ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF FINANCIAL SERVICE

THE IMPACT OF ELECTRONIC BANKING ON CUSTOMERS' SATISFACTION: THE CASE OF COMMERCIAL BANK OF ETHIOPIA

BY

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DECLARATION

I declare that I wholly undertook this research under supervision and where other scholarly works have been used, it was duly acknowledged. I dedicate this work to the Almighty God who has kept me going in everything that I do

By: Abel Sileshi

Signature …….

Date …….

LETTER OF CERTIFICATION

This is to certify that Abel Sileshi carried out her study on the topic entitled "The impact of electronic banking on customer Satisfaction: The Case of Commercial Bank of Ethiopia". I have directed the student in undertaking the research reported herein and I confirm that the student has effected all corrections suggested and suitable for submission for the award of the Master's Degree in Business Administration-Financial Services.

Dr. Yitbarek Takele ….. …… ……...

(**Advisor)** Signature Date

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This is to certify that the Research prepared by Abel Sileshi, entitled: The impact of electronic banking on customer Satisfaction: The Case of Commercial Bank of Ethiopia submitted in partial fulfillment of the requirements for the Degree of Master of BusinessAdministration-Financial Services complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ACRONYMS

ANOVA	Analysis of variance
ATM	Automatic teller machine
CBE	Commercial Bank of Ethiopia
CS	Customer satisfaction
E-banking	Electronic banking
E-payment	Electronic payment
EFT	Electronic fund transfer
ICT	Information communication technology
INSA	Information Network Security Agency
IB	Internet Banking
MB	Mobile Banking
NBE	National bank of Ethiopia
POS	Point of sale
PSS	Premium Switch Solution
RBI	Reserve bank of India
RBSA	Reserve bank of South Africa
SERVQUAL	Service quality
SPSS	Statistical Package for statistical analysis

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ABSTRACT

The study examined Factors that affecting E-banking satisfaction in commercial bank of Ethiopia. A total of 340 questionnaires for customers and 67 for employee at e-payment department were properly filled and returned and two interviews questions are prepared and asked for two managers and one team leaders of e-payment were conducted and also random sampling were employed.

Both primary and secondary data was collected for the purpose of this study. Primary data were collected using likert scale based questionnaires. After the collection of raw data, classification and tabulation was done by the researcher to make it ready for the analysis. And the data was analyzed using descriptive statistics. (Correlation analysis& multiple regression models) and secondary data also used like bank manual, annual reports and different books related to E-banking were used.

The empirical findings show that service quality dimensions (reliability, assurance, responsiveness, empathy and tangibility) have significant relationship with customer satisfaction e-banking. Except Tangibility service quality dimensions (reliability, assurance, responsiveness & empathy) have positive and significant impact on customer satisfaction in e-banking of commercial bank of Ethiopia.

The basic challenging problems faced by commercial banks of Ethiopia in relation to E-banking are insecurity, erratic power supplies, as well as difficulty in transacting business electronically were the main challenges associated with electronic Banking. Also Infrastructure (telecommunication and power), lack of centrally followed country initiative in similar manner with other African countries, strong cash habit, technology phobia, lack of trust on it and lack of Merchants' willingness in relation with POS service are external challenge. Poor employee awareness in terms of service delivery, maintenance support and lack of a comprehensive performance measurement system are internal challenges

Finally in the last part of the study recommendation of the study is presented

Key Words: E-banking, Customer Satisfaction, SERVQUAL model

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The world has become a global village and almost everything has been done through technology. The growth of information technology in the world is becoming a crucial factor in the future development of businesses and industries around the world. The traditional method of banking is gradually paving the way for modern method of banking in the 21st century (Luaran and Lin 2005).

The advent of electronic payment has brought dramatic change in the way of payment which led to economic growth and social transformations. The value proposition of Electronic payment for the financial institutions extends to transform financial services by offering affordable and available financial products and by promoting effective and efficient business environment. As countries adopt electronic payment, the benefit extends to bringing economic growth, as it also accelerates financial inclusion for developing countries through combining efficiency, transparency and accessibility. However, the transition from cash to E-payment is not a seamless journey and cash still accounts the largest share of global consumer transactions, despite there is a compelling need to transform to E-payment. Countries' have adopted various strategies to build the right ecosystem and enhance conversion to non-cash alternatives owing to the enormous potential benefits. Financial institutions are also forced to go digital as their competitiveness and survival rely on offering convenient, faster and efficient means of payments.

The demographic characteristic of the large segment of customers which mostly fall under the "younger generations category" ("Generation Y") is pressuring banks to cope up the ever-increasing and changing demand of customers and achieve a steady growth in customer experience. These groups of customers have high receptivity to Financial Technology firms as they offer the flexibility and simplicity options which are highly appreciated by tech savvy younger generations. The other major trend in the payments landscape is the improving regulatory framework in different economies with the aim of encouraging competition and innovations

All these new developments i.e. technological disruptions, ever increasing demand of customers, improving regulatory framework have also demanded banks and other industry players to go through "Digital Transformations" which combines the various assets (people, process and technology) of the institutions and fully exploit the various opportunities offered by the technologies.

In Africa, electronic banking is starting to pick up its roots over the mainland. For instance, Madueme, (2009) compose that with globalization, Nigerian banks must choose the option to embrace electronic banking services to upgrade successful service conveyance that rises above to customer satisfaction.

South Africa's electronic payment journey starts in the early 1990s when the country rejoined the global economic system that required the payments system to comply with international standards. Reserve Bank of South Africa (RBSA) is in charge of drawing any national strategies in relation with the national payments system. The RSBA has been making concerted efforts since the 1990s to develop the national payments system. (Klynveld Peat Marwick Goerdeler [KPMG], 2015).

Advancement in technology like electronic banking have also lead to improvements in the ways in which banks process information and provide service to their customers with a strategy of enhancing the service quality to maintain customer satisfaction and conquering the competitive advantage in the fierce competition currently existing in the banking industry. The capacity to fulfill customer expectation is needed to bring strong loyalty to the service of banks. It is mandatory to understand and realize the customers need for measuring the level of customer satisfaction (Amudha&Yabanu, 2012)

Thus, this study aimed to examine the level of customers 'satisfaction in electronic banking via service quality dimensions, identifying the challenges in E-banking as well as the preference of customer from banking hall to E- banking in commercial bank of Ethiopia.

1.2 Statements of the Problem

Recently the gap between CBE customer base and the total number of card holders as well as active cards is significant. As of June 2018, the bank's customer size reached 18.8 million out of which 4.4 million customers received cards amounting 23.4% and only 2.7 million customers have activated their cards amounting 61% of the total Cardholders. The distribution of ATM to 100,000 Adult populations is also among the lowest in the world with 3.83 ratios which is lower as compared with Sub Sahara African (6.12) as well as low income economies (5.07).

Also as of June 2018 from 18.8 million customers only 1.7 million customers have activated Mobile banking User, 36,768 customers in internet banking and 11,796 POS Machines are available in merchant site. (CBE annual Report, 2018)

The growth in number of transactions and amount has similar trends with the POS deployments where significant increases have been witnessed. Nevertheless, comparisons of this figure against the total cash transactions shows that it is negligible, only 1.2% of the total cash transactions are affected through using POSs in the year 2017/18. (CBE annual report, 2018)

The market share indicates that CBE is a major player in the banking industry in relation with the electronic payments. In most of the measures, CBE holds more than 50% of the market such as number of ATMs (50.7%); number of POS (77.37%), number of payment card (74.54%), number of MB users (80.87%) and number of transactions by IB users (94.39%)

As compared to private banks the total number of user in CBE is somewhat good but with respect to customer base they have the question is raised. As compared to other African country the user of E-banking is far below Expected for Example in Kenya they quietly pulling the machines down as asking customers to use Mobile phones and agents as they seek to cut costs. Kenyans transact on mobile money close to 3 billion US dollars a month the figure having risen over the years. With the rise of agents and mobile banking use Atms have little chance of survival; latest data indicated that there are about 2,000 Atms in Kenya down from peak of 3,000. This all shows the awareness level of customer to use E-banking. From 100,000 Adult populations 51% are cardholders and 10.16 ATMs machines on average for 100,000 populations as well. In South Africa 91,334.45 card holders and 69.28ATMs per 100,000 population and Mobile Banking user riches 78% from the total population.(CBE E-payment Strategy 2014-2019)

According to the study of Yitbarek (2015) dimensions of service qualities like ease of use, reliability and transaction efficiency have impact on customer satisfaction in electronic banking in which it stated other variables could have an influence. So that this study addressed not only five service quality dimensions impact on electronic banking induced customer satisfaction but also differentiating the major e-banking challenges. In addition to this the study identify why customers prefer banking hall to electronic banking.

As studies of Shittu (2010) revealed almost all banks in Ethiopia have adopted electronic banking as a means of enhancing service quality which leads increasing customer satisfaction but it was limited to adoption of e-banking in the country without including service quality dimensions.

Therefore the researcher examined the impact of electronic banking service on customers 'satisfaction by taking other research findings as point of departure in respect to the problems pointed out, realizing service quality dimensions and challenges of electronic banking practice in commercial bank Ethiopia.

1.3 Research Questions

This study was designed to answer central Question: To examine the impact of E-banking on customer Satisfaction in commercial bank of Ethiopia to realize the objective of this study, the research was attempts to answer the following sub research questions

- Why do customers prefer the banking halls to electronic banking?
- Is there a relationship between Service quality dimensions and customer satisfaction using electronic banking in CBE?
- To what extent Service quality dimensions affects customer satisfaction in using electronic banking in CBE?
- What are the challenges that Commercial Bank of Ethiopia (CBE) facing in establishing and running E-banking to its customers?

1.4 Objective of the Study

1.4.1 General Objective

The general objectives of the study is to find out the impact of E-banking on customer Satisfaction in commercial bank of Ethiopia

1.4.2 Specific Objective

- To examine customer's preference from the banking halls to electronic banking.
- To identify relationship between Service quality dimensions and customer Satisfaction in using electronic banking in CBE.
- To determine the extent Service quality dimensions affects customer Satisfaction in using electronic banking in CBE.
- To identify challenges that Commercial Bank of Ethiopia facing in establishing and running E-banking to its customers.

1.5 Definition of Terms

- **E-banking:** is the provision of financial banking service through electronic devices.(Commercial bank of Ethiopia[CBE],2016)
- **E-payment:** is a financial exchange that takes place electronically between one party to the other one. (CBE,2016)
- **Automated Tellers Machine (ATM):** is an Unattended Acceptance Terminal that has electronic capability accepting PINs, and disburses money and may provide balance information, fund transfers between accounts and other services. (CBE,2016)
- **Internet Banking (IB)**: shall mean the internet as a remote delivery channel for banking service through a secure website operated by the bank using access devices, including personal computers, lap top and other intelligent devices. (CBE,2016)
- **Mobile Banking (MB):** refers to the use of a Smartphone or other cellular device to perform **online banking** tasks while away from your home. (CBE,2016)
- **Point-of-Sale Terminal (POS)** is electronic device used for authorizing and processing bankcard transactions at point-of-sale.(CBE,2016)

1.6 Significance of the study

- Proper understanding of the impact of e-banking on customer satisfaction is unthinkable. So that the findings and recommendations of the research be significantly mandatory to both private and CBE, branch managers, electronic banking department heads, IT managers, employees, National bank of Ethiopia, Ethiopian Tel communication, Ethiopian electric power authority and those bank customers will get benefits from opportunities of e-banking on customer satisfaction. Finally, it adds value to the existing knowledge of electronic banking and customer satisfaction in financial institutions and the study can be used as a base point for further investigations in the related issues.

1.7 Delimitation of the Study

- The scope of the study concentrates on two major areas. This comprises of the contextual and geographical scope of the study. Contextually, the research emphasize on electronic banking focusing on the impact of E-banking on customer satisfaction in commercial bank of Ethiopia.
- The geographical scope of the study situated or limited within four District of the bank which is found in Addis Ababa due to the cost and time to reach a number of branches. And confine itself to surveying, interviewing which is limited to the number of customer and staff what CBE have. The study also limited on independent variable reliability, assurance, responsiveness, empathy and tangibility but there are also many variables that determine dependent variable customer satisfaction on E-banking.

1.8 Limitation of the Study

- **Attitude of respondents**: The attitude of the respondents to the study could not encourage and this affects the study many of them were busy of doing what they aimed to do in the bank hall.
- There was a delay on appointment to interview particularly E-banking Team leader heads took me much time.

1.9 Organization of the Study

This study is organized into five chapters. In the first chapter, the background of the study, a statement of the problem, significance of the study, scope and limitations of the study, general and specific objectives, and research questions were included. In the second chapter, review of related literature was incorporated. In the third chapter, the methodology part of the study and in the fourth the result & discussion and in the fifth chapter conclusion & recommendations of the study was presented consecutively.

CHAPTER TWO - LITERATURE REVIEW

2.1 Definition of Electronic banking

Electronic banking as the delivery of banks' information and services by banks to customers through different delivery channels that can be used with different electronic devices such as computer and a mobile phone with browser software, telephone or digital television. Daniel (1999)

In fact the use of electronic banking as an option for the dissemination of financial institutions has turned into a competitive tool rather than only an approach to accomplish competitive advantage of preference with the appearance of globalization and fiercer rivalry (Flavián et al, 2004; Gan and Clemes, 2006).

2.2 Benefit of E-banking

- Competitive branding and as well as better appreciation to the market demands. If the bank is known in technology advancement it makes them better image brand they enjoy.
- E-banking can do away the hitherto laborious and less viable methods for banking.
- Electronic-banking has made common open doors for banks and businesses around the world, and that is clear in the way they sort out financial transaction.(Jen and Michael (2006)
- Electronic banking customers can check accounts, transfer money and can have access to numerous banking products and services. There is no need for Customers to visit banks to make transactions, (Cheng et al., 2006).
- Electronic banking assumes a vital part in the economy helping buyers and sellers to make financial worth via the exchange of goods and services by avoiding physical contacts (Cheng et al., 2006).

2.3 Challenge of E-banking

- Strategic Risk: Management of financial institutions should know and understand risks associated with e- banking and provide remedies for it. Poor E-banking planning and investment decisions can increase a financial institution's strategic risk. (Daft1982)
- The costs of establishing e-banking services are high
- E-banking insecurities are classified into three categories, firstly those associated with fraud and theft secondly those by hackers‟ and lastly errors in systems design or set up leading to security breaches (genuine users seeing / being able to transact on other users‟ accounts). All of these insecurities have financial and legal reputations. The Economist Journal (1999)
- Type of technology selected, lack of knowledge and lastly implementation. If managers understand their business and operational process, their employees mostly lack the skills and experience to adapt to software technologies and educate their customers. (Earl 2002)

2.4 Customer satisfaction

Several authors have defined customer satisfaction in different ways:

- It is an overall customer's attitude towards a service provider, or an emotional reaction to the difference b/n what customers anticipate and what they receive .regarding the fulfillment of some need, goal, or desire (Hansemark and Albinsson, 2004).
- According to Kotler (2000) satisfaction is a person's feeling of pleasure or disappointment resulting from comparing a products perceived performances (outcome) in relation to his/her expectations.
- Customers satisfaction is a psychological concept that involves, the feeling of well-being and pressure that results from obtaining what one hope for and expects from an operating product/service (WTO, 1985)
- Customer satisfaction as an attitude-like judgment following a purchase act or service of customer product interaction (Lovelock and Wirtz, 2007).

2.5 Service quality

In the existing business environment the concept of quality is becoming the primary goal of achieving profits through satisfying customers that is why most banks give intense attention to their service package quality so as to conquer the competitive advantage and market share. Johnston (1997) spelt out that the intangibility of service is typically assumed to make consumers evaluations of quality more difficult than for tangible products. This views based on the natural hesitation of people to evaluate things they cannot touch. The intangibility of services make them much more subjective product. Quality is a matter of how we feel and of our particular taste. This dependence on subjective feelings means that what is perceived as high quality service may differ between individuals.

Service quality has become a popular area of academic research and has been acknowledged as an observant competitive advantage and supporting satisfying relationships with customers (Zeithmal, 2000). It is concepts that has aroused substantial interest and argue in research. There are difficulties defining and measuring it with no overall consensus emerging on either (Wisniewski, 2001). Service quality has been defined as the overall assessment of a service by the customers (Eshghi*et al.*, 2008), while other studies defined it as the extent to which a service meets customer's needs or expectations. Service is assumed to be quality when it consistently conforms to customer expectations (Asubontenget al., 1996; Wisniewski and Donnelly, 1996).

Bitner and Hubbert (1994) define service quality as the customers overall impression of the relative inferiority or superiority of the organization and its services. On other hand, Service quality is not objectively measured according to some technical standards but is subjectively felt by customers and measured relative to customer determined standards (Kwortnik, 2005).The previous literature suggests that the evaluation of quality in services is more difficult than goods (Parasuraman et al., 1985). As a result Service quality has confirmed to be a complex concept to analyze and understand (Brady and Cronin, 2001). So that, Rust and Oliver (2000) pointed out that it is essential for companies to develop the awareness of customers' perceptions of service quality.

2.6 Relation between customer satisfaction and service quality

In the era of stiff competition of the banking industry, both private and state banks are in the game of market arena in terms of providing service quality in every aspect of their competitive strategies because the awareness of their customers are developed in selecting whose bank provides better quality of services as per the satisfaction level they expected to achieve so that different banks designed winning strategies of rendering best service quality to enhance their customer satisfaction over existing competitors in the market rivalry. The relationship between expectation, perceived service quality and customers satisfaction have been investigated in a number of researches (Zeithaml, et al, 1988). They found that, there is very strong relationship between quality of service and customer satisfaction (Parasuraman et al, 1985; 1988). Increase in service quality of the banks can satisfy and develop attitudinal loyalty which ultimately retains valued customers (Nadiri, et al 2009)

Research has indicated that service quality has been increasingly recognized as a critical factor in the success of any business (Parasuraman et al., 1988), and the banking industry in this case is not exceptional. Parasuraman, A., ZeithmaI,V.A., & Berry,L.L. (1988) found that the performance of the service provider on core and relational dimensions of services was an important driver for customer satisfaction in retail banking.

2.7 Service quality dimensions (Service quality Model)

As Johnston (1995) pointed out that identification of the determinants of service quality is necessary in order to be able to specify measure, control and improve customer perceived service quality. The most frequently used scales in the measurement of perceived service quality are SERVQUAL (Parasuram, Zeithaml, and Berry 1988) and SERVPERF (Cronin and Taylor 1992).Both are the result of research work from the US school of quality thus Among the models for measuring service quality, the most acknowledged and applied model in diversity of industries is the SERVQUAL (service quality) model developed by (Parasuraman et al, 1985)

The SERVQUAL model of Parasuraman et al. (1988) proposed a five dimensional construct of perceived service quality tangibles, reliability, responsiveness, assurance and empathy as the instruments for measuring service quality (Parasuraman et el al., 1988; Zeithaml et el al., 1990). Therefore in this study SERVQUAL model is used to measure to service quality of electronic banking provided by selected banks towards their customer satisfaction

2.7.1 Reliability

It involves two concepts, dependability and uniformity in performance. Reliability also means honoring the commitments in areas such as billing accuracy, proper record maintenance and delivering the service within acceptable time limit. It also refers to the correct technical functioning of a self-services technology and the accuracy of service delivery. Many authors have detected that reliability is significant in the determination of service quality (Bagozzi, 1990; Davis et al., 1992; Parasuraman et al., 1988 Zeithaml & Bitner, 2000).

2.7.2 Assurance

Parasuraman et al. (1985) defined assurance as knowledge and courtesy of employees and their ability to inspire trust and confidence. According to Sadek et al. (2010), in British banks assurance means the polite and friendly staffs, provision of financial advice, interior comfort, eases of access to account information and knowledgeable and experienced management team. This is made up of the guarantee that the record showing banking activities and security of account Information is not shared (Yang and Fang 2004). Security is another essential determinant in the decision of consumers to use internet banking. Strong issues on security are a common concern to individuals hence their unwillingness to use internet banking (Madu, 2002).

2.7.3 Responsiveness

Customers are particularly interested in the speed with which a service is offered or delivered. (Bateson, 1985). In addition, most researches have indicated that in most cases, customers overrate the processing time of a service. Base on the above Lovelock and whrtiz (1979) posited that on certain occasion customers has a strong liking to carry out the service by them also resolved that slow service delivery has a negative effect on individuals overall perceptions of the service quality.

2.7.4 Empathy

Parasuraman et al. (1985) defined empathy as the caring and individual attention the firm provides its customers. It involves giving customers individual attention and employees who understand the needs of their customers and convenience business hours. Ananth et al. (2011) referred to empathy in their study on private sector banks as giving individual attention;

convenient operating hours; giving personal attention; best interest in heart and understand customer's specific needs

2.7.5 Tangibility

Parasuraman et al. (1985) defined tangibility as the appearance of physical facilities, equipment, personnel, and written materials. Ananth et al. (2011) referred to tangibility in their study of private sector banks as modern looking equipment, physical facility, employees are well dressed and materials are visually appealing

2.8 Relationship between electronic banking and customer satisfactions

Many banks consider technology as a route for service quality improvements, while others consider it as a cost effective new service delivery tool whatever the underling strategy nobody questions the importance of technology and adoption by banks. Moreover it is important to assess how customer find themselves, among these technologies from ATMs to Mobile banking, Internet banking and POS terminals) and can meet real customer needs.

As per the study of Hasan et.al (2013) the trial to examine the contribution of various dimensions of service quality in customer satisfaction a result of the study indicates that most variables were good predictors of overall satisfaction in e-banking. However a result of principle component analysis indicates that perceived value, brand perception, cost effectiveness, easy to use, convenience, problem handling, security /assurance/ and responsiveness are important factors in customer satisfaction in E-banking

Responsiveness, easy to use, cost effectiveness and compensation are predictors of brand perception in e-banking and fulfillment efficiently. Security assurance, responsiveness convenience, cost effectiveness; problem handling and compensation are predictors of perceived value in e-banking. So that bankers and e-banking service designers should think over these dimensions and make possible changes in the e-banking services according to the customers' expectation and need of the time. It will help to enhance service quality of e-banking and increase the level of customers' satisfaction in e-banking

According to Polotoglu & Ekin (2010) internet banking is very effective to banks and to consumers because it is like an electronic brochure which provides institutional and promotional information ways for contacting the bank special offers recruitment announcement etc.

2.9 Different Country Experience on E-banking

The E-payment adoption journey for selected countries from emerging economies i.e. Malaysia and India and African countries Nigeria and South Africa is briefly discussed

2.9.1 E-payment in Malaysia

Malaysia's E-payment journey is as old as four decades which started in late 1970's by introducing card-based payment systems.

2.9.2 E-payment Regulation in Malaysia

Malaysia has legislated a number of laws that regulate and facilitate the country's payments system. These laws cover all aspects of payment components included in the countries payments landscape. Some of these laws are Payment System Act 2003 (PSA), Financial Services Act 2013 (FSA), Gazette orders, Guidelines and Standards, Guideline on Electronic Money (E-money) and Anti-Money Laundering and Counter Financing of Terrorism (AML/CFT) - Electronic Money and Non-Bank Affiliated Charge & Credit Card.(Central Bank of Malaysia,2016)

2.9.3 Country Initiatives

Malaysia's central bank has drawn a ten year road map called "Financial Sector Blueprint 2011-2020" that defines the ten years financial system direction. In this road map, an electronic payment is identified as one of the core points highlighted which is believed to bring greater economic efficiency. The central bank's main focus wasto accelerate the transition of the traditional payment system to electronic payment system. The Blueprint mainly outlines the increase of per capita electronic payment transactions from 44 to 200 by the end of the period, the per capita debit card transaction to 30, the POS terminals per 1000 inhabitant to 25 and reducing number of checks cleared from 207 million to 100 million by the end of the period. (Central Bank of Malaysia, 2016)

2.9.4 E-payment in India

Reserve Bank of India (RBI) classifies the payment system in India in to three categories; paper based payments, electronic payments and other payments. Under the paper based payments included are cheques and drafts which account 60% of the noncash transaction. As per the designation of the RBI, electronic payments in India refer to the payments and settlements infrastructure and products. These are Electronic Clearing Service (ECS) Credit, Regional ECS (RECS), and Electronic Clearing Service (ECS) Debit, Electronic Funds Transfer (EFT), National Electronic Funds Transfer (NEFT) System, Real Time Gross Settlement (RTGS) System and Clearing Corporation of India Limited (CCIL). The third classification constitutes Pre-paid Payment Systems, Mobile Banking System, ATMs, and Point of Sale (POS) Terminals/Online Transactions. (Reserve bank of India, 2016)

2.9.5 Country Initiatives

RBI has so far implemented five vision documents on the payments system starting from 2001. These vision documents define the payments system vision of India and subsequently provide the focus areas and strategy elements to realize the vision. The summary of the recent three vision documents are provided as follows:

Vision 2009-12; this vision document incorporated the following major initiatives:

- Expanding the accessibility of existing payments system and instruments to new geographic places in order to address the populace;
- Increasing card security of the card payments;

Vision 2012-15: The vision held in this document was "To proactively encourage electronic payment systems for ushering in a less-cash society in India and to ensure payment and settlement systems in the country are safe, efficient, interoperable, authorized, accessible, inclusive and compliant with international standards." Based on this, the following key elements that are believed to lead in creating a less cash society are drawn:

- **Accessibility:** (based on the finding that there is lack of access to a formal payments system including electronic payments to majority of the society);

- **Availability:** refers to engaging other non-bank institutions to provide the modern payments system thereby availing the products and services in a wider platform to the populace by both banks and non-banks;
- **Awareness:** this refers to the role of awareness of the payment system by the wider public which was believed in India to be low. The resulting response was to campaign on awareness creation together with stakeholders of both federal government and other regulators. It also targets to use the innovative power of the media and advertising companies in moving the populace from cash mentality to electronic payment;

Vision 2018; held a vision of "Building best of class payment and settlement systems for a 'less-cash' India through responsive regulation, robust infrastructure, effective supervision and customer centricity." Similar to the previous vision, Vision 2018 has also its own focus areas which are described below:

- **Coverage**; refers to increasing access to a diversified electronic payments;
- **Convenience**; refers to making users more convenient with electronic payments by creating ease of use and products and processes;
- **Confidence**; refers to building confidence of users through keeping system integrity, providing secured services and customer protection; (Reserve bank of India, 2016)

2.10 African Country E-banking Experience

Africa is still lagging behind in terms of payment services. A study conducted on 35 African countries indicated that the average number of commercial bank ATMs per 100,000 adults reached 10.4 in 2013; it was 8.3 in 2010. The world average is 36.35 ATMs deployment per 100,000 adults in 2013.Next by reviewing the experiences of the two sub Sharan African countries; South Africa and Nigeria. (World Bank Report, 2015)

2.10.1 E-payment in South Africa

South Africa's electronic payment journey starts in the early 1990s when the country rejoined the global economic system that required the payments system to comply with international standards. (KPMG, 2015)

2.10.2 Country Initiatives

Reserve Bank of South Africa (RBSA) is in charge of drawing any national strategies in relation with the national payments system. The RSBA has been making concerted efforts since the 1990s to develop the national payments system. Accordingly, various initiatives have been drawn in the recent pasts which are provided below:

- Its main aim was modernizing the national payments system (NPS) which was planned to serve for ten years;
- Access to the national payment system;
- Oversight of the national payment system;
- Standards in the national payment system;
- Information and communication technology developments;
- Communication on the national payment system;
- Human resources capacity enhancement in the national payment system;
- Infrastructural developments for the national payment system;
- Regional infrastructural integration of the payment system and Interchange determination in the national payment system(South Africa Reserve bank,2006)

2.10.3 E-payment Regulation in South Africa

South Africa has made laws that enabled the expansion and development of electronic payments in the country. The Reserve Bank has included items under NPS legislation that govern the payments system. These are:

- Directives for conduct within the NPS: this refers to the power of the RBSA to issue any directives to any person in relation with the execution of the NPS Act;
- Position Papers: This refers to the approaches, procedures and policy matters that will be applicable at different times and contexts. Among these, position papers on electronic money of 2009 and interoperability of 2011 can be mentioned; (KPMG, 2015)

2.10.4 E-payment in Nigeria

E-payment in Nigeria constitutes non-cash payments (cheques, Nigeria Inter-Bank Settlement System (NIBSS), Instant Payment (NIP) and Electronic Fund Transfer

(NEFT) Transactions) and Electronic Card Payments (ATMs, POSs, Mobile and Internet payment). Nigeria's electronic payments started with the introduction of the first ATM in 1989 followed by the implementation of Magnetic Ink Code Recognition (MICR) in 1993. (Central Bank of Nigeria)

2.10.5 Country Initiatives

Since the year 2007, the Central Bank of Nigeria (CBN) has launched the Payments System Vision 2020 that aims to create a world class payment system infrastructure. This vision document tries to outline a comprehensive approach in order to modernize Nigeria's payments system. Adoption and usage were made at the center of the whole objective of the payment service mission 2020. To achieve this, eight sectors were identified that are believed to increase the usage rate not only directly but also with a possible spillover effects to other areas. The sectors are Agriculture, cities Government flows, Hotels and Entertainment, Transport, Health, Education and Direct Debits and Bills Payment (Central bank of Nigeria)

2.10.6 E-payment Regulation in Nigeria

The Central Bank of Nigeria (CBN) has made rules that govern electronic payments at various times. As summarized by the CBN the following regulations with direct relationship to electronic payments are enacted in the country's payments landscape:

- Operational Rules and Regulations for the Nigeria Central Switch (NCS) and regulatory framework for Mobile Payments Services in Nigeria;
- Standards and Guidelines on Automated Teller Machine (ATM) Operations in Nigeria;
- Guidelines on Point of Sale (POS) Card Acceptance Services;(Central bank of Nigeria)

2.11 The E-payment Industry in Ethiopia

The major development of E-payment in the country is reviewed in this part focusing on the major players in the landscape, which includes major stakeholders, regulatory frameworks and country initiatives, trends of retail E-payment services provided financial institutions and non-bank players.

2.11.1 Major Stakeholders

- **The National Bank of Ethiopia** is one of the major stakeholders in the payment ecosystem of the country, which also encompasses retail electronic payment system. The NBE is the supervisory and regulatory body which is authorized to supervise all payment providers which includes banks and MFIs. (Information Network Security Agency [INSA],2014)
- **Ethio-Telecom**: is the sole provider of telecommunication infrastructure and service in the country. The development of payment system goes hand in hand with the development of telecom infrastructure of the country. The reliability and dependability of telecommunication service is determinant factor for reliability and quality of payment service. The accessibility and quality of telecommunication service have been improved in the country during the last five years. (INSA,2014)
- **Ethiopian Electric Power Corporations (EEPCo):** Power is one of the basic infrastructures that determine broad based economic growth. The power generating capacity of the country is also growing at an accelerated rate which has facilitated accessibility of financial services including electronic payment service. The outlook for power coverage in the country is also very much promising as the country is undergoing through mega power projects which are financed by the CBE. However power interruption is again identified as one of the main challenges for banks and financial institutions affecting their service quality; (INSA,2014)
- **Information Network Security Agency (INSA**): is a federal government agency with an objective to "ensure that information and computer based key infrastructures are secured, so as to be enablers of national peace, democratization and development programs". INSA is the major stakeholder for the payment industry by virtue of its entrusted powers and duty which also includes "drafting national policies, laws, standards and strategies that enable to ensure information and computer based key infrastructures security, and oversight their enforcement upon approval".(INSA,2014)
- **Financial Institutions**: Payment in Ethiopia is driven mainly by banks, while micro finance institutions and insurances are also part of the country's financial sector. The banking sector in the country comprised17 commercial banks engaged in overall

financial and retail payment activities. Until recently almost all banks had focused on a conventional brick and mortar branch based banking. (INSA,2014)

2.11.2 Legal and Regulatory Frameworks

The national payment system proclamation No. 718/2011 has set the rules on establishment, operations, regulations and oversight of the National payment system of the country. The NBE has been entrusted with the responsibility to regulate and supervise "an integrated payment system consisting of a large value of fund transfer system and retail fund transfer system". Accordingly, the E-payment instruments are also under the supervision of the National Bank of Ethiopia just like the other payment instruments. National Payment System Proclamation (2011)

2.11.3 Country Initiatives

- With the notation that retail payment is in infant stage in the country and financial inclusion is prime focus are for the country, a reform program for the country's Retail Payments System (RPS) was embarked, the NBE taking the leading role.
- The NBE implemented the Ethiopia Automated Transfer Systems (EATS) in 2011 – which constitutes a real time gross settlement system (RTGS) and automated clearing house (ACH) for interbank clearing and settlement for cheques, credit and debit and card transactions. This has become the foundation for the development of retail electronic payment services;
- A national switch (EtSwitch) was established by all commercial banks under the guidance of the NBE to bring interoperability of retail electronic payments (ATMs and POS, etc);
- The National retail system strategy is also under preparation with the objective of providing strategic framework to "establish an inclusive, most advanced and widely accessible National Retail Payment System (NRPS)". It laid down the following six broad strategic areas.
    - Strengthen Stakeholder Commitment;
    - Ensure an Appropriate Regulatory Environment and Effective Oversight;
    - Improve Payments/ICT Infrastructure;
    - Promote the Provision of Customer-Centric and Low-Cost Payment Instruments;

- Promote initiatives to expand diverse access points to payment services;
- Achieve Scale through Leveraging Large Volume Payment Programs

Based on the forgoing review on country initiatives, it can be noted that the importance of a well-developed payment system for the country's economic growth is recently recognized and a number of initiatives are underway to enhance the adoption rate of electronic payment. However the initiatives are still in early stage or planning phase thus their expected impact on the development of payment landscape is not yet materialized. In conclusion, It has been noted that the country has lagged behind in electronic payment adoption and growth thus extensive and integrated efforts are required to enhance its adoption level. Ethiopia National Payment System Strategy Draft Document (2017)

2.12 Trends of Payment Acceptance landscapes on ATMs and POSs in Ethiopia

- The card usage in the country is at a very early stage of development which is mostly limited to get cash access on ATMs. The ATM coverage in the country has reached to 1,810 in 2015/16 increasing by 48% from its number in the preceding year (2014/15).

- The distribution of ATM to 100,000 Adult populations is also among the lowest in the world with 3.83 ratios which is lower as compared with Sub Sahara African (6.12) as well as low income economies (5.07).
- All banks except two banks have invested on ATMs although their share of investment varies from bank to bank. The largest ATM network is maintained by CBE with 889 ATMs at the end of June 2016. The ATMs are mainly deployed as cash access points although value added services such as fund transfers, foreign exchange services, informational services are also offered by some of the banks;
- The Ethiopian economy remain cash based thus card acceptance at POS is very much underdeveloped. and the majority of transactions are undertaken by international cards (cards issued by foreign banks) in the travel and hotel merchant sector;
- The number of POS terminal in the country has now reached to 8302, increasing by 149% from its position in the preceding year (2014/15);

- The outreach of the POS in the country is still very low, which is only 17.55 per 100,000 Adult populations, as compared with other similar economies. The world average POS satisfaction is 473.07 per 100,000 Adult populations. The figure for developed countries is much higher than this. Canada's POS per 100,000 Adult populations is 2201.63 while Austria and Australia had POS per 100,000 Adult populations amounting 4889.59 and 3938.82 respectively;
- All banks but Enat and Debub Global banks have started ATM acquiring banks. Whereas POS acquiring is limited to the banks operating in their own payment system (except Zemem bank), and PSS members banks (except Cooperative bank of Oromia). EtSwitch hosted member banks have not yet started POS acquiring so far
- Interoperability at the national level is achieved for ATM transaction only as of Dec 2015. Therefore card issued by one bank can be acquired and accepted at any of the ATMs deployed in the country;
- There is no bank that have started E-commerce acquiring, and the acquiring program of for all banks is mostly limited to card present transactions at ATMs and POSs. Card not present transactions through online (e-commerce acquiring) is not acquired by domestic banks. However, airlines and hotels are using international Ecommerce acquiring agents

Table 2.1 Ethiopia Bank's: Trends of ATMS and POSs Number

Channels	2011/12	2012/13	2013/14	2014/15	2015/16
Total ATM No	100	459	851	1,220	1,810
Annual Growth	-	359%	85%	43%	48%
Average Annual Growth (ATMs)	134%				
Total POs No.	771	1,094	1,282	3,332	8,302
Annual Growth	-	42%	17%	160%	149%
Average Annual Growth (POSs)	92%				

2.13 Trends of Mobile and Internet Banking Services in Ethiopia

- As of June 2016, this number of mobile banking customers has reached 1.5 million from its position of 9,236 in 2012/13. The CBE accounts 90% of the total number of overall mobile banking customers
- The total number of Internet banking customer has reached 37,387 as of June 2016
- Mobile banking is provided as one payment channels by most of the banks except the two banks hosted by EtSwitch and Cooperative bank of Oromia. The only bank that provides mobile and internet banking from EtSwitch hosted members is Abay bank. The mobile banking service is conducted in a closed loop system whereby the beneficiary and payer needs to be within the same bank network and interoperability between banks is not yet achieved
- Internet banking which allows access to the customers and transact in a closed loop system (within the respective bank's domain only) is also provided by CBE, Dashen, Wegagen, United, Awash, Zemen and Abay banks.
- A number of banks including Dashen, Wegagen, CBE, Awash, United (Hibir agent banking services) and Abay Bank (AbayBedeje agent banking service) and, Oromia Cooperatives and Lion Bank have started agent banking (Mobile Money) services

Table 2.2 Ethiopia Bank's: Mobile& Internet Banking Performance (Number of Subscribers)

Channels	Performance Year			
	2012/13	2013/14	2014/15	2015/16
Total Internet Banking User	NA	NA	NA	37,387
Total Mobile Banking Users	9,236	119,912	604,246	1,447,653
Number of CBE Mobile Bank	9,236	110,676	544,621	1,139,837
Share of CBE	100%	92%	90%	79%
Annual Growth (Total)	-	1198%	404%	140%
Average Annual Growth	581%			

2.14 Comparisons with other Countries and Regions

The Table presents the performances of different countries and regions for comparison purposes with Ethiopia. The difference is vividly seen that Ethiopia is lagging behind in all of the parameters of performance in electronic payments. The three African countries has made better progresses with remarkable differences from Sub-Saharan African countries. This shows once again that the untapped opportunity for electronic payments development and at the same time, the required efforts to create such developments.

Table 2.3 Comparison of Ethiopia's Banking Performance With other Countries

Country	Items	Number of device Per (100,000 Population)
South Africa	ATM	69,28
	POS	716,88
	CARD	91,334.45
Nigeria	ATM	17
	POS	121.50
Kenya	ATM	10.16
	POS	93.78
	CARDS	51,168.57

Malaysia	ATM	51.12
	POS	941
India	ATM	19.71
	POS	134.22
	CARDS	69,869
Brazil	ATM	114
	POS	1471
Sub Saharan Africa	ATM	6.14
Lower Income Countries	ATM	4.39
Lower Middle income	ATM	16.62
Ethiopian	ATM	3.11
	POS	14.28
	CARD	8,056.72
	IB	84.13
	MB	2,500.08

2.15 Non-Bank Players in E-payment Industry

Financial Institutions particularly banks have predominance in retail electronic payment of the country. However, following the global trend, non-bank players have joined the payment spectrum of the country thought their role is still minimal. The main non-bank players in relations to the electronic payment is briefly reviewed as follows

2.15.1 EtSwitch

- EtSwitch is a share company established by all domestic banks and National Bank of Ethiopia as profit making company; each bank's having equal shares. The main objective of EtSwitch Share Company is to implement a shared Interoperable retail payments infrastructure
- EtSwitch has also a an objectives beyond interoperability as its role extends into acting as platform for ATMs, POSs and merchant acquiring, card processing center, clearing and settlement system, mobile and payment infrastructures including Ecommerce etc;

- EthSwitch has adopted two membership approaches, i.e. switching members and hosted members. Switching members refer to banks that operate with their own in house switch

or through third party switch provider; and have switch to switch connections with EtSwitch to benefit from interbank interoperability. Whereas hosted members includes those banks without switch and thus rely on EthSwitch to provide switching service as well as interbank interoperability;

- EtSwitch has finalized setup of its payment system and infrastructures and started its operations with inter-bank ATM acquiring and issuance of domestic cards for hosted members. The POS switching and acquiring is yet on test level while the other channels such as E-commerce and mobile banking service is scheduled for phase two implementation.
- EtSwitch also envisions to act as payment gateway in the country with interface with international payment networks such as Visa, MasterCard, American Express, and union pay;

2.15.2 Premium Switch Solution (PSS)

- Premium Switch Solution (PSS) was established in 2009 as a consortium by three banks i.e. Awash, United and Nib banks with the objective of establishing a shared payment infrastructure among member banks.
- The member banks for the consortium switch has now increased to six with the newly joined banks of Berhan International Bank, Addis International Bank, and Cooperative Bank of Oromia
- PSS offers a payment processing solution to its member banks including issuance and acquiring of ATMs and POSs services. Therefore the six member banks use PSS as their payment gateway and processor. Interoperability among member banks is ensured by the PSS. These banks also connected to EtSwitch through the PSS
- The number of POS and ATMs owned by the member banks and run by the PSS reached 554 and 295 respectively at the end of Mar 2016
- The number of card issued by the member banks reached 349,678, however the share active cards or cards with transactions was only 28% which is very low (Mar 2016);

2.15.3 Mobile Money Solution Providers

- Mobile Money solution through agent is a very recent experience in Ethiopia which has been officially launched as of the year 2015 following the Directive of National Bank of Ethiopia which defined the playground for mobile and agent banking in the country;
- The business model permitted for Mobile Money Solution in Ethiopia is Bank led whereby the financial institutions are required to take the lead in implementing as well as operations of the mobile banking solutions, including agent recruitment and management, and float management. Following the directive of the NBE that defines the mobile money solution through agent networks, banks and microfinance institutions have started operation of mobile money and agent banking in partnership with third party solution providers
- The main players of non-bank mobile money solution providers in the country include Bel Cash (Hello Cash), M-Birr and Kifya
- The agent networks of the Hello cash mobile money service manager by the three banks includes 4500 agents distributed in the various regional state of the country
- The National Bank of Ethiopia has been introducing a number of regulations that define and limit the role of non-bank operators within the framework of "Bank Led" model. The growth of mobile money is expected to be driven by banks and financial institutions rather than mobile network operators and system providers. However, mobile money solution should serve beyond money transfer for a country like Ethiopia wherein capital formation through domestic savings is critical for sustainable economic growth.

2.16 Trend of Electronic Payments in Commercial Bank of Ethiopia

The trend of electronic payment review covers payment cards, ATMs, Mobile and Internet Banking and finally POS services. Recruitment, activation and usage of these electronic payment products also included as data availability allows. The progresses made in terms of expansion of the services; number of transactions, volume of transactions and growth in number of payment instrument is also discussed in this part.

2.16.1 CBE Payment Card

- CBE runs various card issuance programs with different purposes which we can broadly classify as domestic and international cards. Cards produced for domestic purpose are named as Gold, Platinum, VISA Classic, Women Classic, Interest Free Classic Banking (for both men and women), Shoa Sitota and Wallet Cards. International cards include Classic, Gold, Platinum and Infinite. These cards are issued to customers based on the banks customer profiling;
- Card production growth is remarkable with an average annual growth of 188%. It has reached 3.4 million cards in total at the end of 2015/16 from where it was 27,098 in 2010/11. Visa classic and Women's card take 88% and 11% share of the whole card produced respectively as of 2015/16. The remaining 1% is shared among the other cards
- In terms of card production capacity, the bank was using a production machine with capacity of producing 600 cards per hour. Recently, additional two machines are acquired with a capacity of producing 2500 cards each per hour.

Table 2.4 Type and Number of card produced

Card Type	**Total Card**						Average Growth
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	
Platinum In-	-	-	-	-	104	197	150.5
Classic In-	-	-	-	27	47	33	35.6
Gold International	-	-	-	34	274	390	233
Infinite In-	-	-	-	-	2	2	2
Platinum Domestic	-	-	-	-	884	959	922
Gold Domestic	-	-	-	-	3,483	3,577	3530
Shoa cobranded	-	-	-	-	1,055	3,717	2386
Visa classic	4	30,137	287,635	977,031	1,997,360	2,980,670	1045,472
Visa magistrate old	27,091	30,556	30,555	28,776	28,498	-	29,095
Wallet card	-	-	-	-	82	7,372	3727
Women	3	27	57	11,546	172,250	388,825	95,451
Total cards	**27,098**	**60,720**	**318,24**	**1,017,410**	**2,204,040**	**3,385,740**	**1,168,874**

- Card activation was very low at the beginning; however, it has kept growing from year to year and has reached 62.57% as of 2015/16. The data shows that more than 90% of activation is done through ATMs
- The gap between the bank's customer base and the total number of card holders as well as active cards is significant. As of June 2016, the bank's customer size reached 13.3 million out of which 3.4 million customers received cards amounting 25.44% and only 2.1 million customers have activated their cards amounting 16% of the total customer base. This signals the untapped opportunity which the bank could consider in the upcoming future to expand its electronic payments services and products;

Table 2.5 Annual Share of Activated Cards in %age

Particulars	Production Year (ending June 30)					
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
No. cards Produced	27,098	60,720	318,247	1,017,414	2,204,047	3,385,747
No. of Active card holders	6,495	21,395	132,117	505,680	1,181,437	2,118,366
Growth rate of card Active		229.41	517.51	282.75	133.63	79.31
Share of activated cards	**23.97**	**35.24**	**41.51**	**49.70**	**53.60**	**62.57**

2.16.2 CBE's POSs Growth Trend

- Card acceptance at POS terminal has started operation since 2011/12, following the establishment of a new payment system and infrastructure within the bank. The number of POS has reached 6229 at the end of June 2016
- The POS terminals deployed by CBE are commonly referred as Standard/traditional POS terminals working with ADSL (fixed line) and GPRS connections. The Standard/ traditional POSs have normally targeted merchant groups such as hotels, supermarkets with a well-established business
- However; the number of active POS with a transaction of Birr 10 and above remains to be only 1,467 which is 23.56% of the total installed.

- The growth in number of transactions and amount has similar trends with the POS deployments where significant increases have been witnessed in the last two performance years. Nevertheless, comparisons of this figure against the total TT transactions shows that it is negligible, only1.2 % of the total TT transactions are affected through using POSs in the year 2015/16.

Table 2.6 CBE: POS Performance

Particulars	Performance year				
	2011/12	2012/13	2013/14	2014/15	2015/16
Number of Cards used on POS	39	335	1,871	112,157	718,109
Number of Financial Transactions	193	1,184	4,511	385,035	1,951,052
Amount of Financial Transactions on POS	30,796	691,498	11,736,295	1,301,119,972	3,225,181,418

2.16.3 CBE Mobile Banking Trend

- CBE started providing mobile banking service in 2012/13. The platform implemented, which is ARC-Mobile, contains diverse features of both financial and non-financial. The service is provided through three channels namely USSD, XHTML, and Application based (Android, iPhone, and window);
- Number of subscribers has reached 1.14 million customers in 2015/16 out of which the number of active users account stood at 63%. Despite this remarkable growth figures, the number of transactions effected using mobile banking services is still low which is 0.5% compared with the total bank transactions effected through Tellers transactions

Table 2.7 CBE; Mobile Banking Performance

Particular	Performance Year			
	2012/13	2013/14	2014/15	2015/16
No. of MB users	9,236	110,676	544,621	1,139.837
Active MB User	-	-	285,780	716,454
Share of Active MB User out of total Subscribers (in %age)	-	-	52%	63%
Number of Transaction	-	5,145	119,490	868,464
Amount of Transaction in Millions of Birr	-	19.2	430.1	3,500

2.16.4 CBE Internet Banking Trend

- Similar to Mobile Banking services, the bank has also started Internet Banking services in 2012/13. The service is classified in personal and corporate internet banking; both having their distinct features
- Number of subscribers has reached 24,054 customers in 2015/16. Like the Mobile banking services, an encouraging growth is witnessed in Internet banking usage though the active users of this product are still low where only 57% of subscribers are identified as actively using their product

Table 2.8 CBE: Internet Banking Performance

Particular	**Performance Year**				**Average Growth (in% age)**
	2012/13	2013/14	2014/15	2015/16	
No. of User	215	1,556	4,631	24,054	414
Active IB User	-	-	2,293	13,730	499
Share of Active IB User out of total (in %age)	-	-	50	57	-
Number of Transaction	-	605	9,779	50,436	966
Amount of Transaction	-	9,500,000	442,200,000	1,700,000,00	2420

- Number of subscribers has reached 1.14 million customers in 2015/16 out of which the number of active users account stood at 63%.
- Comparison is also made with the number and amount of transaction effected through internet banking against the TT transactions. Accordingly, the figures show that it is very insignificant; the number of transaction is 0.03% of Teller's transaction

2.16.5 CBE ATM Growth Trend

CBE is a pioneer to introduce ATM services in Ethiopia by installing eight ATMs at six branches found in Addis Ababa in 2001. The number of ATMs has reached 889 ATMs at the end of 2015/16 out of which 51 ATMs are forex ATMs which enable converting hard currencies such as USD, Euro and Pound Sterling to Ethiopian BIRR

2.16.6 ATM deployment trend

- The bank is making progresses in the past five years in ATMs transactions reaching 37.4 million for the fiscal year ending June 2016. However, these transactions are still small compared with the aggregate transactions made through bank branch
- Number of ATM transactions account for 25% of the total transactions made at branches which is made by front officers.

2.17 CBE's Electronic Payment Market Share

CBE's electronic payments market share as at June 30, 2016. The market share is assessed in terms total E-payment channel number currently deployed or subscribed by users (as it applies), number of transaction and amount of each channel;

The market share indicates that CBE is a major player in the banking industry in relation with the electronic payments. In most of the measures, CBE holds more than 50% of the market such as number of ATMs (50.7%); number of POS (77.37%), number of payment card (74.54%), number of MB users (80.87%) and number of transactions by IB users (94.39%)

Table 2.9 CBE: Electronic payment Market Share

Channel	Particulars	CBE as at June 2016	Industry as	Market
ATM	No. of ATM	889	1,753	50.71
	No. ATM Trans.	28,154,588	-	-
	Amount of ATM Trans.	22,942,855,000	-	-
POS	No. of POS	6,229	8,051	77.37
	No. of POS Trans.	1,951,052	-	-
	Amount of POS Trans.	3,225,181,418	-	-
Card	No. of Payment Card	3,385,747	4,541,965	74.54
MB	No. of MB Users	1,139,837	1,409,418	80.87
	No. of MB Trans.	868,464	5,784,778	15.01
	Amount of MB Trans.	3,500,000,000	6,725,688,466	52.04
IB	No. of IB Users	24,054	47,426	50.72
	No. IB Trans.	50,436	53,426	94.39
	Amount of IB Trans	1,700,000,000	-	-

2.18 Implications of the Growth Trend Review of CBE E-payment

- The bank has made significant growth in cardholder recruitment with enhancing its card production capacity. However, the rate of activation, even though it has kept on growing, is unsatisfactory. During the year 2015/16 alone, there were close to 40% inactive cards which were not in use by the customers. This indicates that the effort of bank is unduly concentrated on the recruitment phase without a focus to an end to end performance, which is a key to achieve operational excellence.
- Mobile banking and internet banking services have also made progresses in terms of expanding the number of subscribers to the products. Similar to ATM, however, the size of transactions executed using these channels by the users is low compared with the total teller's transactions of the bank

- ATM deployment has seen significant improvements over the last five years. In similar manner, the number of transactions as well as amount of transactions executed using ATMs has also increased. The share of ATM transactions to teller's transactions is also growing at higher pace which implies its potential to outpace low volume cash transactions if much effort is exerted
- POS deployment has shown much progress in the last couple of years with remarkable growth rates. However, the number of inactive POS has also increased significantly in this period of growth showing the inefficiencies in merchant recruitment, awareness creation, regular support and most important, follow-up of the performance. Mere deployment does not make the service grow unless it is backed with the proper usage rate required. The number and amount of transactions committed using the POS is also insignificant which proves that most of the machines are not operational
- With all the anomalies observed in its product performance, CBE still holds the majority of the market share in terms of number of technology deployment (ATM & POS) or user subscription (MB & IB), and the amount and number of transaction in each product. This shows the extent of underdevelopment of electronic payments countrywide. With its other face, however, it can also show the opportunities open to industry players in this sector

2.18 Empirical Evidence of the Study

In Ethiopia and beyond, some researches were conducted on the challenges of electronic payment system. The results of those researches created doubt in the minds of different researchers on the challenges of electronic payment system. Some researchers are of the opinion that the power failure and management attitude are the challenges of electronic payment system. To others, illiteracy, political instability and user acceptability

On the other hand the study conducted by Daghfous and Toufaily (2007) on the success and critical factors in adoption of E-banking by Lebanese banks. The research was conducted on the factors that can lead to success the adoption of E-banking and the other factors that can constitute as barrier to its adoption, it focus on the organizational, structural and strategic factors which can

accelerate or, on the contrary, slow the adoption of this electronic mode of distribution and communication by the banks, through analyzing the case of the Lebanese market.

The study of Shah *et al.* (2005) on critical success factors (CSF) in E-Banking conducted in United Kingdom, aims to determine the critical issues related to financial sector organizations when they establish businesses online. The survey method was used by researchers which target the financial sector in the UK. The study indicates that Understanding the CSFs in E-banking is important for senior management of banking related organizations, because it would potentially help them improve their strategic planning process. The analysis of the study indicates two major types of statistical analyses were conducted, descriptive statistical analyses and factor analysis. In descriptive analyses, the factors (or variables) were ranked in order of their mean score, the highest score being the most important and so on. The top six factors in order of importance were: user-friendly website, systems security, support from top management, fast responsive customer service, promotion of electronic commerce within organization, and all time availability of services and rapid delivery of services.

Gardachew (2010) conducted 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, high rates of illiteracy and absence of financial networks that links different banks are the major challenges. The research output showed Opportunities offered by ICT through e-learning programs and Commitment of the governments on development of ICT infrastructures is considered as drivers of using Ecommerce and E-payment systems.

Nwankwo (2013) studied the problems and prospect of electronic payment in cashless economy of Nigeria and found that electronic payment system has great implication on cashless economy of Nigerian but it will lead to significant decrease in deposit mobilization and credit extension by Nigerian deposit money banks.

Wondwossen and Tsegai (2005) found that the main obstacles to the development of E-payments are lack of customers trust in the initiatives, lack of payment laws and controlling system especially for E-payment, lack of skilled manpower and frequent power disruption.

Polatoglu and Ekin (2001) found that E-banking decreases operational costs and it increases customers satisfaction and retention and increase firms overall profile.

Onajite (2013), the Chief Executive Officer and Executive Secretary of the Electronic Payment Providers Association of Nigeria (EPPAN); also emphasized that a robust and scalable telecoms infrastructure will make a success of cashless policy, she further explained that there had been cases where some of the POS machines were not working as a result of network collapse, which automatically became impossible to carry out financial transactions using the electronic cards on the POS to pay bills, that is, some e-channels infrastructures are not working fine which will deter the success of cashless policy

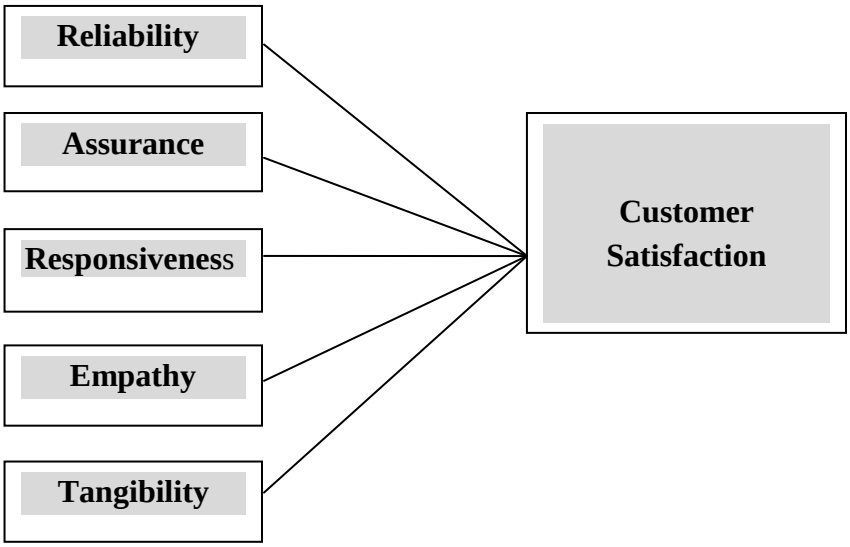
Similarly, Echekoba et al (2011) examined user acceptability and problems of electronic retail payment systems in Nigeria and found that cash usage is still very high in Nigeria despite efforts of CBN(Commercial bank of Nigeria) towards the adoption of electronic payment system. The study identified challenges such as inadequate power supply, shortage of critical technological infrastructures, lack of socio-cultural support and absence of regulatory framework that are required to operate seamless and effective electronic payment system

Majid.K (2012) explained the concept of e-banking and highlighted all the concerns and challenges while implementing the same in their study of the challenges and opportunities of electronic banking in India. The authors emphasized that e-banking was necessary not only for improving the quality of services rendered to the customers but also for better marketing of products.

2.19 Conceptual Framework of the Study

The independent variables are the SERVQUAL dimensions: Tangibility, Responsiveness, Reliability, Assurance and Empathy. Customer satisfaction is the dependent variable that the study measure with the independent variables. The most famous model of service quality was proposed by Parasuraman et al. (1985, 1988). It had five dimensions and can be explained as: Reliability, Responsiveness, Assurance, Empathy and Tangibility

Impact of electronic banking service quality on customer satisfaction



Source: Charles Mwatsika (2014), and modified by researcher

Based on the conceptual frame work of the study above, the researcher pointed out the following hypothesis that indicates the positive or negative relationship of overall satisfaction of customers towards electronic banking, with different components of service quality.

HO1: Reliability has no positive significant impact on customer Satisfaction towards electronic banking

HA1: There is significant relationship between reliability and customer Satisfaction towards electronic banking

HO2: Responsiveness has no a positive significant impact on customer satisfaction towards electronic banking.

HA2: There is significant relationship between responsiveness and customer satisfaction towards electronic banking

HO3: Assurance has no a positive significant impact on customer satisfaction towards electronic banking.

HA3: There is significant relationship between Assurance and customer satisfaction towards electronic banking

HO4: Empathy has no a positive significant impact on customer satisfaction towards electronic banking.

HA4: There is significant relationship between Empathy and customer satisfaction towards electronic banking

HO5: Tangibility has no a positive significant impact on customer satisfaction towards electronic banking

HA5: There is significant relationship between Tangibility and customer satisfaction towards electronic banking

CHAPTER THREE - RESEARCH METHODOLOGY

3.1 Research Design

A research design includes an outline of what the researcher will do from untying the hypothesis, or research questions, and their operational implications to the final analysis of data (Polit & Beck, 2006). Based on the purpose of the study it was adopted an explanatory research because it is suitable to explain the correlation and relationship between variables as stated by Philip & Adrien (2009). As an exploratory study the researcher aims at establishing the relationship between electronic banking and customer Satisfaction. The study has been relied on both quantitative and qualitative approaches.

This research focused on describing the current situation of the problem and test the hypothesis developed from the literature review and statement of the problem. The hypothesis developed tried to test the relationship between service quality attributes had with customer satisfaction and also assess the influence that this service quality dimensions had on customer satisfaction. In addition the researcher used descriptive form of research design.

3.2 Data Source and Data Collection Methods

In order to collect sufficient data that can answer the research questions, the self-administered questionnaire for both customer and staff was used as the main tool for data collection and also questionnaire for E-payment staff. In addition to the questionnaire Secondary data are used.

3.3Sampling Procedure and Sample Size Determination

Sampling is the process of choosing, from a much larger population, a group about which the researcher wishes to make generalized statements so that the selected part represents the total group. Ariola et al. (2006)

All the Commercial Bank of Ethiopia branches operating in Addis Ababa was taken as universe to get rich evidence. In Addis Ababa there are four districts and in each district there are four level branches, i.e., Grade four, Grade three, Grade two branches. The bank determines the level of its branch on the basis of:

- Volume of transaction of the branch
- The availability of all types of the bank's service and

- The total deposit they mobilized and by their customer base.

Accordingly, One branch from each Grade level (one Grade four, one Grade three and one Grade two branches) a total of twelve branches were selected purposely from the four districts by considering the time and resource limitation to contact all branches as well as to deal with various customers served with in the branches that give a different idea in perspectives to the issues raised on the effect of E-banking on customer satisfaction in commercial bank of Ethiopia. Respondents from three Grade level selected by using simple random sampling to determine the sample size of the study, the sum of average daily served customer from each grade taken as the total population with the confidence level of 95% and then sample size was determined using the formula given on Slovin

To take a population sample, we must use a formula to figure out what sample size we need to take. Sometimes we know something about a population, which can help to determine a sample size. If we know nothing about the population at all that's when we have to use Slovin's formula to figure out what sample size, we need to take, which is written as:

Sample size (n) = N / (1 + N(e)2

Where n = Number of samples, N = Total population and e = Margin of Error tolerance

= 11652/1+11652 (0.05)2 n=386 +10% = **425**

As shown in table 3.1 the sample size of each branch is calculated on the basis of proportional to the size of average daily customer served and the number of staff in E-payment.

S/N	District Name	Sampled Branch	Daily Average customer	Number of selected respondents
1	South Addis Ababa	Finfine Branch (G-IV)	1236	50
		Yoseph Branch (G-III)	882	20
		Lafto Brach (G-II)	775	20
2	North Addis Ababa	Arada Giorgis Branch (G-IV	1236	50
		Enkulal Fabrica Branch (G-III)	882	20
		Gedam Sefer Brach (G-II)	775	20
3	East Addis Ababa	Andent Branch (G-IV)	1236	50
		Airport Branch G-III)	882	20
		Stadium Branch (G-II)	775	19
4	West Addis Ababa	Abakoran Branch (G-IV)	1236	50
		Addisu Michael Branch (GIII)	882	20
		MiliteryTera Branch (G-II)	775	19
5	E-Payment Staff	Head Office	80	67
	Total		**11,652**	**425**

Since customers are scattered across the city, which makes it very difficult to contact each of them individually; convenience sampling techniques when used to select customer at the working hour of the bank on the counter. In addition to the customer sampling there are questionnaire which was collected from with E-payment staffs.

3.4 Method of Data Analysis

The researcher were analyzed the data collected through surveys to statistical population concerning the effect of E-banking on customer satisfaction in commercial bank of Ethiopia. The data was collected via questionnaires was analyzed with descriptive statistics such as frequency, percentage, ANOVA, correlation analysis and multiple regression analysis were conducted to explain the relationship and impact of the variables which determined in E-banking customer satisfaction and to measure the level of customer satisfaction. Using statistical package for social scientists' version 20.0 (SPSS 20).

3.5 Research Model

Multiple regression models were used to show the level or extent that explanatory variable have on dependent Variable Customer satisfaction.

$$\mathbf{CS= \alpha +\beta 1E1+\beta 2E2+\beta 3E3+\beta 4E4+\beta 5E5+\varepsilon}$$

Thus α (alpha) is constant, β (beta) is coefficient of estimate, and ε is the error term. Customer Satisfaction in E-banking is dependent variable and E1 to E5 are explanatory variable

Where **CS** = Customer Satisfaction $\mathbf{E_1}$= Reliability $\mathbf{E_2}$= Assurance $\mathbf{E_3}$= Responsiveness
$\mathbf{E_4}$=Empathy $\mathbf{E_5}$= Tangibility

3.6 Ethical Considerations

In this study, ethical issues of informed consent, invasion of privacy, anonymity of respondents, confidentiality, and voluntarism were catered. On informed consent, the permission of all participants in the research before conducting the study. That is, introductory letters was sent to the management of the selected Branch and their approval received before the commencement of the research. Again individual respondents will approach and debriefed of the purposes of the study before commencement.

While distributing the questionnaire, the researcher verbally informed all respondents who consented to answer the questionnaire that their participation is voluntary and as such they could opt out at any stage of the research process**.**

CHAPTER FOUR - DATA ANALYSIS AND RESULTS OF THE STUDY

4.1 Introduction

The data were analyzed in different sections: reliability analysis, descriptive analysis, correlation analysis, and multiple regression analysis.

- **Reliability**: in a study focuses on whether the research method and design is accurate (Cooper & Schindler, 2008).
- **Descriptive statistics**: to examine the variables being used based on their performance
- **Correlation analysis** using Pearson's test was used to examine the association between service quality dimensions and customer satisfaction.
- **Multiple regression analysis** was used in an attempt to validate the impact of five service quality dimensions in enlightening the overall satisfaction of customers in Electronic banking. And finally **Interview response** Summary

4.2 Reliability Analysis

The researcher started the data analysis by examining the reliability of the sample data. The Cronbach Alpha score ranges from 0 to 1. George and Mallery (2003) provide the following rules of thumb: "_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor and _ < .5 – Unacceptable" (p. 231).

Internal validity, also called causality, examines whether the observed change in a dependent variable is indeed caused by a corresponding change in hypothesized independent variable and the study has examined both causality and association between dependent and independent variables hence, the study is less likely to be susceptible to the risk of internal validity error.

Table 4.1: Reliability Statistics for Customer Questionnaire

Cronbach's Alpha	N of Items
.901	37

Table 4.2: Reliability Statistics for Staff questionnaire

Cronbach's Alpha	N of Items
.743	9

Table 4.1 and 4.2 shows Cronbach's alpha coefficients for the study were 0.901 and 0.74, higher than benchmark of 0.70 of Cronbach's Alpha. These high Cronbach's alpha coefficients indicate that each construct had high internal consistency among the items measuring the constructs.

4.3 Demographic Profile

In studies like this it is important to analyze the background information of the respondents. This is because people's social background influences their thinking pattern and to larger extent what they do. The background information comprised of age, gender, educational level, and the number of years they have served in the bank.

And total of 425 questionnaires were personally distributed 358 for customers and 67 for E-payment staff and 67 of them are collected from the staffs and 340 were collected from the customers. Various questions asked related to e-banking service, challenges and their satisfaction level to e-banking customers of the selected twelve branches of commercial bank of Ethiopia which is found in four Districts of the bank. Due to this the statistical analysis of the study was done using SPSS software, version 20. And the results of the study were shown in both inference and descriptive aspect

Table4.3 Socio Demographic Characteristics of the Respondent (Customer)

Variable	Classification	Frequency	Percentage
Gender	Male	244	71.8
	Female	96	28.2
	Total	**340**	**100**
Age	18-24	73	21.5
	25-34	183	53.8
	35-44	64	18.8
	45-54	20	5.9
	Total	**340**	**100**

Education level	Illiterate	3	0.9
	Secondary Education	121	35.6
	Certificate	37	10.9
	Diploma	39	11.5
	Degree	136	40
	Post Graduate/Master's	4	1.2
	Total	**340**	**100**
Duration as customer in the bank	Less than 1 Year	12	3.5
	1-5 Years	158	46.5
	6-10 Years	150	44.1
	More than 10 Years	20	5.9
	Total	**340**	**100**

From table 4.3 it is revealed that Majority of the Respondents that 256(75.3) were below the Age of 34 Years and 64(18.8%) of the Respondents fell within the Age Range of 35 and 44.Also customers who were within age of 45- 54 accounted for 5.9%.This finding suggest that most of the customers were found in the working age bracket as they might be much involve in transaction daily banking business.

In terms of Educational Level Majority of the respondents 136(40%) were degree holder and also respondents those who complete secondary Education are 121 which is (35.6%). This finding is attributed to the fact that banking processes requires some basic literacy and as such it was no surprise that almost all the respondents had some level of formal education.

Most of the respondents are working more than one year with Commercial bank of Ethiopia as a customer 158(46.55%) have experience to transact with bank.

Table4.4 Socio Demographic Characteristics of the Respondent (E-payment Staff)

Variable	Classification	Frequency	Percentage
Gender	Male	48	71.6
	Female	19	28.4
	Total	**67**	**100**
Age	18-24	5	7.5
	25-34	55	82.1
	35-44	7	10.4
	Total	**67**	**100**

Education level	Degree	53	79.1
	Post Graduate/Master's	14	20.9
	Total	**67**	**100**
Banking (Work) Experience	1-5 Years	14	20.9
	6-10 Years	44	65.7
	More than Ten Years	9	13.4
	Total	**67**	**100**

A total of 67 E-payment Department staff's from Commercial bank of Ethiopia completed the questionnaires. These Staffs were purposively selected based on their knowledge in the various E-banking products currently implemented by the bank. The background characteristics of these respondents are summarized in Table 4.4. The background information solicited includes respondents‟ gender, age, education, work experience.

Majority of the respondent have had degree 53(79.1%) and Post Graduate/Master's 14(20.9%).This implies that the banks under study had quality human resource who can contribute to the success of their bank.

The respondents also have varying level of experience in their field of operations. It can be observed that 20.9% of the respondents have worked with the bank for between 1 to 5 years, 65.7% have worked with the bank for between 6 to 10 years; while 13.4% have worked with the bank for over 10 years. This result shows that the respondents have the necessary experience in banking to respond appropriately to the questions posed.

4.4 Descriptive Data Analysis

4.4.1Customers and E-banking Products

The development of electronic banking in Ethiopia has been hailed by business and individual customers alike. Commercial bank of Ethiopia is also taking advantage of E-banking to reduce investment in the number of employees and physical structures and branches. However, many bank customers continue to visit the banking hall (branches) to transact in their day to day business. A number of reasons have theoretically been cited for this phenomenon. One aim of this study is to empirically examine the main reasons behind this phenomenon in Commercial Bank of Ethiopia.

4.4.2 Why customers prefer banking in the halls (branches) to E- banking

Table 4.5 Customer Response in preference from banking hall to Electronic Banking

Statement/Questions	SDA		DA		N		A		SA		Total %
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Difficulty in electronic banking makes you to come to the banking hall	24	**7.00**	19	**5.60**	71	**20.90**	119	**35.00**	107	**31.50**	100
Electronic banking has the advantage of decreasing the longer queue available in the banking hall	175	**51.50**	22	**6.50**	22	**6.50**	121	**35.60**	_	**_**	100
Electronic banking is preferable for transaction processing.	107	**31.50**	137	**40.30**	21	**6.20**	56	**16.5**	19	**5.5**	100
Banking in the halls to be convenient than electronic Banking.	72	**21.20**	71	**20.90**	29	**8.50**	129	**37.90**	39	**11.50**	100
Using electronic device for your transaction is cumbersome	_	**_**	70	**20.60**	23	**6.80**	143	**42.00**	104	**30.60**	100
Awareness level of the availability of electronic banking is high in Commercial Bank	87	**25.60**	153	**45.00**	39	**11.50**	49	**14.40**	12	**3.50**	100
Using Electronic banking avoid Relationship with banking employees	19	**5.60**	36	**10.60**	20	**5.90**	191	**56.20**	74	**21.80**	100

Descriptive Statistics

	N	Mean	Std. Deviation
Difficulty in electronic banking makes you to come to the banking hall	340	3.7824	1.15712
Electronic banking has the advantage of decreasing the longer queue available in the banking hall	340	4.3206	.85885
Electronic banking is preferable for transaction.	340	3.8441	1.26763
Banking in the halls to be convenient than electronic Banking.	340	2.9765	1.37810
Using electronic device for your transaction is cumbersome	340	2.6029	1.30282
Awareness level of the availability of electronic banking is high in Commercial Bank	340	3.7471	1.09739
Using electronic banking avoid to transaction ship with banking employees	340	3.7794	1.07596
Valid N (list wise)	340		

On average 4.32 respondents have knowledge of E-banking decrease the longer queue and also on average 3.78 customers prefer to come to banking hall rather than using E-banking. Because they fill using E-banking is cumbersome.

Table 4.6 Staff Response in preference from banking hall to Electronic Banking

Statement/Questions	SDA		DA		N		A		SA		Total %
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Customers prefer to transact their business at the branch than electronic banking service due to accessing the service at the branch	9	**13.4**	6	**9**	7	**10.4**	29	**43.3**	16	**23.9**	100
Using electronic banking avoid Relationship with bank employee.	8	**11.9**	–	**–**	23	**34.3**	17	**25.4**	19	**28.4**	100
Awareness levels of customer in Electronic banking are high in CBE.	21	**31.3**	22	**32.8**	–	**–**	10	**15**	14	**20.9**	100
To transact using Electronic banking in CBE is cumbersome	36	**53.7**	17	**25.4**	1	**1.5**	13	**19.4**	–	**–**	100
Security issue influence customers to prefer banking halls	20	**29.9**	8	**11.9**	–	**–**	22	**32.8**	17	**25.4**	100

In terms of preference for E- banking compared to banking at the hall, the study revealed that 226(66.5%) of the respondents preferred the banking hall and also 72.6% preferred the banking hall to E- banking for the reason that it is cumbersome to access the E- banking services. Also 51.5% and 6.5% of the respondents believe that they are not using an advantage electronic banking which decreasing the long Queue which is see in many Branch of CBE, in other word they are still coming to the branch.

In Addition to that 244(71.8%) of the respondents prefer banking hall or branch service for Transaction Processing.

Majority of staff respondents 45(67.2%) and 43(64.1%) lack of well-organized accessibility of E- banking products and services and lack of awareness creation in selling electronic payment Products inform their decision to use the banking hall. The responses obtained from the staff is substantiated the responses elicited from the customers.

Staff also believes that security is the Reason that restricts Customer's from using Electronic Banking. And also 78% prefer banking hall for purpose of not losing their relationship (face to face dealing) with bank employee.

Finally the response of the staff and customer reflect lack of awareness creation on E-banking from the bank side, convenience, security, fear of losing relationship with bank employee and customers negative feeling on the electronic device transaction makes the customer to choose to serve at the banking hall rather than serving themselves.

The finding is in agreement with several studies Westland (2001) and Chung M.I. and Liao, Z. (2006).who identified that, and consumers will find it difficult to accept anything that possesses a threat to them in terms of the possibility of losing money. Even if such threats are not real, they nonetheless reduce acceptance rate for such products.

These take in fears of customers in Ethiopia where information is low and rumors influence people verdict. Once a customer hears of any insecurity it becomes tough for such a customer to trust the system.

4.4.3To identify relationship between Service quality dimensions and customer satisfaction in using electronic banking in CBE

Table 4.7 Customer Response on the value or the level of satisfaction they got from Electronic Banking Service/Product

Statement/Questions	SDA		DA		N		A		SA		Total %
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Have you got a Value from electronic banking service of commercial bank of Ethiopia	47	**13.8**	155	**45.6**	46	**13.5**	51	**15**	41	**12**	100
High rate of illiteracy affect your beneficiation.	15	**4.4**	24	**7.1**	67	**19.7**	53	**15.6**	181	**53.2**	100
I got the service of electronic banking 24 hours per day & 7 day's a weak service	35	**10.3**	140	**41.2**	32	**9.4**	79	**23.2**	54	**15.9**	100
Electronic banking can do Everything for me as employee do.	12	**3.5**	152	**44.7**	84	**24.7**	47	**13.8**	45	**13.2**	100
Controlling of my bank account has improved after using electronic banking.	56	**16.5**	130	**38.2**	53	**15.6**	61	**17.9**	40	**11.8**	100
The level of benefit (satisfaction) I am getting from electronic banking service is higher than ordinary banking service.	56	**16.5**	136	**40**	59	**17.4**	49	**14.4**	40	**11.8**	100

The analysis showed that customers were generally less aware of E-banking products such as "ATM, Internet and Mobile banking" that are offered by the CBE. The study further sought to determine the level of value of e-banking products among the selected customers.

With regard to the question of respondents rating the value they got from e-banking products, 59.4% of the respondents say they have not got any Value from E-banking Product/service of CBE and27% says they have got the benefit. Only 13.5% respondents however were not certain about the value they got or not. This implies that customers generally rated the Value they got from electronic banking services as Low in CBE. These are due to different reasons like Lack of trust or security, awareness gap, the technology also not user friendly.

Table 4.7 also shows that181 (53.2%) strongly Agree with that of Social& cultural barriers such as high rate of illiteracy, Lack of trust, lack of technology & language affect their Beneficiation and 53(15.6%) also have the same point of view that lack of technology and language affect their beneficiation.Only39 (11.5) of them says the value they got from E-banking are not Affected by technology, Language, illiteracy and trust. And 164(48.2) of the respondents do not know that Electronic banking can do everything as employee at the branch can doand.92 (27%) of them known what E-banking do. These shows again that customers are not aware of the E-banking Products benefits as well as they can do by themselves by using E-payment Products without going to CBE Branch's.

From pervious response of the respondents the researcher considered that many of CBE Customers are not using E-banking products of CBE one point to strengthen is that 175(51.5%) of them responded that they did not got the service of electronic banking 24 hours per day & 7 day's a weak service even if the bank provide the service. Also 186(54.7%) of the respondents not using E-payment Products as tool to control their bank accounts still they are using passbook and they need branches.

192(56.5%) of them are not agree with the Statements that the level of satisfaction I am getting from E-banking service is higher than Ordinary Banking service. So it is revealed that many customers still not using electronic banking rather they come to CBE branches and got the service.

4.5 Correlation Analysis

Table 4.8Correlation analysis between explanatory variables and customer satisfaction in E-banking

		Reliability	Assurance	Responsiveness	Empathy	Tangibility	Customer Satisfaction
Reliability	Pearson Correlation	1	.321**	.445**	.402**	0.431	**.411****
	Sig. (2-tailed)		.000	.000	.000	.000	.000
Assurance	Pearson Correlation		1	.357**	.466**	.435**	**.355****
	Sig. (2-tailed)			.000	.000	.000	.000
Responsiveness	Pearson Correlation			1	.399**	.320**	**.377****
	Sig. (2-tailed)				.000	.000	.000
Empathy	Pearson Correlation				1	.362**	**.493****
	Sig. (2-tailed)					.000	.000
Tangibility	Pearson Correlation					1	**.330****
	Sig. (2-tailed)						.000
Customer Satisfaction	Pearson Correlation						1
	Sig. (2-tailed)						

Source Owen survey, 2019

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

- **Reliability on customer satisfaction** in using E- banking has correlation coefficient which is 0.411 at 0.01 level of significant that leads the reliability of CBE E-banking service have significant association with the level of customer satisfaction. So that reliability in service is one of the better predicator of satisfaction level in electronic banking system.
- **Assurance on customer satisfaction** has significant correlation coefficient of 0.355 at 0.01 significant Level. Although the correlation coefficient of assurance is relatively lower with respect to other dimensions but it has significant correlation with E-banking induced customer satisfaction.
- **Responsiveness on customer satisfaction** has correlation coefficient of 0.377 at 0.01 level of significant which leads that responsiveness has a positive significant correlation in the satisfaction level of customers on electronic banking.

- **Empathy on customer satisfaction** has higher correlation coefficient relatively which is 0.493 at0.01 level of significant. This implied that commercial banks have respectable empathy which helps them to increase the number of electronic bankingcustomer.
- **Tangibility on customer satisfaction** has the correlation coefficient of 0.330 at 0.01 level of significant which shows the significant correlation.

  Finally Empathy, Reliability, and Responsiveness can be the better predicators of electronic banking to help the bank to penetrate more customersdue to their higher in correlation coefficient relatively to other Dimensions.

4.6 Multiple Regression Analysis

Table 4.9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.855[a]	.776	.772	.0.32154

Significance at 0.05

a. Independent Variables: (Constant), Reliability, Assurance, Responsiveness, Empathy, Tangibility

As it can be seen in the above model summary **R=0.855** which indicates the positive relationship between customers' satisfaction in electronic banking and Independent variables (reliability, assurance, responsiveness, empathy and tangible).

R-square measured how much the percentage of the difference in the dependent variable is explained as a result of the change in the independent variable which are service quality dimensions thus R-square is also measured thegoodness of the fit of those explanatory variables in explaining the variation in customer satisfaction as dependent variable.

So that, the R-square value for the regression model is 0.772which implies the variables contribution for the customer satisfaction on e-banking is 77.2% in this study where the rest 22.8% indicates the variation in the level of customer satisfaction of Commercial Bank of Ethiopia is explained by other variables which are not included in the model.

Table4.10ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	73.824	5	14.7648	32.3080	.000[b]
	Residual	152.654	334	.457		
	Total	226.478	339			

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), Tangibility, Responsiveness, Empathy, Reliability, Assurance

As per ANOVA results indicated on above table 4.10 there is a statistical significant correlation between dependent and independent variable at 1% significant level due to the sig value 0.000this reveals that the explanatory variables; reliability, assurance, responsiveness, empathy and tangibility have impact on customer satisfaction. However all electronic banking service quality have no equal correlation with customer satisfaction degree because the outcome of multiple regression analysis stated that there is variation in the impact of e-banking service quality dimensions on customer satisfaction.

This is the F-statistic is the Mean Square Model (14.7648) divided by the Mean Square Residual (0.457), yielding F=32.30. In terms of F-statistics (32.3080) at a significant level of 0.000, which means there is a relationship between e-banking service quality dimensions

Table 4.11 Regression coefficient analysis of model

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.052	.406		.128	.000
	Reliability	.183	.086	.142	2.127	.000
	Assurance	.160	.145	.085	1.103	.000
	Responsiveness	.169	.081	.133	2.086	.000
	Empathy	.285	.103	.172	2.766	.001
	Tangibility	.105	.108	.077	.970	.224

a. Dependent Variable: customer satisfaction

By using Table 4.11 here the following regression Model is developed.

$CS=0.052+0.142E_1+0.085E_2+0.133E_3+0.172E_4+0.077E_5$

StdError(0.406) (0.086) (0.145) (0.081) (0.103) (0.108)

t value (0.123) (1.884) (1.174) (1.847) (3.466) (0.970)

R-Square (Adj) =0.776

F= 32.3080

Significant at 95% level of confidence

Where CS = Customer Satisfaction

E_1= Reliability

E_2= Assurance

E_3= Responsiveness

E_4= Empathy

E_5= Tangibility

According to the independent variable effect on change of customer satisfaction level here is thefinding up on the results of regression analysis:

According to the independent variable effect on change of customer satisfaction level here is thefinding up on the results of regression analysis which is reliability (E1) with 0.142 of 100% change in reliability leads to 14.2% change in customer satisfaction level. Assurance (E2) with 0.085 of 100% change in assurance leads to 8.5%. Responsiveness (E3) with 0.144 of 100% converts in responsiveness stands for 14.4% of customer satisfaction level conversion. And empathy (E4) with 0.283 of 100% change in empathy leads to 28.3% change ofthe level of customer satisfaction electronic banking users.

4.7 Analysis of Statement of Hypothesis

Ho1: Reliability has no a positive significant effect on customer satisfaction towards electronic banking

The regression model tellsthat thecoefficient shows the association between Customer satisfaction and Reliability in which the coefficient sig value of E_1(reliability) is 0.000 at 5% significant level which indicates that there is a significant relationship in between reliability and customers satisfaction electronic banking usage. As it was shown that respondent's satisfaction level were dependent on the reliability of the e-banking service. Thus the null hypothesis HO1 has been rejected and HA1 is accepted.

Ho2: Assurance has no a positive significant effect on customer satisfaction towards electronic banking.

Ho3: Responsiveness has no a positive significant effect on customer satisfaction towards electronic banking.

Ho4: Empathy has no a positive significant effect on customer satisfaction towards electronic banking.

Ho5: Tangibility has no a positive significant effect on customer satisfaction towards electronic banking.

The coefficient sig value of E_2 (assurance) is 0.000 at 5% significant level in which the variable has a significant relation with customer satisfaction on e-banking which leads to reject the null hypothesis. And the other two independent variables E_3&E_4 (Responsiveness & Empathy) have significant positive relationship with Customer satisfaction that the null hypothesis is rejected and the respective Alternative hypothesis is accepted.

Whereas E_5 (tangibility) has a sig value of 0.224 which is greater than 0.05 at level of significant. Therefore tangibility has no effect on customer satisfaction towards electronic banking usage as a result the null hypothesis HO5 is accepted.

On the bases of the findings all independent variables have significant effect on Customer satisfaction except tangibility which has sig value 0.224 which is greater than0.05 level of significance

To rank the effect of explanatory variables on customer satisfaction Reliability and Empathy have higher coefficient value 0.142 and 0.172 respectively. This shows an increase in Reliability and Empathy leads to an increase in customer satisfaction and the same to assurance and responsiveness.

These study also supported by different empirical studies Niveen (2013) stated that tangibility has relationship but no significant effect on customer satisfaction because of the bank customers were preferred to deal with human being than machine and technology. Hitesh (2015) pointed out that empathy; responsiveness and assurance have more or less influence on electronic banking induced satisfaction level

4.8 Challenges Associated with E-banking

Table 4.12 Challenges associated with e-banking (from the perspective of customers)

Statement/Questions	SDA		DA		N		A		SA		Total %
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Security is problem in electronic banking	–	–	69	**20.3**	32	**9.4**	146	**42.9**	93	**27.4**	100
Banking electronically provide security for transaction data & privacy	43	**12.6**	148	**43.5**	60	**17.6**	51	**15**	38	**11.2**	100
Economic factor such as high cost of internet, low incomes are challenge in E-banking	46	**13.5**	140	**41.2**	57	**16.8**	45	**13.2**	52	**15.3**	100
Infrastructural barriers like low level internet satisfaction, weak telecommunication & frequent power interruption are challenge	–	–	–	–	55	**16.2**	192	**56.5**	93	**27.4**	100
Management & bank issue like resistance to change in technology among staffs & customer & Electronic banking possess risk	32	**9.4**	38	**11.2**	60	**17.6**	185	**54.4**	25	**7.4**	100

Majority of the respondents considered security is a challenge in electronic banking 239(70.3%) and also they did not consider banking electronically provide security for data and privacy 191(56.1%).

Economic factors such as high cost of internet, low income are not that much challenge in using Electronic Banking and 186(54.7%) of the respondents well thought-out that.

Infrastructural barriers such as low level of internet satisfaction, weak telecommunication and frequent power interruption are the major challenge that are considered by most of the respondents out of 340 respondents 285(83.9%) reflect that.

Resistance to change in technology among users are also the main factor that affect users to use E-Banking so main of the respondents 210(61.8%) well thought-out that.

Therefore in ranking Perspective among the five categorical challenges the first higher challenge were infrastructural barriers like low level of internet satisfaction, weak telecommunication and frequent power interruption 83.9% of the respondents. Security (70.3%) and Resistance to change in technology among users (61.8%) were the second and third challenge of electronic banking respectively. Economic factor are the least factor that challenge user from using Electronic banking 54.7%.

The staff response with regard to Challenge in electronic banking is that most of the E-payment staff considered giving e-payment service require high start up cost but with regard to transactional cost of using electronic banking is nil except charge made at the time of withdrawal by using visa cards.

The staff Response is indicated that most of the insecurities are caused by the customers. Some customers may have their password of Visa card, Mobile banking and internet Banking leaked as a result of carelessness and also not conforming to the operational regulations of the Commercial Bank of Ethiopia. For example customers have been told not to carry their debit card along with their password but they mostly forget to follow this instruction.

Finally most of the respondents reflect that the bank fail to notice to some feature that makes it easy to use to customers.

4.9 Interview Responses

As stipulated in the methodology part, primary data has also been collected through direct interviews with identified E-payment Staffs that are found to be relevant in providing detail and practical information regarding the issues raised in relation with E-payment. The interviewees who took part are E-payment process; its two team managers and one expert from the process.

The same Questions tailored to each interviewee and the session is conducted. These questions are attached in the Appendix of the research paper.

The interview mainly focuses on identifying the major internal issues that are serving as road blocks to the development of electronic payments in CBE and aimed to identify core issues surrounding electronic payments such as **acceptance**, **awareness**, **dependability, security, accessibility**, **and convenience** With respect to ATM, Mobile Banking, Internet banking and Point of sale (POS).

4.9.1 Interview Findings; on issues that challenge the development of Electronic payment in commercial bank of Ethiopia

Structure as impeding factor: structure of electronic payments is raised as one factor to interviewees to evaluate whether there is any issue involved in the payments performance. The following are the main findings:

- There is lack of selling skill both at E-payment and Branch level where the products are sold to targeted customers. The structure does not allow this as there is no specific job which is dedicated to work on this at branches and E-payment (only technical people involve in selling the MB and IB products). The problem emanates from the fact that districts and branches do not have clearly defined responsibilities that enable them work on a daily basis as they do on other aspects of banking such as resource mobilization. Thus, this has made the sales activity very poor.
- Dependency on other processes such as IS (on centrally shared IT infrastructures), Facilities Administration (on provision of the necessary supplies on the required quality and time as well as construction facilities for shelters) and Business Development (on provision of quality promotion materials and getting the proper messages aired in audio

and video productions). These dependencies are claimed to have impacted the operation of E-payment as delays in service provisions of these bank organs also affect E-payment.

- E-payment process does not have the proper skill and resource of marketing which is needed for product development and promotion. The interview revealed that there is no serious procedure in place for product development (market assessment, identifying market demands, developing new product ideas, working with the various teams in and outside of the process to produce new products, testing and finally selling to the customers). This is quite important as the process is dealing with technology related products and calls for significant improvements to take place both in structure and resource capacity

Major challenges observed in relation with E-payment: in this part the interview focused on major internal as well as external challenges observed in relation with E-payment as a process and as one bank product channel which involves the participation of other processes and the whole of districts in the bank. The main findings are summarized below

External challenges

- Infrastructure (telecommunication and power), lack of centrally followed country initiative in similar manner with other African countries, strong cash habit, technology phobia and lack of trust on it and lack of Merchants' willingness in relation with POS service;

Internal challenges

- Lack of alignment and role confusion with CATS process (sales mainly), lack of systematic follow-up, more focus on daily activities of the branch than E-payment, lack of clear communication line from E-payment to branches and vice versa, lack of accountability on any sort of delays poor performance, lack of systematic awareness creation to branches and weak integration with other processes,
- Lack of regular training program and poor support as well as responsiveness from E-payment, Poor employee awareness in terms of service delivery, maintenance support and marketing, role confusion in IT staff (regarding E-payment cases as less prior), delay in card production and delivery, Lack of a comprehensive performance measurement

system that enable increasing the usage rate thereby expanding E-payment products and services

4.9.2. Interview Findings; on ATM, MB, IB and POS

The interviewee response on ATM, MB, IB and POS dependability, responsiveness, accessibility, security, convenience and awareness Response for each of these parameters are presented below as applicable to each product

4.9.2.1 ATM Service

Dependability: Measures of dependability of the ATM service include service agility, frequency of facing error while processing transactions and confidence of the customer on service availability. The ATM service is fast and reliable (agility measure), but on other measures, frequency of facing error and confidence on availability of the service, there is high frequency of error occurring while processing transactions and also there is reservation on the availability of the service at any point in time (24/7) and place the Customer relay on branches to process their transaction.

Responsiveness: support from call center and direct support from employees constitute the responsiveness measure. What is noted from the interviewee response is that responsiveness of the call center is lower as compared with direct support requests presented to employees.

The responsiveness level of the CBE in general needs improvement which, calls for creating awareness and raising the efficiency of the call center both in technology and skill of the work force working there.

Accessibility: Accessibility is measured by convenience of location, ease ofreachability of ATMs at any time and place and availability of ATMs at commercial centers and public places. Currently CBE have 2524 ATM machines which are deployed in different places but even the number of machine is large still there are claims that there is shortage of ATMs atcommercial centers and public places. This requires making further investigations to balance the distribution of ATMs according to the demand of locations of the users.

Security: The security measure enables to identify whether ATM locations are safe to make transactions for the users. To some extent the location of ATM are safe especially those found in

at the front door of the branch's .but they have the reservation for those found outside the branch ATMS.

4.9.2.2 Mobile Banking Services

Dependability: The interviewee address that the service has dependability issuethey cannot rely on it to use in place of cash.

Network Interruption: There is Major problem that customer are faced that it is one of the reasons why they avoid Mobile Bankingservice and Sometimes Double payment is made.

Responsiveness and timely support: this measure tries to identify the level of responsiveness of the bank in providing adequate information on the product and support while users face difficulties. There are difficulties to get prompt response from the bank employee on such matter which is leads the customer to avoid using the mobile banking service as one option.

Simplicity of the MB application to users: The bank is in process to make it ease the application of mobile banking. Currently the bank mobile banking application is not user friendly it is difficult to manipulate by users

4.9.2.3Internet Banking Services

The same measures were used to assess the Internet banking service as that of Mobile banking service. The response is also the same with that of Mobile banking,

4.9.2.4. Point of Sale (POS) Services

Awareness: The interviewee reflects the bank is working on about:

1. The wrong perception that cards only used for ATM cash withdrawal,
2. Lack of information on where to find POS machines and the service,
3. The wrong perception that using POS may involve additional costs,
4. Lack of knowledge on to how use a POS and
5. The wrong perception held by the card holder that POS service is not compatible with his/her life style

Accessibility: the accessibility measure tries to find out whether customers get Posse vice at different commercial places where they make transactions. But the respondents reflect the bank have cash advance POS machine in all CBE branches.

So all the respondents reach in agreement is that even if 9,384 POS in total majority of the POS distributed to merchants are inactive and are not providing service.

Convenience: The interviewee reflects that convenience is one factor that customers wrongly perceive that:

1. Using POS takes much time than cash
2. No privilege attached with making transactions at POS
3. Cashiers of Merchants' are not willing to accept card payments

Dependability: measures of dependability include lack of trust, suspicion of errors while making transaction and lack of confidence on availability of POS at commercial places where users make transactions. So the interviewee reflects that the bank have working on dependability by expanding the POS service and particularly the confidence of the customer to get a 24/7 service is very crucial in detaching the card holder from cash usage.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION ANDRECOMMENDATIONS

5.1 Summary of Findings

- As per response of the staff and customer reflect lack of awareness creation on E-banking from the bank side, convenience, security, fear of losing relationship with bank employee and customers negative feeling on the electronic device transaction makes the customer to choose to serve at the banking hall rather than serving themselves
- The correlation analysis among the explanatory variables reliability, empathy and responsiveness are good predictors of level of customer satisfaction in electronic banking due to their higher correlation coefficient in relation to assurance and tangibility.
- The independent variables which are the five service quality dimensions, reliability, assurance, responsiveness, empathy and Tangibility have a positive relationship with customer satisfaction in e-banking as per the hypothesis tested and agreed. Besidefor the response of question in reliability, assurance, and responsivenessempathy and tangibility leads to increase in customer satisfaction by 14.2%, 8.5%, 13.3%, 17.2% and 7.7% respectively which are significant at 5% level of confidence.
- On the bases of the findings all independent variables have significant effect on Customer satisfaction except tangibility which has sig value 0.224 which is greater than 0.05 level of significance
- In ranking Perspective among the challenges in E-banking the first higher challenge were infrastructural barriers like low level of internet satisfaction, weak telecommunication and frequent power interruption Security and Resistance to change in technology among users were the second and third challenge of electronic banking respectively. Economic factor are the least factor that challenge user from using Electronic banking.

5.2 Conclusion

The study concluded that electronic banking has become a necessary survival weapon and is fundamentally changing the banking industry worldwide. The study has shown that:

- The prevalence of E-payment awareness gap, poor level of financial literacy, lack of education programs and a predominantly cash-heavy society.
- All the service quality attributes adopted from empirical researches are valid attributes of E-banking service quality and that all the five service quality dimensions significantly associate with customer satisfaction. The result have further found that Empathy, Reliability, and Responsiveness can be the better predicator of satisfaction level on electronic banking service delivery due to their higher in correlation coefficient relatively to other Dimensions. On the bases of the findings all independent variables have significant effect on Customer satisfaction except tangibility which has sig value greater than 0.05 level of significance
- The study acknowledged that insecurity, erratic power supplies, as well as difficulty in transacting business electronically were the main challenges associated with electronic Banking. Also Infrastructure (telecommunication and power), lack of centrally followed country initiative in similar manner with other African countries, strong cash habit, technology phobia and lack of trust on it and lack of Merchants' willingness in relation with POS service are external challenge.
- The study brought poor support as well as responsiveness from E-payment, Poor employee awareness in terms of service delivery, maintenance support and marketing, role confusion in IT staff (regarding E-payment cases as less prior), delay in card production and delivery, Lack of a comprehensive performance measurement system that enable increasing the usage rate thereby expanding E-payment products and services are internal challenge of CBE.
- The study again brought that customer choose banking hall(branches) for different reasons some of them are accessibility, security,convenience ,fear in loss of relationship which means most of the customer are strong attachment in using passbook .

5.3 Recommendation

Based onthe findings and conclusion of the study the researcher forwards the following recommendations:

- The banks should work to increase E-payment Service Efficiency and Effectiveness to ensure provision of the promised convenience, reliable, secured, and fast service to the customers. Therefore, establishing a robust payment system, efficient and effective service delivery process, streamlined support and maintenance process and having competent staffs are among the key considerations to increase service availability and reliability as well as satisfaction
- As service quality dimensions reliability, assurance, responsiveness, andempathy has factors that affect customer satisfaction in E-banking; so CBE should give special attention to the dimensions in order to increase their customers' satisfaction level.
- CBE must improve product dependability, convenience, accessibility, responsiveness, security, awareness, simplicity of the applications and devices and on infrastructure related matters, all of which add up to create acceptance of electronic payments.
- Preparing a value proposition of each E-banking service is critical so that the front sales person can properly communicate the values to potential customers in a uniform and standard way across the bank.
- End to end performance should be the guiding principle thus the customer enrolment should target potential customer who shall use E-payment instead of cash.
- Enhance the technical capacity of the staffs who are involved in support process with defining the level required for each process (E-payment, IS, District and branch Staff) based on the assigned role
- CBE E-banking Service requires integrated and collaborative approach with all stakeholders. Various stakeholders must be identified that have a critical role in the development of E-payment in the country. Changing the cash habit of the society requires involvement of various stakeholders. There is also enormous economic expansion going on which increased the size of the government payment in terms of expenditure and revenue that necessitated the need to have an efficient payments system such as E-payment services, which again requires collaborations and engagement with government organs.

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APPENDIX 1

QUESTIONNAIRE FOR CUSTOMERS

MASTERS THESIS

The impact of electronic banking on Customer satisfaction in the case of commercial bank of Ethiopia

By: Abel Sileshi

Department of Financial Service in Addis Ababa University College of business and economics

Advisor:

Dr. YitbarekTakele

QUESTIONNAIRE FOR CUSTOMERS

I am Abel Sileshi, a postgraduate student of college Business and Economics in Addis Ababa University. I am conducting this research as part of preparation for a Master's Degree Program.

Our bank has been chosen as one of several others to be studied. The study is for learning purposes and as such I would appreciate your voluntary cooperation to complete the questionnaire. Your responses will not be disclosed to any person. I do appreciate the least effort you make at enabling me complete my program successfully.

General Instruction

Please use tick mark (√) in the space provided to choose from the options given and answer in writing where appropriate. You don't have to write your name.

Part I: Demographic Information

1. Gender

Male ( ) Female ( )

2. Which age group do you fall under?

18 – 24 years ( ) 25 – 34 years ( ) 35 - 44 years ( )

45-54 years ( ) 55 years plus ( )

3. What is your level of education?

Illiterate ( ) Secondary education ( ) Certificate ( ) Diploma ( ) Degree ( )
Post graduate/Masters ( ) PhDs ( )

4. How long have you been with CBE?

Less than 1 years ( ) 1¬5 years ( ) 6¬10 years ( ) More than 10 years ( )

Part II: Research Question 1: Question's related to why do customers prefer the banking halls to electronic banking?

Respondents level of Agreement on the issue Below: this part is Kindly Require you to Express Your view on the issue being asked Appropriately by ticking (√) on the space that specify your choose from the options that range from 5 strongly agree to 1 Strongly Disagree.

1 Strongly Disagree 2 Disagree 3Neutral 4 Agree 5 Strongly Agree

	Items	Scaling				
		1	2	3	4	5
	Banking hall preference	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Difficulty in electronic Banking Makes you to come to the banking hall					
2	Electronic banking has the advantage of decreasing the longer queue available in the banking hall					
3	Electronic banking is preferable for transaction processing.					
4	Banking in the halls to be convenient than electronic Banking.					
5	Using electronic device for your transaction is cumbersome					
6	Awareness level of the availability of electronic banking is high in Commercial Bank					
7	Using electronic banking avoid to Relationship with banking employees					

Part III: Research Question 2: Is there a relationship between Service quality dimensions and customer satisfaction in using electronic banking in CBE?

Please put right mark (√) in the response that yours feeling resembles about the question Provided

	Items	Scaling				
	Level of Value	1	2	3	4	5
		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	**Have you got a benefit from electronic banking service of commercial bank of Ethiopia**					
2	**High rate of illiteracy affect your beneficiation.**					
3	**I got the service of electronic baking 24 hours per day & 7 day's a weak service**					
4	**Electronic banking can do Everything for me as employee do.**					
5	**Controlling of my bank account has improved after using electronic banking.**					
6	**The level of benefit (satisfaction) I am getting from electronic banking service is higher than ordinary banking service.**					

PART-V Research **Question 2:** Is there a relationship between Service quality dimensions and customer satisfaction in using electronic banking in CBE?

Please put right mark (√) in the response that yours feeling resembles about the question provided

	Statement/Questions	Very dissatisfied	Dissatisfied	Indifferent	Satisfied	Very satisfied
		1	2	3	4	5
1	**Reliability**					
1.1	**The bank insists on error free records**					
2	**Assurance**					
2.1	**The bank electronic service assert confidence in me to get the service at any time I want**					
3	**Responsiveness**					
3.1	**The bank is always willing to assist you in operating electronic banking system**					
4	**Empathy**					
4.1	**The bank has my best interest at heart**					
5	**Tangibility**					
5.1	**Materials Associated with electronic banking service is visually appealing**					

1. Generally how happy are you in the E-banking Service of commercial bank of Ethiopia
    1. Very poor
    2. Poor
    3. Neutral
    4. Good
    5. Very good

PART-VIResearch Question 3: To what extent Service quality dimensions affects customer satisfaction in using electronic banking in CBE?

Please put right mark (√) in the response that yours feeling resembles about the questionprovided.

	Items	Scaling				
	Service quality dimensions	1	2	3	4	5
		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	**Reliability**					
1.1	The bank provides its electronic based service at the time it promised to do so.					
1.2	When I have a problem the bank Shows sincere internet in solve it					
1.3	I can't trust Electronic banking Service of Commercial bank of Ethiopia					
2	**Assurance**					
2.1	I feel secured & safe in my transaction which is done by Electronic Banking					
2.2	Banks staffs have the knowledge to answer my question about ATM, POS, and Mobile & Internet banking service.					

3	**Responsive**					
3.1	Banks Staff tell you exactly when the service will be performed					
3.2	**Bank employees are never too busy to respond to my electronic banking Centered request.**					
4	**Empathy**					
4.1	**The bank provides me individual attention regarding E-banking service**					
4.2	**The bank has convenient operating hours regarding electron banking services to me**					
4.3	**Employee in the bank always willing to help you.**					
5	**Tangibles**					
5.1	**The bank has modern looking equipment and tools**					
5.2	**The banks physical features are visually nice.**					
5.3	**Materials associated with the service are visually appealing.**					

PART-VII Research Question 4: What are challenges that Commercial Bank of Ethiopia (CBE) facing in establishing and running E-payment to its customers

Please put right mark (√) in the response that yours feeling resembles about the question provided

	Items	Scaling				
	Challenge on electronic banking	1	2	3	4	5
		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Security is problem in electronic banking.					
2	Banking electronically provide security for transaction data & privacy					
3	Economic factor such as high cost of internet, low incomes are challenge in E-banking.					
4	Infrastructural barriers like low level internet Penetration, weak telecommunication & frequent power interruption are challenge.					
5	Management & bank issue like resistance to change in technology among staffs & customer & Electronic banking possess risk.					

APPENDIX 2

QUESTIONNAIRE FOR E-PAYEMENT STAFF

MASTERS THESIS

The impact of electronic banking on Customer satisfaction in the case of commercial bank of Ethiopia

By: Abel Sileshi

Department of Financial Service in Addis Ababa University College of business and economics

Advisor:

Dr. YitbarekTakele

QUESTIONNAIRE FOR INTERNAL STAFF

I am Abel Sileshi, a postgraduate student of the College Business and Economics in Addis Ababa University. I am conducting this research as part of preparation for a Master's Degree Program.

Our bank has been chosen as one of several others to be studied. The study is for learning purposes and as such I would appreciate your voluntary cooperation to complete the questionnaire. Your responses will not be disclosed to any person. I do appreciate the least effort you make at enabling me complete my program successfully

General Instruction

Please use tick mark (√) in the space provided to choose from the options given and answer in writing where appropriate. You don't have to write your name.

Part I: Demographic Information

1. Gender

Male ( ) Female ( )

2. Which age group do you fall under?

18 – 24 years ( ) 25 – 34 years ( ) 35 - 44 years ( )

45-54 years ( ) 55 years plus ( )

3. What is your level of education?

Illiterate ( ) Secondary education ( ) Certificate ( ) Diploma ( ) Degree ( )
Post graduate/Masters ( ) PhDs ( )

4. How long have you been Working in CBE?

Less than 1 years ( ) 1¬5 years ( ) 6¬10 years ( ) More than 10 years ( )

Part II: Research Question 1: Question's related to why do customers prefer the banking branch to electronic banking?

Respondents level of Agreement on the issue Below: this part is Kindly Require you to Express Your view on the issue being asked Appropriately by ticking (√) on the space that specify your choose from the options that range from 5 strongly agree to 1 Strongly Disagree.

1 Strongly Disagree 2 Disagree 3Neutral 4 Agree 5 Strongly Agree

Items		Scaling				
	Customer preference	**1**	**2**	**3**	**4**	**5**
		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	**Customers prefer to transact their business at the branch than electronic banking service.**					
2	**Using electronic banking avoid Relationship with bank employee.**					
3	**Awareness levels of customer in Electronic banking are high in CBE.**					
4	**To transact using Electronic banking in CBE is cumbersome**					
5	**Security issue influence customers to prefer banking halls**					

Part III: Research Question 4: What are challenges that Commercial Bank of Ethiopia (CBE) facing in establishing and running E-payment to its customers

Please put right mark (√) in the response that yours feeling resembles about the question provided

Items		Scaling				
Challenge in E-payment		1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1	E-banking has startup cost					
2	Using-banking has high operational or transactional cost					
3	E-banking is prone to security breaches					
4	Ignorance on the part of customer is a challenge associated with E-banking					

APPENDIX 3

INTERVIEW QUESTIONS

Interview Question's related to Research Question 1, related to why do customers prefer the banking branch to electronic banking?

Q1How well the products and services currently provided by the bank are run. Mainly, it aimed to identify core issues surrounding electronic payments such as acceptance, awareness, dependability, security, accessibility, and convenience With respect to ATM, Mobile Banking, Internet banking and Point of sale (POS).

Interview Question's related to Research Question 4 Question's related challenge of electronic banking

Q2: What are challenges that Commercial Bank of Ethiopia facing in establishing and running E-payment to its customers.