St. Mary's University

School of Graduate Studies

PRACTICES AND CHALLENGES OF E-BANKING SERVICE DELIVERY: THE CASE OF BANK OF ABYSSINIA

BY: BEFTU HABTE

DECEMBER, 2021

ADDIS ABABA, ETHIOPIA

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BY

BEFTU HABTE

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

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Zemenu Aynaddis (Ass.professor). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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December, 2021

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies, for examination, with my approval as a university advisor.

Zemenu Aynaddis (Ass.professor) _____

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St. Mary's University, Addis Ababa

December, 2021

ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES

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BEFTU HABTE KEBETA

SGS/0096/2011A

CERTIFICATION

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ACCRONYMS

E-banking	Electronic Banking
BOA	Bank of Abyssinia
NBE	National Bank of Ethiopia
ATM	Automatic Teller Machine
POS	Point of Sale
Et-switch	Ethiopian switch
ICT	Information Communication Technology
IS	Information System
IT	Information Technology
RFP	Request for Proposal
SIT	System Integration Test
UAT	Users' Acceptance Test
MIS	Management Information System
PSSEthiopia	Premier Switch Solutions Ethiopia

ABSTRACT

The general objective of the study is assessing of the service deliverypractice, and the associated challenges of e-banking in the case study organization, BOA in Ethiopia. Traditionally banks are in the forefront in harnessing and using technology to improve their products and services. Over a period of time they have grown to use electronic and telecommunication infrastructures extensively to provide products and services to the customers efficiently. To achieve the stated objective asemi-structured questionnaire was distributed to 185 central Addis district branches and for e-banking department staff the sample is determined by using a stratified random sampling technique. Additionally, a structured interview was conducted with the e-banking manager. Descriptive research design was employed and mixed research approach was used to answer the research questions. The data obtained from the survey questionnaire was analyzed statistically and the interview result was interpretative. The study used descriptive statistics and data was analyzed using a statistical package for social sciences (SPSS version 25). As per the findings of the study, it is observed that lack of awareness, non- availability of demonstration and lack of differentiated products are the factorsthat affect the bank's goalto grow e-banking service. On the other hand, privacy and security issues coupled with ICT infrastructure shortage are among the major challenges in the adoption of e-banking service in the country. However, increasing demand and commitment of the government to improve the policy framework are the major opportunities for the adoption of the service in the banking industry. Based on the major findings the study suggests the bank should train employees on e-banking service and policies and procedures should be improved continuously.

Key terms; E-banking,E-banking practice, E-banking adoption

CHAPTER ONE

Introduction

Chapter one is composed of sections, the background of the study, statement of the problem, objective of the study with two sub-sections: -general objective and the specific objective, research question, significance of the study, scope and limitation of the study, lastly organization of the paper.

1.1.Background of the Study

The world has been transformed into a 'village' via the Internet, as it avails information to users from the farthest ends of the globe in a click. The Internet has been dubbed as one of the greatest inventions of mankind. And entrepreneurs have used this powerful tool to create whole new category of digital products that make life simpler to consumers from any corner of the globe.

Following the invention of Internet,Electronic fund transfer reduces costs meritoriously for banks and realizes easy access for customers.As Qin (2009) puts it, industrial revolution influenced mankind deeply; it won't be an exaggeration to say e-commerce is the most essential revolution in productivity. According to Salehi (2010), E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. The term e-banking is interchangeably used with Internet banking, online banking, web banking, and virtual banking. This form of banking allows the users to make different banking transactions and manage accounts through the internet and their mobile phones without the need to visit a bank branch(Echchabi, Al Hajri, and Tanas, 2019).

Ethiopia's finance sector is not yet developed well when compared to the global scenario. Cash is still the major instrument to effect payment in Ethiopia. Findex Survey data (World Bank 2018a) unveiled that in 2017 from the total adults who made payments for utilities, 98.7% used cash. While 59% of adults received payments for agricultural products, only a mere 0.47% got it via a financial institution. Only about a third of account owners in Ethiopia reported making or receiving at least one digital payment in 2017.

Electronic banking is currently in use in all the seventeen commercial banks of Ethiopia. But as can be expected it is not without flaws and challenges. Diverse factors come into play to challenge the growth of the service including but not limited to telecom services and infrastructure and small number of businesses using electronic payment solutions. The researcher working for Bank of Abyssinia (BOA) has witnessed firsthand the challenges of electronic banking associated with service development, delivery, & challenges in increasing the use amongst clients. The researcher believes that doing a research on this problem and finding solutions to it will possibly add value to the organization under study, BOAand other banks offering the service in the Ethiopia.

1.2.Background of the Organization

BOA was established on February 15, 1996, and started its operation with an authorized and paid up capital of ETB 50 million, and Birr 17.8 million, respectively. The bank's vision is to become a leading commercial bank in East Africa by the year 2030; and employing ICT as a tool to achieve the vision. This is considered as critical in achieving its mission (BOA annual report,2019).

Bank of Abyssinia introduced e-banking services to the public on June 25, 2014 by deploying 50 ATM and 60 POS machines (BOA annual report, 2015). When compared to other commercial banks, BOA entered the e-banking market late. According to Worku (2010), Commercial Bank of Ethiopia was the first to introduce ATM in 2001, Dashen Bank followed suit and introduced mobile banking on April 21, 2009, followed by United Bank that managed to introduce telephone and internet banking services in 2008.

Over the years, BOA offered different products including Internet and mobile banking, and recently introduced a new product called Gize-Pay, an e-money product for phone holders that allows users to load money from their bank account to a mobile wallet account to make variety of purchases as desired. The bank has been making endeavors to expand e-banking services from time to time. As a result, the number of debit card holders, mobile banking subscribers and merchant banking clients has reached 989,984, 910,969, and 116, respectively. Together with this, 300 POSand 969 ATM machines are made available for use (BOA annual report,2021).

1.3Statement of the Problem

Even though there is an increasing growth in online banking indicating a promising future in developing countries, e-banking is in its early stages of development and most banking transactions are still executed the conventional way (Ojeca&Ailemen, 2011). Globally, the way banks delivered services had undergone a paradigm shift. The banks are increasingly going for electronic provisioning of services in the self-service mode through various electronic channels. Tough competition and increasing customer expectations had forced all major commercial banks, irrespective of the sectors, to adopt the provision of banking services through ATMs, internet banking, telebanking and mobile banking (Gichana et al, 2016).

For commercial banks service delivery utilizing electronic and telecom channels needs to be considered as a parallel service delivery methods as the existing traditional banking services instead of a separate business entity. This implies that a bank needs to understand its clear purpose, customer needs and the products and services to offer, identify the enablers to offering resources, capabilities and partnerships and determine appropriate delivery channels to deliver these products and services (Boatning and Molla, 2006).

In Ethiopia, electronic banking is relatively a new area that Ethiopian commercial banks have ventured into. But the growth trend in the expansion of this modern service into the general public by introducing new products and expanding the reach for currently provided services has been challenged by many factors.

BOA annual report (2021) shows the bank has more than 5.16 million account holders. From the total number of customers 18.79% (969,984) are ATM card holders, 17.65% (910,969) mobile banking subscribers and the rest are customers who have using the banking service at branches. These depicts-banking products have reached to less than half of the total number of customers.

Even after banks started providing a variety of electronic banking services, customers spend long time queuing in the banking hall to carry out transactions to withdraw or deposit cash into their account and make transfers. Longer waiting time for customers in branches raises questions on the bank’s operational efficiency and has a negatively impacted customer satisfaction.

The e-banking sector in Ethiopia is merely two decades old. And it's only in the past decade it saw improvements. Hitherto, researches have been conducted mainly to understand the adoption of e-banking, challenges and opportunities such as adoption of e-banking; Barriers and drivers (Ayana, 2010), E-banking in Ethiopia; practices, opportunities and challenges, Opportunities and challenges of e-banking system in CBE (Fetua, 2009). But the sector being young and going through ever changing dynamics, it is imperative that the cumulative knowledge be updated as frequent as possible. The recent steps taken by the government to liberalize e-banking by letting telecom companies into the sector and recent legal framework update, as they have a huge impact, call for a studyare conducted.

A few researches have contributed to the knowledge on sub-Saharan Africa e-banking. Sub-Saharan Africa(SSA) is a region in dire need of development and probably one with the greatest need of research attention. In view of the many benefits that could accrue for SSA countries if they successfully implement electronic banking solutions, a study that focuses on such an under-researched study area is relevant and cannot be over-emphasized (Mbarika and Okoli, 2003).

According to Zhao, Hanmer,Ward, and Goode (2008), understanding of the barriers and drivers impacting e-banking adoption is critical to encourage e-banking development in developing countries.Therefore, I have planned to conduct a detailed research in order to objectively assess and identify the overall e-banking practices and related challenges of the bank (BOA). This will help to have knowledge of the key factors that influence the adoption of electronic banking services and make informed decisions while planning and implementing interventions for the betterment of such services in the bank. This will hopefully contribute to cumulative knowledge in the study area and fill the above mentioned research gap in SSA countries.

1.4Research Questions

For the realization of its objectives, the study is expected to address the following research questions.

- What are the existing practices of e-banking service delivery in BOA?
- What are the challenges of e-banking service delivery in BOA?

- What are the opportunities for E-Banking service delivery in the BOA? Objectives of the Study

1.5 Objectives of the Study

1.5.1 General Objectives

As its general objective, the study is directed towards assessing e-banking service development, delivery practice and the associated challenges of the organization of the case study, BOA in Ethiopia.

1.5.2 Specific Objectives

Specific objectives that the study seeks to achieve are stated below:

1. To determine how electronic banking services are delivered at BOA.
2. To identify the challenges that BOA is facing in growing its customer base in e-banking.
3. To find out the opportunities for the improvement of e-banking services.

1.6 Significance of the Study

As has been explained in the previous sections, the study seeks to identify e-banking challenges in the context of Ethiopia and come up with possible solutions potentially to contribute to the betterment of modern banking services at the case study organization, BOA. This means, potentially, the work will be of great value to the bank's management. Likewise, other Ethiopian banks finding themselves in same situation could also benefit from the study.

Moreover, as a new addition to existing academic literature in the area, the work could serve as a reference source and aid further research for academic.

1.7 Scope of the Study

1.7.1 Geographical Scope

Bank of Abyssinia, Central Addis District, City branches and selected employees who have a direct relation with e-banking operation were taken in the sample.

1.7.2 Conceptual Scope

The study is designed to assess the challenge and opportunities towards the development & practice of e-banking service from the viewpoint of the bank's employees.

1.7.3 Methodological Scope

Semi structured questionnaire for employees and key informant interview with card banking manager of BOA, who works at BOA Head Quarter were included. The target population for this study consisted of employees working at Central Addis District and E-banking department at BOA-HQ.

1.8Limitation of theStudy

The study relied heavily on the responses of the questionnaire respondents' and interviewee. Questionnaires' were filled out by the selected employees holding different positions at the selected Central Addis District branches and the digital banking department. Hence, the extent of credibility of these responses may be a bit questionable as the employees may feel not comfortable to reflect the real facts by suspecting confidentiality to some extent. The study mainly focuses on the business context of how e-banking services are being developed and does not cover the details of technical part. The study also does not incorporate customers' opinion even though their perception or outlook matter in adoption of e-banking. Because of the covid-19 pandemic and due to the limited time period other banks which provide such services were not considered in this study. The research is limited to the aforementioned organizational and geographic areas.

1.9Organization of the Study

The paper is structured in five chapters. The first chapter gives the introduction part as an overview background of the study, statement of the problem, objective of the study, significance of the study, and scope and limitation of the study. The second chapter contains the literature review related to the study. The third chapter contains the research design and methods, the fourth chapter contains the presentation, analysis and interpretation of the data and the last and the fifth chapter contains summary, conclusion and recommendation of the study.

CHAPTER TWO

Review of Related Literature

This chapter looks at the literature review of past studies. The review is based on the research objectives. It discusses in depth the development approaches, benefits, factors and challenges associated with e-banking which are the key research objectives.

2.1.Review of Theoretical Literature

2.1.1. Role of Banking in Society

Banks have proved to play an essential catalyst role in the development of a country's economy; they contribute largely to a country's socio-economic development. Their contribution in developing the economy can be expressed in terms of promoting saving habit of the public, capital pooling and industry promotion , smoothening trade and commerce amongst societal members and even between countries, creating employment opportunities, assisting in agricultural development, instituting monetary policy and balancing development by spreading their branch networks to rural areas there by creating opportunity for rural inhabitants into the finance world (Kalpana&Rao, 2017).

Banks are core for the modern financial system they have playing a vital role inorganizing the flow of funds between depositors and borrowers. A bank is an institution that receives deposits from savers, gives loans to borrowers, and provides a range of other financial services to its customers. In recent decades' main changes in banking services are delivered following advances in information technology that enhanced the quality and range of banking services, and cost savings for banks. In preference to visiting traditional way of banking, customers in many countries use electronic distribution channels, such as automated teller machines, telephone and mobile banking, and Internet banking, to gain access to banking services. Innovations in payments have led to a shift away from cash and cheques to faster and more convenient electronic payment systems, such as credit and debit cards, and contactless payment technologies, in some cases linked directly to customer bank accounts (Goddard &Wilson, 2016).

2.1.2. History of Payment System

Since the ancient times payment systems have existed as part of mankind history, but as everything else have evolved over the years. During the ancient & medieval periods the barter trading system was an accepted form by societies globally using commodities to pay for the acquisition of merchandises. This system was at times modified by using gold and other valuable metals as a means to pay for goods. It continued to be practiced well into the 18^{th} & 19^{th} centuries. It was in the 17^{th} century Europe that paper money came into play to serve as a currency in trading. Introducing the paper money (Fiat money) faced challenges at that time to be traded with but governments backed their currencies with gold to increase trustworthiness of their notes. Paper money derives its value from a decree by the government or sometimes called fiat,and not accepting paper money for settlement would be illegal which means supported by law. The third generation payment system is shaping the world and building economies in the electronic payment system (Cecchetti&Schoenholtz, 2017).

Payment systems are indispensable to our lives as individuals and to the smooth functioning of the economy. A modern payment system includes private or corporate customers, financial intermediaries, generally commercial banks, and central banks, linked by telecommunication networks transmitting information between computer systems. Payment systems operate in a competitive environment and technological innovation is one of the most important drivers in the evolution of payment, chip cards being one of the most obvious examples (Rambure and Nacamuli, 2008).

The evolution of technology has been greatly affected the banking industry over the last few decades, with an emphasis on the way services are delivered to retail banking customers. Before the early 1980s banking was a simple branch-based operation. However, things started to change with the use of multiple technologies. Among such technologies, technology-based remote access delivery channels and payment systems, such as automated teller machines that displaced cashier tellers; the telephone, represented by call centers that replaced the bank branch; the Internet that replaced snail mail; credit cards and electronic cash that replaced traditional cash transactions; and shortly, interactive television that replacing face-to-face transactions (Sherif& Ahmed, 2003).

2.1.3. Electronic Banking: Definition, Classification and Benefits

In the work of Ojeca&Ikpefan (2011) electronic banking (e-banking) is defined as a process by which a customer performing banking transactions. Personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking and phone banking refer to in one form or another of electronic banking. Additionally, the work also indicated that conventional way of banking is more dominant in the developing countries whilst e-banking is in the early stages of its development. However, there is an increasing growth of online banking, indicating a promising future.

E-banking is a fully automatic service for traditionally banking customers' products based on information technology platforms. E-banking services provide customer access to accounts, the ability to move their money between different accounts or making payments via e-channels. The advantages generated by this services have determined an accelerate developing of this industry over the entire world (Bojan&Dragos, 2010).

Internet banking offers a number of online services such as inquiry of balance, cheque books requests, recording stop payment instructions, and instructions of balance transfer, account opening and other banking services. These are mainly traditional services offered through the Internet but as a new delivery channel. Payment services are also being offered by banks on behalf of their customers who utilize different electronic shops and electronic malls. Furthermore, different banks have different levels of such services offered starting with the information disseminating to making online transactions through the Internet (Kolodinsky, J.M., Hogarth &Hilgert M.A., 2004).

Shah &Clarke (2009) stated that electronic banking delivery of services is conducting transactions from a remote location like home by using electronic channels such as the Internet rather than visiting a local branch. Many banks and other organizations are eager to use this channel to deliver their services because of its relatively lower delivery cost, higher sales and potential for offering greater convenience for customers. With the arrival and widespread adoption of the World Wide Web, banks renewed their interest in this area and started developing a web presence to provide services as information, advice, administration, and even cross-selling. In fact, the interactive nature of the Web not only allows banks to enhance these core services, but also enables banks to communicate more effectively and expand customer relationships. When combined with the improving analytical capabilities of

data mining and related technologies, the potential for enriching the relationship with customers is unlimited.

Additionally, some of the key drivers of offering e-banking services include reducing transaction costs, increasing convenience, availability and timeliness of transaction, and improving accessibility for better fund administration(Brown and Molla, 2005). A bank may therefore need to decide on what e-banking services to provide to which customers and when and how (channel choice) to provide those services. The seeming dominant strategy is the "click and mortar" model in which the bank combines or adds an online presence to its physical presence and strategic orientation and positioning can affect the specific path a bank takes in terms of developing e-banking. In addition, other factors related to customers awareness, customer readiness, the specific nature of ICT diffusion in the wider market, and experience with electronic based transactions can also influence this path (Jasimuddin, 2001, Awamlehet al., 2003).

The work by Shah and Clarke (2009) shows the existence of a variety of e-banking services (see the table below) benefiting all stakeholders in the banking sector.

Table 2.1: Types of e-banking services

Service type	**Description**
Account Access	Access online to all of one's account information (usually checking, savings, and money market), which is either updated in real time or on a daily basis.
Balance Transfer	Transfer funds between accounts
Bill Payment	Pay any designated bill based on instructions one proves including whether to pay automatically or manually each month.
Bill Presentment	View billing statements as presented electronically, which allows interactive capabilities such as sorting, drill-down details, or advertising, in addition to on-click payments
Business Banking Services	In addition to all of the basic payment and account access services, merchant can manage their electronic lock box for received payment, accounts receivable posing, as well as initiative payment via networks.
Cross-selling	Just as visitors to a branch are being offered new products by tellers and simple signage, so can Web bank customers.
Accounts Aggregation	Accounts aggregation enables a consumer to be presented with all his or her account details (current account, saving account, mortgage account etc.) on a single page.

As noted earlier, digitalization of the banking industry worldwide has resulted in the shift from traditional banking to the use of alternate banking channels like merchant services, Internet banking, agency services, automated teller machines (ATMs) and the use of mobile banking (Sakala&Phiri,2019).

E-banking is a safe, fast, easy and efficient electronic service that enables users to access their bank account and to carry out online banking services, 24 hours a day, and 7 days a week. Through the years e-banking has prolifically grown in variety. In Ethiopia, we generally can find the under described e-banking services:

2.1.3.1. ATM (automated teller machine)

Scotland being the first nation to introduce the use of ATM to the world in June, 1967 (Reuters, 2017); ATM machine is a self-served teller machine which is placed not only near or inside the premise of bank but also in location such as shopping centers/ malls, airport, grocery stores, petrol gas station, restaurant or anywhere frequented by large numbers of people. ATMs were the first visible face of electronic banking. From being mere currency dispensers they have now evolved into multifunctional devices enabling customers to conduct a whole range of transactions from account management and funds transfer, to bill payments (Kondabagil, 2007).

2.1.3.2. Point of sell terminal (POS)

Points of sale (POS) is also called as a point to purchase. It is the place where sales are made. Retailers consider a POS to be the area where a customer completes a transaction, such as a checkout counter. Any form of payment can be used like as cash, debit cards, credit card or mobile payments (Kurbon, 2017). POS is a computerized telecommunications device that provides the customer access to financial transaction in a public space. The POS terminal is directly managed by the merchants. The customer is identified by inserting a card which contains unique card number and some security like PIN. The purchase transferred immediately or very shortly from buyers' bank account to the store/seller account. An increasing number of merchants are accepting this type of payments (Malak, 2007).

2.1.3.3. Internet banking

Internet banking is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial

institution's website. The online banking system will typically connect to or be part of the core banking system operated by a bank. Some banks operate as a direct bank or virtual bank, where they rely completely on internet banking while others have existing traditional baking organization but have added internet banking as an additional service (Qin, 2009).

According to Koufaris (2002), the levels of banking services offered through the Internet can be categorized in to three types. The first basic level service is the banks' websites used to disseminate information on different products and services offered by the bank to its customers and members of public.It can also be used as a tool of receiving and replying to customers' queries through email. The second level is simple transactional websites, allowing customers to submit their applications and instructions for different services, queries on their account balances, and access other services available, but do not permit any fund-based transactions on their accounts. The third level of Internet banking services are offered by fully transactional websites which allow the customers to operate on their accounts which include being able to pay different bills, to purchase and sell securities, transferring funds and also enabling customers to subscribe to other products and services offered by the bank (Koufaris, 2002).

2.1.3.4. Mobile banking

Mobile banking is a new facet for electronic banking; the advancement of telecommunication technology played a great role to its development. "Wireless is estimated to be growing at more than three times the rate of landlines globally. Mobile banking is set to become a major delivery channel" (Kondabagil, 2007). Mobile Banking allows consumers to perform banking services i.e. alerts, banking transactions and balance enquiries with the use of their mobile devices (Cudjoe, A.G., Anim,P.A&Nyanyofio, J.G.N.T., 2015).

2.1.4. What are the benefits of E-banking?

Many banks and other organizations have already implemented or are planning to implement e-banking because of the numerous potential benefits associated with it. The benefits to different parties are outlined as follows: -

2.1.4.1. Benefits for the bank

Better branding and better responsiveness to the market is the first benefits for the banks offering e-banking services. Those banks that would offer such services would be perceived

as leaders in technology implementation. Therefore, they would enjoy a better brand image. The other benefits are measured in monetary terms. Maximizing profits of owners are the main goal of every company so that, automated e-banking services offer a perfect opportunity for maximizing profits for banks (Salehi, 2010).

E-channels are largely automatic, and most of the routine activity such as account checking or bill payment may be carried out using these channels. This usually results in load reduction on other delivery channels, such as branches or call centers. This trend is likely to continue as more sophisticated services such as mortgages or asset finance are offered using e-banking channels. In some countries, routine branch transactions such as cash/cheque deposit related activities are also being automated, further reducing the workload of branch staff, and enabling the time to be used for providing better quality customer services (Shah & Clarke, 2009).

2.1.4.2. Benefits for the customer

The main benefit from the bank customers' point of view is significant saving of time. Garau (2002),puts the main advantages of e-banking for customers as follows.

- Increased comfort and timesaving transactions can be made 24 hours a day, without requiring the physical interaction with the bank.
- Reduction of cost in accessing and using banking services.
- Quick and continuous access to information. Corporations will have easier access to information of their multiple accounts as easy as click of a button.
- Better cash management. E-banking facilities speed up cash cycle and increases efficiency of business processes as large variety of cash management instruments is available on internet sites of banks.

Providing a unique experience is the compelling element that will retain customers. E-banking backed up by data mining technologies can help in better understanding customers' needs and customizing products/services according to those needs. E-banking development offering extra service delivery channels which means wider choice and convenience for customers. E-banking can be made available 24 hours a day throughout the year, and a widespread availability of the Internet, even on mobile phones, means that customers can conduct many of their financial tasks virtually anywhere and anytime (Shah & Clarke, 2009).

According to Ojeca&Ikpefan (2011), electronic banking has enabled customers to compare banking services and products. It has also helped in increasing competition among banks, allowing banks to penetrate new markets and thus expand their geographical reach. This gives customers access to services more easily from overseas banks and through wireless communication systems, which are developing more rapidly than traditional "wired" communication networks. Electronic banking has been seen as an opportunity for countries with underdeveloped financial systems to leverage upon in the development of their financial system.

In general, e-banking has economic value by reducing overhead costs of other channels such as branches, which require expensive buildings and a staff presence. It also seems that the cost per transaction of e-banking often falls more rapidly than that of traditional banks once a critical mass of customers is achieved. Fixed costs of e-banking are much greater than variable costs, so the larger the customer base of a bank, the lower the cost per transaction would be (Shah & Clarke, 2009).

2.1.5. E-banking Development Approaches and Influencing Factors

Sherif& Ahmed (2003) posit that, in Egypt most of the technology-related decisions are based on reactions to other decisions taken by the competition, without a real study of actual customer needs or perceptions, which leads to the creation of a high level of risk associated with such strategy.Sherif& Ahmed (2003)also mentioned that an overestimation of the level of customer acceptance of the technology can misguide decision-makers to get involved in investments, which are not ready to give return, while underestimation of the acceptance level can lead to the loss of substantial market share.

As pointed out in the work of Shah et al (2007), implementation of e-business channels and their integration with other parts of a business is an essential part to be successful in e-banking, as an electronic request for a typical financial transaction passes through a number of different systems before an action is complete but short comings in technological infrastructure became the biggest impediment.

E-banking development is not an easy task but while developing it is very significant to create a user-friendly and functionality rich website in e-banking environment (Shah & Clarke, 2009). From time to time the website has important role in banking; it performs as a

bank's branch in front of customers. The major difference is that when customers' login in their account, they do most of the work by themselves.

All e-banking projects will have unique features in terms of size, market environment, technological or organizational change needs. Keeping this in mind they will also have a number of common aspects. The following is a guide to the typical phases an e-banking project will go through (Shah& Clarke, 2009).

A. **Feasibility study**: e-banking should pass the feasibility study in order to get the many benefits to the bank.It helps to address the following issues return on investment (ROI), suitability/ability of the organization to take such giant step or availability of required resources.

B. **User requirements definition**: to determine the e-banking project requirements the information technology department will synthesize requirements which are collected from customer's survey and interview.

C. **Risk analysis:** all departments will be involved to carry out the risk analysis. Risk analysis will produce a risk management plan which will be used to manage risks of e-banking.

D. **Project planning**: for development of systems, testing, deployment and handover it requires to develop detailed project plans. Dealing with organizational change management issues will also be planned at this stage.

E. **Pilot project**: Pilot systems to be developed and evaluated to refine project plans and systems requirements.

F. **E-Banking system development**: systems will be developed in house or by the outsourcing vendor under the guidance of the bank or banks and they will conduct the acceptance/functionality testing jointly.

G. **Training**: before the project is completed, training in use of e-banking facilities will be managed by all parties involved. The training will be conducted in parallel to the most phases of the project.

H. **Evaluating**: to address problems, assess benefits and to learn from the experience regular evaluations are required especially at the beginning of the services going live.

According to Shah & Clarke (2009), Cost/benefit analysis is the most commonly used technique while conducting a project. It is used to analyze feasible alternatives in terms of the major costs involved together with the major benefits that are expected to accrue. Another issue in a new project is SWOT analysis. In e-banking, SWOTs can be used to determine internal strengths such as flat organizational structures and relevant in-house skills, or weaknesses such as lack of integrated back end systems and employees' resistance to change. External opportunities such as increase in market share or image enhancement as well as threats such as potential new entrants and negative publicity if things go wrong can also be identified.

According to Sherif& Ahmed (2003), customers' ability to accept and adopt e-banking technology has largely affect the success of applying different information technology products. In a recent study conducted in Iran, customer attitudes towards Internet banking, low awareness of service and its benefits, quality of the Internet connection, demographic factors (age, sex, income, occupation, & education), security and reliability of transactions are identified as critical factors causing customers not to adopt Internet banking (Saeidipour et al,2013). The researchers also stated that some customers perceived Internet banking is easily susceptible to fraud because of this assumption they avoid using electronic banking. This perception can damage consumers' confidence on the online system as a whole. Moreover, unless specific needs are satisfied with Internet banking, consumers want to stay to the present familiar ways of banking.

2.1.6. Challenges and Risks of E-banking

The key challenges identified for the sector are the costs of the technology, the lack of knowledge of e-commerce, managing the change, budgeting and issues associated with linking back end systems (Joze et al., 2002). Amrit (2007) posited that risk management, infrastructure development and policy formulation are the three major challenges of e-banking. Technological problems like connect break in service while withdrawing cash from ATM and poor mobile service are mentioned as additional challenge. He also considered that an adequate level of infrastructure and human capacity building are required before banks adopt the full-fledged e-banking. On the other hand the major risks of e-banking are Strategic risk, operational risks, compliance risk, reputational risk and other risks which is classified by the Basel committee of banking supervision (2003).

Strategic risks are mainly associated with Board and management decisions. In the e-banking context, use of technology can create strategic risk when management does not adequately plan for, manage, and monitor the performance of technology-related products, services, processes, and delivery channels. Some of them are:- E-banking planning and investment decisions, design, delivery, and pricing of services, adequacy of management information systems and increased dependence on outsourcing and third parties.

Operational risks are defined as the risk of loss resulting from inadequate or failed processes, people, and systems, or from external events. There are different operation risks but some of them are internal and external fraud, technological inadequacies, and human factors such as lack of training, failed or erroneous transaction processing and failed outsourced processes.

Compliance risk arises from violations of, or non-conformance with,laws, rules, regulations, prescribed practices, or ethical standards. It alsoarises when the legal rights and obligations of parties to a transaction arenot well established. Banks providing e-banking products and services assume a higher level of compliance risk because of the changingnature of technology, which is leading to frequent changes in regulatoryrequirements.

Reputational risk is the risk of significant negative public opinion, which may involve actions that create a lasting negative public image of overall banking operation such that the bank's ability to establish and maintain customer relationships is significantly impaired. Some of reputational risks are loss of trust due to unauthorized activity on customer accounts, customer complaints about the difficulty in using e-banking services and the inability of the Institution's help desk to resolve problems.

Finally, other risks of traditional banking such as credit, market, liquidity, and interest rate risks are also elevated. However, their practical consequences may be of a different magnitude for banks than strategic, operational, legal, and reputational risks.

In addition to the above factors researchers in ICT have proposed many theories and models to explain and predict technology adoption. The researcher took the two most widely used models that many researchers used to have a more precise forecast on the adoption of e-banking practice of e-banking system, the technology acceptance model (TAM) and technology organization environment (TOE).

2.1.7. Technology acceptance model (TAM)

According to Davis (1989) in TAM framework, there are two main factors that affect the user's intention of using innovative technology which are perceived usefulness and perceived ease of use. Perceived usefulness (PU) refers to *'the degree to which a person believes that using a particular system would enhance their task performance,"* on the other hand, perceived ease of use (PEOU) refers to *"the degree to which a person believes that using a particular system would be free of effort*."

Ziefle and Jakobs (2010) stated that PU and PEOU are affected by social factor which incorporate language, skills and facilitating conditions. The used language in the information systems influences the individual's attitude towards the developed technology. If the underlying technical language used is easy to understand, then the individual user is likely to exhibit a positive attitude towards the technology. The opposite is correct when the language used is challenging and complex. Another research made on Ethiopia revealed unfortunately, most mobile banking applications are designed in foreign language this creates a language barrier to execute financial transactions for the most unbanked society who live in rural areas where illiteracy rate is high (Arega, 2015 February).

Another crucial factor regarding technology adoption concerns qualifications and skills of the potential users. In this regard, the more skilled and qualified are the users, the higher would be the positive attitude towards the technology, and vice versa. On the other hand, the facilitating conditions reflecting the extent to which the organization can provide technical support to the technology users, prepares a proper setting where the individual will be at ease in using the technology and consequently stimulates a positive attitude to adopt it (Ziefle and Jakobs, 2010).

2.1.8. Technology organization environment (TOE) framework

According to Tornatzky and Fleischer (1990), technology adoption within an organization is influenced by factor pertaining to the technological context, the organizational context, and the external environment. It is designed for studying the likelihood of adoption success of technology innovations.

The technological factor refers to adopter's perception of e-banking attributes. Typicalcharacteristics of technology considered in technology adoption studies are based on

the assumption of Roger's diffusion of innovation (Roger, 2003), which include relative advantages (perceived benefits), and relative disadvantages (perceived risks).

Organizational factor refers to the organization's characteristics that influence its ability to adopt and use of e-banking system such as financial and human resources. Whereas, environmental factor refers to the external environment in which an organization operates and its condition for supporting the development of e-banking services like legal framework, national ICT infrastructure, competitive pressure and Government support.Government regulation can have either a beneficial or a detrimental effect on innovation. When governments impose new constraints on industry, such asprivacy requirements may prevent banks from introducing new ways for customers to access their account information.

2.2.Empirical Literature

Regardless of the benefits of online banking, there are also a number of issues and challenges in the online banking sector. These are highly significant both for banks and customers. Most of the banking institutions have not been able to benefit from the opportunities of information flow because of various barriers one of these involves the costs arising from the acquisition and maintenance of new information technology.

Adam (2013) made a research on electronic banking opportunities and challenges and the aim of his study was to investigate problems and opportunities of e-banking in Sudan. The researcher reviewed the experience of the Sudan and identified some problems facing the proper practice of e-banking, such as lack of awareness of e-banking and distrust of online payments and security , lack of legal protection against online intrusions, fraud and money-laundering, inadequate infrastructure, computer/ Internet literacy and connectivity, and, banks not having web-site pages which, they supposed to help their customers to get the needful information of banking transactions.Illiteracy& lack of infrastructure in banking institutions is one of the serious constraints to the effective use of information technology. Introduction to physical equipment will not separately solve the problem of information availability and flow; it needs the combination of human capacity and skill (Adam, 2013).

Worku(2010), conducted a research on the opportunities and challenges of e-banking in Ethiopia and found that lack of suitable legal and regulatory frame works for e-commerce and e-payments, political instability in neighboring countries, frequent power interruption, lack of

trained personnel in key organizations, high rates of illiteracy and absence of financial networks that link different banks as major challenges.

Another Ethiopian researcher, Bultum (2014) studied to identify factors that affect adoption of e-banking in the Ethiopian banking industry by analyzing data obtained from survey questionnaire and puts security risk, lack of trust, lack of legal and regulatory framework, lack of ICT infrastructure and absence of competition between local and foreign banks as the major challenges and technical and managerial skills available in Ethiopian banks for the adoption of E-banking are also stated as a limit.

The study that was conducted byChandrasekhar&Taye(2017) indicated that the interaction and combination of these attributes (Relative Advantage, Complexity, Compatibility, Trialability and Observability) would have significant impact on users' adoption of ATM. But, compatibility has a major effect to adopt ATM compared to others attributes and they recommend banks should give much attention on customers' current status and demand before enforcing the technology. In addition to this banks should see to the development and design of less complex and easy to use systems that do not require a lot of mental and physical effort to accomplish transactions.

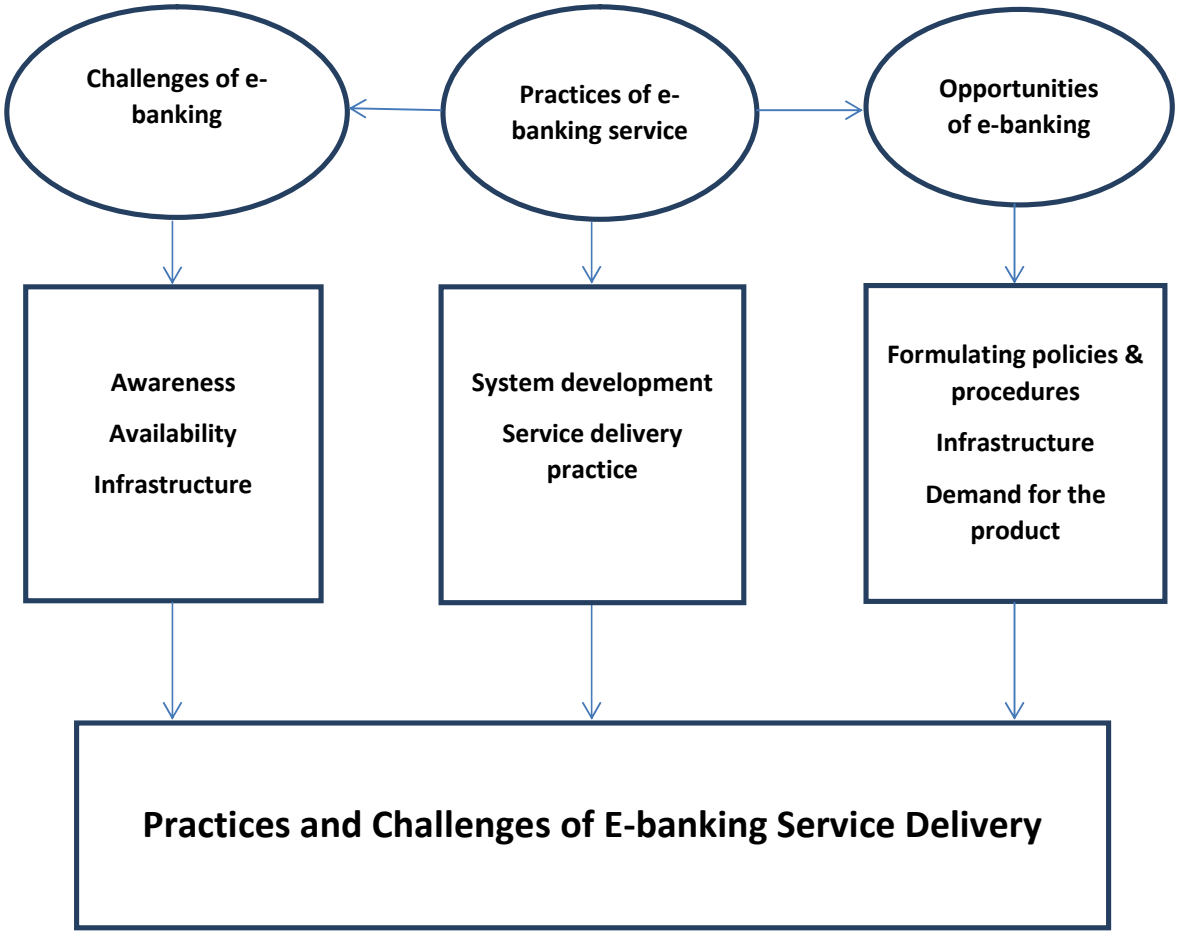
Tekabe and Gadise (2016), found on their studies of challenges and opportunities of e-payment in Ethiopia banking industry by taking different sample from different private commercial banks and by applying stratified sampling and simple random sampling technique: - language barrier, poor network, frequent power interruption and lack of awareness are challenge of e-banking in Ethiopia.

Wondwossen and Tsegai (2005) also studied on the challenges and opportunities of E payments in Ethiopia; the main objective of their study was to assess E-payment practices in developing countries. The researchers use site observation and made interview to investigate challenges to E-payment in Ethiopia and Africa and found that; lack of customers trust in the initiatives, unavailability of payment laws and regulations particularly for E-payment, Lack of skilled manpower and frequent power disruption.

Lastly, the empirical studies reviews were included specific research works onelectronic banking. Generally those conducted around the globe and Ethiopia specifically. The studies in general identified the major factors that hinders e-banking adoption such as; cost of

acquisition, maintenance of new technology, lack of awareness, distrust of online payments and security, legal protection against online intrusions, fraud, inadequate infrastructure, lack of help pages(web-sites), power interruption, and absence of financial networks that link banks. From the above all, in Ethiopia the major and frequently identified challenges are lack of awareness, lack of legal framework, lack of skilled man power, power disruption, and cost of ICT infrastructure are the major challenges of the findings. In addition, the development of e-banking should be ease of use, attention given to customers' status and demand before enforcing the technology are the recommended issues to easily adopt the e-banking services.

2.3. Conceptual Framework



CHAPTER THREE

Research Methodology

This chapter focuses on the methodology that is employed to carry out the study. It provides information about the type of the research, the research design, the sampling technique, the data collection instrument and the techniques that are used in analyzing the collected data.

3.1. Description of the Study Area

The study was conducted at Bank of Abyssinia's Head Quarter (HQs) and its branches in Central Addis District of BOA at Addis Ababa, Ethiopia. Currently, the bank has a number of branches operating under three main districts: Central Addis District, West Addis District and East Addis District. Due to accessibility, cost and time constraints or health exposure issue that materialized with the Covid-19 pandemic; however, the study area was geographically limited to branches in the Central Addis District. Respondents who took part in the study were drawn from the bank's HQ and the aforementioned branches.

3.2.Research Approach

The research approach that was utilized for the study is mixed research approach. The mixed research approach used both quantitative and qualitative approaches enabling the researcher to generate and analyze both qualitative and quantitative data through which study results (findings) can be enriched and explained better with statistically and qualitatively complementing assessment. Again, the researcher's choice for such an approach was mainly influenced by the nature of the research problem to be investigated and the research questions to be answered to ultimately achieve its stated objectives.

3.3.Research Design

Mostly, it is difficult to choose the best research design for a research but a good design is related to the purpose or objective of the research problem and also with the nature of the problem to be studied. According to Kothari (2004), descriptive researches are those researches which are concerned with precise predictions, describing facts and characteristics concerning individual, group or situation helps provide answers to the research questions of what and how. This design supported by survey (descriptive research design) was selected because it is suitable for the research problem and purpose.

3.4. Target Population

Target population refers to the whole group of persons who comprise of common observable uniqueness. The more precise a population of concern is clear, the healthier the capability to explain and describe the behavior proposed to be deliberated (Mugenda, 2008). The target population for this study consisted of employees working at Central Addis District and E-banking department at BOA-HQ. This includes: e-banking department, branch managers and all remaining staff serving the bank at different capacities. From the total population new opened branches, outlined branches and irrelevant jobs positions for the study were excluded and the target population is reduced to 343 i.e., 285 branch managers and clerical staffs at branch level and 58 clerical staff at Head quarter e-banking department.

3.5. Sample Size

It is impractical to study the whole universe especially in large population. Thus, considering time and cost, invariably lead to the selection of respondents i.e. selection of only representative units. The selected respondents are called a sample and the selection process is called sampling technique (Kothari, 2004). According to Kothari the size of sample should neither be excessively large, nor too small. It should be optimum. Optimum sample size fulfills the requirements of efficiency, reliability representativeness, and flexibility (Kothari, 2004). The sample size for this study was determined by using the Slovin's formula (Stephanie, 2003):

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

Where, n is the sample size, N is the population size (46 branch and 1 head quarter employees which are 285 and 58 respectively), and e is the sampling error = (0.05)

$$n = \frac{343}{1 + 343\ (0.05)^2} = 185$$

By using the above formula, the researcher took 185 employees as a sample of the population.

3.6.Sampling Technique

Proportionate stratified sampling technique and simple random sampling technique were utilized simultaneously in the study.

According to Kothari (2004) Stratified random sampling technique is applied when the population of concern is not homogeneous and can be subdivided into groups or strata and sample items are selected from each stratum. The study population divided into a group or strata of Manager, senior officer& officers from branches and Head Office. The sample to the strata is determined proportionally as illustrated in Table 3.1. And to get the required sample size the researcher used simple random sampling. This method helps the researcher to get the appropriate samples for the study and avoids biasness.

Table *3.1* Population and sample size of the respondent

Category	**Target population**	**Proportionate Sample size**
Manager	46	25
Senior Officer	34	18
Officers	205	111
H.O officers	58	31
Total	**343**	**185**

Source: Bank of Abyssinia

3.7.Methods of Data Collection

For data collection purposes, a structured questionnaire and interview were developed to gather information regarding e-banking service practice, challenges, and opportunities. Primary data was collected from 46 central Addis district managers, front line Customer Service Officers & digital banking staff based on structurally designed open ended questionnaire respondents were requested to choose and rate using Likert scale, which is Strongly Agree (SA) =5 ; Agree (A) = 4; Neutral (N)=3, Disagree (D) =2; and Strongly Disagree (SD) =1. The use of Likert scale makes it easier for respondents to answer question in a simple way. In addition, structured interview was used for the card banking manager at

the Head Quarter. Secondary data was also gathered from document review such as periodical company reports and the bank's website.

3.8.Methods of Data Analysis

To analyze the primary data descriptive analysis was used, to determine the practice and challenges of e-banking at BOA which is obtained from the quantitative and qualitative data collection using the software called Statistical Package for Social Science (SPSS). The data collected via questionnaires was analyzed with descriptive statistics and qualitative research is fundamentally interpretative i.e. the researcher makes an interpretation of the data. Thus, the data that was collected from the interviewee and reviews of documents were interpreted qualitatively.

3.9.Ethical considerations

Research ethics deals with how we treat those who participate in our studies and how we handle the data after gathering. Every discipline has its own ethical guidelines regarding the treatment of human research participant (Vanderstoep and Johnston, 2009). The confidentiality of data and anonymity of respondents was clearly stated on the questionnaire. In addition to this, respondents were clearly informed about the goal for the collected data.

3.10. Reliability

Reliability test measures the consistency of a measure. Cronbach's alpha (coefficient alpha) is developed by Cronbach in 1951, which measures reliability, or internal consistency. Cronbach's alpha tests to see if multiple-question Likert scale surveys are reliable.Typically, alpha value of above 0.7 is usually considered to offer reasonable reliability for research purposes.Given all the above facts, the researcher has conducted reliability analysis using Cronbach's coefficient alpha for the entire set of statements and found to be 0.75, 0.77 and 0.75for e-banking practice,challenge and opportunities respectively. This is higher than the acceptable threshold value 0.7.

3.11. Validity

Validity is the degree to which a test measures what it contended to measure (Creswell, 2003). Feedback has gathered about clarity of a sentence, correctness of a language and grammar, and also whether the designed instrument can fully assess the research topics prior

to distributing the questioner.Besides, proper detection by an advisor was also taken to ensure validity of the instruments. Based on this, some amendments have been done on the questionnaire. Validation was done so as to ensure if instruments to be used in collecting data enabled to collect the information needed.

CHAPTER FOUR

Result and Discussion

This chapter presents the data collected for the study, result of its analysis and discussion of findings. The collected data comprises of quantitative and qualitative sets generated through administering a survey questionnaire, key informant interview and documents examination.

4.1.Response rate of respondents

Table 4.1: Analysis of Response Rate

Questionnaire Distributed	Questionnaire Returned	Percentage (%)
185	161	87%

As shown in table 4.1 above, regarding response rate, 185 questionnaires were distributed to respondents and 161 were returned filled properly, which rates 87%. Based on this response rate 161 (87%), the next analysis was carried out.

4.2.Demographic Factor of Respondents

The table below (Table 4.2) summarizes their demographic profile of respondents.

Table 4.2: Demographic factor of respondents

No.	Factors	Categories	Frequency (f)	Percentage (%)
1	Gender	Male	105	65.2
		Female	56	34.8
		Total	161	100.0
2	Age	18-25	69	42.9
		26-35	76	47.2
		36-45	15	9.3
		46-55	1	0.6
		Total	161	100.0
3	Educational Qualification	BA/BSc	133	82.6
		MA/MSc	28	17.4
		Total	161	100.0
4	Experience	Below 2yrs	25	28.0
		2-5Yrs	69	30.4
		6-10Yrs	34	21.1
		11-15Yrs	24	14.9
		16-20Yrs	6	3.7
		Above 20Yrs	3	1.9
		Total	161	100.0
5	Position	Managerial	25	15.6
		Senior staff	16	9.9
		Officer(branch)	87	54.0
		Officers(H.O)	33	20.5
		Total	161	100.0

Source: Own survey, 2020

Table 4.2 shows male respondents (65%) and female respondents were (35%). With regard to age, majority of respondents fall under the range of 26-35 years which accounts 47% and this is followed by those aged 18-25 years (43%). Concerning educational attainment, most of the

respondents (83%) claimed that they earned Bachelor's Degree, and those claimed to have Master's degree constitute only 17%. This shows male respondents are higher in proportion than femalesthisindicates that all respondents have a minimum of first degree. All except 28% of the respondents have more than 2years work experience at the Bank. This shows young employees hold the highest proportion compared to other age groups and respondents were serving the bank at different capacities by holding managerial and non-managerial job positions.

4.3. The Practices of E-banking Service Delivery

Table 4.3 Electronic banking practice

SN	Questions	Mean	Std. Deviation
1	The bank has developed and maintained a user friendly system for delivering its e-banking services.	4.35	0.480
2	The bank has been creating awareness about the benefits of its e-banking products among its customers.	2.65	0.809
3	The Bank provides help (demo) on its website or other media how to use electronic banking for new users.	1.95	0.218
4	All e-banking services of the bank are available only in foreign languages.	2.29	0.667
5	What the bank charging its customers for e-banking service is relatively expensive, e.g., ATM service charge.	2.35	0.825
6	E-banking service promotion given serious attention by management of the bank.	1.83	0.550
7	BOA has been improving its e-banking services continuously.	3.20	0.857
8	BOA provides different e-banking products relative to other competitors.	2.88	0.871
9	Non-management staff members of the bank made to participate in decision making process for developing and delivering e-banking services/products.	2.11	0.308
10	The bank made to have a well-trained manpower to build and maintain e-banking systems.	2.43	0.765
11	Management of the bank has been devising and implementing effective control mechanisms (MIS audit and others) for addressing fraud and erroneous transactions.	4.27	0.444

(i) E-banking system application

Table 4.3 (a) Electronic System

SN	Questions	Mean	Std. Deviation
1	The bank has developed and maintained a user friendly system for delivering its e-banking services.	4.35	0.480
2	The bank has been creating awareness about the benefits of its e-banking products among its customers.	2.65	0.809
3	The Bank provides help (demo) on its website or other media how to use electronic banking for new users.	1.95	0.218
4	All e-banking services of the bank are available only in foreign languages.	2.29	0.667

Relating to the system application of e-banking service the above table 4.3(a), the first question presented for employees was, if the bank has designed and maintained a user-friendly system for delivering its e-banking services. A mean of 4.35 and mode of 4 were observed. Findings validated that the e-banking system provided for customers is simple and easy to use. On the other hand, respondents said e-banking products were not provided only in foreign languages, rather services are provided in a few other local languages too. This opinion is shown by mean of 2.29 and mode of 2. The third question that respondents were asked was about the availability of demo (help) options on the bank's website or other media. Respondents disagreed to the statement and the response revealed a mean score of 1.95 and mode 2, implying customers have no option for a demonstration on e-banking products and services.

As of June, 2011 National bank of Ethiopia passed instruction to all commercial banks to implement CORE banking solutions so they can execute interbank transactions in a smooth and efficient manner. Core banking applications enable the complete front desk and back office operations of the banks' to be automated. Core banking applications provide services not bound by time and place, which is not possible with traditional localized branch operation systems. Today, all commercial banks in Ethiopia utilize core banking solution providing automation across multiple delivery channels such as ATM, mobile banking, internet banking etc...

At present all the commercial banks in Ethiopia (including Bank of Abyssinia) have set up their own ATM networks, issued debit cards and have joined the national ATM switch board.

According to BOA's E-banking Manager, the main reason for the bank to start e-banking service is to get competitive advantage, reduction of load and cost of transactions for branches by minimizing smaller birr value transactions, which can be done via ATM and POS which in return improve customer service, and expand means of earning foreign currency. Besides this, launching e-banking services is believed to further elevate the performance of the bank as well as its image in the years to come. But the bank realizes this benefits after 8years of other banks such as CBE,DB,AIB,UB,NIB and WB, these all banks at least sign an agreement with vendors to start e-banking by their own or by collaborating each other but BOA lagged behind all these and joined the electronic banking business in 2014.

According to the E-banking manager E-banking service development process was started from preparing bid. Request for proposal (RFP), a document that included details about the project was requested from bidders to compare the supplier's services including the financial as well as the technical aspects. RFP document combines software functionality requirement for the E-banking technology, and other specifications of the service to be provided. This document helps the bank to validate and choose the most qualified vendor.

As the case of BOA, the Moroccan company (S2M), who won the bid to provide a card banking services at Bank of Abyssinia, introduced the first e-banking product for the bank in June,2014. as stated by the manager of e-banking, this company previously provided a joint electronic payment system for the pioneer PSS Ethiopia(Premier Switch Solutions), a consortium of six private Ethiopian commercial banks i.e. Awash Bank, NIB International Bank, United Bank of Ethiopia, Berhan International Bank, Addis International Bank, and Cooperative Bank of Oromia to integrate their ATM.

The manager states, most of the services are directly used from vendors but if modification is required the vender allowed for the bank but, to add additional service which were not in the providers list the bank should pay additional payment which is very expensive.

At the final stage the agreement with the vendor to procure the e-banking software, different stages of product development, deployment and testing were undergone; the bank conducted basic and major tasks like system integration test(SIT), user acceptance test (UAT), and

conduct pilot study to identify and fix encountered problems and finally employee training to familiarizethem with the system.

Bank of Abyssinia commenced the card banking service by launching ATM and POS service then later expanded the service to mobile banking, Internet banking, agent banking and recently introduced wallet money service to its customers. Both the internet and mobile banking were part of the main core banking system which was bought fromTemnosCompany in 2014 and 2017, respectively. The wallet money service which is named Enqu-pay was purchased from a local company called Electronic Kifiya Plc. The E-banking manager is asked why they choose a different company for different company and it is responded to protect the bank from dependency on one company.

(ii) Service Delivery Practice

Table 4.3 (b) E-banking service deliveries

SN	Questions	Mean	Std. Deviation
1	What the bank charging its customers for e-banking service is relatively expensive, e.g., ATM service charge.	2.35	0.825
2	E-banking service promotion given serious attention by management of the bank.	1.83	0.550
3	BOA has been improving its e-banking services continuously.	3.20	0.857
4	BOA provides different e-banking products relative to other competitors.	2.88	0.871

Here staffswere asked if the bank endeavors to develop awareness on its e-banking products and advantages customers can rip; a 2.65 mean & mode of 2 were registered for the query. Questionnaire findings depicted, customers aren't adequately informed about e-banking products available & benefits of using them. On one hand, 1.83 mean and mode 2 were registered to the question, if management gave due heed to the adequate promotion of e-banking products, respondents' opinion showed no adequate promotion was made to promote e-banking products. On the other hand, employees were in disagreement about the availability of differentiated products, with 2.88 as mean and a mode of 2. This showed the bank has similar products with its competitors. Results of the survey indicated with a mean and mode of 3.2 and 4 respectively that the bank continuously strives to improve e-banking products. The result of 2.35 mean and mode 2 on the survey implied, service charge is cheaper.

The bank has increased accessibility of its e-banking services by expanding the distribution of ATM and POS machines. Accordingly, the number of ATMs reached 969 and that of POS 300 by June, 2021.With this, card banking, mobile banking, internet banking, mobile wallet and merchant banking number of customers elevated to 987,984, 910,969, 8,286, and 116,respectively.

BOA has introduced various card banking products for use including Habesha Debit Gold Card, Habesha Debit Card, Prepaid Card &Family Card. These cards have common features like cash withdrawal, fund transfer between accounts, balance inquiry, pin change, mini statement & others but differently the Gold Card is provided for corporate customers and it gives a privilege to withdraw high amount of money per day (15,000) compared to the Habesha Debit Card, meant for retail customers allowing them to withdraw birr 10,000 daily. On the other hand, the family card as the name indicates family members share one's account as per the account holder's permission e.g. a student shares his/her family card for pocket money with limited amount which is set by parents. Unlike Family Card, Prepaid Card is meant for any customer, usually used as a gift card. In addition to the aforementioned local card products the bank has also made foreign card products/ services like MasterCard, China Union Card and Visa Card operational on its ATM and POS terminals after signing agreements with the respective foreign companies. Other channels like mobile banking, internet banking, and wallet money share the common features of the card products mentioned above but additionally, they provide mobile top-up, bill or fee payment, flight booking, check-in, ticket acquisition etc. Bank of Abyssinia (www.bankofabyssinia.com)

The bank charges customers for services rendered via ATM and Mobile banking. Mobile banking subscribers pay birr 2 per transaction and card users charged birr 50 initially to get the card, 0.45c/100birr when transaction is made on the bank's own ATM machines, and the service charge doubles when the customer uses ATM machines of other banks. On the other side, the bank gets 0.45c/100birr when other banks' card customers use BOA's ATMs to withdraw cash Foreign card holders(Master card, Union Pay and VISA card) are not charged when using BOA's POS & ATM, as this is believed to give the bank a competitive edge in securing foreign currency from foreign card users.

The number of ATM card users and mobile banking subscribers has been increasing significantly since their launching in 2014/15 budget year. But comparing to the increasing number of subscribers the active users are not significant comparing from the total number of

users. From the total card users only 26% of the subscribers are active users, 0.01 active internet banking users and 0.02% active mobile banking users (active users are those subscribers who at least login in to the e-banking products system). Additionally, the number of transaction and services given through e-banking products are very low comparatively with branches.(Appendex C)

(iii) Availability of support and control mechanism

Table 4.3 (c) E-banking service support

SN	Questions	Mean	Std. Deviation
1	Non-management staff members of the bank made to participate in decision making process for developing and delivering e-banking services/products.	2.11	0.308
2	The bank made to have a well-trained manpower to build and maintain e-banking systems.	2.43	0.765
3	Management of the bank has been devising and implementing effective control mechanisms (MIS audit and others) for addressing fraud and erroneous transactions.	4.27	0.444

In line with the availability of employee participation, the respondents' opinion result was 2.11 mean and 2 mode, which shows respondents' disagree on the statement. In addition to these respondents were asked to show their level of agreement if the bank had well-trained manpower to build and maintain e-banking systems & services. Here respondents believed that, there is no adequate well-trained manpower to maintain e-banking. This is shown by a result of mean and mode of 2.43 & 2. Whereas, the question, if BOA has a control mechanism to identify fraud and erroneous transactions, respondents are positive on their response with a mean of 4.27 and mode 4.

4.4. The Challenges of E-banking Practice

Table 4.4: Respondents' level of agreement on challenges of E-banking

Statements	N	Std.Deviation	Mean
Learning and using electronic banking is easy.	161	0.47	4.32
BOA provides E-banking service easily and accessible for users. (E.g. provides services within short period, availability of ATM & POS…)	161	1.02	3.56
E-banking service is accessible to all users who don't prefer visiting a bank branch.	161	0.63	2.25
Fear of fraud hinders customers to practice e-banking services. (E.g. loss of ATM card or mobile phone…)	161	0.70	4.18
Customers are more concerned by their privacy and security issues.	161	0.39	3.82
Lack of appropriate maintaining capacity upon failure is a challenge for the smooth practice of e-banking service.	161	0.88	2.65
Adequate technical support is available regarding e-banking problems faced by customers.	161	0.87	3.34
Customers have high degree of trust on the bank security of electronic banking service provided.	161	0.42	3.97
Legal framework put in place in Ethiopia for E-banking is inadequate.	161	0.57	3.42
There is lack of sufficient government policy enforcement for implementation and growth of e-banking service.	161	0.68	3.42
ICT infrastructure required for rendering e-banking services in the city is adequate enough.	161	0.50	1.44

The survey's result summed in table 4.4 shows the mean and mode value for the question, e-banking is easy to learn, are 4.32 and 4, respectively. Employees strongly agreed that learning electronic banking is easy.

The study revealed e-banking products were easily available to customers, which is substantiated by the mean value of 3.56 and the mode of 4. The study also sought to find out whether there still are persons who need to be contacted and introduced to e-banking, based on the results obtained from the questionnaire e-banking service is accessible to all clients. Majority of the participants disagreed with a mean of 2.25. This says that there is a bigger

percentage of the general public that can and should still be approached by the bank. The other challenge that arose for respondents was, whether the risk stemming from fraud is a challenge for electronic banking services. The survey result shows that fear of fraud is a challenge for e-banking services with a mean and mode of 4.18 & 4.

According to the above table, respondents agreed on privacy and security to be a concern for customers with mean and mode of 3.82 & 4. According to the survey results, respondents with a mean of 3.34 and a mode of 4 believe there is adequate technical support available for users. In addition 2.65 & 2 mean and mode were obtained from participants demonstrated; there is sufficient support when an IT associated technical challenge arises.

The table shows a mean of 3.97 and mode 4 for the question about customers' trust the bank. The employees believe that customers have trust in the bank. This result indicates that trust is not a challenge for the bank.

Respondents were asked if the legal framework in the country hinders the practice of e-banking, and the mean and mode scores were 3.42 and 3. The results show employees' opinion on this query is neutral. On the above table, respondents were asked if the lack of government support inhibited the practice of E-banking in Ethiopia. Virtually the same as their reaction on the legal framework question, staff remained impartial to this query.

The result of mean and mode of 1.44 and 1 responded to the question whether the ICT infrastructure rendered in the city was adequate; the results of respondents indicated that it was not adequate. Thus, there was an impression the lack of ICT infrastructure negatively affected the e-banking service.

The interview result also shows additional and new services incur the bank additional cost that is expensive. This is shown in the questionnaire result that there is lack of differentiated product.

From the data analysis we can see that respondents agreed on the point that inadequate ICT infrastructure is a barrier for the implementation process of e-banking this finding goes with Tekabe and Gadise(2016) and where they have argued, lackof infrastructure for telecommunication, internet and online payments impede the smooth development and improvements in e-commerce in Ethiopia.

Furthermore, an interview with e-banking manager showed that low sales promotion by branches and less involvement of the higher management on promoting e-banking services

are the major challenges to expand as well as to recruit new user. The study result indicates low awareness creation made by the bank affected implementation of e-banking project this result is in conformity with the work of Bultum (2014) and Muche (2010) concluded in their study that lack of awareness by the general public about the benefits of electronic banking is a challenge. .

On the other hand, the result shows the bank can identify any fraud and address problems which may result in huge damage to customers as well to the bank. In addition, the result indicates there is adequate technical support; this outcome demonstrates the bank has a robust support team to aid the e-banking service from the back.

The interviewee replied to the question of whether a lack of human resources is a challenge for the bank, by stating that there is ample technical staff available compared to the initial stages of the service. It can even be said it was a challenge for the bank until recently, but now it has been addressed by increasing the number of technical personnel to 14 from three from the initial stage. He believes that they can provide adequate support with the recently established call center. The interviewee also believes there were some commitments from the government regarding improvements and amendments on e-payment, yet the sector still requires stronger government support and continuous improvements involving policies and legal frameworks.

Among the main challenges noted in the interview result for the bank are the following: high cost of software and extension of services, low sales promotion by branches, lack of awareness, low telecom infrastructure, technological illiteracy, culture, power interruption and late adoption of the technology by the bank which then led the loss considerable market share. Moreover, the interviewee emphasized these factors played the biggest role, especially in the countryside, hindering financial institutions to reach the unbanked community. The interview result also recognizes the unbanked society as an opportunity for the sector to expand the service.

Apart from the closed ended questions, the open-ended questionnaire findings illustrate that late charge back operation on problematic transactions by et-switch members to refund cash to customers, unreliable information of ATM regarding customer balance, & less sales promotion were raised as an additional challenge to expand frontiers of the e-banking service.

4.5 The opportunities of e-banking

Table 4.5: Respondents opinion on existing opportunities for e-banking services

Statements	N	Std. Deviation	Mean
In Ethiopia, the demand for e-banking services increasing from time to time.	161	0.32	4.11
In Ethiopia, the habit of using e-banking services will show significant improvement in the near future.	161	0.32	3.88
The increase number of educated population is an opportunity for the growth of e-banking.	161	0.36	4.15
There is strong commitment from the government to strengthen e-banking services in Ethiopia.	161	0.63	4.42
There is a strong commitment of the government to facilitate the expansion of ICT infrastructure in the country.	161	0.37	4.17
The current situation which is Covid -19 is a good opportunity to spread E-banking services to customers.	161	0.08	3.99

Participants in the survey agreed to the query that there is a growing demand in the country for e-banking; this was indicated by the results of 4.11 as mean and 4 as the mode. The survey also presented the question, if respondents think e-banking will register a significant improvement soon, a mean of 3.88 and mode of 4 was registered. Another question was if respondents felt literacy rate increase in the country would positively affect e-banking growth, a mean of 4.15 and mode of 4 was registered.

Survey respondents agreed that the government is showing commitment to helping strengthen e-banking with updating policies legal framework and improving ICT infrastructure.

And finally respondents were asked if they felt COVID 19 pandemic is an opportunity to grow electronic banking, to which they agreed with 3.99 mean and mode of 4.

The key findings of the study relate to the specific objectives of the study. Concerning the current practices of e-banking at BOA 73% of the respondents felt that the bank implemented a well-designed control in its e-banking services. And another 65% the respondents disclosed the bank's e-banking service is designed in a user friendly manner, making it easy to use for the average subscriber. Whereas 73% of the response received shows that the bank hasn't trained enough man power to execute a premium customer service on its e-banking service.

As to the challenges the bank is facing to expand and grow the e-banking business, 84% of the respondents agreed that the banks e-banking service is not accessible as it should be, mainly due to the limited number of ATMs. Also, 82% of the employees included in the study agreed that potential customers have concerns regarding fraud & privacy. All respondents agreed that the level of infrastructure required to grow e-banking sector is at levels way under the required standard.

Finally 89% of the response received on the questionnaire revealed that respondents believed the potential for the bank to grow the e-banking class business is big. And the recent COVID -19 pandemic has been deemed an opportunity by 99% of the respondents as an opportunity to expand the electronic services by the bank, as it avoids visits to the bank branches thereby decreasing exposure.

CHAPTER FIVE

Major Findings and Recommendations

This chapter provides the overall summary of the study, conclusions drawn from findings, and recommendations made for consideration by practitioners and professionals in the area.

5.1Summary of Major findings

Based on the analysis and interpretation made in the previous chapter, the major findings are summarized as follows.

- BOA launched its e-banking services in 2014, much later than its competitors. This has given the bank a competitive advantage, to learn from the challenges and shortfalls of early entrants. BOA as a late entrant gained the advantage to offer a better user interface with multiple local language options, lesser transaction cost for customers and improved control and security features.
- Regarding to the practice of E-banking services delivery the banks' employees' were comfortable by the system applied that is easy to user,simple to learn, and user friendly features.
- On the downside, the bank didn't provide sufficient training to frontline customer service officers, didn't place customized advertisements to attract new subscribers or to raise the awareness about the benefits of using e-banking products so that, low level of awareness of customers, unavailability of demonstration to try, lack of differentiated products and lower attention for E-banking product promotion hinders the bank to easily reached and deliver its service to customers.
- On the other hand, the data gathered shed light on challenges such as low number of ATM & POS machines, non-availability of inter-bank cross platform transaction services, low confidence level of customers on privacy & security, and high cost of software & hardware have impacted service expansion negatively. But, respondents did not decided on the availability of adequate legal & policy framework advocacy by the government to expand the service.
- Apart from the challenges the research finding shows the larger size of unbanked society, strong commitment of the government to facilitate ICT infrastructure and to strength the e-banking services by formulating new policies were raised as major opportunities for the sector.

5.2Conclusions

The primary goal of the study was to evaluate the service delivery practice, the challenges associated with the implementation of electronic payment and potential opportunities. After the collection and analysis of the data, conclusion for the study is presented below.

Regarding the practice of e-banking services; the bank's employees were comfortable withthe applicationas it was easy to useand user friendly. The service is alsoavailable in a few local languages and English. The bank has also put in place the necessary internal control system, informed the employees.Contrarily, low level of awareness of customers, unavailability of demonstration for first time users, lack of differentiated products & lower level of attention for e-banking product promotion by the management,have negatively affectedthe potential growth of the service.

Besidesthe banks practice respondents' agreed that fear of fraud, high concern of privacy and security issues coupled with inadequate ICT infrastructure were major challenges ingrowing thee-banking service offered by the bank.Based on the qualitative result slow charge back system between banks to refund cash, and frequent power disruption were found to be major additional factors, which hinder the practice of e-banking.

Despite shortfalls in the delivery practice and challenges facing the service, the results from the survey revealed there is a growing demand for e-banking services from the general public. The recent initiation from the government to level the field by introducing new policies and revisiting the legal framework to accommodate new players in the industry is also seen as a big opportunity to grow the service to higher levels. The recent worldwide COVID 19 pandemic is also seen as an opportunity by the employees to reach more customers with the bank's e-banking service.

5.3 Recommendation

Based on the study conducted and major findings the researcher forwards recommendations to concerned entities as follows

A. Bank of Abyssinia

The bank, as observed from the study conducted, has gaps in its e-banking practice and general challenges across the industry as well as identified opportunities. Therefore these recommendations are made to expand the reaches of its banking service.

- The researcher based on the findings recommends that the bank avail the proper training to front line customer service officers, provide demo to first time service users, and strive to develop new differentiated products to stand out from competitors.
- Increase product awareness of customers pertinent to privacy and security features, sothey feel secure and comfortable with using e-banking services. To do so the bank should launch campaigns and place customized ads. Such initiatives will help customers to be more familiar with the bank and increases the active number of electronic banking service users.
- The bank should work to increase its e-banking infrastructures by placing more ATMs and POS machines at more locations

B. The Government

The researcher based on the findings recommends that the government of FDRE take on its duties to develop e-banking service in the country by

- Continuously updating the legal & policy framework by introducing new laws to support the sector
- Continuously work to improve infrastructures in the power, telecom and ICT sectors as e-banking cannot be thought of without those

5.4 Suggestion for further study

In this endeavor, the research also recommends that further research needs to be done on how the banking service have been improved through electronic based banking services, which in return contributes large to the national economy in general. The researcher recommends that

further studies on the same subject shall be conducted including customer opinion and other additional factors not including in the research.

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APPENDICES

APPENDIX A

St. Mary's University

School of Graduate Studies

Master of Business Administration Program (General MBA)

Survey Questionnaire

(*To be filled by Bank of Abyssinia employees*)

Name of student researcher: BiftuHabte

Contact address: Cellphone: 0913884915; E-mail: biftuhabte@gmail.com

I am a postgraduate student in the above mentioned program of St. Mary's University.Currently, I'mundertakinga research onthetopic"**Electronic Banking Service Development and Delivery Practice and Challenges at Bank of Abyssinia**" in partialfulfillmentoftherequirementsforthedegreeofMasterof Business Administration. The general objective of the study is to examine the current practice of developing and delivering electronic banking services and the associated opportunities and challenges that BOA facing in the context of Ethiopia. It is believed that the study result could possibly benefit not only the bank but also other stake holders in the area.

The expected respondents of this questionnaire are staffs of those randomly selected branches of the bank operating in Addis Ababa, Ethiopia. As staff member working at the chosen research site, you are one of the respondents selected to participate in this study. Please assist me in giving correct and complete information so that it is possible to come up with valid findings on matters chosen for investigation. Your participation is entirely voluntary and the questionnaire is completely anonymous. The data will be kept confidentially and it will be used for study purpose only.

Yourhonestandthoughtfulresponses are priceless. So,Iamkindlyrequestingyou to complete and send me the completed questionnaire before 15/**06/2020**.

Thank you in advance for your cooperation.

If you have any question, please do not hesitate to contact me.

BiftuHabte

Section A: Demographic/ Personal Data

Instruction: Please indicate your answer for each of the following questions by ticking (√) inside the square bracket given.

1. Are you male or female? A. Male [ ] B. Female [ ]

2.Your age category:

A. 18-25 [ ] B. 26-35 [ ] C. 36-45 [ ] D. 46-55 [ ] E. 56-65 [ ] F. 66 or above [ ]

3. Level of your educational qualification:

A. Diploma [ ] B. BA/BSc [] C. MA/MSC [ ] D. PhD [ ]

4.How many years of experience do you have in Bank of Abyssinia?

A. Below 2 Yrs [ ] B. 2-5 Yrs [ ] C. 6-10 yrs. [ ]

D. 11-15 Yrs [ ] E. 16-20 Yrs [ ] F. above 20 Yrs [ ]

5. Your current job position/ title:

A. Branch Manager [ ]

B. Business manager [ ]

C. Operation manager [ ]

D. Senior officer [ ]

E. Banking officer [ ]

F. Customer service officer [ ]

H. Other, please specify_____

Section B: Questions related to e-banking service development and delivery practice at Bank of Abyssinia

Instruction: Please indicate your level of agreement or disagreement witheach of the following statementsby ticking (√) inside the given box.

E-banking Practice	**Strongly agree=5**	**Agree=4**	**Neutral=3**	**Disagree=2**	**Strongly disagree=1**
The bank has developed and maintained a user friendly system for delivering its e-banking services.					

	Strongly agree=5	**Agree=4**	**Neutral=3**	**Disagree=2**	**Strongly disagree=1**
The bank has been creating awareness about the benefits of its e-banking products among its customers.					
The Bank provides help (demo) on its website or other media how to use electronic banking for new users.					
All e-banking services of the bank are available only in foreign languages.					
What the bank charging its customers for e-banking service is relatively expensive, e.g., ATM service charge.					
E-banking service promotion given serious attention by management of the bank.					
BOA has been improving its e-banking services continuously.					
BOA provides different e-banking products relative to other competitors.					
Non-management staff members of the bank made to participate in decision making process for developing and delivering e-banking services/products.					
The bank made to have a well-trained manpower to build and maintain e-banking systems.					
Management of the bank has been devising and implementing effective control mechanisms (MIS					

audit and others) for addressing fraud and erroneous transactions.					

Questions related to E-banking Challenges in Ethiopia/ Addis Ababa

Instruction: Please indicate your level of agreement or disagreement witheach of the following statementsbyticking(√) inside the given box.

E-banking Challenges	**Strongly agree=5**	**Agree=4**	**Neutral=3**	**Disagree=2**	**Strongly disagree=1**
Learning and using electronic banking is easy.					
BOA provides E-banking service easily and accessible for users. (E.g. provides services within short period, availability of ATM & POS…)					
E-banking service is accessible to all users who don't prefer visiting a bank branch.					
Fear of fraud hinders customers to practice e-banking services. (E.g. loss of ATM card or mobile phone…)					
Customers are more concerned by their privacy and security issues.					
Lack of appropriate maintaining capacity upon failure is a challenge for the smooth practice of e-banking service.					
Adequate technical support is available regarding e-banking problems faced by customers.					
Customers have high degree of trust on the bank security of electronic banking service provided.					
Legal framework put in place in Ethiopia for E-banking is inadequate.					

There is lack of sufficient government policy enforcement for implementation and growth of e-banking service.					
ICT infrastructure required for rendering e-banking services in the city is adequate enough.					

With regard to e-banking in general, what other challenges have you faced or observed while working for the bank?

_____
_____
_____
_____
_____

Questions related to E-banking Opportunities in Ethiopia

Instruction: Please indicate your level of agreement or disagreement with each of the following statements by ticking (√) inside the given box.

E-banking Opportunities	**Strongly agree=5**	**Agree=4**	**Neutral=3**	**Disagree=2**	**Strongly disagree=1**
In Ethiopia, the demand for e-banking services increasing from time to time.					
In Ethiopia, the habit of using e-banking services will show significant improvement in the near future.					
The increase number of educated population is an opportunity for the growth of e-banking.					
There is strong commitment from the government to strengthen e-banking services in Ethiopia.					
There is a strong commitment of the government to facilitate the					

expansion of ICT infrastructure in the country.					
The current situation which is Covid -19 is a good opportunity to spread E-banking services to customers.					

What other opportunities are there for growth and development e-banking services in Ethiopia?

_____
_____
_____
_____
_____Thank you again for your cooperation

APENDEX B

St. Mary's University

School of Graduate Studies

Master of Business Administration Program (General MBA)

Interview questions meant for E-banking managers of Bank of Abyssinia.

1. What type of Electronic banking service do you provide? ATM, mobile banking, Internet banking? Please specify if there is any other.
2. When did you start the services?
3. What is the main reason your Bank needs to provide E-banking services?
4. How is E-banking developed and delivered to customers?
5. Does the bank make use of systematic planning when developing its e banking products?
6. In your opinion what are the key challenges in your institution to practice E-Banking?
7. How does the telecommunication infrastructure challenge the implementation of E-banking in Ethiopia/ Addis Ababa?
8. Do you have adequate human resources to give technical support to branches or customers?
9. Do you think that government policy have impact on the practice of E- banking system? (Please Specify/explain)
10. What opportunities are there for the growth and development of e-banking in Ethiopia?
11. What sort of support would you expect from the government in relation to the E-Banking improvement in Ethiopia?
12. Do you have any comment with regard to practice, challenges and opportunities of E-Banking in your Bank and in Ethiopia as a whole?

APENDEX C

REPORTING PERIOD: FROM October 01, 2019 TO December 31, 2019

	PAYMENT TRANSACTION TYPES BY CHANNEL	NUMBER OF TRANSACTIONS	VALUE OF TRANSACTIONS (In ETB)
1	**BRANCHES**		
1.1.	Local cash withdrawal		
	From current account	221,969	22,169,429,629.00
	From savings account	2,476,154	44,217,444,288.00
	From local money transfers	27,695	313,197,886.00
	Total cash withdrawals	**2,725,818**	**66,700,071,803.00**
1.2.	Local cash deposit		
	To current account	396,069	24,197,443,563.00
	To savings account	2,179,756	45,064,228,641.00
	Total cash deposit	**2,575,825**	**69,261,672,204.00**
1.3.	Account to account transfer		
	Account to account fund transfer (On Us or within same bank)	1,478,327	91,645,286,911.00
	Account to account fund transfer (Off Us or to another bank through EATS)	11,013	1,527,731,170.00
	Total account to account fund transfer through branches	**1,489,340**	**93,173,018,081.00**
2	**CHECKS/CPOs**		
2.1.	Checks/CPOs paid/cleared		
	Total checks/CPOs paid (On Us) within same bank	346,432	30,317,415,452.00
	Total checks/CPOs cleared/paid through ACH paid (Off Us)	36,863	1,128,730,795.00
	Total incoming Check/CPO conversion through EATS (MT 103)	2,543	4,158,492,233.00
	Total checks/CPOs paid/cleared	**385,838**	**35,604,638,480.00**
3	**ATM**		
3.1.	ATM cash withdrawal		

	Local cash withdrawal (*On Us*)	553,195	514,776,474.00
	Local cash withdrawal (*Off Us*)	195,307	170,690,350.00
	Total ATM cash withdrawal	**748,502**	**685,466,824.00**
3.2.	ATM account to account transfer		
	Account to account fund transfer (On Us or within same bank)	74	113,515.00
	Account to account transfer (Off Us or to another bank through EthSwitch)		
	Total account to account transfer through ATM	**74**	**113,515.00**
4	**POS**		
4.1.	POS Purchase		
	Local POS purchase at merchant location (On Us)	333	266,175.26
	Local POS purchase at merchant location (Off Us)		
	Total POS purchase at merchant location	**333**	**266,175.26**
4.2.	POS cash advance		
	Cash advance at branches/Forex Bureau (On Us)	1,374	2,644,272.99
	Cash advance at branch/Forex Bureau (Off Us)		
	Total cash advance at branch/Forex Bureau through POS	**1,374**	**2,644,272.99**
5	**MOBILE BANKING**		
5.1.	Mobile banking account to account transfer		
	Account to account fund transfer (On Us)	5,694	7,106,135.42
	Account to account fund transfer (Off Us)		
	Total account to account fund transfer through mobile banking	**5,694**	**7,106,135.42**
6	**INTERNET BANKING**		
6.1.	Internet banking account to account transfer		
	Account to account fund transfer (On Us)	542	4,860,652.92
	Account to account fund transfer (Off Us)	25	377,564.90
	Total account to account fund transfer through internet banking	**567**	**5,238,217.82**
7	**MOBILE WALLET/MONEY**		

7.1.	Mobile wallet/money account to account transfer		
	Account to account fund transfer (On Us)	2,253	4,658,887.05
	Account to account fund transfer (Off Us)		
	Total account to account fund transfer through mobile wallet/money	**1,804**	**3,106,619.40**