USA. After that some famous banks introduced their internet banking one after another, such as Citibank and bank of America.

2.3. E-banking system in Ethiopian banking industry

The appearance of E-banking in Ethiopia goes back to the late 2001, when the largest state owned, commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users. In addition to eight ATM Located in Addis Ababa, CBE has had Visa membership since November 14, 2005. But, due to lack of appropriate infrastructure it failed to reap the fruit of its membership. Despite being the pioneer in introducing ATM based payment system and acquired visa membership, As CBE continues to move at a snail's pace in its turnkey solution for Card Based Payment system,(Gardachew 2010)

Table. 2.1. E-Banking services provided by commercial banks.

	Banks	Services
1.	Commercial Bank of Ethiopia(CBE)	Automated teller machine,(ATM) and Telephone bill payments, point of sales terminal(POS),mobile banking

2.4. Factors influencing Banks to adopt E-banking system

Many researchers have been used different frame works in the study of adopting new technological innovation. Among frameworks that have been developed based on the past studies includes, the Technology-organization-Environment framework (TOE) (Tornatzky & Fleischer 1990),which identifies three basic Factors for the adoption of technological innovation, i.e, technological factors, organizational and environmental factors. Technology Acceptance Model(TAM) (Davis, 1989), which posit the two sets of beliefs, i.e., perceived ease of use (PEOU) and perceived usefulness (PU) to determine individual's acceptance of a technology. PEOU refers to the degree to which an individual believes that using a particular system would be free of physical and mental effort, PU on the other hand is related to users' perception of the degree to which using a system will be beneficial (Alsabbagh & Molla 2004).

2.4.1. Technology- organization- Environment (TOE) framework.

TOE framework was proposed by Tornatzky and Fleischer; it is designed for studying the likelihood of adoption success of technology innovations. This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani, *et al*, & Ellis 2009; Chang *et al* 2007, Zhu & Kraemer 2006). According to Tornatzky and Fleischer (1990), technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context, and the external environment. Based on this, the researcher adopt the TOE framework to summarize possible key factors affecting E-banking adoption as shown in Figure 2.1 The *technological factor* refers to adopter's perception of E-banking attributes. Typical characteristics of technology considered in technology adoption studies are based on the assumption of Roger's diffusion of innovation (Rogers 2003), Which include relative advantages (perceived benefits), and relative disadvantages (perceived risks).While the *organizational factor* refers to the organization's characteristics that influence its ability to adopt and use of E-banking system. The *environmental factor* refers to the external environment in which an organization operates and its condition for supporting the development of E-banking services. For each context, various

factors have been identified from the literature but only those that are considered relevant for E-banking adoption are included in the framework.

2.4.1.1. Technological Factors.

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

1. Perceived benefits: - Perceived benefits of E-banking cover both direct and indirect benefits for the banking industry as well as for the consumers. Direct benefits include the savings on operational cost, improved organizational functionality, productivity gain, improved efficiency and increased profitability. Indirect benefits include the opportunity or intangible benefits such as improved customer's satisfaction through improved services, improved banking experience and fulfillment of their changing needs and lifestyle (Lu *et al*. 2005; Kuan &Chau 2001 & Iacovou 1995)

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

2.4.1.2. Organizational Factors.

Organizations are different in their preference to adopt technological innovation (Iacovou 1995 & Grover 1993) influenced by a number of factors, like firm size, top management support and financial and human resources. The key organizational factors for e-banking adoptions included in this study are discussed below.

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

2. Top Management Support

According to Tolbert and Zukar (1983) innovation of IT would be more likely if the political environment within an organization has norms favoring the change. Thus, adopting ecommerce will depend on whether support from top management is available. Top management support has been identified as crucial in the acquisition and diffusion of innovation (Orlikowski, 1993). Top management consists of individuals with power and authority to make strategic decisions; thus, they can develop a clear-cut ecommerce vision and strategy while at the same time sending signals to different parts of the organization about the importance of ecommerce. Given the limited nature of organizational resources and the many competing projects, top management support ensures that an ecommerce innovation project will get the required resources and capabilities. There is a positive effect of leadership support on innovation adoption; Rai and Patnayakuni (1996) found that top management support had a positive effect on CASE tools adoption behavior in IS departments. Ecommerce can potentially influence the organization's competitive position as well as its business relationships, therefore it is important that top management need to get involved in order to gain a good understanding of the issues surrounding ecommerce and mobilize organizational stakeholders (Epstein, 2004).

3. Organizational Competency

The availability of employees with competency for producing new ideas is important for

E-banking adoption (Mohr, 1969) Organizational competency refers to the availability of employees with adequate experience and exposure to information and communication technology and other skills (such as business strategy) that are needed to adequately staff ecommerce projects (Molla & Licker, 2005)

Chwelos et al (2001) stated that the level of management understanding of and support for using IT to achieve organizational objectives may influence the adoption of IT innovation.

Thus, an understanding of ecommerce technologies and business models can facilitate the adoption of e-banking.

4. IT Capability

IT capability refers to the level of IT resources and personnel IT knowledge of an organization (Akbulut, 2002). Access to adequate equipment in the availability of employees with competency for producing new ideas is important for e-banking adoption (Mohr, 1969). Organizational competency refers to the availability of employees with adequate experience and exposure to information and communication technology and other skills (such as business strategy) that are needed to adequately staff ecommerce projects (Molla & Licker, 2005).

Chwelos et al (2001) stated that the level of management understanding of and support for using IT to achieve organizational objectives may influence the adoption of IT innovation. Thus, an understanding of e-banking technologies can facilitate the adoption of e-banking. Organization is a major determinant of the adoption of new technologies (Newcomer and Caudle, 1991).

Cohen & Levinthal (1990) state that an organization's ability to appreciate an innovation, to assimilate it, and apply it to new ways is largely a result of the firms preexisting knowledge in areas relating to the intended innovation.

Adoption of e-banking requires organizations to possess a set of IT-related skills and knowledge (Turban et al., 2004) such as telecommunication knowledge, IT security knowledge, and Internet application environment.

2.4.1.3. Environmental factors.

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

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

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

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

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

4. Government Support:-Government can either directly or indirectly affect the adoption of E-banking in terms of creating a favorable environment and impetus for banking institutions and their customers so that the services can be diffused with the community (Kuan 2001 & Iacovou 1995) 20

2.4.2. Technology Acceptance model (TAM)

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

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

2. Perceived usefulness: - refers to the degree to which an organization that using a particular system would enhance or improve its job performance.

According to Masrom and Hussein (2008) the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system.

TAM was developed to explain and predict particular IT usages. However, this particular Model has been using by many researchers in studying adoption and diffusion of various IT technologies. For this study researcher uses two basic factors of TAM, i.e., perceived ease of use and Perceived usefulness to analyze the perception of users on the adoption of E-banking system in Ethiopia.

The frameworks discussed above have their own advantage and disadvantages based on the nature of the study. In this study, Technology-organization-environment framework and technology acceptance model were used to have a more precise forecast on the factors affecting the adopting E-banking system in three commercial banks.

2.5. Empirical studies related with E-banking adoption

Some related studies are conducted by different researchers in different parts of the world. However, there are limited numbers of studies conducted in Ethiopia on the adoption of technological innovation. Specifically, Gardachew (2010) conducted research on the opportunities and challenges of E-banking in Ethiopia. The aim of his study was focused on analyzing the status of electronic banking in Ethiopia and investigates the main challenges and opportunities of implementing E-banking system. The author conducted a survey on the existing operating style of banks and identifies some challenges of using E-banking system, such as, lack of suitable legal and regulatory frame works for E-commerce and E- payments, political instability in neighboring countries, high rates of illiteracy and absence of financial networks that links different banks. According to Gardachew (2010), Opportunities offered by ICT through e-learning programs and Commitment of the governments on development of ICT infrastructures is considered as drivers of using E-commerce and E-payment systems. Wondwossen and Tsegai (2005) also studied on the challenges and opportunities of E-payments in Ethiopia; their objective was studying of E-payment practices in developing countries, Africa and Ethiopia. The authors employs interview and on site observation to investigate challenges to E-payment in Ethiopia and found that, the main obstacles to the development of E-payments are, lack of customers trust in the initiatives, Unavailability of payment laws and regulations particularly for E-payment, Lack of skilled manpower and Frequent power disruption. According to Wondwossen and Tsegai (2005), an adequate legal structure and security framework could foster the use of E-payments, which is contradicting with the finding of the previous study.

On the other hand the study conducted by Daghfous and Toufaily (2007) on the success and critical factors in adoption of E-banking by Lebanese banks. The research was conducted on the factors that can lead to success the adoption of E-banking and the other factors that can constitute as barrier to its adoption, it focus on the organizational, structural and strategic factors which can accelerate or, on the contrary, slow the adoption of this electronic mode of distribution and communication by the banks, through analyzing the case of the Lebanese market. In order to test the validity of the theoretical framework, structured survey was used, interview questionnaire that was given to E-banking managers or to information technology managers of all the banks on the official list of institutions operating on the Lebanese market, with a total of 57 banks, 31 of them operate internationally and 26 are strictly local were used to gather data. The results of their

study shows that the organizational variables (bank size, functional divisions, technical staff, technical infrastructure, perceived risks, decision makers` international experience and mastery of innovation) are variables which exert significant impact on the adoption of E-banking, among the structural characteristics, the result revealed that internal technological environment of the bank is a very important factor In determining the adoption of E-banking, also the result shows that banks which are developing in the international scale are more likely to adopt E-banking innovations. Finally the result of the study indicated that extent of penetration of E-banking in the growth phase of an emerging market has an important correlation with the improvement of commercial performance.

The other descriptive case study analysis conducted by Khalfan *et al* (2006) on „Factors influencing the adoption of internet banking in Oman, aimed to identify the main potential factors or impediments that are currently inhibiting the incorporation or adoption of E-commerce applications in the Omani Banking sector. Data, used in their study were collected using semi structured interviews and survey questionnaire as well as reviewing some bank documents. The results of their study provide a Pragmatic picture about the adoption of E-Commerce applications in the core financial sector domain of Oman. One of the main findings is that security and data confidentiality issues have been a major barrier. The banking sector was reluctant to use E-commerce applications as they felt that transactions conducted electronically were open to hackers and viruses, which are beyond their control. Lack of top management support is the other inhibiting factor in the adoption of electronic commerce applications as per their finding. Similarly the study of Ghazi and Khalid (2012), found that, the most important barriers for E-business growth are technological issues, such as, security risk, quality of internet and cost of implementation to be the most prominent. The study of Shah *et al.* (2005) on critical success factors (CSF) in E-Banking conducted in United Kingdom, aims to determine the critical issues related to financial sector organizations when they establish businesses online. The survey method was used by researchers which target the financial sector in the UK. The study indicates that Understanding the CSFs in E-banking is important for senior management of banking related organizations, because it would potentially help them improve their strategic planning process. The analysis of the study indicates two major types of statistical analyses were conducted, descriptive statistical analyses and factor analysis. In descriptive analyses, the factors (or variables) were ranked in order of their mean score, the highest score being the most

important and so on. The top six factors in order of importance were: user-friendly website, systems security, support from top management, fast responsive customer service, promotion of electronic commerce within organization, and all time availability of services and rapid delivery of services.

Factor analysis, which was done to group together, related variables to uncover factors (in terms of factor analyses), found the following factors to be critical for the success in E-banking. Issues related to organizational flexibility and speed of services delivery were found to be at the top of the importance list. Issues related to organizational flexibility and speed of services delivery were found to be at the top of the importance list. Business processes and systems integration and enhanced customer services were next in the list of importance. Gerrard *et al.* (2006) in their study in Singapore identify risk to be an important factor for Internet Banking adoption. All respondents who did not use Internet Banking services had a negative perception of the security in Internet Banking. The respondents perceived that there were many security risks when using the internet. They felt the privacy was a concern, feeling all their financial information could be in jeopardy. Risk was one of the two most frequently mentioned factors in their study, "Concern about risk was mentioned by all respondents. An empirical investigation conducted by Sathye (1999) on the adoption of Internet Banking by Australian consumers also identified, security concerns as key factor in internet banking adoption. A report on Internet Banking in Australia finds that, security concerns among banks and customers are keeping both away from Internet Banking" Sathye (1999). According to Sathye (1999) Security was identified as the biggest obstacle in adoption; it was found that 78 percent of personal and 73 percent of business respondents had security concerns when it comes to the use of Internet Banking. Thus, pointing out that personal users have more security concerns than business users. Sathye (1999) further state that, a survey conducted by Thorton Consulting (1996) in USA concluded that 67 percent of banks in the USA felt that security is a key anxiety in Internet Banking adoption. Banks tend to promote their security features in their services using technical terminology. This makes it difficult for normal customers to comprehend and resulting to a squander in the whole promotion.

Similarly the study of Yang (1997) on the, security of electronic banking aimed to identify the challenges that oppose electronic banking which are the concerns of security and privacy of information. The study suggests that solutions to the security issues require the use of software-

based systems or hardware-based systems or a hybrid of the two. These software based solutions involve the use of encryption algorithms, private and public keys, and digital signatures to form software packets known as Secure Electronic Transaction used by MasterCard and Pretty Good Privacy. Hardware-based solutions such as the Smartcard and the Me Chip provide better protection for the confidentiality of personal information. Software-based solutions have the advantage over hardware-based solutions in that they are easy to distribute and are generally less expensive. In Laukkanen (2008) research, risk is considered as the most intense barrier and the greatest concern in the adoption of Internet Banking. However, in this study consumers feel human errors by themselves could cause a threat to their financial services. For example, losing their Personal identification number (PIN) codes and it may get it to the wrong hands and result in crime or theft. "A higher determinant of resistance appears to be the risk related to the individual's perceived ability to use the innovation successfully, i.e. self-efficacy" Laukkanen (2008). Sathye (1999) suggests that banks use positive publicity to its customers to help ease the response from customer on security. One of the major banks in Australia has taken responsibility in undertaking losses for any unauthorized use, with exception of certain circumstances. However, in an empirical investigation in Turkey by Polatoglu & Ekin (2001) states that Internet Banking services introduced by large, well-known and trusted banks, because customer perceived security risk in these banks is assumed to be decreasing significantly. On the other hand the risk factor is a barrier to corporate customers of banks as well. Balachandher *et al.* (2010) have completed a study on the barriers to internet usage on a corporate customer perspective and found that lack of trust on security issue is the main barrier. The study shows that corporate customers only use Internet Banking to a certain extent and feel banks should invest more on security infrastructure and banks should be willing to take full responsibility. These results are similar to the findings of different studies. For example in the study of Booz *et al*. (1997), security concern was the top ranked factor for users not adopting Internet Banking in Latin America. Ram and Sheth (1989) argue that consumer resistance to the innovation is caused by functional barriers and psychological barriers. Functional barriers can be divided into three: the usage barrier, the value barrier and the risk barrier, where as psychological barriers can be divided into tradition barrier and image barrier. According to Ram and Sheth (1989) functional barriers arise when consumers perceive changes would take place when adopting innovation and the psychological barriers are caused by consumer's beliefs. On the other hand Khanfar *et al*

(2006) conducted study on the customer satisfaction with internet banking web site in the Arab Bank. The study identified some factors which can determine customer's satisfaction in the use of internet banking service. Such as; customer supports, security, ease of use, digital products/services, transaction and payment, information content, and innovation. Researchers employ a survey questionnaire to gather data and their results showed that there is a narrow-based satisfaction with internet banking in all factors through a multi-regression; the researchers found out that all factors have an impact on the customer satisfaction, and they have found that the relation was positive.

In this study researcher has identified the main barriers of adopting E-banking in banking industries by using survey in the selected banks.

2.6. Barriers related to the adoption of E-banking

Banks are still lacking behind the online banking channel. According to Pikkarainen *et al*. (2004) the reasons behind banks are not using the online banking service are as follows:

1. The internet connection is very important prerequisite for customers to use online banking services. 2. Before using these online banking services the new users need to learn how to use these internet services.

3. Some non user's complaint that the face to face banking situation is quite different from doing banking online so there are no social dimensions while doing online banking (Mattila 2003).

4. The security issue hinders some customers to use the online banking services.

Mattila (2003) noted that perceived difficulty in using computers combined with the lack of personal service in electronic banking were the main barriers while Sathye (1999) identified the security concerns and lack of awareness about Internet Banking as the main obstacles to non adoption. He pointed that young, educated and wealthy groups of customers were the most relevant customer segments for the rapid development of Internet banking market.

2.7 conceptual framework

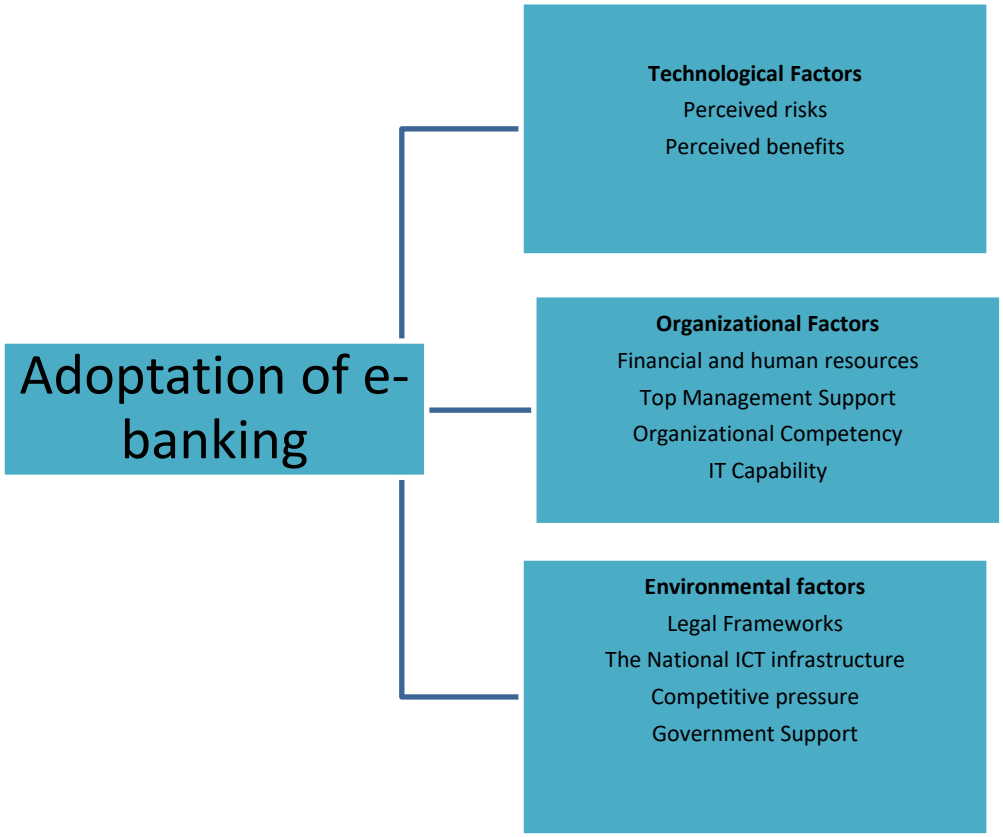


FIGURE 1: CONCEPTUAL FRAMEWORK

CHAPTER THREE:

RESEARCH METHODOLOGY

3.1 Introduction

Designing appropriate research methodology is a prerequisite in order to conduct a good Research work. Accordingly, this chapter was discussed about the methodology by which the researcher was used to conduct this study. Thus, research approach, research design, target population and sampling, measurement and instrumentation, method of collection and method of data analysis are, Presented below respectively.

3.2 Research approach

Research approach is selected by researcher(s) based on the research purpose, the nature of the research, the problem area, and research questions (a). The research approach in this study is chosen based on the purpose and the research questions set out to be addressed. According to Creswell (2003, p.13-15) There are three basic types of research approaches, quantitative, qualitative, and Mixed approach. But we are intended to use quantitative research approach only.

3.2.1. Quantitative research approach

Quantitative research approach will based on the philosophy of post positivism world view. It is also reductionist in that the intent is to reduce the ideas into a small, discrete set of ideas to test, such as the variables that constitute hypotheses and research questions. In addition, quantitative approach uses statistical methods in describing patterns of behavior and generalizing findings from samples to population of interest, and employs strategies of inquiry such as experiments and surveys (Creswell 2003).

In order to achieve the objective of this study and answer the research questions researcher adopts quantitative research approach to examine the factors affecting the adoption of E-banking in case of state owned bank (Commercial bank of Ethisopia, wolkite branch).

3.3 Research Design

This quantitative study will aimed at identifying factors that affecting the adoption of e-banking in case of the selected banks. A questionnaire was developed and pre-tested in order to obtain the information required. The research was used explanatory study.

3.3.1 Survey design

According to Yin (1994), there are five strategies to collect data and get results: experiment, survey, archival analysis, history and case study.

In this study, Survey approach was chosen, because the research questions are focused on: What are the factors to E-banking adoption in case of commercial bank in wolkite city? So the types of questions are in the form of "what".

Since the research questions mainly focus on "what" questions; it is justifiable rationale for conducting an exploratory study and more likely to favor survey than others (Yin, 1989; pp. 17-18). Survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. Its purpose is to generalize from a sample to a population so that inferences can be made and it is also economical and rapid turnaround in data collection (Creswell, 2003; pp.153-154); and this method is important for collecting large amounts of raw data using question and answer formats (Hair *et al.* 2006). Survey had conducted via self-administered questionnaire from the purposely sampled bank staff; because questionnaire is a common place instrument for observing data beyond the physical reach of the observer (Leedy, 1989; pp. 142). The main advantage of survey is its ability to accommodate large sample sizes at relatively low costs, ease of administration and ability to tap in to factors that are not directly observable (Hair *et al.*, 2006).

3.4 target population

For the purpose of this study the researcher designed to approach all available working staffs commercial bank OF Ethiopia (wolkite branch**)**. The data collection method was through administrating questionnaire to E-senior officers, Department managers, and an interview session had been executed with manager department of commercial bank OF Ethiopia (Wolkite branch). But exclude non –clerical staffs

3.4.2 POPULATION SIZE

Studies which cover all the members of population are called "Census" in research terms; population is defined as the totality of cases that confirm to them designated specifications. The study populations were drawn from commercial bank OF Ethiopia professionals who are working in wolkite branch. 26 professional employees are working on the bank.

Their number is convenient to take all of them as respondents; because of this the researcher would use a census survey

3.5 Measurement instrumentation

The questionnaire was divided into two sections. Section I captured basic demographic information of the respondents such as age and educational back ground, Section II captured information about the nature of the factors faced in the adoption and usage of E-banking services and sought to determine the perceived benefits of using E-banking system.

3.6 method of data collection

To undertake this research, the specific methods of data collection used. Survey for the quantitative strategy was used through distributing self-administered questionnaires. Questionnaires were distributed to E-payment professional and staffs of the selected bank. Those respondents were selected because, they are deemed to be knowledgeable about E-banking system and could provide important perspectives on its adoption.

The questionnaires was structured in close-ended type and responses to the questions was measured on a five Likert rating scale where: Strongly Agree (SA) = 1; Agree (A) = 2; Neutral (N) =3, Disagree (D)= 4; and Strongly Disagree (SD) = 5; the use of Likert scale is to make it easier for respondents to answer question in a simple way. In addition, this

research instrument was permit an efficient use of statistics for the interpretation of data. Moreover, the central issue to argue that likert scales is that it produce ordinal data. Johns (2010) noted that in statistical terms the level of measurement of the likert response scale is ordinal rather than interval: that is, we can make assumptions about the order but not the spacing of the response options. Thus, the permissible descriptive statistics that can perform on ordinal data is mean (or average response) and mode (or more frequent responses) (Hole 2011).

3.6.1 Merits of questionnaires

It is good for ensuring attitude and eliciting other content for research participants, inexpensive, can provide information about participant's internal meaning and way of thinking. And also it has a quick turn around and perceived anonymity by respondent may be high**.**

3.6.2 Demerit and mechanism to minimize

When we see the demerits of questionnaire, there may be reactive effect (i.e. respondents t to show what is socially desirable), non-response to selective items. Therefore in order to solve those problems it is necessary to have a continuous checkup of the respondents.

3.7 Data analysis

Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Yin, 1989; pp. 105). The researchers analyze the data collected through survey to statistical population concerning the adoption of E-banking system. The data collected was analyzed using the Statistical Package for Social Sciences (SPSS for Windows version 22). The main statistical analysis was descriptive statistics which was mean and standard deviation that were calculated to examine the respondents' profiles. Furthermore, Test of Pearson moment correlation, and linear regressions were used in this research.

Research Hypothesis

The following hypotheses are developed and will be tested in this study, and they are quoted based on the alternative hypothesis (H_0).

H_{01}: technological factor has no effect on e-banking adoption.

H_{O2}: organizational factors have no effect on e-banking adoption.

H_{03}: environmental factors have no effect on e-banking adoption.

3.8. Model specification

3.8.1. Variables of the study

These are the following variables will use in the study:

Independent Variables

1, Technological factor

2, Organizational factors

3, Environmental factors

Dependent Variable

1, Adoption of e-banking

3.8.2. Research Model

Regression model is

Y= β0+β1X1+β2X2+β3X3 +ei (Error term)

Or we can write the equation in following way using the name of the variables:

Adoption of e- banking = β0+ β1technological factor + β2organizational factor + β3environmental factor+ ei(Error term)

	EXPECTATION	**ACTUAL**
Technological factor	technological factor has no effect on e-banking adoption	**REJECTED**
Organizational factors	technological factor has no effect on e-banking adoption	**ACEPTED**
Environmental factor	technological factor has no effect on e-banking adoption	**ACEPTED**

TABLE 3.8; EXPECTATION AND RESULT

CHAPTER FOUR:

RESULT AND DISCUSSION

In the previous chapter, the overall methodology, which was focused on, research approach, research design, target population and sampling, measurement and instrumentation, method of collection and method of data analysis used in the study, has been presented. On the other hand this chapter presents the results and analysis of data collected via questionnaire.

The remaining part of this chapter is organized as follows. Section.4.1 presents the overview of the chapter and followed by demographic information of the respondents and descriptive statistics in section 4.2, Section 4.3 Correlation and 4.4. Regression.

4.1 Introduction

As it is discussed in the previous chapters, total of 26 questionnaires were distributed to commercial bank staffs, one state owned bank (commercial bank of Ethiopia) 26 Useable questionnaires were obtained (100% response rate).

In order to analyze the research results, Statistical Package for the Social Sciences (SPSS) software is used. SPSS is a computer program used for statistical analysis. SPSS fit with quantitative approach and survey strategy which were adopted in this research; SPSS has many features and properties which can provide appropriate results, these results lead to achieve research purposes.

4.2 Demographic information of the respondents

The study participants on survey questionnaire have different personal information; besides these differences they introduce different responses towards E-banking usage, and the factors that influence E-banking adoption. The following discussion shows these differences. The demographic profile of respondents, participated in this study was shown in table 3.1 as follows.

Table 4.1 respondents' demographic profile

variables	Classifications of variables	frequency	percentage
gender	Male	20	76.9%
	Female	6	23.1%
	Missing	0	100%
age	20-30	7	26.9%
	31-40	11	42.3%
	41-50	5	19.2%
	>50	3	11.5%
	Missing	0	0%
Educational level	Diploma	5	19.2**%**
	Bachelor degree	17	65.4%
	master degree	4	15.4%
	Missing	0	0%
Monthly income	1401-2000	0	0%
	2001-3000	0	0%
	3001-4000	6	23.1%
	Above 4000	20	76.9%
	Missing	0%	0%

Source, survey result

As it is shown on the above table, the highest percentage of participants in this study was males who form 76.9% of respondents. In the case of classification of respondents by age the highest percentage of participants are young (31-40 years old) who form 42.3%of total respondents. Regarding the educational level of the study participants, the highest percentage of them has bachelor degree that form 65.4%of total participants. On the other hand, the highest percentage of participants has monthly income of above 4000 Eth birr; their percentage in participation is 76.9%.

4.2.1. Descriptive Statistics

Table 4.2 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	CV=SD/M
E-banking	26	1.00	2.50	1.7278	.41397	.239593
Technological	26	1.00	4.50	3.2167	.92871	.288715
Organizational	26	2.20	4.20	3.2178	.54576	.1696
Environmental	26	1.56	3.44	2.4815	.47849	.92822
N	26					

Source:SPSS

Mean is the sum of observations divided by the number of observations. It identifies the central location of the data. Standard deviation is the most common measurement of variability, measuring the spread of the data sets and the relationship of the mean to the rest of the data. if the data point are close to the mean, indicating that the response are fairly uniform, the standard deviation will be small. Conversely, if many data points are far from the mean indicating that there is a wide variance in the responses, and the standard deviation will be also large. Coefficient of variation, (calculating how the standard deviation relating to the mean), the closer the coefficient of variation is to 0 (zero), the greater the uniformity of the data. The closer the coefficient variation is to 1(one), the greater the variability of data (SPSS guide book).

In E-banking of a standard deviation of .41397 and a mean of 1.7278 we will see that a coefficient of variation is greater relatively closer to 1 (one), indicates that the data has a greater

deal of variability with respect to the mean and there is no a general consensus among the sample.

In technological factor of a standard deviation of .92871 and a mean of 3.2167 we will see that a coefficient of variation is greater relatively closer to 1 (one), indicates that the data has a greater deal of variability with respect to the mean and there is no a general consensus among the sample.

In organizational factor of a standard deviation of .54576 and a mean of 3.2178 we will see that a coefficient of variation is small relatively closer to 0 (zero), indicates that the data has a greater deal of uniformity with respect to the mean and there is a general consensus among the sample.

In Environmental factor of standard deviation of .47849 and the mean of 2.4815 we will see that a coefficient of variation is rather small, indicates that the data has a greater deal of uniformity with respect to the mean and there is a general consensus among the sample.

In general, organizational factor relatively has a great deal with uniformity among samples with a coefficient variation of .1696 and technological factor has a great deal with variability among samples with a coefficient variation of .288715. This indicates that there is no a general consensus in technological factor and there is a general consensus in organizational factor.

4.3 correlations

In order to reflect the strength of the relationship between the frequencies of dependant variable and independent variables, Pearson correlation was computed. Pearson correlation measures the linear association between variables where the number representing the Pearson correlation is referred to as a correlation coefficient (Hair et al., 2011). According to Kimmel and Oliver (2006), Pearson moment correlation is the most frequently used method of correlation which measures whether the variables have a positive or negative relationship.

Table 4.3 Correlations result table

		E banking	Technological	Organizational	Environmental
Organizational	Pearson Correlation	-.258	.147	1	.373*
Environmental	Pearson Correlation	-.327*	.354*	.373*	1
E banking	Pearson Correlation	1	-.372*	-.258	-.327*
Technological	Pearson Correlation	-.372*	1	.147	.354*

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

Source: SPSS result

4.3.1. Correlation between dependant and independent variable

4.3.1.1 Correlation between E banking and technological factors

The Pearson (r) correlation coefficient shows that there is a significant negative relationship between technological factors and e-banking adoption. This implies that the level of technological factor (perceived risk) is high, customers will not adopt e-banking. This means that higher perceived risk affect the level of e-banking adoption. For example when the security, performance and privacy risks about internet banking transactions are high, the rate of internet banking adoption is likely to be low.

The finding is in line with Ba (2001) who found that when customers feel that an online bank has a poor or bad reputation, they would be discouraged from using that service.

The finding is also in agreement with Culnan and Armstrong (1999) found out that consumers may disclose their private information to web sites only when reliability and credibility are recognized; this subsequently reduces consumers‟ concerns of privacy and security and helps to build online trust toward the web sites.

Further the finding is also in line with Sohail and Shanmugham (2003) who suggests that one of the barriers in the adoption of electronic banking is fear of security risks.

4.3.1.2 Correlation between E-banking and organizational factors

The Pearson (r) correlation coefficient shows that there exists a negative and very weak correlation between organizational factor (financial and human resource) and E-banking.

Previous study shown that , financial resources are an important factor in facilitating innovation adoption for any organization and they are often correlated with the firm size (Kuan 2001 & Iacovou 1995).but this finding shown that organizational factors have very weak negative relationship towards the dependant variable(e-banking adoption).this implies organizational factors have no effect on e-banking adoption.

4.3.1.3 Correlation between E banking and environmental factors

Environmental factor is a factor that deals about the surrounding of the bank. For example, lack of ICT infrastructure. The Pearson (r) correlation coefficient shows that there exists a negative and very weak correlation between environmental factor (lack of ICT infrastructure) and e-banking adoption.

Before analyzing that how environmental factor and e-banking are interrelated to each other, an investigation has been made by the researcher to identify the relation between the two.

Without an adequate development level and quality of a nation's ICT infrastructure, E-banking adoption and use cannot do well (Efendioghu 2004 & Scupola 2003).

Further,Wondwossen and Tsegai (2005) who stated that lack of sufficient telecommunication infrastructure is one of the basic challenges in the development of E-payment in Ethiopia.

But our discussion shows that there is a negative and very weak correlation between environmental factors and e-banking. This implies the adoption of e-banking is less affected by environmental factors.

4.3.2. Correlation between independent variables

As we have seen in the above correlation table, there is appositive and very weak correlation between technological and organizational factors and they are insignificant at .05 levels. When we see the correlation between technological and environmental factors there is a positive and weak correlation and they are insignificant at .05 levels. In addition there is a positive and week correlation between organizational factor and Environmental factor and there correlation is significant at .05 as shown in Pearson's correlation table.

. 4.4 Regressions

The study tries to investigate the relationship between e-banking, as dependent variable, and technological, organizational and environmental factors, as explanatory variables by estimating the cross sectional regression model as shown in the table below.

Table 4.4 regression Coefficients

Model		Standardized Coefficients	T	Sig.
		Beta		
1	(Constant)		7.123	.000
	Technological	-.291	-1.948	.058

	Organizational	-.153	-1.019	.314
	Environmental	-.167	-1.049	.300
R^2		0.51		
N		26		

Source: SPSS result

4.4.1 E-banking and technological factors

As we have discussed in the theoretical literature, technological factor for instance perceived risk, which is One of the important risks faced by banking institutions in offering E-banking services is the customers‟ resistance to use the services which significantly hinder the growth of E-banking (Zhao *et al*. 2008 & Laforet 2005). Issues related to security have always been a concern when dealing with technologies related to online transactions such as E-banking (Chang 2007 & Rogers 2003). Therefore, the perception of the risks regarding E-banking is expected to influence its adoption and further growth.

From the above table we can see that the standardized beta coefficient for technological factor is negative and which is significant at 10 %(t=-1.948, p=.058) level. This implies that the null hypotheses that technological factor has no effect on e-banking is rejected. This implies that technological factors have an effect on e-banking adoption.

4.4.2 E-banking and organizational factors

Previous studies show that organizational factor includes financial and human resource, top management support (Top Management Support According to Tolbert and Zukar (1983) innovation of IT would be more likely if the political environment within an organization has norms favoring the change. Thus, adopting e commerce will depend on whether support from top management is available. Top management support has been identified as crucial in the acquisition and diffusion of innovation (Orlikowski, 1993). Top management consists of individuals with power and authority to make strategic decisions; thus they can develop a clear-cut ecommerce vision and strategy while at the same time sending signals to different parts of the organization about the importance of ecommerce. Given the limited nature of organizational

resources and the many competing projects, top management support ensures that an ecommerce innovation project will get the required resources and capabilities. There is a positive effect of leadership support on innovation adoption; Rai and Patnayakuni (1996) found that top management support had a positive effect on CASE tools adoption behavior in IS departments),organizational competency(The availability of employees with competency for producing new ideas is important for e-banking adoption (Mohr, 1969). Organizational competency refers to the availability of employees with adequate experience and exposure to information and communication technology and other skills (such as business strategy) that are needed to adequately staff ecommerce projects (Molla & Licker, 2005).

Chwelos et al (2001) stated that the level of management understanding of and support for using IT to achieve organizational objectives may influence the adoption of IT innovation. Thus, an understanding of e-banking technologies can facilitate the adoption of e-banking) and IT capability have a positive and significant influence on e-banking adoption. But as we have seen in the above table, the standard beta coefficient for organizational factors is negative and which is insignificant at 10% level (t=-1.019, p=.314).so, the null hypothesis that organizational factors has no effect on e-banking is not rejected or fail to reject. This implies that organizational factors have no effect on e-banking adoption.

4.4.3 E banking and environmental factors

As we have discussed in the theoretical literature, environmental factors which includes, legal frame work (The existence and maturity of E-commerce legal frameworks within a country influence the diffusion of online transactions including E-banking as demonstrated in various studies (Tan & Wu 2002; Martinson & Trappey 2001)), national ICT infrastructure (National ICT infrastructure is a major factor that supports the adoption of E-banking as the case for other E-commerce initiatives. Without an adequate development level and quality of a nation's ICT infrastructure, E-banking adoption and use cannot do well (Efendioghu 2004 & Scupola 2003).), competitive pressure (Competitive pressure can strongly influence any bank to develop and adopt E-banking initiatives and it may affect the bank's perception towards E-banking system. As implied in previous studies (Quaddus & Hofmeyer 2007; Gibbs, Kraemer & Dedrick 2003).) and government support(Government can either directly or indirectly affect the adoption of E-banking in terms of creating a favorable environment and impetus for banking institutions and

their customers so that the services can be diffused with the community (Kuan 2001 & Iacovou 1995)) shows that organizational factor highly affect e-baking adoption. But as we have seen in the above table the standard beta coefficient for environmental factor is negative and which is insignificant at 10%level (-1.049, p=.300).therefore the null hypothesis that environmental factor has no effect on e-banking is not rejected or fail to reject. This implies that environmental factors have no effect on e-banking adoption.

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CHAPTER FIVE

SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATION

The study intended to examine the factors affecting the adoption of E-banking system, through adopting quantitative research approach. On the other hand, the purpose of this chapter is to delineate summary of finding in section 5.1, conclusion in section 5.2 and presents some recommendations forwarded in section 5.3.

5.1 Summary of findings

Guided by the technology-organization–environment (TOE) framework and technology acceptance model (TAM), this study has identified factors that affect and E-banking adoption. TOE, is classified in to three factors to determine barriers for the adoption of E-banking system. The technological barriers, identified in this study were security risk on the technological innovation used by banking industries. The finding identified under technological factor were also consistent with other studies on technology adoption in different countries, Ghazi and Khalid (2012) & Sathye (1999), both of them found that security risk is the major barrier for the adoption of E-banking system.

In the case of organizational and environmental factor, they were not considered as barrier for the adoption of E-banking.

5.2 conclusions

E-Banking has started up new time frame to the current banking organizations. It permits banks to offer their customers with services through the internet to make them achieve their goal with minimal time. This paper studies the relationship between the variables affecting the adoption of e-banking. To achieve the proposed objective two basic frame works were used i.e. Technology-organization-Environment (TOE) and Technology Acceptance Model (TAM). On the other hand quantitative research approach was employed in the study.

It is observed from the study that there is negative relationship between technological factors and e-banking. This implies the higher technological factor, the lower the rate of e-banking adoption. The higher the perceived risk, the lower the rate of e-banking adoption. This is because in the online environment, criminal acts can be performed with extremely high speed, and

without any physical contact. If an unauthorized individual is able to get access to the online banking portfolio of a user, a considerable amount of financial information may be jeopardized and there might be considerable financial losses.

On the other hand the study reveals that there is a negative and insignificant relationship between organizational factors and e-banking adoption. This implies organizational factors have no effect on e-banking adoptions. In addition there is a negative and insignificant relationship between environmental factors and e-banking. This implies environmental factors have no effect on e-banking adoption.

On the other hand, the study reveals that the benefits of technological innovation are well known to the banks and represent a formidable force to drive adoption of the system. In general perceived Ease of use is one of the basic benefits for E-banking, in which it enables bank staff to perform banking activities in a simple way. The other driving force for the adoption of the system is perceived usefulness, in which, it is used for time saving and cost reduction. This and the other benefit identified in the study were considered as a very great potential for banks to improve their public image.

In general, the findings of this study offer additional insights into the current E-banking adoption situation and its implications for E-banking growth in Ethiopia as an example of a developing country. Furthermore, the understanding of the barriers to E-banking adoption identified in this study may help to identify the best course of actions to promote its development. It will also be valuable to all banking industries of the country to increase their awareness and understanding of E-banking benefits.

5.3 Recommendations

E-banking system is a new financial evolution in Ethiopia, but it’s an important issue, because it has a great impact on the whole banking system, at the same time it’s difficult and need a lot of efforts to be adopted and accepted by the banking industry, so it need a lot of efforts to succeed. Based on the above conclusion, the researcher recommends the following points:

- ✓ Commercial banks should ensure security and privacy. Security features should be considered an important issue by banks because e-banking users are more favorably inclined toward using it when they perceive that the information provided during the banking transactions is secure, and third parties will not have access to it.

- ✓ For the successful implementation of E-banking system ICT infrastructure, is a major prerequisite, so government, should support banking sector by investing on ICT infrastructure development.

- ✓ To exploit the benefit of E-banking system, banking industry operated in Ethiopia needs to familiarize their customers with the processes and benefits of the system.

- ✓ Banks should pay special attention to deliver service to customers by using E- banking system, which can easily be accessible.

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APPENDIX: QUESTIONNAIRE

Dear Sir/Madam

This survey instrument is to investigate the ***factors that affect the adoption of E-Banking*.** The purpose of the study is in the fulfillment of Bachelor Degree in Accounting and Finance at Wolkite University.

This questioner constitutes close ended type questions and took only about 15 minutes. Therefore your genuine support in responding to the raised questions has paramount importance for the attainment of the study's objectives. Furthermore, all the information you will provide will kept strictly confidential. Hence we earnestly request you to fill the questioner carefully.

***Thank you in advance for your cooperation*!**

General Instruction

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

Section I: Demographic profile of respondents

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

1. Gender: Male ☐ Female ☐

2. Age: 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐

3. Educational level: Diploma holder ☐ First degree holder ☐ Masters Degree ☐

4. Monthly income (in Eth. Birr): 1401-2000 ☐ 2001- 3000 ☐ 3001-4000 ☐ above 4000 ☐

Section II: Questionnaires related with the factors affecting the adoption of Electronic banking system.

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

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

Part- I *Questionnaires related with factors of adopting E-banking*

The following are some factors the company faces, when adopting E-banking, please indicate level of your choice.		SA	A	N	DA	SD
		1	2	3	4	5
	I. Technological factors (Perceived risk)					
1	Customers of our bank fear risk to use automated teller machine(ATM)					
2	Lack of confidence with the security aspects.					
3	In the case of using mobile banking, ATM and others, security risk affects users decision to use the systems					
4	Customers do not trust the technology provided by the banks					
	II. Organizational factors					
5	Using internet banking increases cost to do banking task					
6	Relatively using of mobile to get banking service is expensive for customers					
7	Lack of sufficient government support will affect customers willingness to use technological innovation					
8	Customers of our bank were not familiar with service provided though ATM, Internet banking, telephone and mobile phone					
9	Lack of technical and managerial skills on the use technological innovation.					
	Lack of skills to implement E-banking					

	system					

	III. Environmental factors					
10	Using internet banking is difficult due to low internet access in the city.					
11	Internet connection was not good enough to perform online transactions in the city.					
12	Lack of available ICT infrastructure					
13	Mobile banking services may not perform well because of network problems					
14	Lack of legal frame works that enforce banking industries to adopt technological innovation					
15	Cross-country legal and regulatory differences will have impact on the adoption of new technological innovation in the banking sector like, ATM, internet banking, mobile banking and Point of sale terminals (POS).					
16	Lack of competition among local bank and foreign banks					
17	Customers may not willing to accept E-banking service					

Any other factors? Please specify below.

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