ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DETERMINANTS OF ADOPTING E-BANKING SERVICE: IN THE CASE OF SOUTH ADDIS ABABA DISTRICT, AWASH BANK CUSTOMERS

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A THESIS SUBITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF GENERAL BUSINESS ADMINISTARTION

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External Examiner_____ **signature and date**_____

Internal Examiner _____**signature and date**_____

<u>Declaration</u>

I, **<u>Bezawit Hailemicheal</u>** declare that this thesis entitled **"DETERMINANTS OF ADOPTING E-BANKING SERVICE: IN THE CASE OF SOUTH ADDIS ABABA DISTRICT, AWASH BANK CUSTOMERS"** submitted in partial fulfillment of the requirements for the Degree of, Master of General Business Administration is outcome of my own effort and study and that all sources of materials used for the study have been duly acknowledged. I have produced it independently with only guidance and suggestion of the thesis Advisor. The study complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Name: Bezawit Hailemicheal

Signature_____

Date_____

ENDORSEMENT

This thesis has been submitted to ST. Mary's university, school of graduate studies, Unit for examination with my approval as a university advisor.

Advisor ———————————————— Signature & Date_____

Contents

Acknowledgements

List of Acronyms

AB   Awash bank

AEB   Adoption of E- banking,

ANOVA   Analysis of Variance

ATM   Automated Teller Machine

E-banking   Electronic Banking

E-commerce   Electronic Commerce

EF   Environmental factor

EFT   Electronic Fund Transfer

E-payment   Electronic Payment

GSM   Global System for Mobile Communication

ICT   Information and Communication Technology

 IT   Information Technology

NBE   National Bank of Ethiopia

OFI   Organizational factor

POS   Point of Sale

S.C   Share Company

SPSS- Statistical Package for Social Scientists

TOF   technological factor

TOS-   trust on the system

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Abstract

Ethiopian banking system is still underdeveloped compared to the rest of the world. In Ethiopia Cash is still the most dominant medium of exchange. This study aims to assess determinants of adopting e-banking service in the case of south Addis Ababa district, awash bank customers.

Qualitative and quantitative research approach was used to answer the research questions that emerge through the review of existing literature with Mixed research design which is, (both descriptive and explanatory research design)

Quantitative data was collected, coded and entered into the computer for analysis using the Statistical Package for Social Sciences., including descriptive statistics, Pearson's correlation analysis, multiple linear regression analysis, model summery and One Way Analysis of Variance (ANOVA).

The study revealed the following major determinant factors in adopting e-banking in the case of south Addis Ababa district awash bank customers; technological factors(perceived risk),from organizational factor, human and financial resources , from environmental factors, national ICT infrastructure, lack of legal and regulatory frame work, lack of government support and lack of completion from foreign banks, from demographical factors, gender, age and education level, and finally lack of awareness and lack of trust on the system are major determinants.

The study recommended banks should launch campaigns to create direct awareness to potential adopters, issues such as fear of the lack of privacy and security, together with relative advantages of using E-banking products and continuously review and upgrade the existing system of security to the level that minimize risk ,while the government should support banking sector by facilitating sufficient ICT infrastructure development and National Bank of Ethiopia, (NBE) needs to urgently establish a comprehensive legal and regulatory frame works on the use of technological innovation.

Keywords: determinant, Adoption, E-Banking

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In order to provide efficient and effective services, Banks currently uses technology, manpower/human resources and other materials as basic inputs to achieve its predetermined goals and objectives. Among those resources, technology is one of a competitive advantage for the banking industry to ease delivery of the intended service, to make timely decision, to exploit resources user friendly, to achieve the objectives of the organization as planned and contribute for the enhancement of the overall development. (Abebe, 2016)

Electronic banking has recently become the way for the development of the banking system, and the role of electronic banking is increasing in many countries. It offers opportunities to create services processes that demand few resources, and therefore, lower cost and provides wider availability and possibility to reach more customers. From the customers' point of view, electronic banking allows customers easier access to financial services and time-saving in managing their finance. The other perceived positive attribute of E-banking includes the 24 hours and 7 days' availability. The new technology however is not without challenges (Born well Kalumba, 2018).

In rapidly changing and highly competitive environment success in the banking industry especially depends on having use of the appropriate technology along with retention of well trained and motivated employees who have the capacity to exploit the Bank's existing technology as well as look for better advancement.

Awash Bank S.C (AB) has already introduced e-banking as one tool to settle down the growing competition by investing on card acceptance network expansion which in fact makes the network to raise to 1500 Automatic Teller Machines (ATMs), 4733 Point of Sale (POS) terminals and number card holders to 767,569 as at June, 2019.Those ATMs are able to accept international cards that generates foreign currency like VISA, MasterCard, Union Pay and other international cards. Moreover, the Bank has recently started Internet Banking, mobile banking (in replacement of the previous Mod birr brand) and mobile banking called 'M wallet', the latter two are targeting more of to welcome the Unbanked societies for

banking business, in accordance with Proclamation No. 718/2011 of "National Payment System Proclamation'' and "Regulation of Mobile and Agent Banking Services'' Directives No. FIS /01/2012 issued by National Bank of Ethiopia (NBE). No. 118, pp 4-5).

This can be cited as one of the key determinates factor that open the door for E-banking business for Banks in Ethiopia as far as the legal frame work is concerned. Bank Supervision Directorate underscored that NBE believes that it is not only possible but necessary to take advantage of new developments and innovation in technology, infrastructure and distribution networks to deliver financial service cost effectively, which is easily accessible to the public (Birritu Magazine, 2015 No.119, p 5).

Several reviews have pointed determinate in the adoption of E- banking, some of which include: 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).

Application of technology in Banking offer opportunity for reduction of both Paper and people. Banks have developed Electronic Banking service (EBS) for three main reasons according to Horseman (1979), cited in Mohammad (n.d, p. 3)
  ➢ To protect and increase market share
  ➢ To reduce operating cost by substituting physical capital and technology for labor
  ➢ To generate new revenue

In order to encourage further E-banking adoption in developing countries, a better understanding of determinants E-banking adoption is critical (Zhao et al., 2008).

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).

According to Jensen (2003), most countries in Africa, except South Africa, have Internet infrastructure only in their major cities.

There are limited studies currently available in Ethiopia about EBS which includes ATM, Debit card, Tele banking, internet banking, mobile banking, Agent Banking and so on. Therefore, to address the current gap in the literature, this study is designed to assess the determinants of E-banking adoption in the case of south Addis Ababa customers in awash bank. The research will elaborate in more detail and recommends possible ways that shows its determinants in the adoption of EBS specifically to AB. It will also draw inferences in this regard by using questionnaires distributed to AB clerical staff of EB, Information Technology (IT) department and south Addis Ababa district customer's r interviews and review of some documents.

AB is a privately owned share company established on February 13, 1995 by obtaining license from the NBE to undertake commercial Banking activities and started normal business activities on January 1, 1996.It is registered as a public share holding Company in accordance with the provision of the "licensing and supervision of Banking Business'' Proclamation No. 84/94, now superseded by proclamation No. 592/2008, "A proclamation to Provide for Banking Business'' and the Commercial Code of Ethiopia 1960. It operates through its Head Office in Addis Ababa and 483 Area Banks, 5 Foreign Bureaus, 4733 POS terminals and 1500ATMs located in Addis Ababa and outside of Addis Ababa as at 30 June 2019.

1.2. Statement of the Problem

Electronic banking is the drive force of changing the banking industry towards a more competitive and efficient situation. E-banking have a lot of benefit in delivering service to customers, however in Ethiopia banking industry customers missed to fully enjoy technological advancement which has been entertained elsewhere in Africa and the rest of the world.

E-banking refers to the use of technology that allows customers to access banking services or banking activity through internet connection with digital devices for withdraw cash, transfer funds, and to pay bills. However this technology are not well known in Ethiopia (Ayana, 2012).The modern banking methods like ATMs, Debit cards, Credit cards, Tele banking, Internet banking and Mobile banking also not applicable on advanced way.

According to low extent 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). These phenomena have a large effect on e- banking diffusion and lead the population unbanked. In Ethiopia, although the e-banking service is infant compared to most neighboring countries, Bultum (2014).

In order to encourage further E-banking adoption in developing countries, a better understanding of the barriers and drivers impacting E-banking adoption is critical (Zhao, AL, 2008).

Therefore, this study intended to identify what are the major determinants of e-banking and what are the major challenges which hinder the effective adoption of E-banking in awash bank and to comprehend the extent use of E-banking in the country and identify the possible factors responsible for shifting growth of this service based on the research problems discussed above.

The study is beneficial for it will identify the problems related to delivering of E-banking service, which will be useful to banks to fine tune their operation. It will be useful to policy makers (NBE) to device strategies that will enhance use of ICT in banking business. Besides to researcher knowledge, there is very little information availed on this issue by previous attempts. Hence this research is undertaken to fill the knowledge gap.

1.3. Research Questions

Based on the objectives, the research provides answer for the following research questions:

1. How technological factors affect the adoption of electronic banking?
2. How environmental factors affect the adoption of electronic banking in awash banking?
3. Does an organizational factor affect the adoption of electronic banking?
4. How trust on the system affect the adoption of electronic banking?

1.4. Objectives of the Study

1.4.1 General Objective

The Ethiopian banking industry is one of the service industries crucial to the growth of its emerging economy. Banking is important in the role of capital mobilization and granting of financial facilities that is crucial to business development and growth. As business always need to find ways of improving its products and service deliveries, it will be useful to understand how different factors determine E-banking system and in which way the technological innovations can benefit the banking industries to provide service to customers. Therefore, the main objective of this research is to assess determinants of adopting e-banking service in the case of south Addis Ababa district awash bank customers.

1.4.2 Specific Objectives

1. To explore the influence of technological factors on the adoption of e-banking service in south Addis Ababa district, awash banks customers.
2. To identify the influence of environmental factors on the adoption of e-banking service in the case of south Addis Ababa district, awash banks customer.
3. To identify the influence of organizational factors on the adoption of e-banking service among commercial banks customer in Ethiopia.
4. To identify the influence of trust on the system on the adoption of e-banking.

1.5. Hypotheses Development

Hypothesis is the tentative statement of fact that is yet to be verified by the researcher. To address the research questions, the study is designed to investigate factors that could explain prospects and determinants of adoption of E-banking service in awash bank as dependent variables and independent variables at an assumed 95% level of interval confidence. The description of both dependent and independent variables with related hypothesis is discussed below.

H1: There is positive relationship between technological factors and adoption of E Banking Services

H2: There is negative relationship between environmental factors and adoption of E Banking services

H3: There is negative relationship between organizational factors and adoption of E Banking Services.

H4: There is positive relationship between trust on the system and adoption of E Banking Services.

1.6. Scope of the study

The study is confined itself to surveying, interviewing and documentary analysis of the purposely selected district customer (south Addis Ababa district) from the rest 3 district of awash bank and it excluded other financial institutions to explore the intent of the study. The district selected, based on large customers of e banking. Any way the purposive sampling procedure decreases the generalize ability of findings and this study might not be generalizing able to all areas of financial institutions.

1.7. Significance of the Study

The significance of this study is to assess the determinants of adopting E–banking service in the case of south Addis Ababa district, awash bank customers. Because of that, this study is expected to provide empirical evidence on the adopting of E–banking in Addis Ababa. To associated with many parties would benefit from the results that will emerge from the results of the study and these parties have the following benefits

- ✓ To the researcher: To gaining new skill knowledge and fill the gap of their knowledge Moreover, the researcher also contributes that this study can potentially serve as a stepping stone for further research in the area.
- ✓ To other researcher: The study will support as reference for coming researchers who study in the area.
- ✓ To the organization: - For knowing the customer interest of the ability of awash banks electronic banking system on the indicators of success of the companies. It will provide a road map for managers and shareholders to evaluate their electronic banking performance with respect to the determinants of adoption of E-banking

- ✓ To the country at large:-It enables policy maker and management body of the Ethiopian commercial banks to adjust the bank management system and mechanism.

1.8. Definition of Terms

Electronic 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).

Internet banking: refers to systems that enable bank customers to access accounts and general information on bank products and services through a personal computer (PC) or other intelligent device (Booz, Allen & Hamilton, 1999).

ATM: It is a machine where cash withdrawal can be made over the machine without going in to the banking hall. It also sells recharge cards and transfer funds; it can be accessed 24 hours/7 days with account balance enquiry (Fenuga, 2010).

Adoption is the acceptance and continued use of a product, service or idea. Consumers go through a process of knowledge, persuasion, decision, implementation and confirmation before they are ready to adopt a product or services Rogers and Shoemaker (1971)

CHAPTER TWO

2. INTRODUCTION

2.1. Theoretical Review

There are different factors that affect the adoption of technological innovation in general and specifically E-banking. There are many theories for the adoption of IT. The most used theories for technology adoption are the technology acceptance model (TAM) (Davis F. 1989), theory of planned behavior (TPB) (Ajzen 1985, Ajzen 1991), technology organization environment (TOE) framework Do these variables truly in any way the determinants of adoption of E-banking at awash bank or not?

figurer1 1 the conceptual frame work of adoption of e- banking
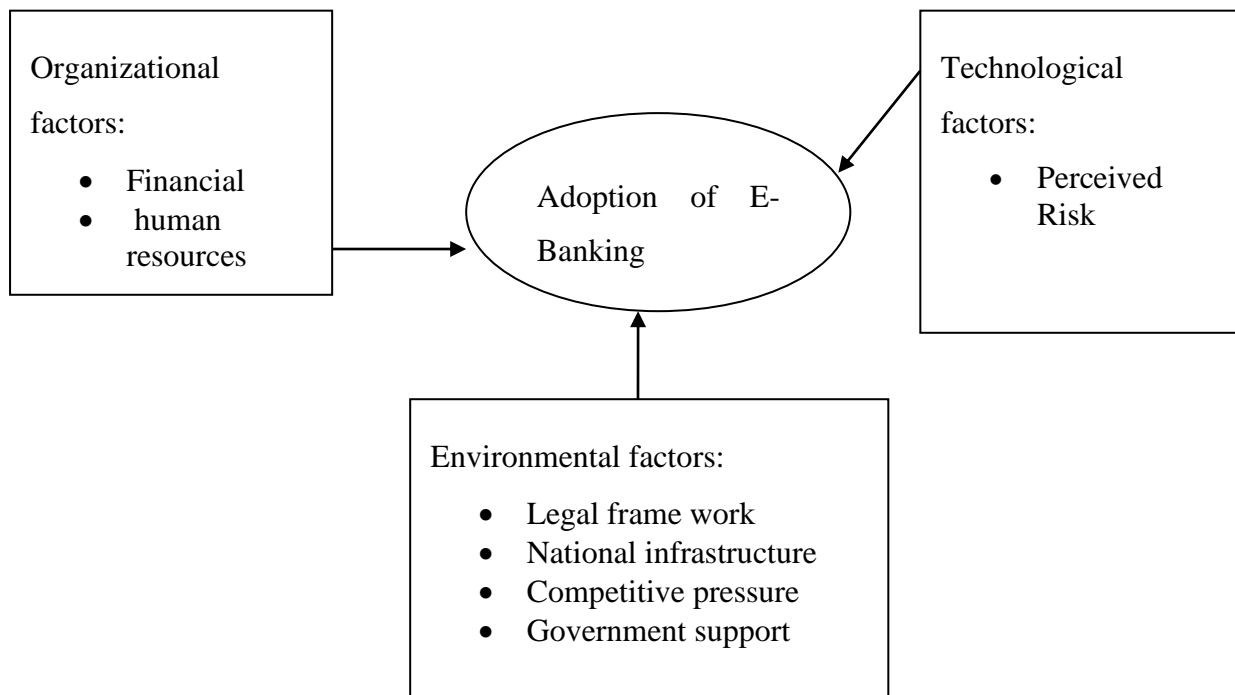
Source: researcher own

2.1.1. 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 one basic factor related to technology competence, which have relevant to the organizational factors, i.e. perceived risks is considered in this study from the technological factor.

1. 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.

2.1.2. Organizational Factors

Organizations are different in their preference to adopt technological innovation (Iacovou 1995 & Grover 1993) influenced by a number of factors are financial and human resources. In the framework for this study, researcher uses one basic organizational factor as discussed below.

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 practice. 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.

2.1.3. 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) Generally these theory discuss different variables associated with the adoption of E- banking and i.e. from technological factors perceived benefits and perceived risks, from organizational factors human and financial resources and from environmental factors legal frameworks, national ICT infrastructures, competitive pressure and government support and this theory used to test does this variables affect the adoption of E- banking in awash bank in Addis Ababa.

2.2. Concept and Definition of E-Banking

The use of electronic banking in finance goes back much further than the 1970s. As long ago as 1918, the payments between banks used to be settled electronically over the telegraph. This use of electronic communications in payments systems has steadily increased over time. Now virtually all large payments between banks and corporations are doing in electronic.

Financial services sectors have removed the boundaries between various financial institutions, enabling new financial products and services to appear and making the existing ones available in different packages (Turban, 2002). The definition of e-banking varies in different researches partially because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services through computer, television or mobile phone (Daniel, 1999; Mols, 1998; Sathye, 1999). Turban (2002) describes it as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. Electronic banking can also be defined as a variety of platforms such as internet banking (or online banking), telephone banking, TV-based banking, PC based banking (or offline banking) and mobile phone banking.

According to Zairi A (2003), electronic banking refers to the use of the Internet as a remote delivery channel for providing services, such as opening a deposit account, transferring funds among different accounts and electronic bill presentment and payment. This can be offered in two main ways. First, an existing bank with physical offices can establish a website and offer these services to its customers in addition to its traditional delivery channels. Second, is to establish a virtual bank, where the computer server is housed in an office that serves as the legal address of such a bank. Virtual banks offer their customers the ability to make deposits and withdraw funds via ATMs (Automated Teller Machines) or other remote delivery channels owned by other institutions, for which a service fee is incurred (Zairi A, 2003). At the Basel committee, E-banking is defined as the provision of retail and small value banking products and services through electronic channels.

2.2.1. Benefits of Electronic banking

Electronic banking services are the way of making transactions in the developed world due to the fact that they understand the benefits very well through long years of using them in their economy (Dawd, 2004). The benefits of having electronic banking system can be seen from different perspectives as follows.

Online banking offers many benefits to banks, as well as to customers. However, when comparing globally, the percentage of online users is not as high in the USA as in other regions of the world. There can be several reasons for this, such as customers need to have access to the internet in order to utilize the service; new online users need first to learn how to use the service, non-users often complain that online banking has no social dimension; i.e. they are not served in the same way as in a face-to-face situation in a branch; and there are issues of security and privacy. E-banking is the most attractive for most customers due to low costs and convenience (Ceren and Simon 2007). This means users are able to access banking services at virtually any time and anywhere with low costs.

However, bank charges and internet connection expenses are known to be among the obstacles for online banking. Many studies have conducted on adoption of e-banking and factors determine the adoption of e-banking.

According to study by (Robert2009) the cost factor associated with use of internet and service charges is found to be significantly associated with e-banking adoption. The study reported that most of the users were aware of the fee charges and found it acceptable.

2.2.2. Benefits to Customers

In the form of convenience, time saving and easy access to the banking services E-Banking offers substantial advantage to customers. The customers can transact in their account at anytime and anywhere throughout the country or outside the country. There is no time and place restriction. The customers need not visit a branch for each and every transaction and no need to wait in the long queue. By this they can save the time. With the help of e-banking, the easy access to the banks will be another advantage to the customers. Thus the e-banking provides sophisticated services to the customers (Devamohan, 2002). Dawd (2004) also argued that cardholders can be benefited from the safe and convenient nature of using cards for payment. Moreover, payment cards can make life easy for people who want to travel abroad as it minimizes the volume of cash one needs to carry and the associated risk of theft. From merchants' point of view, those merchants who accept cards enable to increase their sales as card holders prefer merchants who can accept their card for payment. Moreover, by reducing the amount of cash on hand, merchants can manage to reduce risks as well as costs related to cash management.

2.2.3. Benefits to Banks

The first benefits for the banks offering electronic banking services is better branding and better responsiveness to the market. In this competitive world, E-banking helps the banks to attract more number of customers and tackle the competition from other banks. According to Olga (2003), those banks that would offer such services would be perceived as leaders in technology implementation. Therefore, those banks that provide the service can enhance the customer satisfaction through sophisticated services. By providing secured e-Banking services, the banks can also avoid fraudulent activities. With the help of e-banking, banks can save time and hence they can increase the number of transactions and business (Devamohan, 2002). The other benefits of e-banking are possible to measure in monetary terms. The main objective of every company to maximize profits for its owners and banks are not an exception. In order to this, automated e-banking services offer a perfect opportunity for maximizing profits (Olga, 2003).

2.2.4. Benefits to the Economy

As e-banking provide opportunity to banking sector to enlarge their customer base, it has a consequence to increase the volume of credit creation which in turn results in better economic condition. The positive impacts of electronic banking are immense for economic development of a nation. Some of the economic benefits of e-banking as identified by Dawd (2009) are as follow:

A. *Reduction of the cost for printing cash notes and its related distribution*

In a cash based economy, governments are required to invest a great deal of fund on printing of cash notes and distributing same to the public. Due to manual transfer of currency between individuals, the life of cash notes is very minimal. As a result of this frequent wear and tear, the magnitude and frequency of the investment on cash note printing as well as its related distribution is significant. In the case of electronic payment systems the transaction values are transferred from one account to another using electronic means, reducing the need for cash note distribution. Thus, by encouraging acceptance of payment cards, governments can achieve huge cost saving for their economy in terms of reducing cash note printing and related expenditure (Dawd, 2009).

B. *Enhancement of Aggregate Deposit*

When people start to increase the proportion of their saving compared to their daily consumption, the saved money can be utilized for investment purposes that in turn will create employment opportunities. This is a great benefit for the economy as a whole. However, individual savings could not bring this kind of impact. The benefit can only be obtained when savings are made in a banking system whereby the saved fund can be deployed to the economy in the form of loan to encourage the required investment (Dawd, 2009). In an electronic payment card infrastructure people do not need to carry cash notes for their day to day expenditures as well as contingencies. They rather are encouraged to deposit their fund in the banking system and obtain a single plastic to access this fund at any time of the day when the need arises. This implies that unused funds are always in the banking system that helps to facilitate economic growth (Dawd 2009).

C. Banking the un-banked

While the electronic payment card infrastructure is diversified, payroll for employees can be handled through this system. Besides creating ease and convenience, both for the employer as well as the employee, it enables individuals to enter into the banking system which they may not be interested otherwise (Dawd, 2009). Such impact of banking the unbanked population also has a benefit in increasing aggregate deposits as indicated above.

D. Increasing the potential for hard currency generation

Especially in developing economies, earning of hard currency is very essential to manage a country's balance of payment. The payment card system can bring a good potential of enabling economies to earn more foreign currency. This can be realized by attracting tourists and by encouraging them to spend more. In today's world, availability of payment card infrastructure is one of the criteria that tourists set while they decide which country to visit.

As a result, countries that maintain a developed electronic payment card system has a better potential of being visited by tourists than those which do not establish the infrastructure. Hence, more tourists and increased hard currency as a result of diversifying payment card business (Dawd, 2009). Furthermore, due to the fact that travelers can access their account at home easily while staying in another country, where the payment card infrastructure is established, their chance of spending more is great. Travelers, being outside of their home country, feel more unsafe and uncomfortable to carry bulk amount of cash while on travel. Thus, they can be forced to spend only to the extent of the limited cash on hand during a certain period of stay in another country. On the other hand, if they can use their card for payment, they can spend more since they have the right to access their account back home safely and conveniently (Ibid, 2004).

2.3. Factors that affecting the adoption of E-Banking

Electronic banking despite its numerous benefits, there are challenges in the implementation of e-banking applications. Some of the identified challenges as revealed by previous research works include Technological factors, security, infrastructure, regulatory and legal issues and Socio-Cultural challenges.

2.3.1 Technological factors

Successful electronic banking implementation requires effective technology management. The limited access to financial services is attributed to three main challenges: limited scale (outreach), depth and the high cost of providing financial services. Essentially, the provision of financial services to many more people, especially in the depth of rural areas, using traditional branch networks entails high costs (Helms, 2006). In an attempt to overcome these challenges, financial service providers in a growing number of countries are finding innovative ways of delivering financial services.

The use of ICT is indeed providing a means to increasing scale and depth, while reducing costs in the provision of financial services. Studies suggest that technology plays a significant role in improving financial access by taking financial services in a sustainable way to under-served and un-served areas (Stegman. Rocha, & Davis, 2005Claessens, 2006). Studies also reveal that technologies such as ATMs, mobile phones and points-of-sale (POS) devices are increasingly being used to reduce costs and increase access for low-income clients (Ivatury, 2006).

These technologies are providing alternative delivery channels for the delivery of financial services. 2.1.3.2 Security One of the biggest challenges and the basic requirements of e-banking are ensuring its security. Securing the process in e-banking involves authenticating data of the customer and banker and protecting the information to be transmitted from interception. This authentication can be done using user ID and passwords. In addition, a means must be provided that prevent repudiation both by the merchant and customer once the payment process has taken place (Barnes and Hunt, 2001).

According to Worku (2010), e-banking systems must also take into account the need of multilateral security keys i.e. security needs of all participating parties in the e-banking system. An e-payment system that is not secured may not get trust from its users. Trust is one of the crucial factors to ensure the acceptance of e-banking system by users. Martina (2005) also indicated that e-banking applications represent a security challenge as they highly depend on critical ICT systems that create vulnerabilities in financial institutions, businesses and potentially harm customers. It is imperative for banks to understand and address security concerns in order to leverage the potential of ICTs in delivering e-banking applications. Software failures can also be considered as security challenges as it destroy entire portions of

a network and bring huge losses. According to Tadesse and Kidan (2005), some of the major security challenges include the following.

A- Disclosure of private information In e-payment there are many ways in which private information may be accessed by attackers. For instance hackers may intercept network traffic to get confidential data. It is also possible to access private data stored on a computer connected to the internet. This data could be used to make fraudulent transactions that could lead to a loss of money.

B- Counterfeiting Counter feiting is the creation of new data or duplication of existing data, which are technically valid but not legally admissible. Cloning of e-money for double spending and creation of fake accounts are example of counterfeiting. One popular form counterfeiting attacks is duplication of electronic data from a payment cards (e.g. ATM card) is creating duplicate cards and withdraw money from the accounts.

C- Illegal alteration of payment data Illegal modification of payment information may result in loss of money. This may again results in the loss of customer confidence. Alterations could be made to the transaction account numbers resulting in misdirected payments, to the payment amounts or to electronic balances on electronic.

 Another challenge in e-payment includes usage of a fraudulent web site by an attacker to collect credit card number and other personal and/or financial information. According to Taddesse and Kidan (2005), the most common method of securing e-banking services is using cryptographic based technologies such as encryption and digital signatures. However, applying these technologies will reduce its efficiency by making it slower and as a result some sort of compromising has to be made between security and efficiency.

2.3.2 Infrastructure

The other challenge for the adoption of e- banking is proper infrastructure. For the effective deployment of e-banking, it is necessary to have a reliable and cost-effective infrastructure that can be accessible to the majority of the population. The most common communication infrastructure for e-banking is computer network such as Internet. Most e-banking systems use internet to communicate with their customers. The other communication infrastructure available for e-banking users is the mobile network used for mobile phone. Automating the banking activities is another prerequisite for e-banking system. Closed financial network that

links banks and other financial institutions is necessary. This network is usually used between banks or other financial institution for clearing and payment confirmation.

According to Kumaga (2010), low level of internet penetration and poorly developed telecommunication infrastructure impede smooth development and improvements in e-commerce in developing countries. In this regard, a study made by Microfinance Nigeria (2010) indicated that efforts made by the Nigerian government and other financial and ICT stakeholders to move Nigeria's payment system from a cash-dependent platform to the globally acceptable electronic driven alternative way is impeded by shortage of well-developed telecommunication infrastructure. Another major problem that relates to this is frequent electric power disruption. This will create lot of problems in e-banking activities which are basically depending on power supply. It will force the banks to depend on generators results in high operational cost. These problems are considered as obstacles for the expansion of e-banking services.

2.3.3 Legal and Regulatory Issues

National, regional or international set of laws, rules, and other regulations are important prerequisites for successful implementation of e-banking services. Some of the main elements include rules on money laundering, supervision of commercial banks and money institutions by supervisory authorities, payment system oversight by central banks, consumer and data protection, cooperation and competition issues (European Central Bank, 2002). According to Mishra (2009), the virtual and global nature of e-payment also raises legal questions such as which jurisdiction will be competent and about applicable laws in disputed cases, validity of electronic data, electronic contracts, and electronic signature.

Moreover, a legal and regulatory framework that builds trust and confidence supporting technical efforts to meet the same is another important issue that needs to be addressed. In this regard legislative support is essential for protecting the interests of customers and banks in various areas relating to e-banking and payment systems. Some of the main issues like liability for loss in case of fraud, allocation of loss in case of insolvency, cheque truncation, evidence and burden of proof, preservation of records, prevention of fraud, etc. are to be cleared in the legislation (ECB, 2002). This can be done by adopting model laws at global level such as UNCITRAL Model law on E-commerce (1996), UNCITRAL Model law on E-

signatures (2001) and at regional level such as the SADC Model law on Electronic Transaction and Data protection (Mishra, 2009).

2.3.4 Socio-Cultural factor

Cultural and historical differences in attitudes and the use of different forms of money (e.g. use of credit card in North America and use of debit cards in Europe) complicate the task of developing an electronic payment system that is applicable at international level. Difference in the degree of the required security and efficiency among peoples of different cultures and level of development aggravates the problem (Tadesse and Kidan, 2005).

2.4. Empirical Review

In Ethiopia, Teka and Sharma (2017) conducted a study on the influence of demographic factors on user's adoption of electronic banking. The data was collected from users of both public and private-owned commercial banks. The result indicated that age, income, educational level, and occupational status had no significant influence on e-banking usage behavior. But, the influence of gender turned out to be significant.

According to the World Bank Global Findex Database (2017), around 1.7 billion people do not have an account at a formal financial institution and most of them come from the developing world. Moreover, the Global Findex database (2017) shows that the situation is worst in Africa and Asia. Kenya is a top-ranked country in the adoption of mobile money services. Its financial service sector is characterized by very high rates of mobile money usage. According to the Global Findex report (2017), about 73% percent of adults in Kenya had used mobile money.

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. Environmental factors mainly relates to different facilitating and inhibiting factors in areas of operations (Al-Qirim, 2006). The arena in which a firm conduct its business in adopting technological innovations; its industry, competitors, access to resources supplied by other externals and dealings with government are claimed to be covered under environmental contexts (Kvin Z. et al. 2004). Legal frameworks, the National ICT infrastructure, Competitive pressure and Government supports are amongst significant factors to be considered in the study (Ayana, 2012) as described here under

Another empirical study done by Abebe (2016) revealed that there were losses to customers of Kenya Commercial Bank (KCB), who use the M-Banking services, due to fraudulent access of customers' accounts through hacking. Since an incident like this will have a ruinous impact on the reputation of the bank there is need to employ disciplined, qualified and well remunerated ICT in the bank and at the level of mobile provider. (Yoseph, 2017), investigated the determinants of accepting Internet banking (IB) for the customers of CBE.

The purpose of this paper was to determine those factors that influence the adoption of Internet banking services in ETHIOPIA. A total of 253 respondents in ETHIOPIA were sampled for responding: 95 were internet bank users, 158 were internet bank non users. Factor analysis and regression technique were employed to study the relationship.

The results showed that use of Internet banking in Ethiopia is influenced most strongly by perceived convenience, perceived risk, security and prior internet knowledge. Intention is to use online banking services. (Abebe, 2016) conducted research to analyze the factors that influence customer's intention to adopt e-banking service channels in Dashen Bank. The study used variables from Theory of Panned Behavior and Technology Acceptance Model.

The findings revealed that attitude; subjective norm, perceived behavioral control, perceived usefulness and perceived ease of use and perceived risk were significant in affecting users' intention to use e-banking service channels. This research also indicated that, contrary to TAM model, perceived usefulness is not predicted by perceived ease of use. This will be investigated in this research.

CHAPTER THREE

3. METHODOLOGY

From the previous chapter the researcher discussed about the theoretical and empirical facts of the selected variables to determine the adoption of E-banking. Consequently, this chapter would be describing the methodology that could be use in the empirical analysis to test the different questions.

3.1. Research Design

Research design is usually a plan or blueprint that specifies how data relating to a given problem should be collected and analyzed. It provides the procedural outlines for the conduct of any investigation. This study was used explanatory research type because explanatory research aims to understand phenomena by discovering and measuring causal relations of independent variables like technological factors, environmental factors, organizational factors, and trust on the system with the adoption of e- banking.

3.2. Research Approaches

Research approach is selected by researcher(s) based on the research purpose, the nature of the research, the problem area, and research questions (Alhamdani et al. 2006). 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)

In order to achieve the objective of this study and answer the research questions , researcher adopts both qualitative and quantitative research approach to assess the determinants of adopting E-banking in the case of south Addis Ababa district ,awash bank and explore the basic factor which hinder the determinants of adopting e banking.

Ethiopian banking industry to converge across qualitative and quantitative methods (triangulating data sources). Employing this approach is used to neutralize or cancel the biases of applying any of a single approach and a means to offset the weaknesses inherent in a single method with the strengths of the other method (Creswell 2003).

This research approach pose the researcher to the factor that need for extensive data collection, the time-intensive nature of analyzing both text and numeric data, and the requirement for the researcher to be familiar with both quantitative and qualitative forms of research (Creswell, 2003; pp. 210).

3.2 Population of the study

The target population of the study is active users of e banking in south Addis Ababa district customers of awash bank. As there are 16 private banks in Ethiopia, the researcher selected awash bank because it is the first private bank in Ethiopia and started to give E-banking services. Based on that questionnaire was distributed to all of them. Those respondents were targeted because, they are deemed to be knowledgeable about E-banking system and could provide important perspectives on its implementation.

3.3.   Sampling Technique

Sampling is the process of choosing, from a much large population, a group about which wish to make generalized statements so that the selected part represents the total group (Leedy, 1989).

The population for this study was Individual customers in south Addis Ababa district of awash bank. Moreover, the researcher selected awash bank for the reason that she is conducting her job in Awash bank; where she has enough experience and information obtained from personal observation. Mainly the bank is the pioneer bank to introduce e banking system in Ethiopia.

Individual customers are selected using convenient sampling techniques. Yamane (1967) suggested another simplified formula for calculation of sample size from a population which is an alternative to Cochran's formula. According to him, for a 95% confidence level and p ⬜⬜0.5, size of the sample should be

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

Where, N is the population size is sample size and e is the level of precision.

Let this formula be used for our population, in which N =116,930 with ±5% precision.

Assuming 95% confidence level and p =0.05, we get the sample size

$$N = \frac{116930}{1+116930(0.05^2)} = 399$$

Based on the above formula, three hundred ninety nine (399) individual customers are included in the sample as respondents for the questionnaire. The proportional allocation method was originally proposed by Bowley (1926).

3.4 Sources of Data

For the proper achievement of the objectives of the study; the researcher used primary and secondary data sources. The Secondary data was collected from the existing literature from journals, newspapers, textbooks, articles the websites of the bank and officials periodically releases of E-payment.

3.4.1. Data Collection Instrument

In this study the primary data has been collected through questionnaires from the south Addis Ababa district of awash bank customers. The questionnaires were prepared in the way that is relevant to the situation to decrease invalid responses. It is also structured in close-ended questions by which the respondents were asked to indicate their level of agreement using a five Likert rating scale measurement where: Strongly Agree (SA) = 1; Agree (A) = 2; Neutral (N) =3, Disagree (D) = 4; and Strongly Disagree (SD) =5

The use of the Likert scale is to make it easier for respondents to answer questions easily. The questionnaire has two sections where section one sought about the demographic profile of the participants and that of section two sought about participants' intention towards the determinants of the adopting E-banking service in the case of Awash bank Under this section, There are two parts and at the end of each part there is one open-ended question that the respondents are asked to provide open-ended responses that require opinions, opinions which they feel the researcher would find useful,

3.5. Method of data analysis and presentation

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 data collected via questionnaires was analyzed with descriptive statistics using statistical package for social scientists (SPSS).

Furthermore, Wolcott (1994) suggested that qualitative research is fundamentally interpretative i.e. the researcher makes an interpretation of the data. Thus, the data that was collected from the reviews of documents were interpreted qualitatively. To sum, the analysis of quantitative data and interpretation of qualitative data combines to seek convergence among the results (Creswell, 2003

CHAPTER FOUR

4. Data presentation, Analysis and Interpretation

This chapter presents the data analysis and discussion of the research findings. Out of the total 399 questionnaires, 339valid and useable questionnaires were obtained to enable a meaningful analysis of the data with 85% response rate .The data analysis was made with the help of statistical package for social science (SPSSv.20).

The demographic profile of the study sample, perceived benefit, perceived risk, internal capability, ease of use, ICT and power infrastructure, legal and regulatory and other supporting institutions has been described using descriptive statistics. Furthermore, descriptive statistics was implanted to analyze Likert scale items and determinant factors of e-banking adoption. To test hypothesis and achieve the study objectives, different inferential statistics had been employed. Multiple linear regression analyses were employed to test hypothesis and achieve the study objective that focuses on examining the most important determinants of adopting e banking.

4.1. Respondent Demographic Profile

The study participants on survey questionnaire have variety of 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 4.1 as follow.

Table 4.1 Respondent Demographic profile

Variable	Classification of variable	Frequency	Percentage
Gender	Male	164	48.4
	Female	175	51.6
Age	Below 20	16	4.7
	20 to 30 years	278	82
	31 to 40 years	45	13.3
	41 to 50 years	-	-
	Above 50 years	-	-

Educational level	Grade 12 and below	24	7.1
	Diploma holder	68	20.1
	First Degree holder	193	56.9
	Masters Degree	54	15.9
	Above Masters Degree	-	-
Monthly income	Less than birr 2,000.00	28	8.3
	Birr 2,000.00 -3,999.00	61	18.0
	Birr 4,000.00 – 4,999.00	92	27.1
	Birr 5,000.00- 9,999.00	108	31.9
	Above 10,000.00	50	14.7

Survey result, 2020

According to the above table, the highest percentage of participants in the table from the study was females who represent 51.6% of respondents. In the case of classification of respondents by age 82% of the respondents are young (20-30 years old). Regarding the educational level of the study 56.9% of the respondents are BA degree holders. On the other hand, 31.5% of the respondent has monthly income ranges between 5,000.00 to 9,999.00 Ethiopian birr. So the respondents of the survey are majority of them are female, young, BA degree holder and relatively middle income level.

4.2. Determinants of the adoption of e- banking in awash bank

The Questions were asked to identify perceptions of the sampled customer with respect to factors that affecting the adoption of E-banking services. The following sections discuss about the responses of the respondents regarding the determinants of the adoption of E banking service in awash bank.

Respondents' response towards factors of the services were identified based on the research model that use the two basic frameworks, technology- organization- environment (TOE) frame work and technology acceptance model(TAM) with some modification.

4.2.1. Technological factors

Perceived risk

The perception of the risks regarding e-banking is expected to influence the adoption and further growth.

Table 4.2 Show participant responses on perceived risk of e-banking service

Factors	SD 1	D2	N3	A4	SA 5	Mean	Std Dev.
Security aspects considered as barrier for implementing of E-Banking.	21 6.2%	8 2.4%	24 7.1%	141 41.6%	145 42.8%	4.12	1.07
Customers do not trustthe Technology of e-banking.	32 9.4%	16 4.7%	57 16.8%	163 48.1%	71 20.9%	3.66	1.13
Customers fear risk of new Technology innovation.	17 50%	24 7.1%	16 4.7%	199 58.7%	83 24.5%	3.91	1.00
Customers do not trust the technology provided by the banks	24 7.1%	69 20.4%	48 14.2%	126 37.2%	72 21.2%	3.45	1.28

Source: survey result, 2020

As shown in the above table, the responses were scored on a scale of 1 – 5, with 1 indicate the respondents' strong disagreement and 5 representing strong agreement with each of the factors.

As the above table indicates that the respondents were agree and strongly agree with Security aspects considered as barrier for implementing of E- Banking with the mean score of 4.12 and standard deviation of 1.067.

Customers do not trust the technology of e- banking is also barrier for implementing of e-banking with mean of 3.66 and standard deviation of 1.143, Customers fear risk of new technology innovation is barrier for adoption of e- banking with mean of 3.91 and standard deviation of 1.010 and similarly the response of respondents as shown on the above table

Customers do not trust the technology provided by the banks is another factor for e-banking adoption with the mean of 3.45 and standard deviation of 1.228.

Moreover, interview with the key informant staff also support the result of questionnaires and indicate that all factors in this categories have significant impact on adoption of the service. The study result appeared to be somehow consistent with the findings of Sathye (1999); Howcroft et al. (2002); Poon (2008); Aldas- Manzano et al. (2009); and Chong et al. (2010), who found security concerns to be the major factor discouraging the adoption of E-banking services. Moreover, the result is consistent with the findings of Khalfan et al. (2006), Wondwossen and Tsegai (2005), Zhao et al. (2010), and that of Laukkanen (2008).

4.2.2. Environmental Factors

Results obtained from survey respondents of south Addis Ababa district customers of awash bank customers regarding factors affecting the adoption of E banking under determinant environmental factors that focus mainly on ICT infrastructure, legal frameworks, government support and competition are depicted below using descriptivestatistics: -

National ICTinfrastructure

Despite the recent improvements made on the national infrastructure, the overall ICT infrastructure in Ethiopia remains inadequate. Table 4.3 shows the study results.

Table 4.3   National ICT infrastructure

Factors	SD 1	D2	N3	A4	SA 5	Mean	Std Dev.
My bank has adequate ICT infrastructure to conduct e-banking.	169 49.9%	146 43.1%	10 2.9%	8 2.4%	6 1.8%	1.63	0.805
The quality of internet connection and mobile network significantly affects e- Banking.	39 11.5%	24 7.1%	8 2.4%	58 17.1%	210 61.9%	4.11	1.398
Ethio Telecom provided high Speed internet and mobile connection.	194 57.2%%	40 11.8%	28 8.3%	36 10.6%	41 12.1%	2.09	1.472

Source: survey result, 2020

As portrayed in the Table 4.3 above respondent Disagree that my bank has adequate ICT infrastructure to conduct e- banking (Mean = 1.63 and std. Dev 0.805) and Ethio Telecom provided high speed internet and mobile connection (Mean = 2.09 and std. Dev 1.472). Respondents agree and strongly agree with the question of the quality of internet connection and mobile network significantly affects e- banking (Mean 4.11 and std dev 1.398). So the response of the respondents implies that national ICT infrastructure is back bone of e-banking services. On the other hand an interview conducted with IT managers /E-payment manager of sample bank stated that, unavailability of well-functioning ICT infrastructure and poor internet service affect the smooth functioning E-banking service. But recently, Ethiopian government were doing on improvement of national infrastructure, it will encourage our bank to practice different technologicalinnovation.

Legal framework

Table 4.4 shows that the response of study participant regarding the legal framework for adoption of E- banking service

Table 4.4   Legal and regulatory framework

Factors	SD 1	D2	N3	A4	SA 5	Mean	Std Dev.
My bank hasregulatory guidelines one-banking	31 9.1%	92 27.1%	56 16.5%	120 35.4%	40 11.8%	3.14	1.204
It is difficult to perform E-banking because of absence of suitable legal and regulatory framework for e-commerce and E-payment.	17 5.0%	41 12.1%	60 17.7%	138 40.7%	83 24.5%	3.68	1.120

Source: survey result, 2020

As shown table 4.4 the responses of the participants agree and strongly agree with the question my bank has regulatory guidelines on e-banking (Mean 3.14and std dev.1.204) and the participants agree with It is difficult to perform E-banking because of absence of suitable legal and regulatory framework for e-commerce and e-payment. (Mean 3.68 and std dev. 1.120). As the survey result shown in the above lack of legal and regulatory frame work affect the adoption of e- banking. Similarly, an interview conducted with one of the payment and settlement department manager at national bank of Ethiopia (NBE) also prove that, Ethiopia

does not have special rule on the use of E- banking system or it is not yet included in the banking regulation except the regulation related with mobile banking.

Government support

Government can either directly or indirectly affect the adoption of E-banking in terms of creating a favorable environment and impetus for bank industry and their customers so that the services can be diffused with the community. The below table shows the questionnaire results about the Government support.

Table 4.5 Government Support

Factors	SD 1	D2	N3	A4	SA 5	Mean	Std Dev.
The Government promotes e-banking for its citizens.	169	86	21	44	19	1.99	1.260
	49.%	25.4%	6.2%	13.0%	5.6%		
The government providing necessary infrastructural facilities (road, electric power, telecommunication and etc) to remote area of the country in order to facilitate e-bankingAdoption.	187	96	12	16	28	1.83	1.222
	55.2%	28.3%	3.5%	4.7%	8.3%		

Source: survey result, 2020

Majority of the respondents disagree with the Government promotes e- banking for its citizens (Mean 1.99 and std dev. 1.260) and also disagree with the statement the government providing necessary infrastructural facilities (road, electric power, telecommunication and etc) to remote area of the country in order to facilitate e-banking adoption (Mean value of 1.83 and std dev. 1.222). Based on the survey result lack of government support has an effect on adoption of e- banking.

Competitivepressure

The competition of the domestic private banks appears to be the most important driver for the bank industry to adopt and develop e-banking. Table 4.6 shows that the questionnaire response on lack of competitive pressure between local and foreign banks.

Table 4.6 Competitive pressure

Factors	SD 1	D2	N3	A4	SA 5	Mean	Std Dev.
There is high competition between local banks on e-Banking services.	33	51	8	188	59	3.56	1.218
	9.7%	15.0%	2.4%	55.5%	17.4%		
Absence of competition from foreign banks has influence on e-banking.	12	43	13	123	148	4.04	1.142
	3.5%	12.7%	3.8%	36.3%	43.7%		

Source: survey result, 2020

The responses of the participants as captured in the table 4.6 above agreed on issues related with there is high competition between local banks e- banking services with the mean value of 3.56and stddev.1.218.TherespondentsalsoagreedthatAbsenceofcompetitionfromforeignbankshas Influence on e-banking with the mean value of 4.04 and std dev. 1.142. This implies that absence of competition from foreign banks has an effect on adoption of e- banking.

4.2.3. Organizational Factors

Results obtained from survey respondents of south addis ababa district awash bank customers regarding factors affecting the adoption of E banking under determinant organizational factors that focus mainly on finance and human aspects of the service are depicted below using descriptive statistics: -

Financial resource

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). Table4.7 shows the response of study participants regarding unavailability of financial resource.

Table 4.7 Financial Resource

Factors	SD1	D2	N3	A4	SA5	Mean	Std Dev.
Implementing technological	8	3	24	155	149	4.28	0.826
Innovation requires high cost.	2.4%	0.9%	7.1%	45.7%	44.0%		

Source: survey result, 2020

Table 4.7 shows that the majority of the respondents agree and strongly agree 155 and 149 respectively with statement of implementing technological innovation requires high investment cost having the mean score of 4.28 and standard deviation of 0.826. The finding result of the study shows that the unavailability financial resources hinder the adoption of e-banking services.

Human resources

In addition to financial resource, human resources also important factors in adoption of new technology. The results of the study presented in table 4.8 regarding human resource on adoption of e- banking services.

Table 4.8 Human Resource Factor

Factors	SD 1	D2	N3	A4	SA 5	Mean	Std Dev.
Banks require skilled human resource in order to implement e- Banking.	13	16	25	119	166	4.21	1.029
	3.8%	4.7%	7.4%	35.1%	49.0%		
Banks require skilled ITPersonnel's in implementing technological innovation.	3	16	16	122	182	4.37	0.848
	0.9%	4.7%	4.7%	36.0%	53.7%		
Technical and managerial skills of staffs on using technological innovation have influence on adoption e- banking.	15	17	21	113	173	4.22	1.062
	4.4%	5.0%	6.2%	33.3%	51.0%		
Unavailability of competent and skilled employee in related with e banking is the challenge for banks to practice e-banking.	15	21	28	104	171	4.17	1.100
	4.4%	6.2%	8.3%	30.7%	50.4%		

Source: survey result, 2020

Result reported on table 4.8 shows that mean score of 4.21 and standard deviation of 1.029 for the question of banks require skilled human resource in order to implement e- banking. Banks require skilled IT personnel's in implementing technological innovation with the mean of 4.37 and standard deviation of 0.848 in which 36% and 53.7% of the study participant responds that they are agree and strongly agree respectively, Technical and managerial skills

of staffs on using technological innovation have influence on adoption e- banking with the mean of 4.22 and standard deviation of 1.062 in which 33.3% and 51.0% of the study participant responds that they are agree and strongly agree respectively, Unavailability of competent and skilled employee in related with e banking is the challenge for banks to practice e-banking with the mean of 4.17 and standard deviation of 1.100 in which 30.7% and 50.4% of the study participant responds that they are agree and strongly agree respectively. As the above survey indicates that human resource have an effect on adoption of e-banking.

4.2.4. Trust on the system

Results obtained from survey respondents of south Addis Ababa district customers of awash bank regarding factors affecting the adoption of E banking under determinant trust on the system service are depicted below using descriptive statistics: -

Table 4.9 Trust on the system

Factors	SD1	D2	N3	A4	SA5	Mean	Std. Dev.
Customers have high degree of trust on the bank and are satisfied with security of electronic banking serviceprovided by the Bank.	158	86	44	20	31	2.06	1.278
	46.6%	25.4%	13.0%	5.9%	9.1%		

Source: survey result, 2020

As indicated in the above table the respondents did not agree that Customers have high degree of trust on the bank and are satisfied with security of electronic banking service provided by the Bank as the mean value is found to be 2.06 and standard deviation of 1.278. So lack of trust on the system is an effect on the adoption of e- banking. The study results are consistent with the findings of Siriluck Rotchanakitumnuai, Mark Speece, (2003), Carlos Flavián, Miguel Guinalíu, Eduardo Torres, (2006), Peter Tobbin, (2012) , and Francisco Muñoz-Leiva, Teodoro Luque-Martínez, Juan Sánchez-Fernández, (2010) who found that trust on the system has an effect on adoption of e- banking services.The interview depicts that the basic factors affecting adoption of E-banking after introduction are High rates of illiteracy, low level of internet penetration, poorly developed infrastructure, lack of suitable legal and regulatory framework for e-banking, frequent power interruption, fear of risk and unavailability of competent and skilled employee, culture of the society, customers reluctant to change and lack of awareness.

4.3. Perceived Usefulness

Perceived usefulness has long been found to have a significant influence on attitude and intention to use or adopt an innovation (Yuttapong et al., 2009; Sheikhshoaei and Oloumi, 2011; Zhou, 2011). It is the extent to which a user believes that a particular system would improve their performance (Hosein, 2010). Table 4.12 shows the result of the study with regards to perceive usefulness of e- banking.

Table 4.10 Perceived usefulness

Factors	SD 1	D2	N3	A4	SA 5	Mean	StdDev.
E-Banking services are Convenient in terms of time saving.	16	4	17	103	199	4.37	0.987
	4.7%	1.2%	5.0%	30.4%	58.7%		
E-banking services are accessible without time limit.	12	25	33	131	138	4.06	1.057
	3.5%	7.4%	9.7%	38.6	40.7%		

Source: survey result, 2020

As indicating in the above table The respondents agree and strongly agreed that e- banking service is convenient in terms of time saving mean 4.37 and standard deviation value of 0.987 and similarly they agree and strongly agree E-banking services are accessible without time limit mean 4.06 and standard deviation of 1.057. These result implies, that using e- banking system helps to perform banking activities within a short period of time. This were in line with the study of Karjaluoto et al. (2002), which identifies time saving as a major benefit of adopting online banking system (Ayana, 2012).

4.4. Test of Autocorrelation

According to Brooks (2008), the error term different observation is related to the error term of other observation, it indicates that autocorrelation problem exist in this model. In the case of autocorrelation problem, the estimated parameters can still remain unbiased and consistent, but it is inefficient. The result of T-test, F-test or the confidence interval will become invalid in order the variances of estimators tend to be underestimated or overestimated. Due to the invalid hypothesis testing, it may lead to misleading results on the significance of parameters in the model. To test the existence of autocorrelation, in this study, the popular Breusch

Godfrey Serial Correlation LM Test was used. The hypothesis for the autocorrelation test was formulated as follow:

H0: There is no autocorrelation problem in the model.

H1: There is autocorrelation problem in the model.

α = 0.05 Decision Rule: Reject H0 if p-value less than significance level. Otherwise, do not reject H0.

The DW value of adoption of e-banking lies in the inconclusive region where the null hypothesis of no autocorrelation can neither be rejected nor not rejected.

The Durbuin Watson test statistic tests the null hypothesis that the residuals ordinary least – squares regression are not auto correlated against the alternative residuals. The Durbin-Watson statistic ranges in value from 0 to 4. A value near 2 indicates non Autocorrelation; a value toward 0 indicates positive autocorrelation; a value toward 4 indicates negative autocorrelation.

Table 4.11 Durbin-Watson test results for the regression mode

Variables	DW statistic test result
All variables of this study	1.476

Source: survey result, 2020

4.5. Normality test

Normality test is an important diagnostic test concerning in this study assumption. Normality test is used to determine whether the error term is normally distributed. According to Brooks (2008) noted that the Jarque-Bera statistic would not be significant for disturbance to be normally distributed around the mean. The reason of the Jarque-Bera test is to make sure that the data set is well modeled by a normal distribution. The hypothesis for the normality test was provided as follow:

 H0: Error term is normally distributed

H1: Error term is not normally distributed

α = 0.05 Decision Rule: If the P- value of JB less than significant level 0.05 rejects H0. Otherwise, do not reject H0.

Table 4.12 Test of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistc	df	Sig.	statistic	df	Sig.
Environmental Factors	.164	339	.000	.931	339	.000
Organizational Factors	.235	339	.000	.774	339	.000
Technological factors	.139	339	.000	.886	339	.000
Trust on the system	.200	339	.000	.919	339	.000

a. Lilliefors Significance Correction

Source: survey result, 2020

From the above table show the results from two well-known tests of normality, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. We Shapiro-Wilk Test is more appropriate for small sample sizes (< 50 samples) but can also handle sample sizes as large as 2000. For this reason, we will use the Shapiro-Wilk test as our numerical means of assessing normality. If p < then 0.05, reject the H0 because the test is significant. In our survey result p <0.05 due to these we reject H_0 and accept HA.

4.6. Multi colinearity test

Multicolinarity is viewed here as an interdependency condition. It is defined in terms of a lack of independence, or of the presence of interdependence – signified by high intercorrelations within a set of variables, and under this view can exist quite apart from the nature, or even the existence of a dependency relationship between X and a dependent variable Y. Multicolinarity is not important to the statistician for its own sake. Its significance, as contrasted with its definition, comes from the effect of interdependence in X on the dependency relationship whose parameters are desired. Multicolinarity constitutes a

threat -- and often a very serious threat -- both to the proper specification and to the effective estimation of the type of structural relationships commonly sought through the use of regressiontechniques.

Table 4.13 Multicolinarity test

| Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.	Co linearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	.336	.428		.786	.433		
	Environmental factors	-.012	.134	-.005	-.087	.930	.478	2.092
	Organizational factors	.277	.110	.220	2.506	.013	.244	4.101
1	Technological factors	.110	.122	.064	.903	.367	.368	2.717
	Trust on the system	.308	.089	.247	3.452	.001	.366	2.733

Source: survey result, 2020

If tolerance is more than 0.2 and variance inflation factor (VIF) less than 10 there is no Multicollinearity problem. So the result of the above table results show tolerance greater than 0.2 and VIF less than 10 and it is no Multicollinearity problem(Brooks 2008).

4.7. Linearity Test

figure3 1 Regression standardized residual

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Adoption of e banking and agent banking
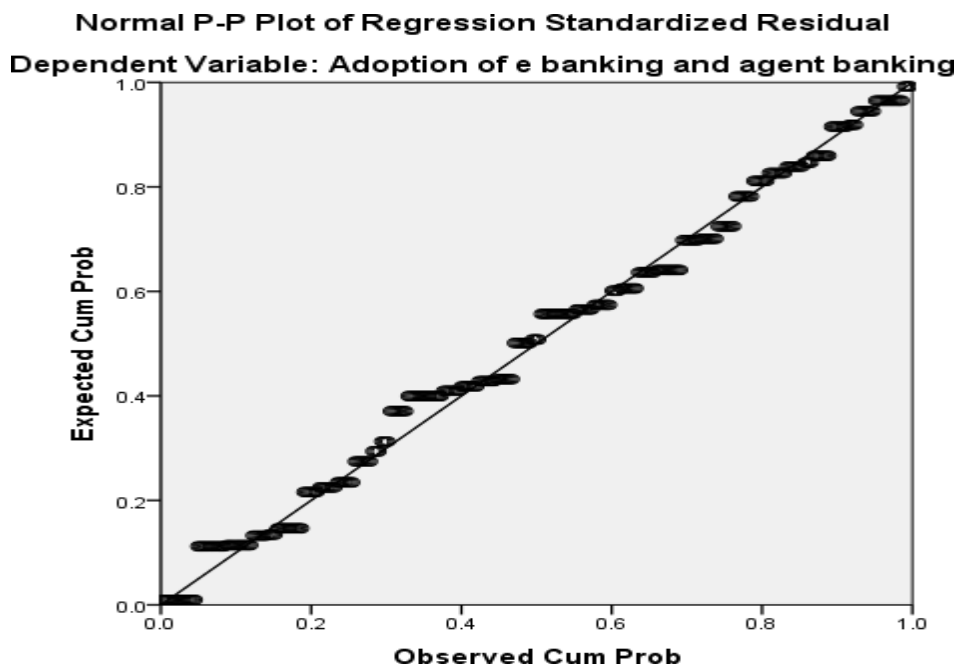
If the little circles will follow the normality line, the data is normally distributed. The next assumption to check is homoscedasticity. Ideally, you will get a plot that looks something like the plot below. The data looks like you shot it out of a shotgun—it does not have an obvious pattern, there are points equally distributed above and below zero on the X axis, and to the left and right of zero on the Y axis.

4.8. Regression Analysis

Regression analysis is a mathematical measure of the average relationship between two or more variables in terms of the original units of the data. Regression clearly indicates the determinant of adoption of e-banking. In regression, the variable corresponding to cause is taken as independent variable and the variable corresponding to effect is taken as dependent variable. The results of data analysis are presented in the thesis. Regression analysis is the relationship between dependent variable and independent variable. Regression equation is y = a0+ b1 X, where y is the dependent variable, a0 is constant, b1 is slope of the regression line, X is independent variable. Below are the results of the several tests conducted with the help of regression analysis.

Table 4.14 Adoption coefficients

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.336	.428		.786	.433
	Environmental factors	-.012	.134	-.005	-.087	.930
	Organizational factors	.277	.110	.220	2.506	.013
	Technological factors	.110	.122	.064	.903	.367
Trust on the system		.308	.089	.247	3.452	.001

a. Dependent Variable: Adoption of e banking

Source: survey result, 2020

The model coefficient table reports the coefficients for technological factors, environmental factors, and organizational factors, and trust on the system along with the significance value. The model Coefficients are used in the construction of regression equation. A low significance value of less than 0.05 for technological factors, environmental factors, and organizational factors, and trust on the system indicates that there is a strong relationship with adoption of e- banking. The regression equation for the above data is: Adoption of e- banking = 0.336 - 0.012 (- 005) + 0.277 (0.220) + 0.110 (0.64) + 0.308(0.247). The above equation is the calculated contribution for the tested elements to adoption of e- banking. From the regression equation it is observed that except environmental factor all the factors have a positive impact on adoption of e- banking.

4.8.1. Regression Analysis: Technological factors

Table 4.15   Regression Technological factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.206[a]	.042	.039	.635

a. Predictors: (Constant), Adoption of e banking

Source: survey result, 2020

The result summary table 4.15 shows that value of R=0.206 which is less than 0.50 indicates that there is a weak correlation between the dependent variable and the independent variable (Technological factors) with effect on the dependent variable 4.2% (R-Square=.042) and the adjusted R-square indicates that the change in the independent variable(3.9%). The ANOVA table here below shows that there is a relationship between adoption of E Banking and organizational factors as the result of significant value or P value is less than 0.05.

Table 4.16 ANOVA-Technological factors

Model		Sumof Squares	Df	Mean Square	F	Sig.
	Regression	5.990	1	5.990	14.859	.000[b]
1	Residual	135.854	337	.403		
	Total	141.845	338			

Dependent Variable: Technologicalfactors

Predictors: (Constant), Adoption of ebanking

Source: survey result, 2020

Per the result of the regression analysis above, the research hypothesis H1: There is positive relationship between technological factors and adoption of E banking Servicesis supported.

4.8.2. Regression Analysis: Environmental factors

Table 4.17summery of linear regression result Environmental factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	396[a]	.157	.154	.476

a. Predictors: (Constant), Adoption of e banking

Source: survey result, 2020

The result summary table 4.17 shows that value of R=0.396 which is less than 0.50 indicates that there is a moderate correlation between the dependent variable and the independent variable (Environmental factors) with effect on the dependent variable 15.7% (R-Square=.157) and the adjusted R-square is 15.4%.The ANOVA table here below shows that there is a relationship between adoption of E Banking and environmental factors as the result of significant value or P value is less than 0.05.

Table 4.18 ANOVA Environmental factors

ANOVA

Model		Sumof Squares	Df	Mean Square	F	Sig.
1	Regression	14.209	1	14.209	62.724	.000[b]
	Residual	76.342	337	.227		
	Total	90.552	338			

Dependent Variable: Environmentalfactors

Predictors: (Constant), Adoption of ebanking

Source: survey result,2020

Per the result of the regression analysis above, the research hypothesis H2: There is negative relationship between environmental factors and adoption of E banking services is supported.

The results are consistent with the findings of Gardachew (2010); Tan & Wu (2002); Martinson (2001); Trappey et al. (2001); Wondwossen and Tsegai (2005); Efendioglu (2004); Scupola(2003); Quaddus & Hofmeyer (2007); Gibbs et al. (2003); and Kuan 2001; and Iacovou (1995) who found environmental factors such as low internet access, lack of government support, lack of available ICT infrastructure, limited legal framework, and competitions that hinders the adoption of E- banking in one way oranother.

4.8.3. Regression Analysis: Organizational factors

Table 4.19 summery of linear regression result- Organizational Factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.291[a]	.085	.082	.842

a. Predictors: (Constant), Adoption of e banking

Source: survey result, 2020

The result summary table 4.19 shows that value of R=0.291 which is less than 0.50 indicates that there is a weak correlation between the dependent variable and the independent variable (Organizational factors) with effect on the dependent variable 8.5% (R-Square=.085) and the adjusted R-square indicates that the change in the independent variable (8.2%).The ANOVA table here below shows that there is a relationship between adoption of E Banking and organizational factors

Table 4.20 ANOVA-Organizational Factors

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22.094	1	22.094	31.147	.000[b]
	Residual	239.049	337	.709		
	Total	261.143	338			

Dependent Variable: Organizational factors

Predictors: (Constant), Adoption of e-banking

Source: survey result, 2020

Per the result of the regression analysis above, the research hypothesis H3: There is negative relationship between organizational factors and adoption of E banking Services is supported.

The study results are consistent with the findings of Daghfous and Toufaily (2007); Ayana(2010); Wondwossen and Tsegai (2005); and Gardachew (2010) who found organizational factors such as financial and human resource factors have an effect in adoption of E banking.

4.8.4 Regression Analysis: Trust on the system factors

Table 4.21 Trust on the system

Model	Std. Error of the Estimate	R Square	Adjusted R Square	Std. Error of the Estimate
1	.513[a]	.263	.261	.765

a. Predictors: (Constant), Adoption of e banking

Source: survey result, 2020

The result summary table 4.21 shows that value of R=0.513 which is greater than 0.50 indicates that there is a moderate correlation between the dependent variable and the independent variable (trust on the system) with effect on the dependent variable 26.3% (R-Square=0.263) and the adjusted R-square indicates that the change in the independent variable (26.1%).

The ANOVA table here below shows that there is a relationship between adoptions of E Banking and trust on the system as the result of significant value or P value is less than 0.05.

Table 4.22 ANOVA- Trust on the system

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	70.320	1	70.320	120.224	.000[b]
	Residual	197.113	337	.585		
	Total	267.433	338			

Dependent Variable: Trust on thesystem

Predictors: (Constant), Adoption of ebanking

Source: survey result,2020

Per the result of the regression analysis above, the research hypothesis H4: There is positive relationship between trust on the system and adoption of E banking Services is supported

4.9. Correlation Analysis

Correlation Analysis is a measure of association between two continuous variables. Correlation measures both the size and direction of relationships between two variables. The squared correlation is the measure of the strength of the association (Tabachnick and Fidell, 1989). Correlation analysis is the relationship between two variables. The value of correlation value is always in between minus one and plus one -1 and +1(Meyers et al. 2006).The sign of the correlation coefficient determines whether the correlation is positive or negative. The magnitude of the correlation coefficient determines the strength of the correlation.

Table 4.23 Correlation Analysis

		Environmental factors	Organizational factors	Technological factors	Trust on the system
Environmental factors	Pearson Correlation	1	.096	.142	.536
Organizational factors	Pearson Correlation	.096	1	.757	.591
Technological factors	Pearson Correlation	.142	.757	1	.493
Trust on the system	Pearson Correlation	.536	.591	.493	1
Adoption of e banking	Pearson Correlation	.396	.291	.206	.513

Correlation is significant at the 0.01 level (2-tailed)

Source: survey result, 2020

From the above correlation matrix adoption of e- banking have positive correlation with the entire variables i.e. weakly correlate with technological factors, organizational factors, and moderate correlation with environmental factors, and trust on thesystem.

4.10. Research hypotheses

Hypothesis is a tentative proposition suggested as a solution to problems or as an explanation of some phenomena. Hypothesis can also be defined as a testable, tentative, probable explanation of the relationship between two or more variables that create a state of affair or phenomena. A hypothesis is an expectation of what the researcher beliefs that he /she might find in the data. It provides a directly testable relational statement facilities extension of knowledge. Hypothesis should always be in declarative sentence form, and should relate either generally or specifically variables to variables. Hypothesis are formulated either a research problem statement or an existing theory or the finding of previous studies. As stated on the objective of this study was to determinants of the adoption of E-banking in awash bank customers in Addis Ababa. Further, as noted in the previous chapters (chapter one and three), in order to achieve this broad objective of the study developed the following four hypotheses.

H1: There is positive relationship between technological factors and adoption of E banking Services

H2: There is negative relationship between environmental factors and adoption of E banking services

H3: There is negative relationship between organizational factors and adoption of E banking Services.

H4: There is positive relationship between trust on the system and adoption of E banking Services.

4.11. Analysis of Results

The analysis result based on the collected data and the theoretical framework through the data collection instruments. Consequently, the analysis focuses on the results of the regression analysis to support result obtained from document review for the selected banks determinants of adopting of E-banking service in awash bank customers. Those selected factors are technological factors, environmental factors, organizational factors and trust on the system.

Per the result of the regression analysis above, the research hypothesis "H1: There is positive Relationship between technological factors and adoption of E banking Services" is supported and have positive effect with the adopting of e-banking. Per the result of the regression

analysis above, the research hypothesis "H2: There is negative relationship between environmental factors and adoption of E banking services" is supported. The results are consistent with the findings of Gardachew (2010); Tan & Wu (2002); Martinson (2001); Trappey et al. (2001); Wondwossen and Tsegai (2005); Efendioglu (2004); Scupola (2003); Quaddus & Hofmeyer (2007); Gibbs et al. (2003); and Kuan 2001; and Iacovou (1995) who found environmental factors such as low internet access, lack of government support, lack of available ICT infrastructure, limited legal framework, and competitions that hinders the adoption of E- banking in one way or another and the environmental factor have a negative effect and significant relationship .Per the result of the regression analysis above, the research hypothesis "H3: There is negative relationship between organizational factors and adoption of E banking Services." is supported. The study results are consistent with the findings of Daghfous and Toufaily (2007); Ayana(2010); Wondwossen and Tsegai (2005); and Gardachew (2010) who found organizational factors such as financial and human aspects have a positive effect in adoption of E banking. Per the result of the regression analysis above, the research hypothesis "H4: have positive relationship between trust on the system and adoption of E banking Services" is supported.

Table 4.24 Summary of Actual and Expected sign of Explanatory variables

Hypothesis	Variables	Expected sign	Actual sign	Rejected/not rejected
H1	Technological factors	positive	positive	not rejected
H2	Environmental factors	negative	negative	not rejected
H3	Organizational factors	negative	positive	Rejected
H4	Trust on the System	positive	positive	not rejected

CHAPTER FIVE

5. SUMMARY, CONCLUSION ANDRECOMMENDATION

5.1. Introduction

The primary purpose of this study is to explore determinants of adopting e-banking service in the case of south Addis Ababa district awash bank customers. To explore the determinant of the adoption of e- banking the researcher try to prepare different questionnaire and filled by the respondent and the result of summary is discussed in chapter four. This chapter, based on the discussion in chapter four, presents the summary finding, conclusions and recommendations of the study.

5.2. Summary of Findings

The objective of the study was to explore the determinants of adopting of e-banking service in the case of south Addis Ababa district awash bank customer sunder the cursory of integrated Technology-Organization-Environment (TOE) framework and Technology Acceptance Model (TAM) with some modification the study accordingly described a number of barriers and benefits/drivers in adopting e-banking.

 Trust on the technological innovations used with banking sector is described in the study as technological problem. The most problems in adopting e- banking system conferred in this study come from the external environments like; lack of ICT infrastructure including poor network and internet connectivity, lack of legal framework that enforce banking industries to adopt such technological innovation, lack of sufficient government support and absence of competition from foreign banks.

 Financial and human resources are considered in the study as organizational factors. Respondents agreed on Implementing technological innovation requires high investment cost; Banks require skilled human resource in order to implement E- banking and lack of technical and managerial skills to implement e-banking system as barriers for the adoption of e-banking in Ethiopia. Finally lack of trust on the system is considered as a major factor to adopt e- banking in awash bank.

The study also identified benefits of e-banking adoption, such as saving time and cost of users, increased productivity of bank, improves customer service, create wider market coverage, simplify banking activity for staff, reduce bank hall queue, accessible without time limit and enhance access to the bank service by both existing and new customers.

5.3. Conclusion

The study findings revealed that the banking sector in Ethiopia is eager to adopt the e-banking system as an alternative service delivery channel by identifying its main barriers and drivers. The e- banking system presents an opportunity for speedy expansion at lower cost by leveraging on the existing investment of retail agents through implementation of information and communication technology.

E- banking are not well adopted by Ethiopian banking industry due to lack of suitable legal frameworks, low level of ICT infrastructure, lack of customer's trust, lack of government support and awareness towards the technology and customers' fear to use the technologies that holds banking industry to adopt the system. Improvements are required to enhance client confidence towards the system. Lack of competitions from foreign banks is also another challenge in adopting the e- banking in the country. The prevailing technical and managerial skills available in the Ethiopian banking industry towards adopting the e-banking, culture of the society, reluctant to change, high level of illiteracy are found to be limited to influence the technological adoption rate.

In general, the findings of the study highlight factors determine the adoption of e- banking in Ethiopian Banking industry. Barriers identified in this study while adopting the e-banking services may help to cursor the best alternative course of actions to enhance its development. It will also be valuable by increasing awareness and understanding towards the system.

5.4. Recommendations

Based on the above conclusion the researcher recommends the following points that will help the banking industry of Ethiopia in minimizing the factors that face the adoption of ebanking;

- Without an adequate development level and quality of a national ICT infrastructure, Ebanking adoption and use cannot do well, so the government has to support banking industry by investing on ICT infrastructure development.
- Banks should launch campaigns to create direct awareness to users, on issues such as privacy and security of e banking system , together with relative advantages of using E-banking products and continuously review and upgrade the existing system of security to the level that minimize risk .

- National Bank of Ethiopia, (NBE) needs to urgently establish a comprehensive legal and regulatory frame works on the use of technological innovation and the use of third party retail agents in banking sector.

5.4.1. Limitations and Further Research Areas

This study was conducted to explore determinants of adopting e-banking Service targeting to awash bank customers found on south district of Addis Ababa. Hence, the following could be considered for future research: -

✓ The study on determinants of adopting E-banking service focusing on the south Addis Ababa district of Awash bank customer. However, it can have extended to a more comprehensive study that incorporate on other districts of Addis Ababa and upcountry (Outside of Addis Ababa).

✓ The study can also be extended to include other private Commercial Banks found in Ethiopia so that the findings can be useful to conclude about E-banking services in Ethiopian context.

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Appendix
St. Mary's University School of Post graduate
Program Questionnaire

Dear Respondent, I am a graduate student at St. Mary's University School of post graduate. I am undertaking a survey on determinants of the Adoption of Electronic Banking in the case of Awash bank, in partial fulfillment of the requirement for the award of a Master of General Business Administration. I, therefore request for your kind assistance in completing the attached questionnaire to the best of your knowledge. The information you give will be treated with strict confidence and is solely will be used for academic purposes. A copy of the final report will be availed to you upon request. I would like to express my sincere appreciation for your time, honest and prompt responses. Thank you.

Bezawit Hailemichale

	Environmental factor	SD	D	N	A	SA
1	My bank has adequate ICT infrastructure to conduct e-banking.	1	2	3	4	5
2	The quality of internet connection and mobile network significantly affects e- banking.	1	2	3	4	5
3	Ethio Telecom provided high speed internet and mobile connection.	1	2	3	4	5
4	My bank has regulatory guidelines on e-banking.	1	2	3	4	5
5	It is difficult to perform E-banking because of absence of suitable legal and regulatory framework for e-commerce and e-payment.	1	2	3	4	5
6	The Government promotes e- banking for its citizens.	1	2	3	4	5
7	The government providing necessary infrastructural facilities (road, electric power, telecommunication and etc) to remote area of the country in order to facilitate e-banking adoption.	1	2	3	4	5

8	There is high competition between local banks on e- banking services.	1	2	3	4	5
ORGANIZATIONAL FACTORS		S D	D	N	A	S A
1	Implementing technological innovation requires high Investment cost.	1	2	3	4	5
2	Banks require skilled human resource in order to implement e-banking.	1	2	3	4	5
3	Banks require skilled IT personnel's in implementing technological innovation.	1	2	3	4	5
4	Technical and managerial skills of staffs on using technological innovation have influence on adoption e-banking.	1	2	3	4	5
5	Unavailability of competent and skilled employee in related with e banking is the challenge for banks to practice e-banking.	1	2	3	4	5
Technological Factor		S D	D	N	A	S A
1	Security aspects considered as barrier for implementing of E-Banking.	1	2	3	4	5
2	Customers do not trust the technology of e-banking.	1	2	3	4	5
3	Customers fear risk of new technology innovation.	1	2	3	4	5
4	Customers do not trust the technology provided by the banks	1	2	3	4	5
5	E- Banking services are convenient in terms of time saving.	1	2	3	4	5
6	E-banking services are accessible without time limit.	1	2	3	4	5

	Trust on system	S D	D	N	A	S A
1	Customers have high degree of trust on the bank and are satisfied with security	1	2	3	4	5

		1	2	3	4	5
	of electronic banking service provided by the Bank.					
	Adoption	1	2	3	4	5
1	I have used electronic banking.	1	2	3	4	5
2	I strongly recommend the use of electronic banking.	1	2	3	4	5
3	I will increase my use of electronic banking.	1	2	3	4	5

ቅድስት ማሪያም ዩኒቨርስቲ ድህረምረቃት ምህርት ክፍል የቢዝነስ አድሚንስትሬሽን ትምህርት ጥናታዊ ቃል መጠየቅ

እኔ በቅድስት ማሪያም ዩኒቨርስቲ የሁለተኛ ዲግሪ ቢዝነስ አድሚንስትሬሽን (MBA) ሁለተኛ አመት ተማሪ ስሆን የመመረቂያ ጽሁፌን በአዋሽ ባንክ ውስጥ የኤሌክትሮኒክ ባንኪንግ ተፅኖ ፈጣሪ ሁኔቶች, Determinants of adopting ebanking service in the case of awash bank) ላይ ጥናት በማካሄድ ላይ ነኝ:: ስለሆነም ከዚህ በታች የተዘረዘሩት መጠይቆች ባለፀ የእውቀት ደረጃ በመሙላት እንዲተባበሩኝ እየጠየኩ የሚሰጡት መረጃ ለጥናቱ አልግሎት ብቻ የሚዉሉ ይሆናል::የመጨረሻ ሪፖርት ግልባጭ በጠየቁ ጊዜ ይመለስልዎታል:: ለጊዜዎ,ታለማኝነት እና ለፈጣን ምላሽዎ ያለኝን ልባዊ ምስጋና መግለጽ እፈልጋለሁ::

አመሰግናለሁ::

ቤዛዊት ሃይለሚካኤል

አጠቃላይ መመሪያዎች

ስምዎን መፃፍ አያስፈልግም.

የምርጫ ጥያቄዎችን እባክዎት ትክክለኛ መልሶን (√) ምልክት በማድረግ ይመልሱ ማብራሪያ ለሚያስፈልጋቸው ጥያቄዎች እባክዎ በተሰጡት ክፍት ቦታዎች በማብራራት በትክክል የሚሰማማዉን ሃሳብን ይግለፁ::

ክፍል1: ስለ ራስመጠይቅ

እባክዎ ምላሽዎን ፈት ለፈት ባለዉት ክፍት ቦታዎች ላይ(√) ምልክት በማድረግ ያመልክቱ

1. ፆታ:

ወንድ ☐ ሴት ☐

2. ዕድሜ:

ከ 20 በታች   ከ20 እስከ 30ዓመት   ☐

ከ31 እስከ 40 አመት   ከ40 እስከ50አመታት   ከ50 ዓመትበላይ   ☐

3. የትምህርት ደረጃ:

12ኛ ክፍል እና በታች   ሀ☐ ድግሪ   ☐

የመጀመሪያ ድግሪ ያለው/ያላት □ከሁለተኛ ድግሪ በላይ □

4. ወርሃዊ ገቢ:

ከ 2,000ብርበታች □ከብር 2,000 እስከ 3,999 □

ከብር4,000 እስከ 4,999 □ከብር 5,000 እስከ 9,999 □

ከ 10,000 በላይ □

ክፍል ሁለት- የዎኪል ባኪንግ እና ኤሌክትሮኒክ ባንኪግ በአዋሽ ባንክ ላይ ተፅዕኖ ፈጣሪ ሁኔቶች።

ከዚህ በታች የዎኪል ባኪንግ እና ኢ-ባንኪግ በተመለከት የተዘረዘሩ እነገሮች ምን ያህል እንደሚስማሙበት ከቀረቡት አማራጮች ውስጥ ይህን (v) ምልክት በመጠቀም ያሳውቁ።

1 በከፍተኛ ደረጃ አልስማማም (አል) 2-አልስማማም (አ) 3-ገለልተኛ (ገ) 4-እስማማለሁ (እ) 5-በከፍተኛ ደረጃ እስማማለሁ (ከአ)

	አካባቢያዊ ተግዳረቶች	SD	D	N	A	SA
1	እኔ እምጠቀምበት ባንክ ኢ-ባንኪንግን ለመተግበር በቂ የቴክኖሎጂ መሰረተ ልማት አለው	1	2	3	4	5
2	የመረጃ መረብ ግንኙነት (Internet)ጥራት በኢ-ባንክንግ አገልግሎት ላይ ከፍተኛ ተፅዕኖ አለው።	1	2	3	4	5
3	የኢትዮጵያ ቴሌኮምኒኬሽን ከፍተኛ ፍጥነት ያለው የኢንተርኔት አገልግሎት እየሰጠ ይገኛል።	1	2	3	4	5
4	የእኔ የምጠቀምበት ባንክ የኢ-ባንኪንግን አገልግሎትን በተመለከት የቁጥጥር መመሪያዎች አለት።	1	2	3	4	5
5	የመረጃ መረብ ግንኙነት (Internet) ጥራት በኢ-ባንኪ አገልግሎት ላይ ከፍተኛ ተፅዕኖ አለው።	1	2	3	4	5
6	ተስማሚ የኤሌክትሮኒክ ግብይት እና ክፍያ የህግ እንዲሁም የቁጥጥር ማዕቀፍ ባለመኖሩ ምክንያት ኢ-ባንኪንግን ተግባራዊ ለማድረግ አስቸጋሪ ነው።	1	2	3	4	5
7	ዜጎች ኢ- ባንኪንግን እንዱጠቀሙ መንግስት ያበረታታል።	1	2	3	4	5

8	መንግስት አስፈላጊ መሰረተ ልማቶችን (የመንገድ, የኤሌክትሪክ ኃይል, የቴሌኮሙኒኬሽን እናወዘተ) በገጠር የሃገራችን ክፍሎች በማድረስ ህብረተሰቡ የኢ-ባንኪንግ አገልግሎትን ተጠቃሚ በማድረግ ላይ ነው::	1	2	3	4	5

	ድርጅታዊ ተግባራቶች	SD	D	N	A	SA
1	የቴክኖሎጂ ፈጠራን ተግባራዊ ማድረግ ከፍተኛ የኢንቨስትመንት ወጪ ይጠይቃል::	1	2	3	4	5
2	ባንኮችንየኢ-ባንኪንግ አገልግሎትን ለማስጠት የተማረ (የሰለጠነ) የሰው ሃይል መጠቀም ይጠበቅባቸዋል::	1	2	3	4	5
3	ባንክ በኢባንኪንግን ተግባራዊ ለማድረግ በኢንፎርሜሽን ቴክኖሎጂ የ ትምህርት መስክ የሰለጠነ የሰው ሃይል መጠቀም አለባቸው::	1	2	3	4	5
4	የሰራተኞች የቴክኒክ እና የአስተዳደር ክህሎቶች በቴክኖሎጂ ፈጠራዎችን አጠቃቀም ደረጃ በኢ-ባንኪንግአገልግሎት አሰጣጥ ላይ ተፅዕኖ ያሳድራሉ:	1	2	3	4	5
5	በኢ-ባንኪንግ ዕውቀትና ክህሎት ያላቸው ሰራተኞች አለመኖራቸው ኢ-ባንኪንግን ለመተግበር ፈታኝ ሁኔታ ይፈጥራል::	1	2	3	4	5

	በአሰራር ላይ ያለው እምነት	SD	D	N	A	SA

	የቴክኖሎጂ ተግዳሮቶች	SD	D	N	A	SA
1	የደህንነት ሁኔታዎች ኢ-ባንኪንግን ለመተግበር እንቅፋት ይሆናሉ።	1	2	3	4	5
2	ደንበኞች ባንኩ በሚስጠው የኢ-ባንኪንግ ቴክኖሎጂ ላይ እምነት የላቸውም ።	1	2	3	4	5
3	ደንበኞች አዲዱስ ቴክኖሎጂዎችን ለመጠቀም አይፈልጉም(ይሰጋሉ)፡፡	1	2	3	4	5
4	ደንበኞች በባንኮች የሚቀርቡላቸውን ቴክኖሎጂዎችን አያምኑም።	1	2	3	4	5
5	የኢ-ባንክ አገልግሎቶች በጊዜ ቆጠባ ረገድ አመቺ ናቸው።	1	2	3	4	5
6	የኢ-ባንኪንግ አገልግሎቶች የጊዜ ገደብ የላቸውም።	1	2	3	4	5

1	ደንበኞች ባንኩ በሚሰጠው የኤልክትሮኒክ ባንክ አገልግሎት ላይ ከፍተኛ የሆነ እምነት ዋስትና እና እርካታአላቸው።	1	2	3	4	5
	አቀባበልን በተመለከተ	1	2	3	4	5
1	የኢ-ባንኪንግ ተጠቃሚ ነኝ።	1	2	3	4	5
2	ሌሎች ሰዎች የኢ-ባንኪንግ ተጠቃሚ እንዱሆኑ በሰፈው እመክራለሁ	1	2	3	4	5
3	የኢ-ባንኪንግ አጠቃቀሜን ለመቸመር ዝግጁ ነኝ።	1	2	3	4	5

Appendix – B
Interview

Section one: Interview questions designed for the managers of awash bank.

1. In your opinion what are the major factors in your institution to practiceE-banking.
2. Do you think that government policy have impact on the practice of E- banking system?
3. What sort of support would you expect from the government in relation to the E-banking improvement in Ethiopia?

Section two: Interview questions designed for the NBE

1. Is there any legal framework at central bank to enforce bankingindustries to use E-banking system?
2. Is there any special rule that guide banking industries in implementation of E-bankingsystem?
3. Why Ethiopian government did not allow foreign banks to operate in the country? Do youthink it discourage Ethiopian banking industry, from the adoption of technological innovation and compete with foreignbanks?
4. Is there any motivation factor which is set by government to startE-banking?