

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

Nowadays, banks are aware of opportunities and threats of webs. Compared with traditional channels of offering banking services through physical branches, e-banking systems use Internet to provide services for their customer, opening accounts, transferring fund and electronic bill payment. The main goal of the establishing electronic banking is to offer selective, reflexive and cost-effective services to customers. Just with a simple click, users can manage their processes faster than before. The emergence of Internet banking has promoted many banks to review their IT strategies in order to remain competitive. Users demand on banking services, they want new levels of convenience and flexibility. Internet banking has allowed bank systems and financial institutions providing these services through exploiting and extensive public network infrastructures (Temullo 1997) cited on Azam & Abdolvahab(n.d, p.1).

Competition among financial institutions is as tough as ever. Customers are knowledgeable and demanding. New products have to be developed, tested and launched. Delivery channels are more varied and complex. Faced with such an array of challenges, banks need to modernize their business operating models and their technology components if they are to benefit fully from the next period of growth. Indeed, if they do not so, they are likely to fail not necessarily in the sense of going into liquidation, but in the sense of failing to satisfy customers, failing to maintain revenues and profits and, most important of all, failing to please shareholders (Michael & Gary,2012).

The term electronic banking can be described in several ways. In very simple terms it means the provision of information or services by a bank to its customers, via a computer, television, telephone, or mobile phone. It has an electronic connection between bank and customer in order to prepare, manage and control financial transactions (Daniel, 1999).

The appearance of E-banking in Ethiopia goes back to the late 2001, when the largest state owned, commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users.(Ayana,2014) Electronic banking facilities provided by most Ethiopian Banks are very basic. However e-banking facilities provided are at par with those in the region.

According to NBE 2016/2017 annual report, Banks, insurance companies and microfinance institutions are the major financial institutions operating in Ethiopia. The number of banks stood at 18 of which 16 were private and the remaining two state-owned.

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 research is designed to study the E-banking adoption situation in DB focusing on opportunities and challenges.

Technology by itself will not deliver a competitive advantage; what banks do with it to develop a unique, personalized customer experience will matter most of all. In the future, the competition between banks will be towards reaching the unbanked through various electronic channels mainly through mobile. Mobile banking service is promising to reach the unbanked. Mobile banking is a subset of e-banking in which customers' access a range of banking products like saving accounts and credit instruments via electronic channels.

1.2. Back ground of the Organization

The organization under study is Dashen Bank S.C, the bank has been established on September 20, 1995 as a share company with an authorized and subscribed capital of birr 50 million. The bank coined its name from the highest peak in the country; “mount Dashen” aspires to be unparalleled in banking. Headquartered in Addis Ababa, it is the biggest private bank in Ethiopia. It operates through a network of 303 area banks, ten dedicated Forex bureaus, 205 ATMs and 837 point of sale (POS) terminals spread across

the length and breadth of the nation.it has established correspondent banking relationship with 461 banks covering 72 countries and 172 cities across the world.

The bank is also the most reputable brand in the domestic banking market, a reputation earned through consistent delivery of values and preeminence unmatched by its competitors. The bank also works in partnership with leading brands in the electronic payments industry (VISA, MasterCard Union Pay and American express) and prominent money transfer operators (Western Union, MoneyGram, Xpress Money, Dahabshiil, EzRemit, Trans Fast and Ria)

It is one of the leading private banks in Ethiopia. The bank is the pioneer in Ethiopia to launch full-fledged payment card service that enables customers to withdraw cash whenever they are in need and procure goods and services from various commercial locations. Presently it's paid up capital and legal reserve (primary capital) has recorded over birr 4 billion as of June 30th, 2017.

The strategy of leveraging technology to drive product and service innovation has been a hallmark of Dashen's success over the years and it will continue to be a key component to shape the future of Ethiopian banking, thereby creating unprecedented opportunity and value for customers. In conjunction with branch expansion, the Bank is reinforcing its investments in digital banking channels, including ATMs, mobile banking, internet banking and agency banking, representing a unique capability to deliver convenient banking. Currently, Dashen Bank ATMs and POSs welcome international cards including Visa, MasterCard, Union Pay and American Express. During 2017, 123,198 customers joined the card banking service, which raised the total number of cardholders by 28% to 556,688. Number of internet and mobile banking users have been on the rise too.

Following the strategic partnership established with American Express, Dashen Bank started not only accepting but also issuing Amex Gold & Green Cards. With the new cards, Dashen bank welcomes its customers to a world of privileges including cash-backs, discounts on purchases and higher transaction limits. This strategic alliance reaffirmed the Bank's continued aspiration to set landmarks in the Country's banking

industry. The Bank was able to secure USD 50.6 million from acquiring international cards (DB annual report, 2017).

Recently, DB started Mobile and Agent Banking with a total investment cost expected to reach Birr 7.6 million and got license from NBE on August 19, 2014 save live certification. By the end of June, 2017, DB managed to subscribe and to sign a total of 10,353 internet banking users. Up on implementation, DB targets two distinct markets based on geographical location of potential customers. The first one is to have potential customers that are new or rare users of banking services. The second target market is to have potential customers who have basically access to banking services at a reasonable distance, but their utilization is limited due to various reasons like level of income, age and physical status. (EBSD annual report, 2017).

1.3. Statement of the problem

Technology is making a tremendous impact upon service companies in general and the financial services sector is no exception. The application of information and Communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamentals importance and concerns to all banks and indeed a prerequisite for local and global competitiveness in banking industry. As a result of this technological improvement business environment in financial sector is extremely dynamic and experience rapid changes and demands banks to serve their customer electronically. The evolution of e banking started from the use of Automatic Teller Machine (ATM) and Finland is the first country in the world to have taken a lead in e-banking (Worku & Tafa, 2016).

At the end 2017 Fiscal year, there were eighteen commercial banks operating in Ethiopia, of these sixteen are private commercial banks while the rest two are state owned banks. Despite a rapid increase in the number of financial institutions since financial liberalization, the Ethiopian banking system is still underdeveloped compared to the rest of the world. (NBE annual report, 2016/ 2017). Even though customers regard quality of service as the most important aspect of their banking experience, they also value relevant, competitively priced and innovative products, and effective delivery channels.

The challenge for banks, therefore, is to keep abreast of developments in these two areas. Despite the advent of ATMs, kiosks, plastic cards, telephone banking, online banking and now mobile banking, many customers still regard the branch as an important channel even the most important channel for interacting with their bank (Michael & Gary, 2012).

In Ethiopia there are more than 18 million mobile holders which provide more opportunities for financial institutions to reach the unbanked areas. The numbers of mobile holders are near to fold of the number of bank account holders in the country. The mobile phone subscribers' penetration rate is increasing in each year. Such development in mobile phone subscribers implies an immense potential in reaping the benefits from m-banking service (Birritu Magazine, 2015: No-119, p-21).

Considering the low extent of development of ICT infrastructure in developing countries, when compared with the developed countries E-banking has not really been able to diffuse into society given the low rate of internet access (Banji & Catherine, 2004). Therefore, this study intended to Show opportunities and challenges in the adoption of E banking service focusing on DB in light of the research problems discussed above and to fill the existing gap of limited research availability.

1.4. Research Questions

The major research questions to be addressed were:

- What are the major challenges in the adoption of E banking services in DB?
- What are the major opportunities on the adoption of E banking services?
- What are the benefits of E banking?

1.5. Objectives of the Study

1.5.1. General objectives

The general objective of this study is to identify the opportunities and challenges on the implementation of E banking service in Dashen Bank.

1.5.2. Specific objectives

- To identify the major challenges for the adoption of E banking in DB
- To assess the existing opportunities that E banking service provision brings to DB
- To identify the perceived benefits that can be obtained from the adoption of E-banking system in Dashen bank.

1.6. Definition of terms

E-banking is the use of a computer to retrieve and process banking data (statements, transaction details, etc.) and to initiate transactions (payments, transfers, requests for services, etc.) directly with a bank or with other financial service provider remotely via a telecommunications network (Yang 1997, p.2). It should be noted that electronic banking is a bigger platform than just banking via the internet.

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).

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

Mobile banking: means performing banking activities which primarily consists of opening and maintaining mobile/regular accounts and accepting deposits; furthermore, it includes performing fund transfer or cash-in and cash-out services using mobile devices (NBE Directive, FIS-01-2012).

Internet banking allows customers of a financial institution to conduct financial transactions on a secure website operated by the institution, which can be retail or virtual bank, credit union or a society. It may include any of transactions related to online usage. Banks increasingly operate

websites through which customers are able not only to inquire about account balances, interest and exchange rates but also to conduct a range of transactions.

Unfortunately, data on Internet banking are scarce, and differences in definitions make cross-country comparisons difficult (Alabar, 2012).

Agent banking: a banking agent is a retail or postal outlet contracted by a financial institution or a mobile network operator to process clients' transactions. Rather than a branch teller, it is the owner or an employee of the retail outlet who conducts the transaction and lets clients deposit, withdraw, and transfer funds, pay their bills, inquire about an account balance, or receive government benefits or a direct deposit from their employer. Banking agents can be pharmacies, supermarkets, convenience stores, lottery outlets, post offices, and many more. (*Wiki for banking agent, 2015*).

1.7. Significance of the study

There are limited works that has been carried out on E banking service in Dashen bank. To that effect, the study adds up the knowledge on E banking. The result of the study could have multiple benefits. One of the most important is that the findings can be used to bring about improvements in E banking service, thereby, satisfaction of existing key customers and possibility of attracting potential users. In addition it can help the bank to reallocate resources in areas that have greater influence on customer satisfaction. The study could also be used by other researchers as a reference who wants to study further in this or related areas. Moreover, the study was an opportunity to the researcher to apply the theoretical knowledge and to provide additional information to existing literature on opportunities and challenges of implementing E banking services.

1.8. Scope of the Study

The research project was confined only to the challenges and benefits of implementing e-banking services in DB limiting its scope to Addis Ababa area. Hence, the study tries to address clerical staff of EBSD, IT department and ten selected Addis Ababa Area Banks. The study focused on ten selected Addis Ababa Area Banks and two Departments could be extended to a more comprehensive study that incorporate upcountry (Outside of Addis Ababa) Area Banks of DB .It could also be stretched to include all other Commercial

Banks found in Ethiopia so that the findings can be useful to conclude about E-banking services in Ethiopian context.

1.9. Limitations of the Study

This research is limited by the fact that a small sample of participants selected and could not represent the attitude of the entire population. This limitation makes the study difficult to generalize and apply the result to the entire population.

Lack of cooperation of respondents in providing the necessary data, lack of up-to-date literatures on the areas of the study and negligence of some respondents to respond the questionnaire completely, frankly and timely has been challenging and becomes one of the limitations of this study.

1.10. Organization of the study

This study is divided in five chapters. The first chapter contains the introduction part. The second chapter presents related theories and previous studies related to the topic (literature review). The third chapter contains research design and methodology used in this study. In chapter four the data collected during the data collection process were presented that is it contains an analysis of the empirical data. Finally chapter five summaries of findings, conclusion and recommendations presented.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The increasingly competitive environment in the financial services market has resulted in pressure to develop and utilize alternative delivery channels. The most recent delivery channel to be introduced is electronic or online banking. E-banking has been defined in many ways by different scholars; Daniel (1999) defines electronic banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as personal computers and mobile phone with browser or desktop software, telephone or digital television.

Kamrul, 2009 defined E-banking as a form of banking where funds are transferred through an exchange of electronic signals between financial institution, rather than exchange of cash, checks or other negotiable instruments E-banking refers to electronic banking. It is like e-business in banking industry. E-banking is also called as "Virtual Banking" or "Online Banking". E-banking is a result of the growing expectations of bank's customers (Shraddha et al, 2014).

In its very simplest form, electronic banking can mean the provision of information about the bank and its products via a page on the World Wide Web (WWW).(Daniel 1999) .Electronic banking is an automated delivery of new and traditional banking products and services, using electronic channels, like computers and telecommunication technologies. The e banking, customers, either individual or business wise could access their accounts enquiries; make transactions via using electronic channels (Muhammad et al, 2016).

In simple words, e-banking implies provision of banking products and services through electronic delivery channels. Electronic banking has been around for quite some time in the form of automatic teller machines (ATMs) and telephone transactions. In more recent times, it has been transformed by the internet a new delivery channel that has facilitated banking transactions for both customers and banks (Worku & Tafa, 2016).

E-banking is a generic term for delivery of banking services and products through electronic channels, such as the telephone, the internet, the cell phone, etc. The concept and scope of e-banking is still evolving. It facilitates an effective payment and accounting system thereby enhancing the speed of delivery of banking services considerably (Worku & Tafa, 2016)

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

The popular services covered under E-banking includes:- Automated teller machines, credit card, debit cards, smart cards, electronic funds transfer(EFT) system, cheques truncation payment system, mobile banking, internet banking, telephone banking, etc.

2.2 The Evolution of E- Banking System

The evolution of e-banking started from the use of Automatic Teller Machine (ATM) and Finland is the first country in the world to have taken a lead in e-banking (Worku & Tafa,2016) Electronic innovation in banking industry can be traced back to 1970, when the computerization of financial institutions gained momentum (Malak, 2007), However; a visible presence of this was evident to the customers since 1980, with the introduction of ATM. Innovative banking has grown since then, aided by technological developments in the telecommunications and information technology industry. The early decade of the 1990s witnessed the emergence of automated voice response (AVR) technology. By using the AVR Technology, banks could offer telephone banking facilities for financial services. With further advancements in technology, banks were able to offer services, through PC owned and operated by costumers at their convenience, through the use of intranet propriety software.

The users of these services were, however, mainly corporate customers rather than retail ones (Sohail & shanmugham 2003). The security first network bank was the first Internet banking in the world that was built in 1995 in USA. After that some famous banks introduced their internet banking one after another, such as Citibank and bank of America.

2.3 E-Banking System in Ethiopian Banking Industry

The appearance of E-banking in Ethiopia goes back to the late 2001; when CBE introduced the service for local users with its eight ATMs located in Addis Ababa (Gardachew, 2010). Then after DB comes to the picture in the year 2006 with its ATMs that provide service for local Dashen Visa Card holders and international Visa Cardholders coming to Ethiopia. United Bank S.C is the first to introduce Tele-banking - including text messages or SMS by the end of 2008. Currently, United Bank starts to deliver E banking services like ATM, internet, mobile and agent banking. (United Bank SC web report, 2015).

Wegagen Bank is introducing a Core Banking System as of July 2000 that helps to connect its Head Office & all branches through network. Through its versatile ISO Standard Core Banking system, the Bank is now delivering more efficient services to its customers. The system has also enabled the Bank to provide technology based banking services such as Card payment services (through ATM & POS), internet banking as well as mobile banking services. (Wegagen Bank SC web report, 2015).

Zemen Bank has launched prepaid bank cards which can be used without opening a deposit account at the bank. The cards will have preloaded funds, which can be withdrawn from ATMs or used to make purchases from POS terminal. The prepaid cards will be given to the cardholders with a PIN to withdraw the cash. The prepaid cards can be used as gift cards or employee salary or expense cards, which can avoid the need to carry around a large amount of cash.

The cards can be preloaded with a minimum of 100 Br. And a maximum of 50,000.00 Br. and reloaded after the previous funds have been fully utilized. The bank will take a commission each time a card is loaded (Fortune, 2012).

Currently, there are only a few agreements in place to share ATM resources. The first was the Premium Switch Solutions (PSS), which was established by three banks in 2009 namely Awash International Bank S.C., Nib International Bank S.C and United Bank S.C., with a capital of 165 million Br, and now has six member banks, including Awash International Bank S.C., United Bank S.C., Nib International Bank S.C., Berhan International Bank S.C., Addis International Bank S.C and the Cooperative Bank of Oromia S.C. It is the first certified Third Party Payment Processor by the regulatory party, National Bank of Ethiopia starts its operations in July 2012. Moreover, PSS has made its system certified by VISA, Master Card and Union pay.

Hence, members connected to PSS network can issue and acquire cards with these brands. Per the plan of PSS, there will be one ATM at every branch of the consortium banks, all domestic airports serviced by commercial service, shopping complexes and merchants. The agreement is the first significant cooperation between competing banks in Ethiopia, which others should be encouraged to follow as there is no single bank in Ethiopia that can afford to provide extensive Geographical coverage and access (Binyam, 2009, cited in Gardachew,2010).

Though there is no official statistic on the banking services of the country it is estimated that out of a total population of 80 million, less than 10% are getting banking services. Cash remains as the main method of payment especially among individuals. Although the number of bank account holders is increasing since the liberalization of banking industry in the country, the account holders are mainly high- income earners and urban areas. This may due to the concentration of bank branches at the major cities and towns.(Worku & Tafa,2016).

2.4 Empirical studies related with E-banking adoption

Related studies were conducted on the factors that affect implementation of E-banking. But relatively not much is done in Ethiopia. Under this section some of the researches conducted in different parts of the world discussed.

There are limited numbers of studies conducted in Ethiopia on the adoption of technological innovation. Specifically, Gardachew (2010) conducted a research on the opportunities and challenges of E-banking in Ethiopia. The aim of his study was focused on analyzing the status of electronic banking in Ethiopia and investigates the main challenges and opportunities implementing e-banking in Ethiopia.

The author conducted a survey on the existing operating style of banks and identifies some challenges of using E-banking system, such as, Low level of internet penetration and poorly developed telecommunication infrastructure, Lack of suitable legal and regulatory framework for e-commerce and e-payment, Political instabilities in neighboring countries, High rates of illiteracy, High cost of Internet, Absence of financial networks that links different banks (Banks are not yet automated), Frequent power interruption and Resistance to changes in technology among customers and staff.

According to Gardachew (2010), Opportunities offered by ICT through e-learning programs and Commitment of the governments on development of ICT infrastructures is considered as drivers of using E-commerce and E-payment systems.

Ayana (2014) also studied on factors that affect adoption of E-banking in the Ethiopian banking industry. His drive was studying the major barriers Ethiopian banking industry faces in the adoption of Electronic banking. The author employs a mixed research approach to investigate challenges of E-banking in Ethiopian banking industry based on the data gathered from four banks in Ethiopia and The result of the study indicated the major challenges the banking such as, security risk, lack of trust, lack of legal and regulatory framework, Lack of ICT infrastructure and absence of competition between local and foreign banks.

According to Ayana (2014) to address the identified challenges measures such as: Establishing a clear set of legal framework on the use of technology in banking industry, supporting banking industry by investing on ICT infrastructure and banks need to be focused on technological innovation competition rather than traditional bases of retail bank competition which is a little bit similar with the finding of the previous study.

Wondwossen and Tsegai (2005) also studied on the challenges and opportunities of E-payments in Ethiopia; their objective was studying of E-payment practices in developing countries, Africa and Ethiopia. The authors employs interview and on site observation to investigate challenges to E-payment in Ethiopia and found that, the main obstacles to the development of E-payments are, Poor telecommunication infrastructure , Frequent power disruption , People are resistant to new payment mechanisms , Lack of skilled manpower Unavailability of payment laws and regulations particularly for e-payment.

According to Wondwossen and Tsegai (2005) clearly stated regulatory and legal framework for ICT is essential for creating a certain and reliable environment for economic agents it could also foster the use of E-payments.

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

adoption of E-banking, among the structural characteristics, the result revealed that internal technological environment of the bank is a very important factor In determining the adoption of E-banking, also the result shows that banks which are developing in the international scale are more likely to adopt E-banking innovations. Finally the result of the study indicated that extent of penetration of E-banking in the growth phase of an emerging market has an important correlation with the improvement of commercial performance.

The other descriptive case study analysis conducted by Khalfan et al (2006) on “Factors influencing the adoption of internet banking in Oman, aimed to identify the main potential factors or impediments that are currently inhibiting the incorporation or adoption of E-commerce applications in the Omani Banking sector. Data, used in their study were collected using semi structured interviews and survey questionnaire as well as reviewing some bank documents. The results of their study provide a Pragmatic picture about the adoption of E-Commerce applications in the core financial sector domain of Oman. One of the main findings is that security and data confidentiality issues have been a major barrier. The banking sector was reluctant to use E-commerce applications as they felt that transactions conducted electronically were open to hackers and viruses, which are beyond their control. Lack of top management support is the other inhibiting factor in the adoption of electronic commerce applications as per their finding.

Similarly the study of Ghazi and Khalid (2012), found that, the most important barriers for E-business growth are technological issues, such as, security risk, quality of internet and cost of implementation to be the most prominent.

The study of Shah et al. (2005) on critical success factors (CSF) in E-Banking conducted in United Kingdom, aims to determine the critical issues related to financial sector organizations when they establish businesses online. The survey method was used by researchers which target the financial sector in the UK. The study indicates that Understanding the CSFs in E-banking is important for senior management of banking related organizations, because it would potentially help them improve their strategic planning process. The analysis of the study indicates two major types of statistical analyses were conducted, descriptive statistical analyses and factor analysis. In

descriptive analyses, the factors (or variables) were ranked in order of their mean score, the highest score being the most important and so on. The top six factors in order of importance were: user-friendly website, systems security, support from top management, fast responsive customer service, promotion of electronic commerce within organization, and all time availability of services and rapid delivery of services.

Factor analysis, which was done to group together, related variables to uncover factors (in terms of factor analyses), found the following factors to be critical for the success in E-banking. Issues related to organizational flexibility and speed of services delivery were found to be at the top of the importance list. Issues related to organizational flexibility and speed of services delivery were found to be at the top of the importance list. Business processes and systems integration and enhanced customer services were next in the list of importance.

Polatoglu & Ekin (2001) conducted a research on an empirical investigation of Turkish consumer acceptance of internet banking and mention reliability as the prime factor in their finding for the adoption of new technological innovations, reliability consists of security and privacy in Internet Banking transactions. They go on to state that risks (security concern) include financial, physical or social risks associated when trying an innovation. They say that security risk is known to be as one of the major barriers in online banking adoption.

Zhao et al. (2010) in their study of "adoption of internet banking service in china" says trust in a bank is the fundamental because it deals with customers financial activities. Trust is not only important to reduce risk in Internet Banking in general but also it helps banks to build trust to be more competitive in the industry.

Gerrard et al. (2006) in their study in Singapore identify risk to be an important factor for Internet Banking adoption. All respondents who did not use Internet Banking services had a negative perception of the security in Internet Banking. The respondents perceived that there were many security risks when using the internet. They felt the privacy was a concern, feeling all their financial information could be in jeopardy. Risk was one of the

two most frequently mentioned factors in their study, “Concern about risk was mentioned by all respondents.

An empirical investigation conducted by Sathye (1999) on the adoption of Internet Banking by Australian consumers also identified, security concerns as key factor in internet banking adoption. A report on Internet Banking in Australia finds that, security concerns among banks and customers are keeping both away from Internet Banking” Sathye (1999). According to Sathye (1999) Security was identified as the biggest obstacle in adoption; it was found that 78 percent of personal and 73 percent of business respondents had security concerns when it comes to the use of Internet Banking. Thus, pointing out that personal users have more security concerns than business users. Sathye (1999) further state that, a survey conducted by Thorton Consulting (1996) in USA concluded that 67 percent of banks in the USA felt that security is a key anxiety in Internet Banking adoption. Banks tend to promote their security features in their services using technical terminology. This makes it difficult for normal customers to comprehend and resulting to a squander in the whole promotion.

In Laukkanen (2008) research, risk is considered as the most intense barrier and the greatest concern in the adoption of Internet Banking. However, in this study consumers feel human errors by themselves could cause a threat to their financial services. For example, losing their Personal identification number (PIN) codes and it may get it to the wrong hands and result in crime or theft. “A higher determinant of resistance appears to be the risk related to the individual’s perceived ability to use the innovation successfully, i.e. self-efficacy” Laukkanen (2008).

Sathye (1999) suggests that banks use positive publicity to its customers to help ease the response from customer on security. One of the major banks in Australia has taken responsibility in undertaking losses for any unauthorized use, with exception of certain circumstances.

However, in an empirical investigation in Turkey by Polatoglu & Ekin (2001) states that Internet Banking services introduced by large, well-known and trusted banks, because customer perceived security risk in these banks is assumed to be decreasing significantly. On the other hand the risk factor is a barrier to corporate customers of banks as well.

Balachandher et al. (2010) have completed a study on the barriers to internet usage on a corporate customer perspective and found that lack of trust on security issue is the main barrier. The study shows that corporate customers only use Internet Banking to a certain extent and feel banks should invest more on security infrastructure and banks should be willing to take full responsibility. These results are similar to the findings of different studies. For example in the study of Booz et al. (1997), security concern was the top ranked factor for users not adopting Internet Banking in Latin America.

Ram and Sheth (1989) argue that consumer resistance to the innovation is caused by functional barriers and psychological barriers. Functional barriers can be divided into three: the usage barrier, the value barrier and the risk barrier, whereas psychological barriers can be divided into tradition barrier and image barrier. According to Ram and Sheth (1989) functional barriers arise when consumers perceive changes would take place when adopting innovation and the psychological barriers are caused by consumer's beliefs.

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

A research conducted by D'Souza (2002) on the comparative performance of public and private sector banks in the decade of the 1990s shows that though the turnover ratio rose

in public sector banks (PSBs), the turnover per employee in private and foreign banks doubled relative to the ratio for PSBs. Also, this is not due to the presence of a large rural and semi-urban concentration of bank branches amongst PSBs but rather due to technological up gradation in the private and foreign banks. Private and foreign banks have changed the structure of their employment towards a higher skilled workforce by increasing the recruitment of officers and reducing clerical and subordinate staff.

The combination of higher technology and higher skills have posted a higher turnover for these banks as they have been able to provide better customer support and have managed their assets well.

The study of Aghdassi et al (2007) on “Association between strategic values and E-banking adoption in Iranian banks” attempts to understand strategic value of E-banking for Iranian banks and examine the causal effect of perceiving E-banking as a value and its adoption. The researchers propose an E-banking adoption model that is identifying five factors that have been found to be influential in the perception of strategic value of IT: performance support, operational support, managerial productivity and strategic decision aids. They also identified eight factors that influence electronic banking adoption: organizational readiness, Infrastructural readiness, external dependency, Intangible pressure, persuasive pressure, perceived ease of use, and perceived usefulness. Data are collected via a questionnaire-based survey from Decision maker unit of Iranian Banks. In order to test the model, a statistical analysis was conducted in two stages. The first step employed factor analysis to measure whether the number of factors and loadings of items involved in the two main constructs (perceived strategic value and adoption) conform to the proposed model, canonical analysis was utilized in the second step in order to explore how the perceptions of strategic value influence the decision to adopt E-commerce. The finding of their study indicated, that in a developing country like Iran and a big industry like banking, although the items of the adoption factors model are applied, the story is a bit different. In Iran the E-commerce adoption specifically E-banking adoption is in its beginning stages and still there are lots of gaps. These gaps could be technological, economical, socio-cultural, geopolitical and other gaps.

Also the result of their study expressed, that bank managers' perception through E-commerce is very positive and effective in their adoption trend.

The other study reviewed was the study of Kassim (2005) focused on E-banking service quality gaps in the Qatari banking industry investigates the discrepancy between customer's expectation and perception towards the E-banking services in Qatar. A questionnaire was distributed to 100 retail-banking customers in Doha. Out of a total of 100 questionnaires, only 62 were useable. A cross-sectional survey design was adopted which questioned respondents on E-banking services. The findings of the study showed that there were some differences in magnitude of gap score among the five items of the E-banking services: Internet/Telephone/SMS, personnel assistance, instructions, ATM machines and functionality of the ATM machines. The result also showed that one item of E-banking services had positive gap score, that is, the quality of the Internet/Telephone/SMS banking services. All the other four items indicated that the quality of service fell short of the customer's expectation; customers were generally not satisfied with the service providers. Nevertheless, each item of quality of the E-banking services showed differences with respect to the size and gap score.

On the other hand the study of Leelapongprasut et al (2005) on a Quality Study of Internet Banking in Thailand aimed to study a level of Internet Banking services quality in Thailand and compare the overall services quality of Internet Banking and factor of Internet Banking service between each bank and each dimension of quality by David A. Garvin. The research tools used in this study were questionnaires in the Web page form.

Questionnaires are adopted from the tools that are used to evaluate the service quality called "The dimension of quality by David A. Garvin" by evaluating the quality of eight dimensional services: Performance, Features, Reliability, Conformance, Durability, and Aesthetics, Serviceability and Perceived quality. The result of the study reveals that, the quality level of internet banking service of commercial banks in Thailand in the perspective of performance was different in each bank and by weighting the importance of criteria used to evaluate the Internet Banking service quality in Thailand, the most important was the dimension of reliability, serviceability and durability. The less important was in dimension of perceived quality.

The research conducted on identifying the attitudinal, social and perceived behavioral control factors that might influence the adoption of Internet banking by Hoppe et al. (2001) were based on theory of planned behavior (TPB) and the diffusion of innovations theory (DIT) developed by a previous research in Singapore. The aim of the study was to collect South African data in order to test out the hypotheses regarding the factors, which affect adoption of Internet banking and compare these results with those collected in other countries. Online questionnaire was used to collect empirical data and the results of the study shows that intention to adopt Internet banking can be predicted by attitudinal factors, perceived behavioral control factors to a lesser degree, and not by subjective norms. All attitudinal factors except banking needs are found to be significant, with complexity and risk showing a negative relationship.

In general, Review of Empirical studies shows that understanding the critical success factors (CSFs) in E-banking is important for banking industries because it would potentially help them improve their strategic planning process. The main obstacles and barriers that oppose E-banking adoption are the concerns of security, privacy of information and technology investment cost.

Also the literature review indicates that according to the customers there are different factors that influencing the adoption of E-banking such as, perceived advantages and other factors related to the services itself & how to be accepted and used by the customers, which differ from country to country, reflecting the economic and technological development in each country.

2.5 Barriers related to the adoption of E-banking

As it is stated in different E-banking literature some of the problems related with adoption of E-banking are: Low level of internet penetration and poorly developed telecommunication infrastructure (Mohammed et al, 2011).

According to Jensen (2003), most countries in Africa, except South Africa, have Internet infrastructure only in their major cities. In spite of the gross benefit received from e-banking, other factors have been hindering it from functioning as it should. Some of these factors include problems of security.

The security and privacy aspects are major issue in case of e-banking transaction. Various sites are not properly locked, to ensure whether customer's money is safe in the cyber world or not especially in these times of cyber fraud (Farshad et al, 2013).

Also high cost of setting up is also an issue in the implementation of e-banking. The infrastructural cost of providing e-banking facility is very high. The banks not only have to automate front-end services but also back office services, which involve high cost in terms of equipment and other computerized and communication facilities. There is also lack of awareness of the e-banking services to most customers. Another great hindrance is lack of awareness because; effective and wide media efforts in publishing Internet banking need to be emphasized. Lack of computerization is also a great hindering factor. Lack of computerization and low density of telephone lines is also a bottleneck for online banking (Farshad et al, 2013).

There are a lot of reasons which hinders the popularity of E-banking services in spite of the fact that bankers and customers can get benefit from online banking. The majority of private Banks are still lacking behind the online banking channel. According to Pikkarainen et al. (2004) the reasons behind banks are not using the online banking services are as follows:

- A. The internet connection is very important prerequisite for customers to use online banking services.
- B. Before using these online banking services the new users need to learn how to use these internet services.
- C. Some non-users complaint that the face to face banking situation is quite different from doing banking online so there are no social dimensions while doing online banking (Mattila 2003).
- D. The security issue hinders some customers to use the online banking services.

Mattila (2003) noted that perceived difficulty in using computers combined with the lack of personal service in electronic banking were the main barriers while Sathye (1999) identified the security concerns and lack of awareness about Internet Banking as the main obstacles to non-adoption.

He pointed that young, educated and wealthy groups of customers were the most relevant customer segments for the rapid development of Internet banking market.

2.6 Challenges of adopting E-banking in Ethiopia

In Ethiopia cash is still the most dominant medium of exchange and Electronic banking is not well known, let alone used for transacting banking issues. Key challenges in technology and e-banking applications are: new technologies, internet and telecommunication, lack of suitable legal and regulatory framework for banking, political instabilities in neighboring countries, high rates of illiteracy, integration of different financial networks, frequent power interruptions, resistance to changes in technology among customers and staff (Worku & Tafa,2016).

Low level of literacy with in the public, low level of readiness and capacity of financial institutions to provide service, poor infrastructure, insufficient cash flow in rural areas limited potential agents, and presence of a few branches in rural areas are some of the challenges facing the country.

Legal and related issues, the importance of looking in to the role of newly emerging third party technical providers, reconsidering pre-paid balance requirements and widening the scope of mobile banking service are also critical (Worku & Tafa, 2016).

Ethiopia has not yet enacted legislation that deals with e-commerce concerns including enforceability of the validity of electronic contracts, digital signatures and restricts the use of encryption technologies. High rate of illiteracy: low literacy rate is a serious impediment for the adoption of e-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-banking, they should not know only how to read and write but also possess basic ICT literacy. High cost of internet: The cost of internet access relatively to per capita income is a critical factor. Compared to the developed countries, there is higher cost of entry in to e-commerce market in Ethiopia. These include high start-up investment costs of computers and telecommunication and licensing requirements. Absences of financial networks that link different banks, frequent power interruption: lack of reliable power supply is a key challenge for smoothly running e-banking in Ethiopia. Resistance to changes in

technology among customers and staff due to lack of awareness on the benefits of new technologies, fear of risk, lack of trained personnel in key areas, tendency to be content with the existing structures and people may be resistance to new payment systems (Worku & Tafa, 2016).

2.7 Benefit of adopting E-banking system

The application of e-banking has also been proven as an effective way to reduce the costs of operation for the financial institutions. For instance, e-banking services will allow banks to reduce expenditures on physical structures (Yang, 2005).

E-banking can offer speedier, quicker and a dependable service to the customers for which they may be relatively satisfied than that of manual system of banking. E-banking system not only generates latest viable return, it can get its better dealings with customers (worku & tafa, 2016) .

It's essential for the banks to have the official bank website providing the possibility to do transactions so that banks can be qualified as providing the online banking services (Pikkarainen *et al.*, 2004). According to Giglio (2002) and Robinson (2000) in delivering banking products the cheapest way can be done only through the Online Banking. According to Karjaluo *et al.* (2002) with the help of online banking services, the branch networks of banks have reduced and also the staff for working in banks and customers are satisfied to use the online banking services as it will save a lot of time and effort to go to branch of bank and perform these transactions. So the main reason behind accepting the E-banking system is that the service is the time and cost saving and freedom from the place (Polatoglu and Ekin 2001).

Business organizations are trying to uncover the new technologies coming from the E-commerce applications which has a lower transaction cost resulted to eliminate association in distributing channels (Salman & Kashif 2010). The cost can be reduced to zero in some services like information and manufactured goods information. Transaction of low cost and easiness provides to adopt the new trend of technology to trade information among different groups and business parties. Information and Communication technology adoption transformed business to go from local and global.

However it has been said that E-banking is vital in the banking sector of developing countries (Polatoglu and Ekin 2001).The online payment system is quite new in banking institutions and dispersion of these innovations can result in more competent online banking systems which resulted in lots of changes in the technologies of the banking sector.

Polatoglu and Ekin (2001) argued that early adopters and heavy users of E-banking services were more satisfied with the services compared to the other customer groups. According to Joseph and Stone (2003), the ability of delivering services via technology appears to be correlated with high satisfaction with services deemed most important to customers. Furthermore, Joseph & Stone (2003) emphasized that human and technology based delivery channels were greatly linked with the customers' perceptions of how these bank services were delivered to them and pointed out that these perceptual outcomes would affect the level of bank customer satisfaction, retention, and switching.

Before the shift of technology, customers were facing a lot of problems like handling a lot of money and transferring of that money, submission of utility bills and waiting in a long queue as there was no online transferring facility, and there was no information about new services offered by banks and mostly deposit holders were unaware of how to get benefits from bank products and services like bank loans, credit cards, ATM cards etc. .

2.7.1 Benefit of E-banking for Banks

Price - In the long run a bank can save on money by not paying for tellers or for managing branches. Plus, it's cheaper to make transactions over the Internet. it should be noted that E-banking can bring about various benefits for banks and their customers as well. It is obvious that cost savings, efficiency, gaining new segments of customers, improvement of the bank's reputation and better customer services and satisfaction are primary benefits to banks (Jayawardhena & Foley, 2000).

Customer Base - the Internet allows banks to reach a whole new market- and a well off one too, because there are no geographic boundaries with the Internet. The Internet also provides a level playing field for small banks who want to add to their customer base.

Efficiency - Banks can become more efficient than they already are by providing Internet access for their customers. The Internet provides the bank with an almost paper less system.

Customer Service and Satisfaction- Banking on the Internet not only allow the customer to have full range of services available to them but it also allows them some services not offered at any of the branches. The person does not have to go to a branch where that service may or may not be offer. A person can print of information, forms, and applications via the Internet and be able to search for information efficiently instead of waiting in line and asking a teller. With more better and faster options a bank will surely be able to create better customer relations and satisfaction.

Image - A bank seems more state of the art to a customer if they offer Internet access. A person may not want to use Internet banking but having the service available gives a person the feeling that their bank is on the cutting image.

2.7.2 Benefit of E-banking for Customers

For Customers Bill Pay is a service offered through Internet banking that allows the customer to set up bill payments to just about anyone. Customer can select the person or company whom he wants to make a payment and Bill Pay will withdraw the money from his account and send the payee a paper check or an electronic payment.

It should be noted that E-banking is not only brings about benefits to banks but also to their customers. Thanks to the emergence of the Internet, banking transactions are no longer limited to time and geography. It is very easy for consumers throughout the world to access to their bank accounts 24 hours per day and seven days a week. Customers can enjoy a variety of services, especially services which are not provided by traditional bank branches (Pham 2010).

2.8 Factors influencing Banks to adopt E-banking system

Many researchers have been used different frame works in the study of adopting new technological innovation. Among frameworks that have been developed based on the past studies includes, the Technology-organization-Environment framework (TOE) (Tornatzky & Fleischer 1990), which identifies three basic Factors for the adoption of technological innovation, i.e, technological factors, organizational and environmental factors. Technology Acceptance Model(TAM) (Davis, 1989), which posit the two sets of beliefs, i.e., perceived ease of use (PEOU) and perceived usefulness (PU) to determine individual's acceptance of a technology.

PEOU refers to the degree to which an individual believes that using a particular system would be free of physical and mental effort, PU on the other hand is related to users' perception of the degree to which using a system will be beneficial (Alsabbagh & Molla 2004).

2.8.1 Technology organization Environment (TOE) framework

TOE framework was proposed by Tornatzky and Fleischer and it is designed for studying the likelihood of adoption success of technology innovations. This framework is a comprehensive and well received framework in the context of innovation adoption by organizations and has been used in many studies (Salwani, *et al*, & Ellis 2009; Chang *et al* 2007, Zhu & Kraemer 2006).

According to Tornatzky and Fleischer (1990), technology adoption within an organization is influenced by factors pertaining to the technological context, the organizational context, and the external environment. Based on this, the researcher adopted the TOE framework to summarize possible key factors affecting E-banking adoption. The *technological factor* refers to adopter's perception of E-banking attributes. Typical characteristics of technology considered in technology adoption studies are based on the assumption of Roger's diffusion of innovation (Rogers 2003), Which include relative advantages (perceived benefits), and relative disadvantages (perceived risks). While the *organizational factor* refers to the organization's characteristics that influence its ability to adopt and use of E-banking system. The *environmental factor* refers to the external environment in which an organization operates and its condition for

supporting the development of E-banking services. For each context, various factors have been identified from the literature but only those that are considered relevant for E-banking adoption are included in the framework. Details of factors considered in this study are discussed below.

2.8.1.1 Technological Factors

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

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

2.8.1.2 Organizational Factors

Organizations are different in their preference to adopt technological innovation (Iacovou 1995 & Grover 1993) influenced by a number of factors, like firm size, top management support and financial and human resources. 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 adoption. These resources enable banking institutions to obtain human related resources including the required skills and expertise to develop and support provision of E-banking services.

2.8.1.3 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:-

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

D. 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).

2.8.2 Technology Acceptance model (TAM)

TAM was developed by (Davis,1980)which is specifically meant to explain computer usage behavior For this study researcher uses two basic factors of TAM, i.e., perceived ease of use and Perceived usefulness to analyze the perception of users on the adoption of E-banking system in Dashen bank.

Perceived ease of use: is defined as "the degree to which an individual believes that using a particular system would be free of physical and mental effort (Davis,1980).

Perceived usefulness: Perceived usefulness is defined as "the degree to which an individual Believes that using a particular system would enhance his or her job performance (Davis, 1980).TAM was developed to explain and predict particular IT usages. However, this particular Model has been using by many researchers in studying adoption and diffusion of various IT technologies. For this study researcher uses two basic factors of TAM, i.e., perceived ease of use and Perceived usefulness to analyze the perception of users on the adoption of E-banking system in Dashen bank.

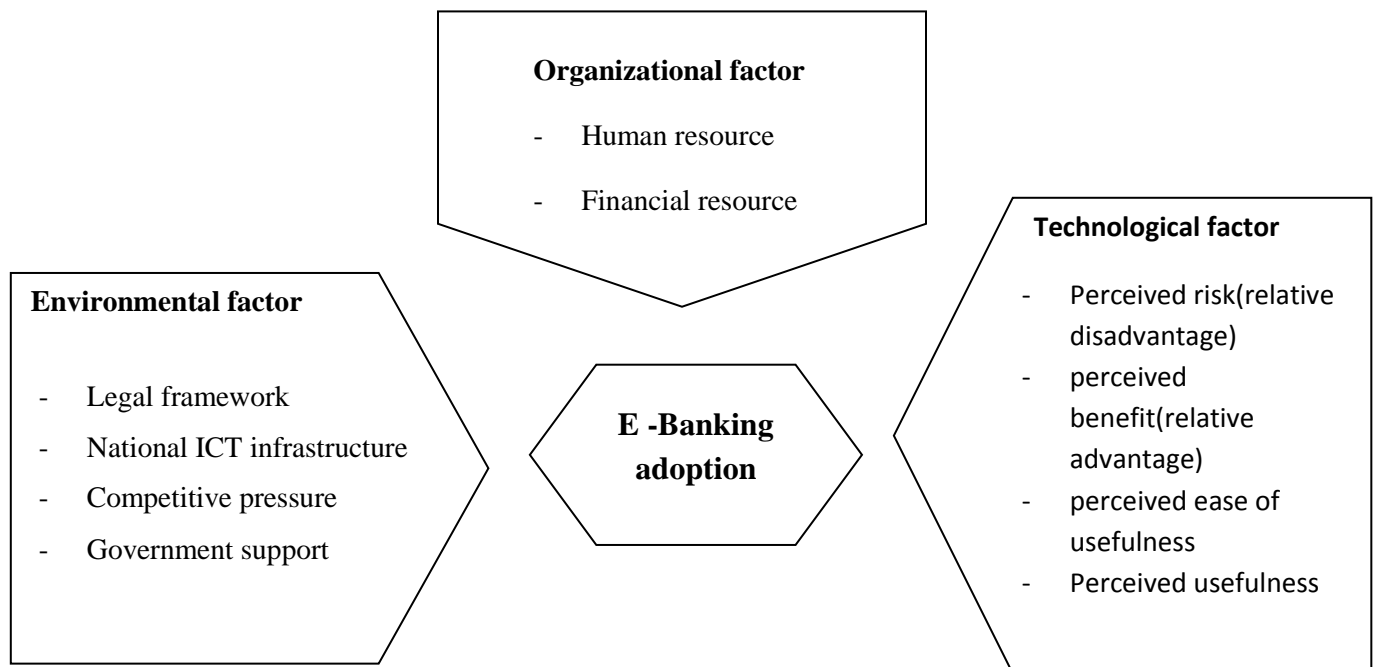
The frameworks discussed above have their own advantage and disadvantages based on the nature of the study. In this study, integrated Technology-organization-environment framework (TOE) and technology acceptance model (TAM) used to have a more precise forecast on the challenges and benefits of adopting E-banking system in Dashen Bank.

2.9 Conceptual Framework

This study employs the TAM theory by investigating how customers' perceived adoption of e banking, However TAM is not sufficient model to deal adoption of innovation hence there will be a need to adopt other theories that include other factors. The perceived ease of use and perceived usefulness may not fully explain behavioral intentions towards the use of e banking; necessitate a search for supplementary factors that can better predict the adoption of e banking (Hanna & Muturi, 2014).

Based on the literature review, the researcher takes perceived ease of use and perceived usefulness from TAM model to have the perception of the target group towards adoption. Regarding the TOE model of Tornatzky and Fleischer (1990), the focuses were on factors pertaining to technological context, organizational context and external environment. Accordingly, perceived risk from technological context, finance and human resources from organizational factors and legal, ICT infrastructures, competitive pressure and government support were considered from the environmental factors of the model to have a complete understanding of opportunities and challenges in the adoption of E-banking in consideration of the literature review. Hence, the study used the theoretical framework developed by Davis et al. (1989) with some modifications in consideration of Tornatzky and Fleischer (1990) theoretical framework of Technology organization- environment (TOE). To benefit from both models and to have a more precise forecast regarding opportunities and challenges in the adoption of E banking service at DB.

Figure 2.1 Integrated TAM and TOE Framework



CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter explains the research methodologies used and it covers, research design, population and sampling technique, types of data and procedures of data collection, method of data analysis, validity and reliability, lastly ethical consideration. Many researchers have written extensively on research methodology. The underlying factor in most studies on research methodology is that the selection of methodology is based on the research problem and stated research questions. Methodologies cannot be true or false, only more or less useful (Silverman, 2001). Nachamias et al. (1996) for instance stated that methodologies are considered to be systems of explicit rules and produced, upon which research is based, and against which claims for knowledge are evaluated. Conducting any type of research should be governed by a well-defined research methodology based on scientific principles.

3.1. Research Design

In conducting this research the researcher used descriptive research design to answer the research questions. There are three types of academic researches depending on the problem area and the nature of the phenomenon that it studies. The purpose of the research can be Exploratory which deals with unknown problem, Descriptive in which there is an awareness of the problem and Explanatory, where the problem is clearly defined (Ahmed 2011).

The purpose of this thesis is to conduct descriptive research in order to describe the current situation of the problem and answer research questions which are in the form of “what” and to highlight the most important factors that can adversely or positively affect the adoption of E-banking services in Dashen bank. Therefore, Descriptive research is being used.

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 main opportunities of E-banking and to identify the basic challenges which hinder the practice of E-banking in Dashen bank. 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).

3.2. Population and Sampling techniques

Survey sampling is the process of choosing, from a much large population, a group about which the researcher wish to make statements so that the selected part will represent the total group (Leedy, 1989). The population considered in this study is the number of DB's clerical employees working at ten selected Area Banks found in Addis Ababa, EBSD and IT Department.

The sampling design for the population was Convenience sampling. Convenience sampling Also called accidental or opportunity sampling; this is a technique in which a sample is drawn from that part of the population that is close to hand, readily available, or convenient (A.Bhattacharjee, 2012). Since the aim of the study is to make theoretical inferences from the results of the study that are suitable for further empirical investigation in any other context, Convenience sampling is the most appropriate method. Given a population of 260 clerical staff found in ten selected Area Banks, EBSD and IT Department, The focus on the two Departments is considering their technical knowledge and support in relation with the service as well as know- how developed through the process of the support and that of selected Area Banks' of DB in Addis Ababa is based on the relative high E-banking service performance per the annual report of EBSD as at June 30, 2015. According to the information obtained from Fund Management and Accounts Department (FMAD) a sample of 155 clerical staff were chosen for the study assumed 95% response rate. This sample size were determined using the Table developed by Krejcie and Morgan (1970) which is shown in the table below using the formula for sample size determination when the population size is known

Table 3.1

Table for Determining Sample Size from a Given Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size.
S is sample size.

3.3. Types of data

Primary data were used in this study, the data collected through, interviews, and questionnaires. This gives specific responses to the research questions. Primary data is recognized as data that is gathered for a specific research in response to a particular problem through interviews and questionnaires. Additional data were obtained by examining various documents, including, banks annual reports, local and international newspaper related with issues of E-banking system, Research reports, books and journal articles.

3.4. Procedures of Data Collection

This research paper intended to examine the main opportunities and challenges of adopting E-banking system in Dashen bank. To undertake this research, specific methods of data collection used survey, semi-structured interview and document sources. Survey for the quantitative strategy was used through distributing self-administered questionnaires. Questionnaires were distributed to E-EBSD, IT department professional staff and selected clerical staffs' found at branches. Those respondents selected because, they are deemed to be knowledgeable about E-banking system and could provide important perspectives on its adoption.

Survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. Its purpose is to generalize from a sample to a population so that inferences can be made and it is also economical and rapid turnaround in data collection (Creswell, 2003; pp.153-154); and this method is important for collecting large amounts of raw data using question and answer formats (Hair et al. 2006). The main advantage of survey is its ability to accommodate large sample sizes at relatively low costs, ease of administration and ability to tap in to factors that are not directly observable (Hair et al., 2006).

In order to collect sufficient data that can answer the research questions, researcher designed two surveys; the first were a questionnaire to get quantified results. The second survey were interviews aimed to collect data from EBSD, IT and area bank managers. In addition to questionnaire and interview, data collected from different published and unpublished materials were also used.

The questionnaires were divided into two sections. Section I, captured basic demographic information of the respondents such as educational back ground, year of service and Section II captured information about the challenges faced in the adoption and usage of E-banking services and sought to determine the perceived benefits of using E-banking system Under this section, at the end of each part there is one open ended question that the respondents were asked to provide open ended responses that require opinions, opinions which they feel the researcher would find it useful.

The researcher adopts survey instrument used by Ayana (2014) with some modification to fit the Study under investigation. The questionnaires were structured mainly 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) = 5; Agree (A) = 4; Neutral (N)=3, Disagree (D) = 2; and Strongly Disagree (SD) = 1; The use of Likert scale is to make it easier for respondents to answer question in a simple way. In addition, these research instruments were permitting an efficient use of statistics for the interpretation of data. Moreover, the central issue to argue that likert scales is that it produce ordinal data. Johns (2010) noted that in statistical terms the level of measurement of the likert response scale is ordinal rather than interval that is; we can make assumptions about the order but not the spacing of the response options.

As indicated in the above, sampled EBSD, IT and branch staffs were included in the survey. A questionnaire distributed to all 155 professional staffs. Questions presented related to the concepts of E-banking to identify their perception on the challenge and benefits of using electronic banking system, in such a way to allow measurement of the respondent's opinions.

Self-administered semi-structured interview were conducted to enhance and supplement the results of questionnaires. With a total of four selected key informant DB staffs' found at EBSD, IT Department and Area Bank who are currently working at managerial level. This allows some degree of flexibility at the time of interviewing for the pursuit of unexpected line of inquiry which may arise as the study progresses. The information becomes contributory to have picture of the Bank's E-banking service and to confirm some of the findings of the study.

Document reviews were also conducted to understand the key facts about the subject under study. The documents were reviewed by referring most recent information from authorized documents of the Bank, annual bulletin, web site of the Bank and different publications and reports made by the Bank. The document reviews were used to triangulate the data collected through survey questionnaire and interview.

The most important use of this information is to corroborate and augment evidence from other sources (Yin, 1989; pp. 86). Thus, the document examination helps to support the patterns that evolved from the data collected via questionnaires and interview, so that the strength of the findings could be enhanced.

3.5. Methods of data Analysis

Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Yin, 1989; pp. 105). The data collected via questionnaires were analyzed with descriptive statistics (i.e. Frequency tables along with mean and Percentage employed to analyze the responses of the respondents using statistical package for social scientists (SPSS). Thus, the permissible descriptive statistics that can perform on ordinal data is average response and more frequent responses (Hole 2011). Furthermore, Wolcott (1994) cited in Creswell (2003; pp. 184), suggested that qualitative research is fundamentally interpretative i.e. the researcher makes an interpretation of the data. Thus, the data that were collected from the interview and 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).

3.6. Reliability Statistics

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

Table 3.2. Reliability Statistics

Variables	Cronbach's Alpha	N of Items
Technological factor	.796	3
Organizational factor	.589	6
Environmental factor	.735	6
Perceived ease of use	.759	7
Perceived usefulness	.914	10

Source: survey result, 2017

As indicated in the Table above, the Cronbach Alpha for each variable presented, which is very high and showing a very strong internal consistency among the measurement items. According to George & Mallery (2003), the value of alpha should be greater than 0.7 so as to accept the instrument. And the closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Moreover, to secure the content validity of the instrument, the researcher referred and critically examined previous researcher's questionnaire that fit the purpose and used with some modification before distributed to the respondents

3.7. Ethical Consideration

Throughout the research, the researcher upheld and respected the participants' right to privacy, anonymity, fair treatment and to protection from discomfort and harm (Neuman, 2003). Ethics is the code of moral principles and values that governs the behavior of an individual or group with respect to what is right or wrong (Bratton and Gold, 2000). In this research, ethical issues have got especial consideration. The researcher discussed the purpose of the research clearly to the participants during data gathering stage of the research. As a matter of confidentiality, the participants were not required to write or tell their names.

Furthermore, the participants were assured that their responses for the questionnaire as well as the interview were used for the intended purpose only and wiped out their responses as no more required after completing the research.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Results of the study

As it is discussed in the methodology part of this study, data collected by using different techniques were analyzed in this chapter by using triangulation approach. A total of 155 questionnaires were distributed to clerical staff of EBSD, IT Department and that of ten selected DB Area Banks found in Addis Ababa. Out of the total 155 questionnaires, 147 useable valid Questionnaire were obtained (95 % response rate). In addition to the survey questionnaire, the researcher conducted an interview with key informant supervisors from each work unit and reviewed some bank documents regarding E-banking services.

In order to analyze the research results, Statistical Package for the Social Sciences (SPSS) software is used. SPSS is a computer program used for statistical analysis. SPSS fit with quantitative approach and survey strategy which were adopted in this research; SPSS has many features and properties which can provide appropriate results, these results lead to achieve research purposes. SPSS can provide several statistics for each element in the research questionnaire (DeCoster 2004). Descriptive measures of each questions response and an interview conducted with E-banking, IT and area bank managers, results are presented in the following sections.

4.2 Demographic Information of Respondents

Table: 4.1.

Variable	Classification of variables	Frequency	Percentage
Sex	Male	97	66%
	Female	50	34%
	Missing	0	0%
Year of service	1-3years	68	46.3%
	4-5Years	27	18.4%
	Above 5years	50	34%
	Missing	2	1.4%
Educational level	Diploma	4	2.7%
	First degree	110	74.8%
	Masters degree	32	21.8%
	Missing	1	0.7%
Working unit	EBSD	26	17.7%
	IT	3	2.0%
	Area bank	108	73.5%
	Missing	10	6.8%

Source: Survey result, 2017

According to the table illustrated above, there were 147 respondents. The researcher has distributed 155 questionnaires for EBSD, IT and Area bank staff's. As it is shown on the above table, the highest percentage of participants in this study were males who form 66% of respondents and the remaining respondents were females. Similarly, about 68 respondents or 46.3% of the total respondents have been working in the banking industry for less than five years whereas 27 respondents or about 18.4% of the respondents worked 4-5 years the remaining 50 persons or about 34% of them have above five years of experience. Regarding the educational level of the study participants, the highest percentage of them has bachelor degree that form 74.8% of total participants. The largest percentage of participants were selected from Area Banks that form 73.5% of total

respondents followed by EBSD 17.7% and that of IT department 2.0%. Hence, the result of the demographic profile of DB's staff shows that most of the participants are those who have 1-5 years of working experience and holders of First degree.

4.3 Challenges in the Adoption of E banking Services in DB

The following section discusses the challenges to the adoption of E-banking system in Dashen bank. These barriers are identified based on two basic frameworks, technology-organization- environment (TOE) frame work and technology acceptance model (TAM).Moreover, factors that can affect adoption of E-banking in Dashen bank regarding the technological factor, organizational factor and Environmental factor were analyzed in the next sections.

4.3.1 Technological factor

The issues raised in this study in relation with technological factor are the relative advantages (perceived benefit) the firm gained from adoption of E-banking system and the relative disadvantages (perceived risk) which hinder banking industries from the adoption of new technological innovations.

4.3.1.1 Perceived Risk

One of the basic barrier a firm faces, while adopting technological innovation is the perceived risks. For example the study of Sohail and Shanmugham (2003) suggests that one of the barriers in the adoption of electronic banking is fear of security risks. Moreover, all of the bank manager's participated in this study were asked whether security issue is raised with the use of technological facility in the bank and all of them stated that security is the main concern that hinders our bank to use technological facilities. These were also supported by the survey result shown on table 4.2, as follows.

Table 4.2 Technological factor

Dimensions on which assessment made	Mean	Missing		Degree of respondents agreement in number					
				SA (5)	A (4)	N(3)	DA (2)	SD(1)	Total
lack of confidence with the security aspects	3.49	3	Frequency	29	49	33	30	3	144
			V. percent	20.1	34	22.9	20.8	2.1	100
security risk affects user's decision to use the system	3.67	-	Frequency	27	75	16	27	2	147
			V. percent	18.4	51.0	10.9	18.4	1.4	100
lack of trust is considered as a barrier	3.40	4	Frequency	26	50	27	35	5	143
			V. percent	18.2	35	18.9	24.5	3.5	100
Average mean	3.52								

Note (SA)-strongly agree, (A)-Agree, (N)-Neutral, (D)-Disagree and (SD)-Strongly disagree. (Source: survey result, 2017)

The result presented in the above table shows that, the respondents asked whether lack of confidence with the security issue is considered as barrier for the adoption E-banking system, were mean value for the first question is 3.49. Similarly the result shown on the above table revealed that customers of the bank fear risk to use e banking, and the descriptive statistics result gives mean value of 3.67, that means the largest number of respondents were agreed on the issue, therefore fear of risk is one of the factor that hinder adoption of E-banking system in the bank. This result were consistent with the findings of Ghazi and Khalid (2012, p.9); Khalfan *et al* (2006) in which all indicted that, technological barriers, such as security risk as hindrance factor for the adoption of E-banking.

Also the result presented on the above table indicated that lack of trust on the use of technological facility provided by the bank is another factor that can hinder adoption of technological innovation in Dashen bank. Large number of respondents agreed with the idea that trust is one of the basic factor in the adoption of E-banking system were mean value of 3.49. This result confirms the finding of Sathye (1999) which suggests; the greatest challenge among the electronic banking sector is winning the trust of customers in the issue of security or perceived security risk as a key inhibitor in the adoption of online banking.

4.3.2 Organizational factor

One of the basic issue related with organizational factor is, the availability of financial as well skilled human resource to implement the system. In this study costs related with the use of E-banking instrument and technical or managerial skills required to implement E-banking system were considered as organizational factors. As it is shown in the following table 4.3, regarding the cost incurred on the use of different E-banking system like internet/online banking and mobile banking the largest number of respondents 49 out of the total or 33.3% did not agreed with the idea. Unfamiliarity with the service provided through ATM, Internet banking and mobile banking by the customers, Lack of skills to implement E-banking system, lack of appropriate maintaining capacity upon failure, inconvenience placement of ATM and lack of promotion by the bank to encourage customers to use e banking system is considered as challenges for the adoption of E-banking system.

Table4.3 Organizational factor

Dimensions on which assessment made	Mean	Missing		Degree of respondents agreement in number					
				SA (5)	A (4)	N(3)	DA (2)	SD(1)	Total
use of e banking services causes additional cost to do banking tasks	3.07	-	Frequency	22	42	21	49	13	147
			V. percent	15	28.6	14.3	33.3	8.8	100
customers of our bank were not fully familiar with e banking service	3.65	-	Frequency	29	73	16	22	7	147
			V. percent	19.7	49.7	10.9	15	4.8	100
lack of skills to implement	3.80	-	Frequency	28	84	17	14	4	147
			V. percent	19	57.1	11.6	9.5	2.7	100
lack of appropriate maintaining capacity upon failure	3.82	-	Frequency	42	61	23	18	3	147
			V. percent	28.6	41.5	15.6	12.2	2	100
inconvenience placement of ATM	3.57	1	Frequency	22	68	31	21	4	146
			V. percent	15.1	46.3	21.2	14.4	2.7	100
lack of promotion by the bank	3.48	-	Frequency	24	65	19	35	4	147
			V. percent	16.3	44.2	12.9	23.8	2.7	100
Average mean	3.57								

Note (SA)-strongly agree, (A)-Agree, (N)-Neutral, (D)-Disagree and (SD)-Strongly disagree. (Source: survey result, 2017)

The above results were also supported by an interview script received from key informants they pointed out the following factors in addition such as, DB has to be on air /live to promote e banking products at hand, staff's should try the existing e banking products before external customers, strict follow up is required and e banking service should get support from departments specifically from marketing and lastly area bank staffs' are those who communicate the end user at large should give attention as their daily tasks to promote the products at hand to address customers of the bank digitally. All respondents specified that, compared with traditional banking system, using different technological innovation in banking industry is used to perform banking activities at lower costs.

On the other hand lack of social awareness/lack of familiarity with different technology and lack of sufficient skills to use and implement E-banking system were considered as challenges to adopt E-banking system in Dashen bank were mean value of 3.65 and 3.80 respectively.

In general, using of E-banking service such as internet banking, mobile banking and others is not expensive when it's compared with traditional banking system. Lack of appropriate maintaining capacity upon failure and inconvenience placement of ATM is also identified as challenges were the descriptive statistics result shows that, mean value of 3.82 and 3.57 respectively.

4.3.3 Environmental Factors

Another factor which can affect the adoption of technological innovation in banking industry is an external environment: in this study six basic environmental factors are considered, these are legal frame works, national ICT infrastructure, competitive pressure, low internet access, public awareness and government support. Results obtained from survey respondents of DB clerical staff regarding challenges in adoption Of E banking under determinant environmental factors are shown below using descriptive statistics.

Table 4.4 Environmental factors

Dimensions on which assessment made	Mean	Missing		Degree of respondents agreement in number					
				SA (5)	A (4)	N(3)	DA (2)	SD(1)	Total
lack of sufficient legal frameworks	3.77	8	Frequency	39	47	39	10	4	139
			Valid percent	28.1	33.8	28.1	7.2	2.9	100
low internet access in Ethiopia	4.31	-	Frequency	84	40	10	11	2	147
			V. percent	57.1	27.2	6.8	7.5	1.4	100
lack of sufficient government support	3.93	1	Frequency	51	47	37	9	2	146
			V. percent	34.9	32.2	25.3	6.2	1.4	100
lack of available ICT infrastructure in Ethiopia	4.24	1	Frequency	76	39	22	8	1	146
			V. percent	52.1	26.7	15.1	5.5	0.7	100
lack of competition among local bank and foreign banks	3.45	3	Frequency	48	31	17	34	14	144
			V. percent	33.3	21.5	11.8	23.6	9.7	100
lack of sufficient public awareness	4.30	1	Frequency	67	62	12	4	1	146
			V. percent	45.9	42.5	8.2	2.7	.7	100
Average mean	4								

Table 4.4 Environmental factors

Note (SA)-strongly agree, (A)-Agree, (N)-Neutral, (D)-Disagree and (SD)-Strongly disagree. (Source: survey result, 2017)

Respondents were asked about the effect of environmental factors using the above six variables shown in table 4.4 as a measurement. The result of the response indicates that average mean score of 4, which means that respondents of the sampled agreed with the idea that environmental factors have an effect in adoption of E banking services. Moreover, interview with the key informants also support the result of the survey indicating that all factors in this categories have impact on adoption of the service. Consequently, they pointed out that there is resistance to the technology from end user side, lack of infrastructure especially the monopolistic nature of telecom service in Ethiopia, NBE'S directive is not encouraging digital expansion, and it has a hundred plus effect on the adoption of e banking services.

The level of dispute is increasing from end users because of the poor infrastructure, it needs improvement through extensive public awareness and government Support towards digital expansion. For better improvement of E- banking services, government should encourage the digital banking rather than branch expansion, Ethio telecom monopoly should be avoided and attitude towards using e banking should be changed at corporate wide. They also pointed out that welcoming foreign banks will help to improve the service and create favorable opportunity for technology transfer.

4.4 Opportunities for Adoption of E- banking Services in DB

Questions were asked to identify perceptions of the sampled staff with respect to challenges in the adoption of E-banking services. Hence, using descriptive analysis with the help of SPSS, the researcher try to identify opportunities that enhance the service based on the respondents Perceptions that are responded most frequently.

An advantage that is expected to be gained from the adoption of E-banking covers both direct and indirect benefits for the banking industries. Direct benefits include savings on operational cost, improved organizational functionality, productivity gain, improved efficiency, saving of time and increased profitability. Indirect benefits include the opportunity or intangible benefits such as improved customer satisfaction through improved services, improved banking experience and fulfillment of their changing needs and lifestyle (Lu 2005; Kuan 2001 & Iacouou 1995). Perceived benefit of adopting E-banking system considered in this study were classified based on technology acceptance model (TAM), as perceived ease of use (PEU) and perceived usefulness (PU).

PU was classified in terms of time and cost saving. Also other benefits beyond cost and time saving were analyzed at the end.

In order to access online banking services, it is important that bank should have ICT infrastructure and internet facility available to facilitate their customers with all kinds of online banking services. Pikkarainen et al. (2004) argued that bank must have an official website which facilitates customers to perform all kinds of online transaction so that, It saves customer cost and time as adopting E-banking system. Customer can make transactions from their home.

4.4.1 Perceived ease of use

One of the basic benefits related with the use of E-banking system is the perceived ease of use. Giglio (2002) suggests that adopting online banking services reduce the workload over the banking staff and it's easy to have more satisfied customers. On the other hand Robinson (2000) indicated that online banking provides convenience not only to bank and also to customers. The data obtained from the survey in this study also confirms the finding of Giglio (2002) and Robinson (2000) and the result were shown in table 4.5 as follows.

Table 4.5 Perceived ease of use

Dimensions on which assessment made	Mean	Missing		Degree of respondents agreement in number					
				SA (5)	A (4)	N(3)	DA (2)	SD(1)	Total
e banking makes it easier to do banking activities	4.45	-	Frequency	93	34	14	5	1	147
			V. percent	63.3	23.1	9.5	3.4	0.7	100
customers can simply use banking service by using their cellphone	3.62	-	Frequency	41	60	11	19	16	147
			V. percent	27.9	40.8	7.5	12.9	10.9	100
easy to use e banking to accomplish banking tasks	3.93	-	Frequency	44	70	16	13	4	147
			V. percent	29.9	47.6	10.9	8.8	2.7	100
E banking systems simplify the activity of workers	4.12	-	Frequency	59	60	18	7	3	147
			V. percent	40.1	40.8	12.2	4.8	2.0	100
The bank provide guidelines	3.44	-	Frequency	20	64	32	22	9	147
			V. percent	13.6	43.5	21.8	15	6.1	100
the management of the bank provide training	3.40	3	Frequency	28	48	30	30	8	144
			V. percent	19.4	33.3	20.8	20.8	5.6	100
adequate demonstration provided by the bank	3.02	3	Frequency	18	38	29	47	12	144
			V. percent	12.5	26.4	20.1	32.6	8.3	100
Average mean	4								

Note (SA)-strongly agree, (A)-Agree, (N)-Neutral, (D)-Disagree and (SD)-Strongly disagree. (Source: survey result, 2017)

Regarding ease of use as a benefit of adopting E-banking system, DB's clerical staffs were asked whether they `strongly agreed, agreed, neutral, and dis agreed or strongly disagreed based on seven questions shown in the above table 4.5.

The result of the response shows that average mean score of 4 for the questions shown on the table above, which means respondents of the sampled agreed with the idea that perceived ease of use in terms of, simplifying banking activity, is a good factor for the ability to adopt E-banking system. More over an interview result were also support the result of questionnaire it indicates that, it's another option to simplify banking activity and improve customer satisfaction. This study were consistent with the finding of Khalid *et al* (2006) which shows that there is a clear agreement about the importance of making the E-banking service because it is easy to deliver service to customers, also the finding of this study is in line with the result found by Hoppe *et al.* (2001) which suggest that the more complex a new technology is perceived to be, the less likely it will be adopted and the more ease of use the more likely to be adopted.

On the contrary the last question respondents asked about **adequate demonstration provided by the bank to the customers on how to use e banking service**, 47 respondents out of the total or about 32.6% did not agreed with idea Additionally, the interview with the key informant staffs also support the result of questionnaire and indicate that all factors in this categories have significant impact on adoption of the service. Accordingly, they pointed out that DB shall exert its effort in providing practical training for the staff's and demonstration of the service up on delivery to the customers in order to enhance adoption of E banking by creating better know how for the system to use easily.

4.4.2 Perceived usefulness

Perceived Usefulness is a good factor to measure the success of E-banking adoption. Hoppe *et al.* (2001) indicated that perceived relative advantage has a positive influence on the adoption of Internet Banking and it is compatible with their values to be adopted by users. Result obtained from survey respondents of DB clerical staff regarding their perception towards the usefulness of the existing E banking service delivery using descriptive statistics are depicted below.

4.4.2.1 Time saving

According to an interview result one of the basic benefits considered in the adoption of E-banking system, is that it saves time through creating convenience to the customer and

it helps to avoid routine tasks to accomplish banking activities both for banks as well to customers. Using the system to get banking service is fast and available 24 hours a day and 7 days a week. 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. Regarding time saving as driver for the adoption of E-banking system, DB's clerical staffs were asked whether they are strongly agreed, Agreed, Neutral, disagreed or strongly disagreed and the result of survey were shown on the following table.

Table 4.6 Perceived Usefulness (Time saving)

Dimensions on which assessment made	Mean	Missing		Degree of respondents agreement in number					
				SA (5)	A (4)	N(3)	DA (2)	SD(1)	Total
enable users to complete banking activities more quickly and easily	4.26	3	Frequenc	74	46	13	10	1	144
			y						
			V. percent	51.4	31.9	9	6.9	0.7	100
E banking service is convenient in terms of 7 days and 24hr	3.99	4	Frequenc	62	46	11	20	4	143
			y						
			V. percent	43.4	32.2	7.7	14	2.8	100
more accessible to users than visiting a bank	3.93	4	Frequenc	54	55	12	14	8	143
			y						
			V. percent	37.8	38.5	8.4	9.8	5.6	100
improves speed and efficiency	4.36	7	Frequenc	67	56	13	2	1	140
			y						
			V. percent	47.9	40	9.3	1.4	0.7	100
Average mean	4.14								

Note (SA)-strongly agree, (A)-Agree, (N)-Neutral, (D)-Disagree and (SD)-Strongly disagree. (Source: survey result, 2017)

The descriptive statistics result for the question of E-banking service such as internet banking, mobile banking, ATM and other services enables users to complete banking activities more quickly and easily were mean value of 4.26. It means that the largest number of respondents 74 or 51.4 % out of the total was strongly agreed. These result implies, that using online banking system helps to perform banking activities within a short period of time. Clients can simply check their balance, transfer funds and pay their bills online with just a click of mouse and a touch of button. On the other hand using internet banking is more convenient in terms of time saving and delivering of bank service to customers for 24 hours a day and 7 days a week, were mean value of 3.99. The result shown on the above table 4.6 also revealed that the mean value for the third question is 3.93; which indicate that, without visiting brick and mortar, customers can get bank service by using E-banking system. Similarly 67 respondents or about 47.9% of them strongly agreed that e banking improves speed and efficiency. In line with this finding Balachandher *et al.* (2010) suggests that, one of the implications of E-banking is that it should reduce the need to visit bank branches to get services.

4.4.2.2 Cost saving

Cost minimization is an important goal for business organization in addition to profit maximization. we can see cost minimization as an advantage of using the system from two perspectives, first from the bank perspectives, by using E-banking system like, ATM, internet banking, mobile banking and others, banks save a lot of costs. In the long run a bank can save money by not paying for tellers or for managing branches. This way of cutting transaction cost results in higher profit margin for the banks. D'Souza (2002) noted that, the combination of higher technology and higher skills have posted a higher turnover for banks as they have been able to provide better customer support and have managed their assets well. Second, customers can get banking service at lower costs compared with traditional banking service, because, it is cheaper to make transaction over Electronic fund transfer. Similarly, the study of, Balachandher *et al.* (2010), noted that, online banking fees have reduced over the years and less expensive when compared with traditional system. Moreover, the survey result regarding cost factor is shown on table 4.7 as follows.

Table 4.7. Perceived Usefulness (Cost saving)

Dimensions on which assessment made	Mean	Missing		Degree of respondents agreement in number					
				SA (5)	A (4)	N(3)	DA (2)	SD(1)	Total
transactions in any of e banking services are at a lower price or at no cost	3.95	5	Frequenc y	51	50	27	11	3	142
			V. percent	35.9	35.2	19	7.7	2.1	100

Note (SA)-strongly agree, (A)-Agree, (N)-Neutral, (D)-Disagree and (SD)-Strongly disagree. (Source: survey result, 2017)

The mean value for the above questions; transactions in e banking are at a lower price, or at no cost were 3.95. These result implies, using of technological tools such as internet and ATM were resulted in performing of banking duties at lower prices. Similarly, an interview result also indicates that, the basic benefit a bank or customers gained from the adoption of E-banking is operational cost reduction. This finding is consistent with the previous studies of Balachandher *et al.* (2010), in which all of whom found, cost minimization as an important factor for the adoption of E-banking system.

4.4.3 Other Benefits

In addition to, perceived ease of use, and perceived usefulness, in terms cost and time saving, there are also different benefits which, banking industry can attain from adoption of E-banking system. The other benefit of E-banking system identified in this study are ,improved customer service, through enhancing speed and efficiency, reduce number of customers coming to the banking hall, the prevailing existing withdrawal and fund transfer limit , reliability and accessibility of banking service and better information control tool . Selected respondents were asked whether the above listed benefits are considered in their organization as success factor for the adoption of E-banking system and the result obtained from survey were shown on the following table.

Table 4.8. other benefits of E-banking system

Dimensions on which assessment made	Mean	Missing		Degree of respondents agreement in number					
				SA (5)	A (4)	N(3)	DA (2)	SD(1)	Total
Improves customer service	4.37	7	Frequency	71	53	14	1	1	140
			V. percent	50.7	37.9	10	0.7	0.7	100
E banking reduce number of customers coming to the banking hall	4.28	4	Frequency	73	47	15	6	2	143
			V. percent	51	32.9	10.5	4.2	1.4	100
existing e banking withdrawal and fund transfer limit is encouraging	3.73	4	Frequency	29	65	31	18	-	143
			V. percent	20.3	45.5	21.4	12.6	-	100
E banking increase reliability & accessibility	4.01	6	Frequency	52	53	22	13	1	141
			V. percent	36.9	37.6	15.6	9.2	0.7	100
e banking service used as better information control tools	4.18	5	Frequency	61	57	13	11	-	142
			V. percent	43	40.1	9.2	7.7	-	100
Average mean	4.114								

Note (SA)-strongly agree, (A)-Agree, (N)-Neutral, (D)-Disagree and (SD)-Strongly disagree.

(Source: survey result, 2017)

Table 4.8, shows that the mean value for the first two questions, e banking improves customer service and reduce number of customers coming to the banking hall were 4.37 and 4.28 respectively. This result implies that, through e banking the bank could improve customer service and reduce the number of customers coming to the banking hall, they

could get banking services without visiting bank office. Besides, an interview result were also support this idea, that one of the key factor that push banking industry to adopt technological innovation is enhancing of customer service through creating alternative channels for them. Similarly the median and mode value for the third question is 4.0, shows that respondents agreed that the existing withdrawal and fund transfer limit is encouraging.

On the other hand If the bank could use sufficient technological tools to deliver services, such as ATM, Internet, Mobile and POS terminal, it would not be limited by geographical location to get banking service. the system also increase reliability and accessibility of banking services, were the mean value for the question related with reliability and accessibility as a benefit were 4.01. The other benefit listed on the above table is that e banking service is used as a better information control tool, respondents agreed that they could access bank account and information any time they want were the mean value for this question is 4.18.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The study aims at investigating opportunities and challenges in the adoption of E banking services in DB based on the perception of its clerical staff as users of the service that have better know- how and believed to have direct interaction with customers in the service delivery. The main objectives of the research include identifying opportunities at hand in the adoption of the service as well as the benefits and identifying root causes of challenges in adoption and enhancing of E banking services to set out the way forward. To address these objectives, a mixed research approach was employed and primary data was collected through survey questionnaires from a sample of 147 clerical staff of DB and that of interview from each work unit four key informants. To achieve the proposed objectives, a combination of TOE framework and TAM were used. Frequencies and percentage were used to analyze the responses of DB clerical staff towards E-banking.

Even though DB has been in business of E-banking service since the year 2006, the rate at which the innovation is being diffused seems to be slow. As it is evidenced, only 28% of its customers enjoy the card banking as at June 2017 while the other E-banking services are at infancy stage. The demographic profile of the respondents' shows the total combination of man power that the bank has and holders of first degree and experience. The results of the study showed that the perception of the majority of sampled staff towards perceived ease of use and perceived usefulness variables become positive that can be taken as an opportunity for adoption of the service.

The result of the descriptive statistics showed that providing training to the level expected and adequate demonstration to the customer on how to use the service were identified as challenges that hinder enhancement of adoption of the service in terms of perceived ease of use.

The study also identified security risk, customer familiarity with the service, technical, managerial and implementation skills of E-banking, maintenance capability up on failure, promotion, public awareness, ICT infrastructures and low internet access as major

challenges in adoption of E-banking service in DB. Similarly the variables that measures challenges in adoption of E banking, perceived risk and environmental factors have significant influence as well as that of organizational factors.

In general, the findings of this study help to understand major opportunities at hand that should be maximized and existing challenges in the adoption of the service. It also helps to mitigate the root causes of factors that hinder E -banking development.

5.2 Conclusions

Therefore, based on the above summary of findings it is concluded that the existing man power Combinations and their positive perception towards usefulness and ease of use in the adoption of E banking services are opportunities at the hands of DB. The Perceived Ease of Use, in general, is one of the basic benefits of e banking system, which enables bank staff to perform banking activities in a simple way. The other driving force to adopt such system is perceived usefulness, where it is used for time saving and cost reduction among others. This and the other benefits identified in the study were considered as major driving force for banks in extending its service effectively and efficiently to cover the required market outreach. The study, in this regard, disclosed the benefits of the technological innovation to the banks to drive the adoption of the system.

The prevailing technical and managerial skills available in the bank towards adopting e banking are found to be limited to influence the technological adoption rate. Moreover, security risk, customer familiarity with the service, technical, managerial and implementation skills of E-banking, maintenance capability up on failure, promotion, public awareness, ICT infrastructures and low Internet access is major challenges in the adoption of E-banking services in DB.

5.3 Recommendations

Hence, drawing from the Conclusions of this study, the researcher recommends the following possible solutions that can help to mitigate the identified challenges in adoption of E-banking services.

- ✓ The study showed that providing practical training to the level expected and adequate demonstration to the customer on how to use the service were identified as challenges that hinder enhancement of adoption of the service. Therefore, it is better for the bank to exert much effort to train its staff about the existing E-banking services to improve their know-how and service efficiency up on delivery to the customers. Moreover, demonstration for ease of use shall be done while delivering the service. This can be implemented by providing cell phone as well as a dedicated window with personal computer through well trained personnel at the bank counter for the purpose of demonstration at Area Bank level especially for services like mobile, internet and agent banking. Thus, Familiarization of the services to the customers' needs to be done.
- ✓ The bank better continuously review and upgrade the existing system of security to the level that minimize risk and let the customers know the status for their decision and confidence in adoption of new innovation. Using all forms of media (brochures, web pages etc) , the bank should try to present the security used, outline the procedure on how to cope with the problems if any and provide information on how to use E-banking services safely.
- ✓ extensive massive promotion that address the general public using mass medias, sponsorship for programs that have mass audience , different promotional materials that easily catch the attention of the individual at the same time that promote the bank's service and well-designed user friendly web site need also be in effect appropriately for the enhancement of adoption of the service.
- ✓ In an effort to maximize the staff's existing technical, managerial and implementation skills of E-banking which ultimately have an effect in the adoption of the service, the bank search and design a special training program to upgrade the capability of existing key personnel. To some extent, it is also better

for the bank to search and welcome experienced personnel in this field to benefit from others experience.

- ✓ For an interrupted E-banking service delivery, it is better to have appropriate maintaining capacity. Hence, getting the concerned staff well trained and equipped for this purpose or negotiating with companies that have maintenance capacity with better solution for the problem at minimal down time becomes necessary.
- ✓ It is also recommended that implementation of a system tool or devices that monitor service failure and status of its ATMs, POS and other E-banking services to ensure the smooth functionality and to take appropriate measures on time.
- ✓ Regarding the ICT infrastructures and low internet access, the support of government is required For the successful implementation of E-banking system , ICT infrastructure, is a major prerequisite, so government should support the banking sector by investing on ICT infrastructure development.

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Appendices

Appendix A: Questionnaires and interview guide.

I Questionnaire

**SAINT MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
BUSINESS ADMINISTRATION DEPARTMENT**

Dear respondent,

I am a graduate student at Saint Mary's University undertaking a research project entitled "Assessment on Opportunities and Challenges of E banking adoption: The case of Dashen bank", in partial fulfillment of the requirement for the award of a Master of Business Administration (MBA) degree.

I therefore request for your kind assistance in completing the attached questionnaire to the best of your knowledge. The information you provide will be treated with strict confidentiality and is solely for academic purpose. Even where a name is given, it will not appear under any circumstances in the final report. Your involvement is regarded as a great input to the quality of the research results. Hence, I believe that you will enlarge your assistance by participating in the study. Your honest and thoughtful response is invaluable.

Thank you for your participation!

Best regards,

Selamawit Admasu,

December, 2017

Questionnaire

General Instruction

This questionnaire contains two sections and four (4) pages you are kindly requested to respond to the questions based on the instructions under each section. If you have comments or if you want to provide further explanations, please use the space provided at the end of the questionnaire. No need to write your name in the questionnaire.

Section I: Demographic profile of respondents.

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

Options:

1. Gender:

Male Female

2. Year of service in Dashen bank

1-3 years 4-5 years above 5 years

3. Educational level: Diploma holder
First degree holder
Master's degree
Above Master's degree

4. Working Unit: EBSD

IT

Area Bank

Section II: Questionnaires related with challenges in the adoption of E banking

services Instruction: Below are lists of statements pertaining challenges to adoption of E Banking. Please indicate whether you agree or disagree with each statement by ticking (√) on the spaces that specify your choice from the options that range from “strongly agree□” to "strongly disagree□”. Each choice was identified by numbers ranged from 1to 5.**Note: SA- Strongly Agree, A- Agree, N- Neutral, D- Disagree, and SD- Strongly Disagree**

Part I: Questionnaires related with challenges in the adoption of E banking Services.

The following are some challenges faced, when adopting E Banking, please indicate level of your choice.		SA	A	N	D	SD
		5	4	3	2	1
	I. Technological factors(Perceived risk)					
1	Lack of confidence with the security aspects Considered as challenges for the adoption of E banking.					
2	In the case of using E Banking, security risk affects user's decision to use the system.					
3	Lack of trust is considered as barrier for the adoption of E-banking system.					
	II. Organizational factors					
4	Use of E Banking services causes additional cost to do banking tasks.					
5	Customers of our bank were not fully familiar with E Banking service provided by the bank.					
6	Lack of skills to implement E Banking system to the level expected.					
7	Lack of appropriate maintaining capacity upon failure.					
8	Inconvenience placement of ATM.					
9	Lack of promotion by the bank to encourage customers to use E banking system.					
	III. Environmental factors					

10	Delivering E Banking services using internet is difficult due to low internet access in Ethiopia.					
11	Lack of sufficient government support will affect Customer's willingness to use technological innovation.					
12	Lack of available ICT infrastructure in Ethiopia.					
13	Lack of sufficient legal frameworks that attracts Banking industries to adopt technological innovation.					
14	Lack of competition among local bank and foreign banks.					
15	Lack of sufficient public awareness towards using E banking.					

Please specify any other challenge

Part II: Questionnaires related with benefits of adopting E-banking system in Dashen bank.

	The following are some of the perceived factors that enhance adoption of E banking, please indicate your choice.	SA	A	N	D	SD
		5	4	3	2	1
	IV. Perceived Ease of Use					
16	E Banking makes it easier to do banking activities.					
17	In the case of mobile banking, our customers can simply use banking service by using their cell phone.					
18	From the bank perspective it is easy to use E Banking to accomplish banking tasks .					

19	Using E Banking systems simplify the activity of Workers to deliver service to customers.					
20	Our bank provides guidelines on the use of electronic Banking facility.					
21	The management of the bank provide training courses for its staff when introducing E Banking services to the Level expected.					
22	Adequate demonstration is provided by the bank for the customers on how to use E banking services.					
V. Perceived Usefulness						
23	E Banking services enable users to complete banking activities more quickly and easily.					
24	E Banking service is convenient, in terms of 7 days And 24 hour services to access bank account.					
25	E Banking service is more accessible to users than Visiting a bank.					
26	transactions in any of E Banking services are at a Lower price, or at no cost.					
27	E Banking service improves customer service.					
28	E Banking service improves speed and efficiency.					
29	E Banking reduce number of customers coming to the Banking hall.					
30	Existing E banking withdrawal and fund transfer limit Is encouraging for users to use the service.					
31	E Banking increase reliability and accessibility.					
32	E Banking service used as better information control Tools.					

Please specify any other optimization factors?

II Interview Protocol
SAINT MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
BUSINESS ADMINISTRATION DEPARTMENT

Thank you very much for volunteering to participate in this one-on-one personal interview. The main objective of this interview is to assess the factors that influence the adoption of E banking positively or negatively as well as optimizing the service provision with respect to Dashen Bank Your responses will be treated with utmost confidentiality and will not be used for any purpose other than the objective of the research. Moreover, the results of the research will be reported in manner that could not identify you. The outcome of the study are anticipated to assist the understanding of the basic opportunities and challenges of adopting E- banking innovation in delivering quality service to customers of Dashen Bank.

Thank you in advance for your participation.

A. Please tell your working Unit:

EBSD

IT

Area Bank

B. Qualification, Position, and year of service in current position_____

Part I. Challenges in adopting E-banking system.

1. What type of Electronic banking service do you provide? ATM, Internet banking , Mobile banking and others? Please specify.

2. What do you think are the basic challenges in adopting new technological Innovations like ATM, POS, internet banking and mobile banking?

3. Are the following factors considered in your institution as challenges for the adoption?

Of technological innovation?

a. Security risk

b. Customers reluctance

C. Lack of social awareness

d. Cost incurred in the purchase of technological instruments

e. Lack of competition

f. Inadequate ICT infrastructure

g. Lack of skilled manpower

h. Lack of advertisement

4. In your opinion, what are the key factors that hinder your institution from adopting e

Banking (such as ATM, Internet banking and mobile banking)?

5. Do you see any social, Economic and legal challenges in the adoption of ATM, Internet banking and mobile banking in your institution? (Please specify/explain).

6. Do you think that government policy have impact on the adoption of E-banking system? (Please specify/explain).

7. What sort of support would you expect from the government in relation to the E - banking Service improvement?

Part II. Factors that enhance adoption of E-banking Services.

8. What are the benefits gained by your institution from the adoption of ATM, internet

banking, mobile and agent banking system in the delivery of service to customers?

9. In your opinion what are the key factors that push your institution to adopt ATM, Internet and mobile banking system?

10. Per your opinion, what are the advantages / reasons that you consider in implementing E-Banking system?

11. Any other suggestion or recommendation you would like to add?

Thank you!!