**SCHOOL OF GRADUATE STUDIES**

**ASSESSMENT OF ELECTRONIC PAYMENT SYSTEM PERFORMANCE AND ITS EFFECT ON CUSTOMER SATISFACTION (THE CASE OF COMMERCIAL BANK OF ETHIOPIA)**

**BY**

**MESFIN TESHOME**

**June, 2019**

**Addis Ababa Ethiopia**

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**A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY,**

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**June, 2019**

**Addis Ababa Ethiopia**

## DECLARATION

I hereby declare this thesis titled has been done by me and it is a record of my own research work. No part of this work has been presented in any previous application for another degree or diploma at any institution. All borrowed ideas have been properly acknowledged in the text and lists of references are provided.



Mesfin Teshome                                              June, 2019


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## ENDORSEMENT

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


<u>Yibeltal   Nigusse (Ass.Pro)</u>                                    _____

             Advisor                                                                      Signature

                                                      June, 2019

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# ACRONYMS

ATM   Automatic teller machine

MB      Mobile banking

IB       Internet banking

CBE   Commercial bank of Ethiopia

POS    Point of Sale

EPS     Electronic payment system

E-banking   Electronic Banking

CS       Customer satisfaction

SPSS   Statistical Package for the Social Sciences

# *Abstract*

*Commercial bank of Ethiopia is one of the significant contributors to the economic growth and development of Ethiopia. This research work intends to investigate the effect of E-payment system variables on customer satisfaction in Commercial Bank of Ethiopia. In addition the research investigates major challenges encountered by the bank in delivering the service that may reduce the level of customer satisfaction in using the technology. Based on literature four quality dimensions (automatic teller machine, mobile banking, internet banking, and CBE birr) have been selected as forecasters of customer satisfaction in E-payment. The study adopted quantitative and qualitative research approach. Data were gathered through already tested questionnaire from 399 CBE E-payment users in Addis Ababa. The samples were selected from five special branches by purposive sampling technique. The data was gathered through 5-point likert scale and analyzed with the help Statistical Package for Social Science (SPSS) version 25. To test the relation between e payment satisfaction and the selected variables, descriptive statistics and regression analysis was used. The result shows that the product of e payment (automatic teller machine, mobile banking, internet banking, and CBE birr) have strong relationship on e payment customer satisfaction in CBE. More over the finding reveals customer satisfaction in using e payment has a relation with age and educational level. The major challenges that the bank faced in providing the service are; service broken due to internet connectivity and electric power problem, lack of Information and Communication infrastructures and lack of customer awareness in using the technology. Therefore CBE need to satisfy these dimensions (automatic teller machine, mobile banking, internet banking, and CBE birr) by all means in order to achieve customer satisfaction in e payment. In order to sustain customer satisfaction, CBE should work with concerned government bodies (Ethio-telecom & Electric power corporations). In addition to government support the bank should strive along with all banks in Ethiopia with the help of Bankers association so as to have dedicated infrastructure to financial institutions in the country.*

***Key words: Customer satisfaction, Electronic payment system, Performance***

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1    Background of the Study

Advancement in information and communication technology (ICT) is presenting various opportunities for banking industry all over the world. Banks, now a day, are able to provide services and exchange instructions instantaneously for several customers at lower cost and with less time through Electronic Payment System (EPS). According to Qatawneh (1996), "electronic payment system refers to any payment transactions conducted electronically; it usually refers only to online payment".

The process of electronic payment system (EPS) is represented in the implementation of electronic procedures, such as: the transfer of funds between banks and customers, citizen payments to the state such as fines, the bills of basic services such as water, electricity, telephone and other services, Payment for purchasing through the internet in exchange for goods or services. Today the e-commerce becomes an important issue in the business sector. According to Rowley (2000), the development of E-commerce applications can be viewed as undergoing four stages of evolution contact, interact, transact and community, So "It's no E-commerce, if you can't get paid!" (Kannen, 2003).

Electronic payment system (EPS) refers to any payment transactions conducted electronically; it usually refers only to online payment. It increases transaction speed, improves merchants' liquidity, and enhances buyers' online shopping satisfaction. E-payment also reduces transport costs, robbery, and counterfeiting of fiat cash (Panurach, 1996).

Electronic banking has become an important arena of competition in banking industry that determines the future competitiveness of the bank in attracting more and more customers and familiarizing them with the latest developments in the banking sphere. In countries like Ethiopia, which are characterized by limited access to modern banking and poor utilization of IT, lack of knowledge and awareness on EPS resulting in low customers confidence and trust in EPS is hindering the growth of e-banking. So far, Studies conducted on the role of electronic payment system and their satisfaction of customers. The earliest example of such studies is the one

conducted by Chellappa and Palou (2002) which found that "perceived security should be influenced by implicitly perceptible measures that consumers encounter in the process of conducting electronic commerce (EC) transactions".

Every bank these days is considering the adoption of information technology equipment's as a means to improve the performance, service quality and efficiency in delivering the services. E-banking refers to the system that enables the banks to offer their customers access to their accounts, transact business and obtain information via electronic communication channels; these channels can be Automated Teller Machines (ATMs), tele-banking, internet banking and point of sale (Turban, 1999). Traditional banking methods (e.g. back office processes such as paper filling, paper work processing, sorting cheques and cash handling ) from both banks and customers perspective, has become most costly. Regular requests from customers for bill payment (for telephone, mobile, electricity, insurance and credit card bills), cash withdrawals, loan applications, cheque clearings, money transfer were huge tasks for traditional banks, thus there was a clear need to adopt information technology equipment's to automate back office work (Turban, 1999).

Ethiopia does not embrace electronic banking early compared to other countries. Certainly the banking industry in Ethiopia is under developing and the introduction of electronic banking also too late in the country. The history of E banking in Ethiopia is traced back with the introduction of ATM in the country. Undeniably the largest state-owned bank, commercial bank of Ethiopia introduced ATM service for local users in 2001E.C with eight ATMs located in Addis Ababa. Following CBE Dashen bank also introduces ATM to its customer and move aggressively in expanding the service (Getachew, 2009). According to the banks' report as of October 2018 the bank has more than 19 million customers and out of these 2'239'000 customers have mobile, CBE birr and internet banking access and 3.6 million are ATM users. This number indicates that CBE have large number of E-payment users. Despite CBE is pioneer in introducing E banking in the country, the proportion of E banking users to its total customer remain unsatisfactory. The researcher tried to investigate the effect of e payment performance on customer satisfaction.

## 1.2 Statement of the problem

The introduction of Electronic Payment System has contributed a lot in the growth of e-commerce and e-banking. In many parts of the world, particularly those that include the high-income countries, majority of bank customers regularly use ATMs. However, ATM is a recent phenomenon in low-income countries like Ethiopia (Ayana, 2014), and is still being introduced in financial sectors in low-income countries. The adoption and use of EPS is influenced by objective factors like existing security and protection systems and subjectively felt perceptions of trust and security among customers. Discussing the factors that affect adoption and use of EPS by customers, (Qatawneh, 2015) identified four factors: trust, security, self-efficacy and ease of use. Chellappa and Pavlou (2002) argued that "the implicit comfort of the traditional face-to-face communication present in physical interactions between customers and e-banking service providers is one of the factors.

Adopting the security survey framework proposed by Linck et al. (2006), they tested a research model of consumers' EPS use which is influenced by both consumers' perceptions of security and trust. Their findings show that consumers' perceived security is positively related to consumers' perceived trust and EPS use and, consumers' perceived trust has a positive impact on EPS use. They also indicated that the results are consistent with the findings of the previous research on the issue. These previous studies were conducted through administering a five-point likert scale questions containing five alternative responses for questions about their attitude towards trust worthiness of various security mechanisms installed in EPS systems of the banks under study. Some other researchers were also conducted on E banking but their main focus was related with the adoption of the E banking (like, challenges and opportunities in adoption and development of Electronic Banking in Ethiopian banking industry in the case of selected private banks, opportunities and challenges in the adoption of E banking service, assessment in challenges and prospects of E banking and Mintesnot (2018) conducted his study on assessment of customers' trust and awareness on the electronic payment system. All these studies mainly focused of the adoption of E banking particularly on the challenges and opportunities in the adoption. Therefore as very few researches made on the title, the present study focused on effect of E payment system performance on customer satisfaction in the case of CBE. The attitude of customers towards new technology is critical to the success of e business operations. Therefore,

the purpose of this research is to assess electronic payment systems performance and its effect on customer satisfaction.

## 1.3 Objective

### 1.3.1 The General Objective

The objective of this research is to assess customers' satisfaction on the electronic payment system (EPS) being implemented in Commercial Bank of Ethiopia.

### 1.3.2- Specific Objectives

This study has the following specific objectives derived from the general objective.

- ❖ Examine the effect of automatic teller machine on customer satisfaction.
- ❖ To assess mobile banking facilities on customer satisfaction.
- ❖ To examine the effect of internet banking on customer satisfaction.
- ❖ Examine the service of CBE birr on customer satisfaction.

## 1.4 Research Questions

The following research questions were developed in order to guide the study:

i.     How does automatic teller machine affect customer's satisfaction?
ii.    How does mobile banking increase the facility of the customer's satisfaction?
iii.   How does the internet banking improve the customer's satisfaction?
iv.    How does CBE birr increase the service delivery of the customer's satisfaction?

## 1.5 Scope and Limitations

The study focused on Commercial Bank of Ethiopia about the effect of e payment performance on customer satisfaction particularly at Addis Ababa city. Addis Ababa city was selected since it is the capital city of the country it has a heterogeneous population, which ensures a wide spread of potential users of the product to the study. More over the study targeted on those customers who are using any of E banking products because customers may deliver real facts of their feelings about e banking than employees. The limitation of the study relates to the sampling

procedure i.e. purposive sampling, which limits the generalizability of the research findings. Finally, there are many other factors which can influence customer satisfaction in using e banking that do not included in this study. Future research is, therefore, recommended to address the above stated limitations.

## 1.6 Significance of the study

The findings of this research can inform Banks and EPS system retailers to frame their intervention to build customer trust in electronic payment system. This will in turn help in the process of adopting various e-banking systems in both government and private banks in Ethiopia. The findings can also add on the body of knowledge built on the factors that affect customer's perception of trust and security and their use of EPS. The research can help in initiating further inquiry in the area.

## 1.7 Organization of the Study

This research is organized in five chapters. The first chapter tells about the introduction part of the paper. The second chapter gives review various related literatures. Chapter three gives details of the research methodology involved in the research. Chapter four is about the data analysis and interpretations that leads to discussion of results. The final chapter would give a summary, a conclusion and recommendation regarding the findings.

<h1>CHAPTER TWO</h1>

<h1>LITRATURE REVIEW</h1>

## 2.1 Introduction

This chapter presents a review of previous studies related to the present study. Potential theories that state about different factors which are believed to affect customer satisfaction in using e banking are also discussed. Section 2.1 is about introduction of the chapter and 2.2 a brief history of the internet 2.3. the history of e- banking in Ethiopia 2.4 theoretical review 2.5 importance of e-banking section 2.6 service quality 2.7 customer satisfaction 2.8 availability and reliability 2.9 performance and performance management and 2.10 conceptual frame work.

## 2.2 A Brief History of the Internet

In 1969 the Internet was just a demonstration project linking up four university campuses in the US but by the end of 2004 there were in excess of 934 million users across the world, according to the Computer Industry Almanac. This figure is predicted to grow to 1.35 billion users by 2008. The latest statistics of Internet growth can be found at the Clickz Network (see www.clickz.com). In addition to these fixed hosts that link individual desktop computers to the Internet, there will be mobile hosts linking up mobile phones using wireless technology (Lisa Harris and Charles Dennis, 2008).

## 2.3 The History of E-banking in Ethiopia

### Banking in Ethiopia

The history of modern banking in Ethiopia goes back to 1900 when an agreement was reached in 1905 between Emperor Minilik II and Mr. MaGillivray, representative of the British owned National Bank of Egypt. The agreement led to the establishment of the Bank of Abyssinia which was to be controlled by the bank of Egypt. Latter, in 1931, this bank is replaced by the Bank of Ethiopia which lasted until the 1936 Italian occupation as a bank of issue. During their occupation, the Italians introduced bank notes of the bank of Italy which formed the legal tender

until their withdrawal. The State Bank of Ethiopia was established in 1943 with two departments: the national bank and commercial bank which were later separated in 1963 forming the National Bank of Ethiopia (the central and issuing bank) and the Commercial Bank of Ethiopia (Bhaskar and Tewdros (2011), Ayana (2014)).

**The History of EPS in Ethiopia**

Electronic payment has now become the main area of competition in the world of banking industry. Ever continuing advancement in information and communication technology is feeding in this intense competition among financial and business institutions struggling to ensure their existence and effectiveness in the banking market by providing modern and quality services to their customers. The case in Ethiopia is, however, one that, seen in light of its banking history which started in 1905 (Bhaskar and Tewdros (2011), Ayana (2014)) and its population size i.e. around 99.3 million, the process of adoption and expansion of E-banking is slow and even staggering in the face of ever increasing sophistication of security threats and poor and limited provision of internet and telecommunication infrastructure.

In general, the history of e-banking can be traced at least to the early 1970s when computerization of financial institutions gained momentum though its presence began to gain recognition by customers only after 1980 with the introduction of ATM (Ayana, 2014). Since then numerous innovations were introduced. EPS is introduced into Ethiopia in 2001 for the first time by commercial bank of Ethiopia (CBE) (FyeryAbrehe, 2015). Initially, it started its experience with the new banking technology by establishing ATM payment locations in Addis Ababa (the capital city). By the year 2005, it had eight ATM locations, and also, it got a visa membership.

## 2.4 Theoretical review

### 2.4.1 Definition of Electronic Payment Systems

Electronic payment systems have evolved from traditional payment systems, and consequently the two types of systems have much in common. Electronic payment systems are much more powerful, however, especially because of the advanced security techniques that have no analogs in traditional payment systems. An electronic payment system in general denotes any kind of

network (e.g., Internet) service that includes the exchange of money for goods or services. The goods can be physical goods, such as books or CDs, or electronic goods, such as electronic documents, images, or music [1]. Similarly, there are "traditional" services, such as hotel or flight booking, as well as electronic services, such as financial market analyses in electronic form (Vasna Hassler, 2002).

Electronic payment systems are not a new idea. "Electronic money" has been used between banks in the form of funds transfer since 1960. For nearly as long, customers have been able to withdraw money from ATMs (automatic teller machines) (Vasna Hassler, 2002).

In its very basic form, e-banking can mean the provision of information about a bank and its services via a home page on the World Wide Web (WWW). More sophisticated e-banking services provide customer access to accounts, the ability to move their money between different accounts, and making payments or applying for loans via e-Channels. The term e-banking will be used in this book to describe the latter type of provision of services by an organization to its customers. Such customers may be either an individual or another business (Mahmood Shah and Steve Clarke, 2009).

Electronic banking can also defined as the application of computer technology to banking especially the payment (deposit transfer) aspects of banking with the help of telecommunication network which permits online processing of the same day credit and debit transfers of funds between member institutions of a clearing system (Anyawaokoro, M.1999). Electronic banking is a system by which transactions are settled electronically with the use of electronic gadgets such as ATMs, POS terminals, phones, and Visa cards handled by e-holders, bank customers, and stake holders (Edet, O. 2008).

According to Daniel, (1999), e-banking is the provision of information about a bank and its services via a home page on the World Wide Web (WWW).More sophisticated e-banking services provide customer access to accounts, the ability to move their money between different accounts, and making payments or applying for loans via e-Channels.

E-banking, a term used for new age banking system, represents an automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. It is a service that provides customers the opportunity to

gain access to their accounts, execute transactions, and obtain information on financial products and services through a public or private network, including the Internet. (Driga and Isac, 2014).

## 2.4.2 Types of e banking

The most important electronic channels in e-banking are the internet banking, mobile banking, Automatic Teller Machines (ATMs), Point of Sales (POS) and CBE birr.

### 2.4.2.1 Internet banking

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

### 2.4.2.2 Mobile banking

Mobile banking refers to the provision and use of banking and financial services with the help of mobile telecommunication devices. The scope of the services may include transactions to do banking or personal investments, administer accounts, and access customized information (Bernardo Nicoletti, 2014).

### 2.4.2.3 Automatic Teller Machines (ATMs)

It is an electronic terminal which gives consumers the opportunity to get banking service at almost any time. To withdraw cash, make deposits or transfer funds between accounts, a consumer needs an ATM card and a personal identification number (PIN).The official meaning of ATM as provided by the commercial Bank of Ethiopia (CBE) is that "it is unattended acceptance terminal that has electronic capability, accepts PINs, and disburses money, and may provide balance information, fund transfers between accounts and other services (CBE, 2012)."

### 2.4.2.4 Point of Sales (POS)

The system allows consumers to pay for retail purchase with a check card, a new name for debit card. This card looks like a credit card but with a significant difference. The money for the purchase is transferred immediately from account of debit card holder to the store's account.

**2.4.2.5 CBE birr**

CBE Birr is a mobile based banking whereby the bank selects, trains and authorizes agents to provide banking services on behalf of the bank through a mobile phone. It is deployed as a means of extending financial services to the unbanked segment of the public. Customers may no longer need to travel long distances to visit CBE branch as they can get the service from the nearest CBE agents through CBE Birr. A CBE Birr customer can deposit, withdraw, transfer money, make payments, buy mobile airtime and pay bill using a mobile phone in a very simple and convenient way. In order to get access to CBE Birr services, a customer needs to go to the nearby authorized agent with her/his mobile number and valid ID (Website: www.combanketh.et).

## 2.5 Importance of e banking

Understanding e-banking is important for several stakeholders, not least of which is management of banking related organizations, since it helps them to derive benefits from it. The Internet as a channel for services delivery is fundamentally different from other channels such as branch networks, telephone banking or Automated Teller Machines (ATMs). Therefore, it brings up unique types of challenges and requires innovative solutions (Mehamood Shah and Steve Clarke, 2009).

Many banks and other organizations have already implemented or are planning to implement e-banking because of the numerous potential benefits associated with it. Some of these major benefits are briefly described below.

❖ **Choice and convenience for customers**

This is the single most important benefits that outweigh any shortcoming of e- banking. Making transactions and payments right from the comfort of home or office at the click of a button without even having to step out is a facility none would like to forego. Keeping a track of accounts through the internet is much faster and convenient as compared to going to the bank for the same. Even non transactional facilities like ordering check books online, updating accounts, enquiring about interest rates of various financial products etc become much simpler on the internet. (Joseph, 2005)

❖ **Attracting high value customers**

E-banking often attracts high profit customers with higher than average income and education levels, which helps to increase the size of revenue streams. For a retail bank, e-banking customers are therefore of particular interest, and such customers are likely to have a higher demand for banking products. Most of them are using online channels regularly for a variety of purposes, and for some there is no need for regular personal contacts with the bank's branch network, which is an expensive channel for banks to run (Berger & Gensler, 2007).

Some research suggests that adding the Internet delivery channel to an existing portfolio of service delivery channels results in nontrivial increases in bank profit-ability (Young, 2007). These extra revenues mainly come from increases in non-interest income from service charges on deposit/current accounts. These customers also tend to be of high income earners with greater profit potential.

❖ **Enhanced Image**

E-banking helps to enhance the image of the organization as a customer focused innovative organization. This was especially true in early days when only the most innovative organizations were implementing this channel. Despite its common availability today, an attractive banking website with a large portfolio of innovative products still enhances a bank's image. This image also helps in becoming effective at e-marketing and attracting young/professional customer base (Shah and Clarke, 2009).

❖ **Increased revenues**

Increased revenues as a result of offering e-channels are often reported, because of possible increases in the number of customers, retention of existing customers, and cross selling opportunities. Whether these revenues are enough for reasonable return on investment (ROI) from these channels is an ongoing debate. It has also allowed banks to diversify their value creation activities. E-banking has changed the traditional retail banking business model in many ways, for example by making it possible for banks to allow the production and delivery of financial services to be separated into different businesses. This means that banks can sell and

manage services offered by other banks (often foreign banks) to increase their revenues. This is an especially attractive possibility for smaller banks with a limited product range.

E-banking has also resulted in increased credit card lending as it is a sort of transactional loan that is most easily deliverable over the Internet. Electronic bill payment is also on rapid rise (Young, 2007) which suggests that electronic bill payment and other related capabilities of e-banking have a real impact on retail banking practices and rapidly expanded revenue streams.

❖ **Cost reduction**

The main economic argument of e-banking so far has been reduction of overhead costs of other channels such as branches, which require expensive buildings and a staff presence. It also seems that the cost per transaction of e-banking often falls more rapidly than that of traditional banks once a critical mass of customers is achieved (Mehamood Shah and Steve Clarke, 2009).

❖ **Organizational Efficiency**

To implement e-banking, organizations often have to re-engineer their business processes, integrate systems and promote agile working practices. These steps, which are often pushed to the top of the agenda by the desire to achieve e-banking, often result in greater efficiency and agility in organizations. However, radical organizational changes are also often linked to risks such as low employee morale, or the collapse of traditional services or the customer base.

Electronic commerce makes possible the implementation of existing business practices via enabling digital technologies. Such technologies ease interaction between organizations and the individual by overcoming traditional problems (e.g., paper based, voice) associated to the geographic distribution of participants involved in a business process. The proliferation of the Internet has contributed to the ability of an enterprise to provide their services to a much larger audience than ever envisaged before the existence of widely available public access networks. Furthermore, the properties of electronic communication (e.g., speed, automation) have brought about business processes that would not be possible using non-digital technologies (Audrey Gilmore, 2003).

❖ **Transferring Funds**

The capability of transferring funds from one account to another is simple; when you can do it online, you will feel the power in your click. The bank site will allow you to transfer funds between your accounts. It's important to know, however, whether the transfer is made in real-time. Some banks, such as Citi Bank (www.citibank.com), for example, will let you move money from your checking account to your savings account, and the bank's system will record that transaction instantly. Other banks will let you see that you have moved the funds, but the transaction won't be official until later that day or into the next morning (Mary Dixon and Brian Nixon, 2000).

In general, E banking provides many advantages for banks and customer's .e-banking has made life much easier and banking much faster for both customers and banks.

Main advantages are as follows.

- It saves time spent in banks
- It provides ways for international banking.
- It provides banking throughout the year 24/7 days from any place have internet access.
- It provides well-organized cash management for internet optimization
- It provides convenience in terms of capital, labour, time all the resources needed to make a transaction.
- Taking advantage of integrated banking services, banks may compete in new markets can get new customers and grow their market share.
- It provides some security and privacy to customers, by using state-of-the-art encryption and security technologies.

## 2.6 Service quality

Quality means "innate excellence" according to the common view and is viewed as "a precise and measurable variable" in a product based approach. In this approach differences in quality mean differences in the quantity of some ingredient or attribute. So higher quality can only be obtained at higher cost. But on the other hand, quality is compared with the satisfaction in a user-

based approach and in this approach the highest quality means the best satisfaction of consumers" preferences. In a manufacturing-based approach, quality is defined as "making it right the first time". This approach is supply based and concerned with engineering and manufacturing issues. Quality is defined in terms of cost and price in a value based approach (Yarimoglu, 2014).

The idea of service quality consists of comparisons customers make between their expectations and the perception of the service offered. The importance of the quality of the product and/or service lies in the fact that customers who perceive unsatisfied quality tend to change their buying habits (Wu et. al., 2014).

Service quality has been becoming the most powerful weapon of competition. Quality is a multidimensional fact. Therefore, obtaining the service quality without differentiating the important parts of quality is impossible. According to a common definition, service quality is defined as the total attributes of a service which gives it the ability to satisfy customers' demands (Kotler and Keller, 2006).


## 2.7 Customer satisfaction

Customer satisfaction is very important when developing a customer loyalty program. Satisfaction is a measure of how well a customer's expectations are met while customer loyalty is a measure of how likely a customer is to repurchase and engage in relationship activities. Loyalty is very weak and could easily be broken because even if customers are well satisfied with the service they will likely visit other service providers if they sense they can get better value, convenience or quality services. Knowledge of business, academic, and the consulting community is that customer satisfaction is a very important element and a backbone of total quality, and that, if it is met, the customer will remain loyal (Lowenstein, 1995).

Customer satisfaction is not a perfect indicator of customer loyalty. However, satisfaction is very important but not enough to promote customer loyalty. A customer may be very satisfied with the services of a particular shop, but will not necessarily visit that shop again. Other elements which may have impact on the customer's choice include price, location and convenience (McIlroy & Barnett, 2000).

Wilson (2002) argues that customer satisfaction is ambiguous and complex in nature, and it often consists of various components that are measured with different methods under different conditions. Based on intensive research through time, two types of customer satisfaction definitions have emerged. The first type defines customer satisfaction as an outcome of a buying experience (Westbrook and Reilly, 1983). The second type of definition defines customer satisfaction as a benchmark between the real purchase and the purchase expectations of the customer (Hunt, 1977).

Customer satisfaction is the outcome of his or her needs and expectations which influence the interaction with service providers and other customers. The quality of this interaction impacts customer decisions to repurchase the service, his retention and the intention of the customer to recommend to other potential customers and finally to pass on useful information about the service quality and delivery. Customer satisfaction is related to different ways of interacting with the environment. A positive recommendation is a social interaction, which is positively related to customer retention, reduces transaction costs and increases long-term profitability (Jamieson, 1994, Mackey, 2005).

## 2.8 Availability and Reliability

Apart from needing to be secure, an electronic payment system must be available and reliable. It must be available all the time, seven days a week, 24 hours a day. It must also have some protection against denial-of-service attacks, or at least be able to detect them early and start recovery procedures. To ensure reliability, payment transactions must be atomic. This means they occur either entirely (i.e., completely successfully) or not at all, but they never hang in an unknown or inconsistent state (Vasna Hassler, 2002).

Accessibility refers to the approachability, availability and ease of contact with the service company. It will include the ease with which the service company may be reached by telephone or e-mail, the waiting time to receive or experience the service, the opening hours or hours of operation and the location of the service (Audrey Gilmore, 2003).

Reliability entails the consistency of service performance and dependability. It includes the requirement of a firm to perform the service right first time (often referred to as having 'zero

defects') and to live up to its promises to customers. For example, it will include providing accurate bills and performing the service at the designated time (Audrey Gilmore, 2003).

## 2.9 Performance and Performance management

Performance means both behaviors and results. Behaviors emanate from the performer and transform performance from abstraction to action. Not just the instruments for results, behaviors are also outcomes in their own right the product of mental and physical effort applied to tasks and can be judged apart from results (Michael Armstrong, (2000).

Performance management is sometimes confused with human resources and personnel systems, but it is much more encompassing. PM comprises the methodologies, metrics, processes, software tools, and systems that manage the performance of an organization. Performance management is overarching, from the C-level executives cascading down through the organization and its processes. To sum up its benefit, it enhances broad cross-functional involvement in decision making and calculated risk taking by providing tremendously greater visibility with accurate, reliable, and relevant information all aimed at executing an organization's strategy. But why is supporting strategy so key? Being operationally good is not enough. In the long run, good organizational effectiveness will never trump a mediocre or poor strategy (John Wiley & Sons, Inc, 2004)

Performance management is strategic in the sense that it is concerned with the broader issues facing a business if that business is to function effectively in its environment, and with the general direction in which the business intends to go to achieve its longer-term goals. Performance management is integrated in two senses: (1) vertical integration, linking or aligning business, team and individual objectives with core competences; and (2) horizontal integration, linking different aspects of human resource management, especially organizational development, human resource development, and reward, so as to achieve a coherent approach to the management and development of people (Michael Armstrong, (2000).

## 2.10 Empirical Literature

A lot of related studies were conducted by different researchers in different countries. Nevertheless, there are limited numbers of studies were conducted in Ethiopia on the e banking

customer satisfaction. Some of the study includes Sintayehu (2015) conducted his research on the title Impact of E-Banking on customer satisfaction in Ethiopia. The sample of the study was from three banks namely CBE, Dashen and Wogagen bank. The study adopt explanatory research (to explain relation between variables) and descriptive to describe the characteristics of sample. The population of the study was 954,000(active E banking users) from this 300 taken as samples which is 100 from each banks. The study found education level and age have statistically significant relation with customer satisfaction in E-banking. In addition reliability, efficiency and ease of use have great contribution for the improvement of e banking satisfaction in Ethiopia. In addition Milion (2013) conducted a research on the Impact of Electronic Banking on Customers" Satisfaction in two private banks in Goder city. The researcher employed both descriptive and inferential statistics in analyzing the data. The results of the study implied that majority of users of e-banking are the young, the educated, salaried and students but business men and women are not actively using the service. The finding also shows e-banking has impact in improving customer satisfaction by reducing waiting time for customers to get bank service and enable them to control their account movements.

The study of Abebe (2016) aimed at identifying opportunities and challenges in the adoption and enhancement of E banking services in Dashen bank. The researcher used both quantitative and qualitative data thus mixed approach has been applied. Further the data were analyzed by using both descriptive and linear regression analysis model with the help of SPSS. The finding of the study reveals that the existing man powers combinations and their positive perception towards usefulness and ease of use in the adoption of E banking services are opportunities at the hands of the bank. On the other hand security risks, technical, managerial and implementation skills of E-banking, public awareness, ICT infrastructures and low internet access is major challenges in the adoption of E-banking services in Dashen Bank.

## 2.11 Conceptual frame work

Based on the above model and its dimension a frame work is developed for present study, to develop the relationship between electronic payment system performance and customer satisfaction in banking.
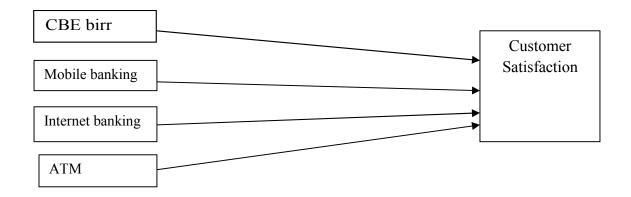
**Figure 2.1 Conceptual Framework**

Source: Researcher own construction, (2019)

# CHAPTER THREE

# 3 RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter was discussed the research methodology that have been applied in this study. It explains the research design that was adopted in this study. Various methodological issues were also discussed including: research design and approach, population and sampling techniques, source of data and collection techniques and data analysis method that have been used to conduct the study.

## 3.2 Research approach and design

Bothe qualitative and quantitative approaches had used for the survey. The researcher was used the two approaches in order to get a holistic view of the topic under study. Research design refers to the arrangement of collecting and analyzing data in manner that aims to combine relevance to the research purpose with the economy in the procedure (Babbie, 2007). The purpose of this study was particularly intended to assess the effects of electronic payment system performance on customer satisfaction in commercial bank of Ethiopia. For this objective explanatory survey design was adopted. Because of the setting nature of the study is to examine the e payment system dimension that have effect on customer satisfaction, it fits into explanatory design. According to Robson (2002), Explanatory research aims at gaining an explanation of a specific situation or problem, generally in the form of causal relationships. Therefore the researcher believes it is appropriate to adopt research design that often uses explanatory approach.

## 3.3 Target population and sample size

Accordingly the first quarter 2018/2019 reports commercial bank of Ethiopia has 1340 branches and 19 million customers. From the total customers in Addis Ababa 1,225,188 were ATM users, 588,674 MB users, 22,356 internet banking users and 186,052 CBE birr users. The total electronic payment customers of the company were 1,922,270 in the city.

The sample size of 399 is determined from those who have been using electronic payment system. The sample size is calculated by using formula provided by Yamane (1967).

The formula is n= N/1+ N $(e)^2$

Where, n is number of sample size

N= total number of study population

e= level of confidence in this case 95%

$n = 289937/1 + 289937(0.05)^2$

$= 289937/1 + 724.8425$

$= 289937/725.8425$

= 399 individuals

Based on the calculated sample size the researcher assigns the number of respondents for each branch proportionally. Accordingly the table below shows the number of respondents for each selected branches.

| s/n | Number of selected special branches | E payment users | Sample size |
|-----|-------------------------------------|-----------------|-------------|
| 1 | Addis Ababa branch | 61583 | 99 |
| 2 | AratKillo branch | 75967 | 124 |
| 3 | Finfine branch | 56585 | 60 |
| 4 | Silasse branch | 47288 | 72 |
| 5 | Senga tera branch | 48514 | 44 |
| | Total | 289937 | 399 |

Table 3.1 Sample size of the data

## 3.4 Sampling techniques

Purposive sampling is a strategy in which particular settings persons or events are selected deliberately in order to provide important information that cannot be obtained from other choices (Maxwell, 1996). It is where the researcher includes cases or participants in the sample because they believe that they warrant inclusion. This study is going to be conducted on Commercial Bank of Ethiopia (CBE) customers at Addis Ababa city. The participants of the study were drawn from customers of five special branches. It is assumed that the behavior of customers doesn't differ across different branches since all branches of the commercial Bank of Ethiopia are networked and functionally integrated by the same EPS and the researcher drawn through

purposive sampling method. The special branches were selected based on the e payment system performance that the special branches offer all e payment product service better than other branches and in these branches there are senior customers using e payment.

## 3.5 Data type and Sources

Both primary and secondary data were employed to conduct this research study. Primary data collected from customers of commercial bank of Ethiopia. The sources of secondary data were webs, the bank's annual report, books and published journals.

## 3.6 Data Collection Instruments

A survey questionnaire developed after reviewing Likert scale is commonly used to gather large survey data on attitude and behavior of people in a relatively short time period (Scott W. Vanderstop and Deirdre D. Johnston, 2009). Confirming this, many researchers concerned with the study of the relationship between customers' satisfaction and their use of EPS prefer likert scale as a convenient instrument to measure customers' EPS and its effect on their satisfaction. Thus, a five-point likert scale questionnaire containing five response alternatives, namely: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree was developed.

## 3.7 Methods of Data Analysis

Data analysis refers to the computing of certain measures a long with searching for pattern groups (Kothari, 2001). As the study aimed at investigating the effect of e- payment system performance (automatic teller machine, mobile banking, internet banking and CBE birr) on customer satisfaction, descriptive statistics and correlation analysis and multiple regression analysis was used to determine the relationship between customer satisfaction and the stated variables. The latest version of SPSS 25 was employed.

# CHAPTER FOUR
## 4. DATA ANALYSIS AND DISCUSSIONS

## 4.1 Introduction

This chapter presents the data analysis and discussions based on the questionnaire survey. The collected data were analyzed using the method as mentioned in Chapter Three and the findings also outlined based on specific objectives of the study.

There are in total of 399 set of survey questionnaire was distributed to the targeted respondent in order to identify the most important factors that cause customer satisfaction. The total number of questionnaire distribution and responses has been analyzed and shown in table below.

## 4.2 Descriptive Analysis

## 4.2.1 Demographic Information of Respondents

Demographic profiles of the study were analyzed using descriptive analysis with the help of SPSS. The result of the survey is shown in Table 4.1 as follows.

| Sex | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 220 | 55.1 | 55.1 | 55.1 |
| | Female | 179 | 44.9 | 44.9 | 100.0 |
| | Total | 399 | 100.0 | 100.0 | |
| Age | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 15-24 | 32 | 8.0 | 8.0 | 8.0 |
| | 25-35 | 263 | 65.9 | 65.9 | 73.9 |
| | 36-50 | 98 | 24.6 | 24.6 | 98.5 |
| | 51-60 | 6 | 1.5 | 1.5 | 100.0 |

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| | Total | 399 | 100.0 | 100.0 | |

**Education**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Illiterate | 4 | 1.0 | 1.0 | 1.0 |
| | Primary | 3 | 0.8 | 0.8 | 1.8 |
| | High school | 18 | 4.5 | 4.5 | 6.3 |
| | Diploma | 66 | 16.5 | 16.5 | 22.8 |
| | University degree | 272 | 68.2 | 68.2 | 91.0 |
| | Master Degree | 36 | 9.0 | 9.0 | 100.0 |
| | above Doctorate Degree | | | | |
| | Total | 399 | 100.0 | 100.0 | |

**Occupation**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Unemployed | 5 | 1.3 | 1.3 | 1.3 |
| | Student | 4 | 1.0 | 1.0 | 2.3 |
| | Employed | 313 | 78.4 | 78.4 | 80.7 |
| | Business man/woman | 77 | 19.3 | 19.3 | 100.0 |
| | Total | 399 | 100.0 | 100.0 | |

**Electronic Payment System users**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | ATM | 189 | 47.4 | 47.4 | 47.4 |
| | Mobile banking | 103 | 25.8 | 25.8 | 73.2 |
| | Internet banking | 46 | 11.5 | 11.5 | 84.7 |
| | CBE birr | 61 | 15.3 | 15.3 | 100.0 |
| | Total | 399 | 100.0 | 100.0 | |

Table 4.1 Source; SPSS output demographic characteristics of the respondent

The above table shows that 55.1% of the respondents were male while 44.9% were female. The respondents (8%) were in the age of 15-24, 65.9% in the age of 25-35, (24.6%) in the age of 36-50 and 1.5% of the respondents were in the age of 51-60. This indicated that the younger strata of population were more inclined towards the use of e banking services.

More over majority of the respondents (68.2%) were first degree holder. This was followed by diploma holders (16.5%), second degree (9%), high school (4.5%) illiterate (1%) and primary school (0.8%).Interestingly in the given sample most of the respondents (94%) have diploma and above education level. These findings are very much consistent with earlier studies that were done that showed the majority of the people who seeking banking services were educated. This may indicates level of education matters in easy understanding of the technology.

Further the occupational type of the respondent's analysis shows that most of the respondents (78.4%) were staff this followed by business man (19.3%), unemployed (1.3%) and student (1%).In addition (47.4%) of the respondents replied that mostly they are using ATM (Automatic Teller Machine) (25.8%) of the respondents are using mobile banking, (15.3%) CBE birr users and (11.5%) are internet banking users though they have e banking technology on their hand. This indicates ATM users are large in number, because ATM is a pioneer banking product in Ethiopia and customers are adopt the function and service of ATM than other e banking products.

## 4.2.2 Mean and Standard Deviation

In order to compare the different factors that affect the level of customer satisfaction, mean and standard deviation of the respondents have been computed. The result of the analysis is shown in the table below.

### 4.2.2.1 Mean and standard deviation of ATM

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

| Descriptive statistics | | | | | |
|---|---|---|---|---|---|
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| A1 | 189 | 2.00 | 5.00 | 3.5340 | 0.93901 |
| A2 | 189 | 1.00 | 5.00 | 3.2880 | 1.09343 |
| A3 | 189 | 1.00 | 5.00 | 3.1990 | 1.12024 |
| A4 | 189 | 1.00 | 5.00 | 4.0157 | 0.82383 |
| A5 | 189 | 1.00 | 5.00 | 3.6649 | 1.29484 |
| A6 | 189 | 1.00 | 5.00 | 3.6492 | 1.04503 |

| | | | | | |
|---|---|---|---|---|---|
| A7 | 189 | 1.00 | 5.00 | 3.9948 | 0.95970 |
| ATM | 189 | 1.86 | 4.86 | 3.6275 | 0.57382 |
| Valid N (listwise) | 189 | | | | |

Table 4.2; SPSS Output Automatic teller machine

(A1-A7 check the questionnaire page 39)

As it is indicated in the above table 4.2 the mean value of ATM delivers the service exactly as promise is 3.534, the mean value of ATM offers 24/7 services is 3.288, the mean value of the machine is available to everywhere is 3.199, The service is simple to understand is 4.0157, Using ATM is not time consuming is 3.6649, There is restriction on large volume transaction is 3.6492, ATM language is easy to understand is 3.9948. This shows customer's satisfaction in terms mean value the service is simple to understand and ATM language is easy to understand is better than other services with standard deviation 0.82383 and 0.57382 respectively. On the other hand using ATM is not time consuming, there is restriction on large volume transaction and ATM delivers the service exactly as promise have satisfactory value. However, customer satisfaction on ATM offers 24/7 services and the machine are available to everywhere be relatively the least score value from the services.

The table 4.2 shows that the mean value of automatic teller machine is 3.6275 with standard deviation .57382. The result indicates that customer's satisfactions are above satisfactory. This shows customer's satisfaction is above satisfactory level with present service of automatic teller machine and Standard deviation was also found less than 1. Hence, the information provided by customer is near to the average.

## 4.2.2.2 Mean and standard deviation of Mobile banking

Mobile banking refers to the provision and use of banking and financial services with the help of mobile telecommunication devices. The scope of the services may include transactions to do banking or personal investments, administer accounts, and access customized information (Bernardo Nicoletti, 2014).

| Descriptive statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| B1 | 103 | 1.00 | 5.00 | 3.5421 | 1.04863 |
| B2 | 103 | 1.00 | 5.00 | 3.6636 | 1.33136 |
| B3 | 103 | 1.00 | 5.00 | 3.8131 | 0.99177 |
| B4 | 103 | 1.00 | 5.00 | 3.6542 | 1.03798 |
| B5 | 103 | 1.00 | 5.00 | 3.5607 | 0.96326 |
| MB | 103 | 1.00 | 5.00 | 3.6467 | 0.70018 |
| Valid N (listwise) | 103 | | | | |

Table 4.3 SPSS Output Mobile banking

(B1-B5 check the questionnaire page 39)

As it is indicated in the above table 4.3 the mean value of making transaction through mobile is safe 3.5421, the mean value of using mobile bank is not time consuming is 3.6636, the mean value of the completing transactions through mobile banking is fast and easy3.8131, mobile banking is the cheapest way making transaction is 3.6542, mobile banking language is easy to understand is 3.5607. This shows customer's satisfaction in terms mean value completing transactions through mobile banking is fast and easy is better than other services.

The table 4.3 shows that the mean value of mobile banking is 3.6467 with standard deviation .70018. The result indicates that customers are satisfied with making transactions through mobile banking. This means on the overall perception, the respondents agreed that mobile banking is more secure and they are more comfortable using the services without fear.

## 4.2.2.3 Mean and standard deviation of Internet banking

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

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| C1 | 46 | 1.00 | 5.00 | 3.6327 | 0.80865 |
| C2 | 46 | 1.00 | 5.00 | 3.4082 | 0.83960 |
| C3 | 46 | 1.00 | 4.00 | 3.6327 | 0.66752 |
| C4 | 46 | 1.00 | 5.00 | 3.3265 | 0.94401 |

| | | | | | |
|---|---|---|---|---|---|
| IB | 46 | 1.75 | 4.50 | 3.5000 | 0.64145 |
| Valid N (listwise) | 46 | | | | |

Table 4.4 SPSS Output Internet banking

(C1-C4 check the questionnaire page 39)

Table 4.4 shows the results of internet banking on SPSS and the mean value of the product in each variables are 3.6327 mean value of internet banking is easy-to-use, 3.4082 internet banking is secure 365 days a year, 3.6327 is the mean value of making transactions through internet banking is safe and 3.3265 is the mean value of transfer money between accounts domestically and internationally. Depends on the mean value of the service internet banking is easy-to-use and making transactions through internet banking is safe have better performance related to the other service with .80865 and .66752 standard deviation respectively.

## 4.2.2.4 Mean and standard deviation of CBE birr

CBE Birr is a mobile based banking whereby the bank selects, trains and authorizes agents to provide banking services on behalf of the bank through a mobile phone. It is deployed as a means of extending financial services to the unbanked segment of the public. Customers may no longer need to travel long distances to visit CBE branch as they can get the service from the nearest CBE agents through CBE Birr. A CBE Birr customer can deposit, withdraw, transfer money, make payments, buy mobile airtime and pay bill using a mobile phone in a very simple and convenient way. In order to get access to CBE Birr services, a customer needs to go to the nearby authorized agent with her/his mobile number and valid ID (Website: www.combanketh.et).

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| D1 | 61 | 1.00 | 5.00 | 3.3333 | 1.21665 |
| D2 | 61 | 1.00 | 5.00 | 3.5000 | 1.03334 |
| D3 | 61 | 1.00 | 5.00 | 3.1167 | 1.20861 |
| D4 | 61 | 1.00 | 5.00 | 3.4833 | 1.11221 |
| CBE birr | 61 | 1.00 | 5.00 | 3.3984 | 0.87141 |
| Valid N (listwise) | 61 | | | | |

Table 4.5 SPSS Output CBE birr

(D1-D4 check the questionnaire page 39)

The above table 4.5 contains four items that express the performance of CBE birr and level of customer satisfaction. The mean value of CBE birr for available to everywhere is 3.333,CBE birr is the cheapess way making transaction mean value were 3.5, using CBE birr is not time consuming mean value 3.1167 and there is limited restriction on large volume transaction mean value is 3.4833. Based on the mean value level of customer satisfaction is better on the service of CBE birr is the cheapest way making transaction.

Table 4.5 indicates the performance of CBE birr mean value is 3.3984 with 0.87141 standard deviation indicating the level of customer satisfaction was above satisfactory.

## 4.2.2.5 Mean and standard deviation of customer satisfaction

Customer satisfaction is very important when developing a customer loyalty program. Satisfaction is a measure of how well a customer's expectations are met while customer loyalty is a measure of how likely a customer is to repurchase and engage in relationship activities.

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| E1 | 399 | 1.00 | 5.00 | 3.7243 | 0.93733 |
| E2 | 399 | 1.00 | 5.00 | 3.4912 | 0.81401 |
| E3 | 399 | 1.00 | 5.00 | 3.3409 | 0.92921 |
| E4 | 399 | 1.00 | 5.00 | 3.2682 | 0.85992 |
| E5 | 399 | 1.00 | 5.00 | 3.5539 | 0.92507 |
| E6 | 399 | 1.00 | 5.00 | 3.5915 | 0.85421 |
| CS | 399 | 1.86 | 4.86 | 3.6275 | 0.57382 |
| Valid N (listwise) | 399 | | | | |

Table 4.6 SPSS Output Customer satisfaction

(E1-E6 check the questionnaire page 39)

Table 4.6 shows the level of customer satisfaction to the overall introduction of electronic payment system of the bank. The table and graph indicates the general e- payment system performance of the company and customer satisfaction. Based on the above data introduction of Electronic payment system in CBE has positively affect service delivery is better scores by the mean value 3.7243. This means the bank was good to introduce new e- payment technologies

and systems. Overall you have satisfied on e payment service of the bank and prices charged on the electronic payment system of the bank are to your expectation mean is 3.5915 and 3.5539 respectively the customer satisfaction level is satisfactory.

Expectation before the use of e banking have been met currently, the service is provided on time as promised and sufficient material is kept to avoid the interruption of service provision mean value is 3.4912, 3.3409 and 3.2682 respectively and it indicates the electronic payment system performance is above average or moderate.

As it is indicated in the above table the mean value of overall e payment customer satisfaction is 3.6275. This shows customer's satisfaction is above satisfactory level with present service of CBE and Standard deviation was also found less than 1. The finding is not record broad gap with other similar studies (Sherefedin, 2018 found a mean 3.42 and Sintayehu, 2015 found a mean 3.3

## 4.3 Correlation Analysis (electronic payment system performance and customer satisfaction)

Correlation analysis is used to check the strength of the relationship among various variables. In this paper, the correlation of service quality dimensions, over all service quality and level of customers" satisfaction will be analyzed. The value of correlation coefficient could take values between -1 and 1 which means the coefficient is ranging from being negatively correlated (-1) to uncorrelated (0) and to positively correlated (1). The Pearson correlation result $r(\rho)$ indicates the magnitude of relationships in the following categorization (DANCEY& REIDY, 2004): the relationship is weak if the coefficient is between 0.10 and 0.3, moderate when it is between 0.40 and 0.6 and strong when it is between 0.70 and1.00. When correlation analysis coefficient is equal to 1, Pearson result consider it as perfect correlation.

| Correlations | | |
|---|---|---|
| | | Overall you have satisfied on e payment service of the bank. |
| Automatic Teller Machine | Pearson Correlation | .149[*] |
| Mobile Banking | Pearson Correlation | 0.130 |
| Internet Banking | Pearson Correlation | .343[*] |

| CBE birr | Pearson Correlation | | 0.228 |
|---|---|---|---|

Table 4.7 Correlation analysis

The above table 4.7 shows the correlation coefficient between the dependent variables ( customer satisfaction) and the independent variables: automatic teller machine, mobile banking, internet banking and CBE birr. Internet banking has relatively high coefficient which is 0.343 at 0.01 significant levels. This shows internet banking in service delivery has significant relationship with customer satisfaction. This is followed by CBE birr that has a correlation coefficient of 0.228 and 0.01 significance level. Similarly automatic teller machine and mobile banking has 0.149 and 0.13 coefficients respectively and both are significant at 0.01.

However in previous analysis the mean value of mobile banking (3.6467) was higher than the other variables. Probably this shows customers are simply happy with mobile banking related e payment but their overall e payment service satisfaction is not as such depend on this variable.

## 4.4 Regression analysis

A multiple regression model was applied to determine the form of relationship between customer satisfaction and e banking products (automatic teller machine, mobile banking, internet banking and CBE birr). Below is the summery of the result.

**Table 4.8 Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .968 | 0.938 | 0.937 | 0.18257 |
| a. Predictors: (Constant), MB, ATM, CBE, IB | | | | |
| b. Dependent variable; Customer satisfaction | | | | |

The adjusted R-squared was used to establish the predictive power of the study model and tells us how the electronic payment customer satisfaction in commercial banks varied automatic teller machine, mobile banking, internet banking and CBE birr. It was found to be 0.937 implying that 93.7% of the variations in customer satisfaction are explained by the independent variables of the study: automatic teller machine, mobile banking, internet banking and CBE birr. Leaving 6.3% unexplained.

**Table 4.9 ANOVA Analysis of Variance**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 198.113 | 4 | 49.528 | 1485.930 | .000$^e$ |
| | Residual | 13.133 | 394 | 0.033 | | |
| | Total | 211.246 | 398 | | | |
| Dependent Variable: CS | | | | | | |
| Predictors: (Constant), MB, ATM, CBE, IB | | | | | | |

ANOVA was used to establish the appropriateness of the regression model in giving reliable results. Usually the regression model is deemed appropriate when the confidence level is 95% and above.

Table 4.9 above shows that F-significance value of $p<0.001$ was established. This means that the regression model has a less than 0.001 likelihood (probability) of giving a wrong prediction. Hence the regression model has a confidence level of above 95% which confirms that our regression model was appropriate and the results are reliable.

**Table 4.10 Coefficients Result**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -9.623 | 0.197 | | -48.851 | 0.000 |
| | MB | 0.977 | 0.020 | 0.601 | 47.856 | 0.000 |
| | ATM | 0.937 | 0.023 | 0.509 | 40.460 | 0.000 |
| | CBE | 0.936 | 0.026 | 0.446 | 35.434 | 0.000 |
| | IB | 0.858 | 0.041 | 0.262 | 20.864 | 0.000 |
| a. Dependent Variable: Customer Satisfaction | | | | | | |
| b. Independent variables; MB, ATM, CBE birr, IB | | | | | | |

From the above table 4.10 looking at the significance levels, the study established that there is a significant relationship between e banking customer satisfaction and four dimensions namely; automatic teller machine, mobile banking, internet banking and CBE birr at 5% significance

level. This means that these four dimensions account for the greatest contributions on the attainment of the customers" e banking satisfaction.

Accordingly the coefficient (beta) of the variable MB is about .977. The results showed the presence of a statistically significant positive relationship between the mobile banking and customer satisfaction in e banking. In other word the finding tell us a 100% change in mobile banking will result in 97.7% change in e banking satisfaction.

Similarly table 4.10 above shows automatic teller machine has a coefficient (beta) of .937. This indicated that automatic teller machine dimension positively affected the customer satisfaction levels, and a 100% increment in this factor would lead to a consequent increment in 93.7% on customer satisfaction. There is significant relation between customer satisfaction and automatic teller machine.

Further as it is shown on the above table Customer satisfaction and CBE birr has a regression weight of .93.6 as the beta for CBE birr is concerned. This indicates there is significant positive relationship between customer satisfaction and CBE birr on the use of e payment service offered by CBE. This means when there is a 100% improvement in CBE birr of e banking there would be 93.6% improvement in customer satisfaction by using e banking. There is significant relation between customer satisfaction and CBE birr.

The table also describes that CNT has a beta of .858 with sig, of .000. The results of the model test show a positive and statistically significant relationship between internet banking and customer satisfaction. In other word when there is a 100% increment on internet banking service there would an 85.8% increment in the e banking customer satisfaction. Here though the coefficient for contact is small it is significant at 5%. That internet banking has significant relation with customer's satisfaction.

It therefore means that CBE need to satisfy these dimensions (automatic teller machine, mobile banking, internet banking and CBE birr) by all means in order to achieve customer satisfaction in e payment.

**CHAPTER FIVE**

**SUMMERY OF FINDINGS, CONCLUSION AND**

**RECOMMENDETION**

## 5.1 Summery of Finding

The objective of the study is to assess electronic payment system performance on customer satisfaction in the case of CBE. Accordingly this part of the research summarizes the major findings of the study.

1.  The finding of the study reveals automatic teller machine, mobile banking, internet banking and CBE birr have significant positive impact on customer satisfaction.

2.  Majority of them are first degree and diploma holder, occupationally majority of the respondents are employed, moreover (47.4%)of the respondents are automatic teller machine users, (25.8%) respondents are mobile banking users, (11.5%) are internet banking users and (15.3%) are CBE birr users and predominantly use ATM than other e banking products.

3.  The respondent indicated that the bank has problem related with infrastructure like power interruption or power supply, poor internet connection, there is no active response to machine maintenance, the bank is not working to create awareness how to use e payment products. And CBE birr is not available to everywhere, the bank is not work sufficiently in technology related to e payment product, no Sufficient money deposit in ATM at weekend and holiday, the machine language is specific in English and sometimes Amharic no additional Ethiopian language, ATM reconciliation late,

## 5.2 Conclusion

The finding of the study is concluded as follows:

❖ The finding of the study reveals automatic teller machine, mobile banking, internet banking and CBE birr have significant positive impact on electronic payment customer satisfaction. Therefore, the alternative dimension (i.e. automatic teller machine, mobile

banking, internet banking and CBE birr have significant effect on customer satisfaction) is accepted.

❖ The descriptive analysis shows the level of customer satisfaction for e banking is above satisfactory level with mean value of 3.6275 on a 5 point likert scale. The mean value of the variables is automatic teller machine (3.6275), mobile banking (3.6467), internet banking (3.5) and CBE birr (3.3984).Further the analysis indicates that majority of e banking users are below 35 years.

❖ Any 100% increase in automatic teller machine, mobile banking, internet banking and CBE birr will lead to an increment in customer satisfaction by 93.7%, 97.7%, 85.8% and 93.6% respectively at 5% significances.

## 5.3 Recommendation

Based on the findings and conclusions of the study, the following recommendations are forwarded to the management of the bank.

❖ In this study automatic teller machine, mobile banking, internet banking and CBE birr have a positive significant impact on customer satisfaction. Therefore the bank should work on the indicators of these dimensions.

❖ The users of e payment product are too young, educated and interested to use any new technology. The bank should be update and modify the products.

❖ As majority of the respondents are ATM users, the bank should work to attract the customer to use other e banking product like, mobile, internet bank and CBE birr.

❖ Commercial bank of Ethiopia is one the big company in the country and the bank has large amount of customer and that admin huge amount of resource. The customer needs and wants are varying from time to time. The bank should be assess and identify the problem and solve at a time like power supply interruption, poor internet connection, and maintenance of machine and use different languages speaking in the country.

❖ E banking products are a useful electronic payment system and the bank invest on the product and human resource to generate income or profit from the customers and works to return on investment. To replace the cost of product the bank aggressively works on the electronic payment product and ready to service.

❖ As the response of the customer there is no sufficient deposit in the machine at weekend and holiday time. The bank should be investigate how much money is needed at a time of weekend and holiday and respond the needs of customers.

❖ As customer's attitude and knowledge is a challenge in using e banking product, the bank expected to build customers confidence and create awareness by presenting the security used in technical and non-technical terms; outline the procedure and information on how to cope with problem if happen, and provide instruction on how to use e payment product safely.

❖ The investment cost of the bank to ATM is not small. In the country 60 million and above peoples are mobile users. Depends on this information the bank should be transform from manual and ATM service to mobile and internet banking. And reduce the cost of ATM and human resource training cost and enhance customer satisfaction.

# Reference

❖ Adel M. Qatawneh (2015).The Adoption of Electronic Payment System (EPS) in Jordan: Case Study of Orange Telecommunication Company. Research Journal of Finance and Accounting,Vol.6, No.22, pp. 139-148

❖ Anyanwaokoro, M. (1999) Theory and Policy of Money and Banking, Enugu, Nigeria: Hossana Publications.

❖ Ayana GemechuBultum, 2014. Factors Affecting Adoption of Electronic Banking System in Ethiopian Banking Industry. Journal of Management Information System and E-commerce, Vol. 1, No. 1; June 2014

❖ Barnett, Shirley. & McIlroy, Andrea. 2000, Building customer relationships: do discount cards work? Managing Service Quality, Vol. 10 Iss: 6, pp.347 – 355

❖ Bhaskar Reddy and TewdrosSisay (2011).E-Business: Application of software and technology in selected Ethiopian Banks: Issues and challenges. International Journal of Computer Science Issues, Vol. 8, Issue 6, No 1

❖ Commercial bank of Ethiopia annual report, 2018/19

❖ Daniel, E. (1999).Provision of electronic banking in the UK and the Republic of Ireland. International Journal of Bank Marketing,17(2), 72-83.

❖ Driga, I. &Isac,C. (2014). E-banking Services – Features, Challenges and Benefits. Annals of the University of Petroşani, Economics, 14(1), 49-58.

❖ Edet, O. (2008) Electronic Banking in Banking Industries and its Effects. International Journal of Investment and Finance, Vol. 3, pp 10-16

❖ Hunt, H. K. (1977). CS/DB Overview and Future Research Direction, in conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction, H. Keith Hunt, ed. Cambridge, MA: Marketing Science Institute.

❖ Jamieson, D. (1994). Customer Retention: Focus or Failure. The TQM Magazine, 6(5): 11-13

❖ Joseph A. (2005). Overview of Electronic Payment Systems in Nigeria: Strategic and Technical Issues.

❖ Kannen, Martin Leischner, Torsten Stein (2003), A Framework for Providing Electronic Payment Services.10th annual workshop of HP-OVUA, July 6-9, 2003 Geneva.

❖ Kotler, P., Keller, K. (2006), Marketing Management. 12th ed., New Jersey, Prentice Hall.

❖ Kothari, C.R. (2004) Research methodology: methods and techniques, 2nd ed. WishwaPrakashan, New Delhi: India.

❖ Linck, K.; Pousttchi, K.; Wiedemann, D. G.: Security Issues in Mobile Payment from the Customer Viewpoint. In: Ljungberg, J. (Hrsg.): Proceedings of the 14th European Conference on Information Systems (ECIS 2006). Göteborg, Schweden 2006.

❖ Lowenstein, M.W. 1995, Customer Retention: An Integrated Process for Keeping Your Best Customers, p. 10

❖ Mackey, J. (2005). Franchisers reap multiple benefits from increasing customer loyalty. Franchising World, 37(5): 49.

❖ Maxwell, J. A. 1996. Qualitative Research Design: An Interactive Approach London, Applied Social Research Methods Series.

❖ Michael Armstrong, (2000) Performance Management; Key strategies and practical guidelines, page 1-2

❖ Mintesnot Tarekegn, (2018) conducted his study on assessment of customers' trust and awareness on the electronic payment system

❖ MiroslawMalek Manfred ReitenspießAad van Moorsel (Eds.) Service Availability 2007 page 9

❖ Mohammed ArifShaikh, Ethiopian Banker's Perception of Electronic Banking in Ethiopia –A Case of Adama City, International Journal of Scientific and Research Publications, Volume 4, Issue 9, September 2014.

❖ Panurach, P. (1996) Money in electronic commerce: Digital cash, electronic fund transfer and Ecash', Communications of the ACM, 39(6): 45–50.

❖ Scott W. Vanderstop and Deirdre D. Johnston (2009), Research Methods for Everyday Life: Blending Qualitative and Quantitative Approaches

❖ Rowley, J. (2000) "Product search in e-shopping: a review and research propositions", Journal of Consumer Marketing, Vol. 17 Iss: 1, pp.20 - 35

❖ Website: www.combanketh.et

❖ Website: www.clickz.com

❖ Wu, P., Huang, C., Chou, Cheng. (2014). Service Expectation, Perceived Service Quality, and Customer Satisfaction in Food and Beverage Industry, the International Journal of Organizational Innovation, 7(1), 171-180.

❖ Yarimoğlu, E. (2014). A Review on Dimensions of Service Quality Models. Journal of Marketing Management, 2(2), 79-93.

**Saint Mary University**

**School of Graduate studies**

**School of Business**

**Marketing Management Department**

**Questionnaire to be filled by the respondents**

Dear Sir/Madam

I am marketing management student at St. MaryUniversity. This questionnaire is prepared to gather data for the study to be conducted on "Assessment of Customers' Electronic Payment System performance and its effect on their satisfaction in Case of Addis Ababa Commercial Bank of Ethiopia." The researcher would like to assure you that all of your responses filled in the questionnaire will be used for only the purpose of this research, and the responses will be kept confidential. The questionnaire contains three parts: the demographic part, profile of electronic payment system and the main part containing items on the experience of customers in EPS-use. Please read the instructions before responding the questions. Thank you in advance for the collaboration you made via completion of the questionnaire.

Tele-+251912929332 email address- weynshetteshome583@gmail.com

# Section1: Demographic information

Please put right mark (√) in front of your choice box that express yourself.

1. Gender: Male ☐ Female ☐
2. Age: 15-24 ☐ 25-35 ☐ 51- ☐ Abov ☐ ☐
3. Current education level.
   Illiterate ☐ rimary ☐ school D ☐ a ☐
   University degree ☐ ster Degree abo ☐ octorate Degree ☐
4. Occupation:
   Unemployed ☐ Student ☐ ployed Busi ☐ man/woman ☐

## Section II- Questions on profile of Electronic Payment System

Please fill the following table by putting a "√" in the spaces provided to show which type of electronic payment system uses in the e banking services.

| | | |
|---|---|---|
| Which type of electronic payment system do you use mostly? | Automatic teller machine (ATM) | |
| | Mobile banking | |
| | Internet banking | |
| | CBE birr | |

## Section III

Customer Feelings about Electronic Banking Please right mark (√) any no. from 1to 5 on the basis of your experience with Commercial Bank of Ethiopia.

| s/n | Service dimension | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | **Automatic Teller Machine (ATM)** | | | | | |
| A1 | ATM delivers the service exactly as promise. | | | | | |
| A2 | ATM offers 24/7 services. | | | | | |
| A3 | The machine is available to everywhere. | | | | | |
| A4 | The service is simple to understand. | | | | | |
| A5 | Using ATM is not time consuming. | | | | | |
| A6 | There is restriction on large volume transaction. | | | | | |
| A7 | ATM language is easy to understand | | | | | |
| 2 | **Mobile banking** | | | | | |
| B1 | Making transaction through mobile is safe. | | | | | |
| B2 | Using mobile bank is not time consuming. | | | | | |
| B3 | Completing transactions through mobile banking is fast and easy. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| B4 | Mobile banking is the cheapest way making transaction. | | | | | |
| B5 | Mobile banking language is easy to understand | | | | | |
| 3 | **Internet banking** | | | | | |
| C1 | Easy-to-use. | | | | | |
| C2 | Bank securely 365 days a year | | | | | |
| C3 | Making transactions through internet banking is safe. | | | | | |
| C4 | Transfer money between accounts domestically and internationally. | | | | | |
| 4 | **CBE birr** | | | | | |
| D1 | CBE birr is available to everywhere. | | | | | |
| D2 | CBE birr is the cheapest way making transaction. | | | | | |
| D3 | Using CBE birr is not time consuming. | | | | | |
| D4 | There is limited restriction on large volume transaction. | | | | | |
| 5 | **Customer satisfaction** | | | | | |
| E1 | The introduction of Electronic payment system in CBE has positively affect service delivery. | | | | | |
| E2 | Your expectations before the use of e banking have been met currently. | | | | | |
| E3 | The service is provided on time as promised. | | | | | |
| E4 | Sufficient material is kept to avoid the interruption of service provision. | | | | | |
| E5 | Prices charged on the electronic payment system of the bank are to your expectations. | | | | | |
| E5 | Overall you have satisfied on e payment service of the bank. | | | | | |

Other, please specify-------------------------------------------------------------------------------------

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**Thank you.**

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