ST.MARY'S UNIVERSITY

SCHOOL OF POST GRADUATE STUDIES

A STUDY OF E-PAYMENT SYSTEM CHALLENEGES AND BENEFITS IN COMMERCIAL BANKS OF ETHIOPIA

(IN CASE OF SELECTED DISTRICT OF ADDIS ABABA)

BY

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A THESIS SUBMITTED TO SCHOOL OF GRADUATE STUDIES OF ST. MARY'S UNIVERSITY IN PARTIAL FULFILMENTOF THE REQUIREMENTS FOR THE AWARED OF MBA IN ACCOUNTING AND FINANCE

JUNE, 2021

ADDIS ABABA, ETHIOPIA

ST.MARRY'S UNIVERSITY

School of Graduate Study

This is to certify that the thesis prepared by Fikadie Amsalu, entitled: A study of e-payment system challenges and benefits in Commercial Banks of Ethiopia, The case of selected District of Addis Ababa and submitted in partial fulfillment of the requirements for the Degree of Master of MBA in Accounting and Finance complies with the regulation of the University and meets the accepted standards with respect to the originality and quality.

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DECLARATION

I, the undersigned, declare that the thesis entitled "A study of e-payment system challenges and benefits in Commercial Banks of Ethiopia" (In case of selected districts of Addis Ababa). Is my original and submitted for the award of Master of Art Degree in Accounting and Finance from St. Mary University at Addis Ababa and it hasn't been presented for the award of any other degree. Under this study, fellowship of other similar titles of any other university or institution of all sources of material used for the study has been appropriately acknowledged and notice.

Fikade Amsalu_____ _____

Candidate Signature Date

CERTIFICATION

This is to certify that Mr. Fikadie Amsalu has properly completed his research work entitled “A sudy of e-payment system challenges and benefits in Commercial Banks of Ethiopia” (In case of selected district of Addis Ababa) with our guidance through the time. In my recommendation, his task is appropriate to be submitted as a partial fulfillment requirement for the MBA in Accounting and Finance.

Research Advisor
Abraham G/Giorgis (Assistant Professor)

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Signature and Date

ACKNOWLEDGEMENTS

It has been an exciting and instructive study period in My University stay and I feel privileged to have had the opportunity to carry out this study as a demonstration of knowledge gained during the period studying for my master's degree. With these it would be impossible not to remember those who in one way or another, directly or indirectly, have played a role in the realization of this research project. Let me, therefore, thank them all equally.

First of all I praise the name of Almighty God and his beloved Mom St. Marry, who put up with me despite my unforgivable sin. Continues and endless support towards my entire life. I am deeply obliged to my thesis Advisor **Abraham G/Giorgis** (Assistant Professor) for his unreserved compassion assistance, interest, inspiration, encouragement and stimulating suggestions helped me during the research and writing process of this thesis and my special appreciation also goes to all surveyed customers and commercial banks executives and employees, who collaborated me in providing data pertaining to this study.

Finally, I am extremely indebted to my family especially my gorgeous wife **Eyerusalem Seifu** including my lovely children **Yamy and Naty** for their support and encouragement throughout my year of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them.

Thank you!

LIST OF ABBREVIATIONS

ATM	Automatic Teller Machine
CBE	Commercial Bank of Ethiopia
E-Banking	Electronic Banking
E-Commerce	Electronic Commerce
E-Payment	Electronic Payment
GDP	Gross Domestic Product
I-Banking	Internet Banking
IBD	International Banking Division
ICT	Information and Communication Technology
IS	Information System
IT	Information Technology
M-Bank	Mobile Bank
NBE	National Bank of Ethiopia
PIN	Personal Identification Number
POS	Point of Sale
RTGS	Real Time Gross Settlement
SPSS	Statistical Package for Social Sciences
SWIFT	Society of Worldwide Interbank Financial Telecommunication
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action.

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ABSTRACT

E-commerce grows rapidly and provides an opportunity for companies to increase sales over the internet. Accordingly, this study aimed to assess the challenge and benefits of E-payments system in Ethiopia commercial banks. This study used mainly primary data and it used secondary sources like NBE e-payment directive and others .292 usable questioners were returned from the total 399 with the response rate of 73 % Discriptive research design as applied and Stratified sampling was conducted using SPSS. This study found that from the majority of surveyed customers preferred to mobile banking and they accepted that it acclaimed the most cumbersome e-payment challenges. On other hand, using Pearson's chi-square, this research concluded that the perception of surveyed customers about the most favorite of e-payment method and the most cumbersome e-payment system in commercial banks are not independent of the composition of age, educational level, marital status and service experience. In addition, this study found that the major problems included limited e-payment services, lack of awareness about existing e-payment, laws and obsolete legal frameworks, poor learning and development of e-services, low salary scale of workers and lack of learning from previous traditional operations. The main benefits of e-payment customers perceived involved in ease application of technology, assurance of banking integrity, helpful for personal and business needs, rapid trading responses, swift transactions and convenience. The data shows that the overall perceived level of challenges of e-payment was almost around 51 % for of the surveyed customers which can be the prioritized point of focus for commercial banks intervention. Thus, commercial banks may increase banking technology adoption rates; it includes planning to introduce a new product in the market, conduct current market research, find out the best the compatibility attributes the perspective of citizens and services providers.

Key Words:- E-payment ,Benefits, Challenges, Commercial Banks

CHAPTER ONE

INTRODUCTION

This chapter presents background of the study, statement of the problem, research question, and objective of study, significance of the study, scope of the study, definition of terms and organization of the study.

1.1. Background of the Study

E-commerce grows rapidly and provides an opportunity for companies to increase sales over the internet (Summers, 2012). Currently, every individual and company familiar with e-commerce to make sales and purchase products and services and the advent of e-commerce has created new financial needs that are not effective in many cases met traditional payment systems (Masihuddin, Khan, Mattoo & Olanrewaju, 2017). Accordingly, an electronic payment system comes to replace a cash payment system. Sales of goods and services increased significantly with the adoption of the use of e-payment systems so that electronic payments became an increasingly important part of the payment system (Choudhry, 2015). This transfer of monetary value between parties discharging mutual obligations may be physical or electronic and each has its own procedures and protocols (Summers, 2012). It includes specific forms of payment systems are also used to settle financial transactions for products in the equity markets, bond markets, currency markets, futures markets, derivatives, option markets and to transfer fund between financial institutions (Vassiliou, 2004).

The online payment system has several financial risks that may happen during the transaction process. The negative impacts of online payments can happen because of numerous things. Because of the nature of the internet, authenticity and security of payments can't be guaranteed by technologies that are not designed for e-commerce (Choudhry, 2015). It is required an electronic payment (e-payment) system that are not only provides secure payments system but also must have properties such as online customers and seller authentication, proof of transactions authorized by customers to both sellers and banks, customer privacy and transactional data security. For some cases, it raises a sense of uncertainty and takes risks when buying online. Over the years there have been many e-commerce technologies that developed. The security of their hard-earned money is still unanswered (Lee, Choi, & Rhee, 2004).

In the Ethiopian context, electronic banking is spreading quickly in recent years as it lead to much lower costs per transaction and there by greater competition in the financial services. Electronic payment system plays a vital enabler role in regard to the core processes of any banks. i.e. the deposit mobilization ,credit and foreign currency earnings. EPS in its issuing business attracts unbanked individuals into the banking system allowing them to improve money management with enhanced financial empowerment. For financial institutions, it draws cash into bank accounts which can be translated in to funds for lending and investment. In its acquiring business, EPS adds up the earned amount of foreign currency when international cards are making transactions at local ATMs and POSs.

In addition, the adaptation and growth of E-payment is found very important towards cash-less society with its impact on bringing economic transparency, efficiency and growth. From customers perspective the most recognized driver for growth of e-banking include the convenience, the reliability, the wider availability, affordability and usefulness of the service. (NBE, e-payment procedure for card banking service using ATM January, 2014)

Thus, this study assessed the challenge and benefits of E-payment system in selected district of Ethiopian Commercial Banks.

1.2. Statement of the Problem

The development and adoption of technology in the e-payment system involve financial transactions; assimilated users and quality e-payment technology tend to shape their own perceptions and expectations (Masihuddin, *et al.*, 2017). Electronic payment systems are now commonly used such as transactions via ATM machines, use of credit or debit cards, through online banking and mobile banking. E-payment provides significant economic benefits and cost savings on paper-based payments. For example, Okifo and Igbunu (2015) mentioned Moody's Analytics (2010) as an electronic payment increases a country's GDP by 0.2% annually and they suggested that moving from a society where 90% of cash is held outside of the banks to a cashless society is a big change. In addition, e-payment has been an obligation that is imposed by the central banks of many countries including our county NBE. For instance, Cash Withdrawal Limit Directive No. FIS/03/2020 stated that in accordance with sub-article 4(2(d4)) and 37(2) of the National

Payment System Proclamation No. 718/2011, and sub-article 5(15) and 27(2) of the National Bank of Ethiopia Establishment (as Amended) Proclamation No. 591/2008, the National Bank of Ethiopia has issued this Directive to increase use of non-cash payment instruments minimizes liquidity risk and helps to ensure soundness of the financial system. Even if it aimed to minimize the huge cost related to printing, processing and handling of physical cash, there are likely to be operational, financial, legally, economic and marketing changes that need to be managed properly. The directive advised or ruled out a financial institution shall put in place policies and procedures that address issues including deployment of diversified non-cash based payment services. The question is how these institutions encourage the public to use non-cash based payment though adoption of various strategies arid incentives by imposing cash withdrawal limit. This is due to the fact that e-payment technical efficiency determines the efficiency with which transaction money is used in the economy and risk associated with its use (Ogedebe & Babatunde, 2012).

Using the E-payment System has many benefits for payers, payees, E-commerce, banks, organizations and governments. These benefits can lead to widespread electronic payment systems in the world (Hussain, Mollik, Johns and Rahman, 2019). They also included as an efficient and reliable e-payment system enables faster payouts, better tracking, transparent transactions, reduced time use, cost savings and increased trust between sellers and buyers. However, previous studies focused on economic or operational benefits as well as or operational and public sector challenges. For instance, Okifo and Igbunu (2015) addressed the economic benefits and challenges, Summers (2012) noted about payment systems design, governance and oversight, Lee, et al., (2004) on traceability of double spending in secure electronic cash system, and Ogedebe & Babatunde (2012) on e-payment prospects and challenges in Nigerian public sector. Further, Delali (2010) assessed the challenges of implementing electronic payment system in the case of Ghana's e-Zwich payment system.

These studies have shortcomings in including the role of e-payment system that involve financial transactions, assimilated users and quality e-payment technology tend to shape their own perceptions and expectations. In addition, it is a recent new phenomenon in Ethiopia with new payment practice where client's retrieves payment information for

goods and services and places this information in an electronic template that creates electronic files for processing over the network (Sewalem, 2018). Moreover, Mohammed (2014) listed challenges of e-payment in the context of Ethiopia as awareness creation, ability, responsiveness and perceived quality. The technology cannot be adopting the customers easily. The other challenge are ability, the new technology cannot be internalized easily to perform transactions. Since an electronic payment system is considered inter-organizational information related to transaction systems, linking various associations, and linking to individual clients, its practices and challenges should be reviewed based on its complex interaction among partners, the technology and environment. Thus, this study is envisioned to review the e-payment based on transactions, e-payment usage reason and facility, effort expectancy and e-money intention behavior. According to Masihuddin, et al., (2017), the use of technology in modern banking services as electronic payment systems marks banking performance more optimal, several activities can be executed speedily and precisely while impacting productivity.

1.3. Research Questions

This study attempted to address the following research questions.

- How e-payment system is being practiced in terms of facility, effort expectancy and e-money intention behavior in Ethiopian Commercial Banks?
- What are the benefits of e-payment in terms of speed, immediacy, security, ubiquity and convenience in Ethiopian commercial banks?
- What are the possible internal and external challenges of e-payment system in Ethiopian commercial banks?
- What are the benefits of NBE's cash withdrawal limit directive system in Ethiopia?

1.4. Objective of the Study

1.4.1. General Objectives

- To assess the challenge and benefits of E-payments system in Ethiopia commercial banks

1.4.2. Specific Objectives

The specific aims of the study are:

- To understand e-payment system practices in terms of facility, effort expectancy and e-money intention behavior in Ethiopian Commercial Banks.
- To assess the benefits of e-payment in terms of speed, immediacy, security, ubiquity and convenience in Ethiopian commercial banks.
- To assess the possible internal and external challenges of e-payment system in Ethiopia particularly in Ethiopian commercial banks.
- To assess the benefits of NBE's cash withdrawal limit directive in Ethiopia.

1.5. Significance of the Study

This study provides a clue to resolve the discussions over e-payment issues in Ethiopia. In addition, this study attempts to provide a solution for effective implementation of electronic banking service where funds are transferred through an exchange of electronic signal between financial institutions, rather than exchange of cash, checks, or other negotiable instruments. Moreover, this study will provide operational and strategic digital banking transformation solutions for investors, managers and others. This study will help to enhance e-payment facilities and will facilitate e-payment transaction as it will identify the changes associated with speed, immediacy, security, ubiquity and convenience in Ethiopia commercial banks.

Further, this study will provide solution for establishing good quality and modern banking institutions such as law and order, economic and social benefits and important determinants of banking market development. Thus, this study helps to aware and helps to be ready for external and internal e-payment challenges and risks to enhance the viability of external finance.

On other hand, the findings of the study provide trustful evidences and findings to the policy makers, so that they can use it as input in their banking and electronic transactions policy development. The study also provides information to the government to enhance payment and associated transaction in actual market. Moreover, this study assists as a reference for the future new researchers on related topics in doing their research. As a descriptive research, this study will set out to describe and to interpret what is e-payment. It looks at individuals, groups, institutions, methods and materials in order to describe, compare, contrast, classify, analyze and interpret the challenges and benefits of e-payment. Generally, this study will serve as a source of knowledge for academician and

also used as a source of research to the coming researchers that wants to make research with issues which are related with e-payment.

1.6. Scope of the Study

This study become a bridge towards financial inclusion, providing access to the population generally excluded from financial services, thanks to services that allow people to save value, and make and receive payments under more favorable and accessible conditions and requirements. For that reason, this study has three main scopes such as conceptual and methodological scope.

The study was restricted on e-payment system practices in terms of facility, effort expectancy and e-money intention behavior, benefits of e-payment in terms of speed, immediacy, security, ubiquity and convenience and its internal and external challenges of e-payment system in Ethiopia. It was involved in e-payment benefits for society, employees and customers and helps investors and stockholders and managers to understand, anticipate, and respond to important shifts in alternative payment system and commercial requirements. This study also identified internal and external challenges on e-payment contribution in Ethiopia. This study focused on selected commercial bank digital payment systems and services that have occasionally been generated by banks and other financial institutions. Thus, e-payment benefits in terms of in terms of speed, immediacy, security, ubiquity and convenience.

Finally, this study used information from limited sampled bank female and male, bank managers and financial actors involved in the sector in the study areas. Data were collected from customers in selected district of Addis Ababa from March to April, 2021.

1.7. Limitation of the Study

Even if e-payment is a concern for all private and public banks in Ethiopia, this study is not extensively covered all financial institutions. The study was limited to include only respondents in case of Addis Ababa CBEs. In addition, this study ignored analysis of e-payment budget, human resource requirements and capabilities, resources gap, service provider's role (electric and power, telecom and higher institutions roles) and governments' digital policy support in Ethiopia.

1.8. Organization of the Study

This study is prepared and organized in to five chapters. The first chapter included the introduction part of the study that consists of background of the study, statement of the problem, research questions, and objective of the study, significance of the study, scope of the study, definition of terms and organization of the study. Following, the second chapter that covers both theoretical and empirical literature review. Then, methods of research in third chapter encompasses that involved research design and approach, population, sampling and sample size determination and data analysis, credibility of the research and data collection methods. Then and there, the fourth chapter presents data presentation, analysis and interpretation and discussion with similarities and contrary with previous studies. Finally, fifth chapter summarizes the findings and present conclusion and recommendation of the study.

CHAPTER TWO
REVIEW OF RELATED LITERATURES

This part of the study deals with review of related literatures. In view of that, the greatest effort makes to review about significant conceptual issues and definitions associated with the main theme of the study. As a result, it covers theoretical review that includes the theory and concept and definitions of e-payment and evidences from empirical reviews.

2.1 Theoretical Literature Review

2.1.1 Definition and Concept of E-payment

Electronic payments may be defined as an electronic value transfer of a payment from the payer to the recipient through an electronic payment mechanism. The e-payment service comes with a web-based user interface that allows customers to access, manage their bank accounts and transactions remotely (Hussain, *et al.,* 2019). Electronic payment is rapidly replacing the traditional modes of payment that involved personal contact between buyers and sellers with the development in telecommunication. Electronic payment systems entail online financial transactions that utilize some form of a digital financial device, such as e-tokens, e-cash and checks (Cheng, 2006). Electronic payment is a subcategory of e-commerce transaction to include electronic payment for buying and selling goods or services offered through the internet. There are actually many forms of electronic payments as opposing to the general misconception electronic payments as referring to online transactions on the internet. The content of this exchange is usually some form of digital financial instrument (credit card debit card online transfer or electronic money) that is backed by a bank or electronic payment service intermediary (Teerapat, Supaporn and Adisorn, 2012).

E-payment (electronic payment) is mostly referred to automated payment or banking channels that allows delivery of banking services in an effective, efficient and convenient way via electronic channels such as Point of Sale (POS) Terminals, Automatic Tellers Machine (ATM), internet banking and mobile phones (Alexa, 2005). E-business has been continuously growing as a new industry during the last decade. The banking industry has been leading this trend in recent years, and now all banking transactions completing through internet application is sometimes called e-banking (Okifo and Igbunu, 2015). E-banking has revolutionized the way business is transacted by globalizing the business

enterprise. E-banking technologies have proliferated in recent years, and the availability of a wide range of products has led to increasing adoption among consumers. Direct deposit, computer banking, stored value cards, and debit cards are mainly included in modern technologies (Rahman, 2012).

The improvement of the interconnectivity of computers in the internet in all segments of society, has led to a more obvious tendency of companies to use these networks in order to carry out a new type of commerce, the electronic commerce, through the internet (Alexa, 2005).Along with the entrance in the Internet and in the e-business age of the new economy in general, certain fundamental transformations of the social-economic structure are produced. Electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone. E-Banking refers to electronic banking; it's like e-business in banking industry (Teerapat, *et al*., 2012). Different authors such as Rahman (2012) and Alexa (2005) have defined it in different ways based on their understanding of the application of electronic banking. Generally, electronic banking is electronic connection between the bank and customer in order to prepare manages and control financial transactions. Electronic banking can be defined as a variety of the following platforms as internet banking (or online banking), telephone banking, television-based banking, mobile phone banking, and PC bank (or offline banking). In general, e-payment refers to electronic payment in the perspective of e-commerce online transactions conducted over the Internet and it can also be defined as a paperless payment process

2.1.2 E-payment Related Theories

2.1.2.1 Economic Theory

Economic theory indicates that an environment of free competition with appropriate regulation favors the reduction of prices (a locative efficiency), increases efficiency among providers (productive efficiency), fosters innovation in markets (dynamic efficiency), and, among other possible effects, guarantees better quality in the services offered (Raúl and Yazmín, 2016). They also stated that economies of scale and scope, along with network externalities, can generate less than optimal conditions for competition in payment systems. Said factors can lead to providers or payment platforms

and systems gaining market power. For instance, in any structure it is best for society to have just one supplier of a service or set of payments services (natural monopoly).

The economic theory signify this study as it focuses on the competitive conditions faced by systems and platforms in providing payment systems directly influence end-users' access to them, and therefore financial inclusion. Therefore, it is the greatest significance to have an environment that favors equal conditions and fair competition. In Ethiopia, electronic services and providers gradually appear and contribute to financial inclusion, such as bank agents or e-money systems (Sewalem, 2018). Assumed this new situation, the need to establish and safeguard competitive conditions that take such changes into account without compromising levels of safety and efficiency in Ethiopia commercial banks is indisputable. In this regard, the national bank of Ethiopia considers very influential in achieving an appropriate competitive environment preserving equal conditions of access to the different systems and platforms, having a transparent pricing policy, and eliminating exclusivity agreements the systems themselves, and inappropriate clauses in contracts forming part of product or payment service design. It is vital to remark here that moving forward with different financial inclusion actions may require analyzing aspects related to conditions of competition in the payments market.

2.1.2.2 Diffusion of Innovation Theory

Edmundo and Oxana (2017) stated that Diffusion of innovation theory the most appropriate and convenient for analysing the adoption rates of technology. The diffusion of innovations theory is composed of four main elements, (1) innovation, (2) communication channels, (3) time and (4) social system. These four main elements are critical to predicting the adoption of an innovation. The first element of the diffusion of innovation theory is innovation on that an innovation as an idea, practice, or object that is perceived as new by an individual or another unit of adoption. This theory signify this study as e-payment is considered an innovation of the commercial banks, which is offering an alternative for the services that are available only in traditional payment systems, in this case, cash payments under different platforms. In addition, it tells us about the means by which messages get from one individual to another and the transference of ideas and to have more effective communications between two. It also indicates change agents to develop a need for change, to establish an information-

exchanging relationship and to diagnose problems. Overall, communication channels are essential because they can influence the adoption rate of innovations. Thus, the Internet as a mass media channel and the implementation of e-payment made possible the diffusion of the government e-payment system in Ethiopia achieving a high penetration level and an increasing uptake of the service in the society.

2.1.3. E-Payment Adoption Models

Banks may deliver their products and services to clients from anywhere and at any time through diverse communication media like the internet and mobile networks with the introduction of technological innovations. The concept of e-banking and the various forms it takes continue to evolve with technological innovations. E-banking took the form of only ATMs. E-banking also can be categorized on the basis of the instruments used: Telephone connection, personal computers, means of payment like bank cards and self-service zones in the early stages (Alagheb, 2006).

As a result, banks have tended to invest more in technology and information to achieve maximum return by efficiently attracting and serving a large number of clients. There are various and several theories and models to explain and predict technology adoption but the prominent models include the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM).

First, technology acceptance theory is related to users' intention or acceptance degree towards information system or new technology. TAT is constructed on the foundations of perceived usefulness and perceived ease of use. Perceived usefulness refers to individual belief to improve the degree of job performance through using particular new technology and information system.

Second, theory of planned behaviour is characterized on the behavioural intention that is influenced by perceived behavioural control, attitude, and subjective norms. Actual behaviour is, in turn, determined by behavioural intention. Among all, perceived behavioural control refers to individual's perceived ease or difficulty of performing the particular behaviours (Kamrul, 2009).

Finally, the theory of reasoned action (TRA) has been functional to describe the behaviour beyond the acceptance of technology and includes four general concepts. It includes behavioural attitudes, subjective norms; intention to use and actual use and

individuals evaluate the consequences of a particular behaviour and create intentions to act that are consistent with their evaluations (Bultum, 2014). Following the chain of prediction further back, attitudes can be predicted from an individual's beliefs about the consequences of the behaviour. Subjective norms can be predicted by knowing how significant other individuals think the behaviour should or should not be done (Kamrul, 2009).

This study attempted to relate these theories with e-payment contribution as they predict customer's behaviour and application of multimedia technology. Customers accessed banking products and services through daily physical contact with bank tellers in banking practice. This approach is concerned in providing banking services created a mismatch between customer demands and bank capabilities because customers could only access financial services at specific locations and during a bank's working hours. This is due to the fact that financial management continues to change at a rapid pace. Advancements in technology and electronics data applications are occurring not only in the theory of financial management but also in its real-world practice. It helps to create value within a corporate setting in financial management to take on a greater strategic focus. In addition, they help to understand the costs of acquiring information and making transactions create incentives for the emergence of financial markets and institutions. Theoretical models show that financial instruments, markets, and institutions may arise to mitigate the effects of information and transaction costs.

2.1.4. Benefits of E-Payment

Cheng (2006) stated that electronic payment or banking reduces the transaction costs of banking for both. Customers prefers E banking for conveniences, speed, round the clock services and access to the account from any parts of the world. It predominantly offers benefits to banks as well. Banks can benefit from lower transaction costs as E-banking requires less paper work, less staffs and physical branches. Teerapat*et al* (2012) state that it leads to higher level of customers' satisfaction and retention and enables business and banks in particular to serve customer anywhere and anytime through any delivery channel the customer selects, in effect increasing accordingly of business. E-payment services are beloved to reduce the need for caring cash and more funds access by anywhere, anytime

in as the money kept in banks is accessible as the money in customer product. This would conclude keep the cash at banks to re longer time.

Businesses save on operational and processing expenses mainly due to reduction in technological costs for example, the use of the Internet and the acquisition of computers and other machines. Expenditures in paper and postage are cut down along with time spent in executing personal transactions. According to Dixit (2010), an average payment in internet bank or via direct deposit cost 4 times less than payment in branch. On actual cost side in the bank point of view direct debit payment cost 16 times less and payment in internet bank 7 times less than payment in branch. This indicate that E banking contribute a significant financial benefit to banks to which implement E banking. In addition to this E banking reduce the capital expenditure and staff cost of the bank.

On other hand, e-payment systems offer the main benefit from the bank customers' point of view is significant saving of time by the automation of banking services processing and introduction of an easy maintenance tools for managing customer's money (Cheng, 2006). Rachna (2013) listed the main benefits of e-payment for corporate customers that included reduced costs in accessing and using the banking services, increased comfort and timesaving, quick and continuous access to information, better cash management and speed up cash cycle and increases efficiency of business processes. In addition, it gives additional benefits that include convenience on that all the banking transactions can be performed from the comfort of the home or office or from the place a customer wants to. Moreover, it create a speedy transactions on that the response of the medium is very fast; therefore customers can actually wait till the last minute before concluding a fund transfer. It also facilitates the funds management. Customers can download their history of different accounts and do a what-if analysis on their own PC before affecting any transaction on the web. This will lead to better funds management (Alexa, 2005).

Further, e-payment provides the main features of bank services such as confidentiality, integrity and authentication and reinforces the cooperative efforts between the private and public sectors. These significant features of the banking sector have been very successfully managed the world over during the internet times (Kamrul, 2009).Online and offline communication across an open and thus insecure channel such as the internet might be the best base for bank-client relations as trust might partially be lost. In

addition, there are some serious implications of international e-banking. It is a mutual agreement that low transaction costs potentially make it much easier to conduct cross-border banking electronically. Bilateral trading and cross border operations offer an opportunity to reap economies of scale for several banks even if cross-border finance requires a higher degree of cross-border supervision. Such cooperation may need to extend to similar supervisory rules and disclosure requirements (for efficiency and to avoid regulatory arbitrage) and some harmonizing of legal, accounting and taxation arrangements (Rachna, 2013).

2.1.5. Challenges of E-Payment

The challenges of e-payment can be best considered as internal (ability of the bank, human resources and others) and external challenges (legal, economic, technology and social). Electronic payment system requires large amount of information from end users or make transactions more difficult by using complex elaborated websites interfaces. For instance, credit card payments through a website are not easiest way to pay as this system requires large amount of personal data and contact details in web form. Making online payment is not an easy task. Even educated people also face problems in making online payments. As a result, they always prefer traditional way of shopping instead of online shopping. Occasionally, there is a technical problem in server customers tried to do online payments but they fails to do and consequently they avoid it. Perceived quality is a form of attitude, related but not equal to satisfaction, and results from a consumption of expectations with perceptions of performance. The customer's perception of quality of service is based on the degree of agreement between expectations and experience (Faruq and Hartini, 2013).

The current business models and pricing mechanism are inadvertently promoting a less efficient system. In general, the prices of payment transactions do not reflect the cost of production of the respective payment services. It therefore does not provide the right price signals for the consumers to utilize the more effective and efficient payment services. In fact, payments via cheques, which incur a large variable cost, should be higher in terms of fee. In practice however, it remain popular due to perceived lower cost for payment compared to the other means of payments (Adnan, 2008). The e-payment system requires skill and knowledge to develop. So there is less knowledge to implement

the technologies, application of payment system and providing system failure solutions (Dixit, 2010).

In addition, external challenges included infrastructure, legal and economic and other factors. For example, the e-Payment system is partially implemented. These contain but not limited to Laptop, desktop, scanners, good internet connectivity, training and global software. The provision of basic information technology infrastructures are major challenge (Faruq&Hartini, 2013).It is related to online payment systems for the internet are an easy target for stealing money and personal information. Customers have to provide credit card and payment account details and other personal information online. This data is sometimes transmitted in an un-secured way and providing these details by mail or over the telephone also entails security risks (Dixit, 2010). Electronic payments have a long history of fraud, misuse and low reliability as well as it is new system without established positive reputation. Potential customers often mention this risk as the key reason why they do not trust a payment services and therefore do not make internet purchases (Faruq&Hartini, 2013).

2.2. Empirical Literature Review

2.2.1. Global Studies

Edmundo and Oxana (2017) addressed how an electronic payment system is affecting the diffusion of innovation among online public services, settling the challenges at the government level, providing solutions for diminishing the money laundering in the country and all other associated problems. The research implication is to generate general knowledge by fulfilling the literature gap related to electronic payment systems in the public sector and diffusion of innovations. Based on empirical evidence collected, the answers to the present questions and what was perceived by the researchers is that comparing to the Consumer perspective the rate of adoption is increasing more for the Services Providers. Under the Public and Payment Services Providers perspective out of five attributes, four (all except for compatibility) are increasing the rate of adoption of innovation comparing to two attributes (relative advantage and trial ability) under the Consumers' prospective. Thus, they concluded that comparing the two perspectives, the Services Providers have a much higher rate of adoption comparing to the latter. This happened predominantly because Mobile Pay was executed with the determination to

make the public sector more transparent, to cut corruption and bureaucracy at the governmental level. Furthermore, there was a push and a strong commitment coming from the Moldovan Government side to adopt the innovation. As a result, the adoption rate reached by a smaller amount of institutions (among them public authorities and payment operators) comparing to a more extensive number of existing consumers/end-user turned Services Providers into main beneficiaries of a higher Mobile Pay adoption rate. Besides, the researchers found that the relative advantage and compatibility attributes are two most significant and effective attributes directly related to increasing the adoption rates. They are regarded as similar something to take into consideration when planning to introduce a new product in the market although they are conceptually different. Under this research, the compatibility attribute is maintaining steady and not affecting the adoption rate.

Adnan (2008) assessed the development of e-payment and challenges in Malayisa. This study focused on the issues and challenges in the transition from paper-based payments to e-payments in Malaysia are multi-faceted. It found that considerable capital investment and efforts are required to provide the enabling infrastructure to enhance migration to e-payments. Currently, the existing e-payment services and products are limited, inconvenient and not meeting customers' expectation thus requires continuous enhancements. There is also lack of common technology standards between service providers to promote interoperability. The other challenge is in developing and sustaining users' confidence and inculcating a change among the customers, apart from increasing public awareness and acceptance of the various payment channels available in the market. It included the prices of payment transactions do not reflect the cost of production of the respective payment services. As a result, it found that it does not provide the right price signals for the consumers to utilize the more effective and efficient payment services. In fact, most of the e-payment systems such as e-money systems are based on technology that is designed to extend the geographic reach of service providers and customers. The service providers may face different legal and regulatory requirements when they deal with customers across national borders.

On other hand, Rahman (2012) assessed e-payment in terms of mobile banking and its benefits. The study found that e-payment enhanced Bangladesh's business demand from

the business community as well as the retail customers particularly the urban customers. In this country, electronic banking (e-banking) is still at a promising state due mainly to a number of benefits such as availability of a backbone network connecting the whole country; adequacy of reliable and secure information infrastructure especially telecommunication infrastructure; ICT penetration in banking sector; sufficient legal and regulatory support for adopting e- banking and so on. The concept of e-banking includes all types of banking activities performed through electronic networks. This study pointed out the main Bangladesh's challenge of e-payment service delivery. Some of point's are lack of skill manpower, shortage of power supply, lack of citizens' awareness, unwillingness of service providers, slow connectivity of internet and shortage of equipment. More importantly, Widayat, Ilyas and Novita (2020) carried out on the adoption of the e-money payment model with the application of a quantitative and qualitative approach (mixed methods). The final analysis shows that the reasons for adopting e-money are practicality and convenience. The main reasons that customers adopt electronic money are its practicality, ease of use, efficient transaction time, faster payment, and the simplicity of the payment process. The analysis shows that customer attitudes towards e-money are significantly predicted by these two domains. That is, positive customer attitudes related to the measures used are caused by the condition of infrastructure as a support and also by the persuasion of social factors. The existence of internet connection, support by adequate devices, and user skills, coupled with the encouragement of external parties such as shops, financial institutions, and the people closest to the individuals, will make users of e-money have a positive attitude. The positive attitude is reflected by feeling happy, feeling unworried about personal data being misused, and feeling up to date.

2.2.2. Evidences from African Studies

Asaolu, Ayoola&Akinkoye (2011) assessed the electronic payment system in Nigeria as implementation, constraints and solutions. The study listed numerous benefits comes with its own challenges even in the developed world. These challenges included lack of uniform platform by banks. It found that there is no compelling law mandating the banks to use common software platform. There is the problem of switches in effecting transfer from one bank to another. Interconnectivity has been a problem. No uniformity of

account numbers since different banks use different numbering systems. In addition, the study found that there is lack of adequate infrastructure. Further, it added that the major challenges of e-Payment in Nigeria are security in terms of platform, hackers and virus attacks. Resistance to changes in technology among customers and staff due to lack of awareness on the benefits of new technologies, fear of risk, lack of trained personnel in key organizations, tendency to be content with the existing structures, and people are resistant to new payment mechanisms.

On other hand Eva & Tony (2014) assessed mobile money services development. They found that the mobile phone operator plays the dominant role in the partnership, contracting a network of agents to interface with customers and operating the telecommunications infrastructure for effecting transactions and storing virtual money. The role of the bank in the partnership is primarily to hold an account (termed variously as a settlement account or escrow account) in which all of the agents of the network hold balances and which are debited/credited when an agent sells/buys mobile money for cash.

2.2.3. Ethiopian Studies

A study conducted in Ethiopia Mohammed (2014) on financial institutions poised to provide e-banking services. It assured that commercial bank of Ethiopia (CBE) is a pioneer to introduce electronic payments in the country when it launched proprietary ATM service in 2002. Nevertheless, the bank found it important to set up a new solution for electronic payment services which is capable of supporting its business growth requirements. Accordingly, the bank has implemented card payment services, mobile payment and internet banking (Commercial bank of Ethiopia, 2014). This descriptive study listed challenges e-payment in context of Ethiopia as awareness creation, ability, responsiveness and perceived quality. When this research title select the challenges on awareness, a huge customer and cannot be addressed well to use the e-payment services and practice the technology cannot be adopting the customers easily. The other challenge are ability, the new technology cannot internalized easily to perform transactions. In all this challenge the bank has help as to support any question related to the new technology this also the other challenge that is responsiveness.

On other hand, Sewalem (2018) investigated the challenges and opportunities of implementing e-payment projects. This study aimed to identify the challenges and

opportunities of implementing various electronic-payment projects using CBE birr mobile payment system as a case study. In view of that, the study came up with the findings that the most challenging factor to the implementation of CBE Birr service is ambiguity on duty and responsibility, mal operation practice by agents, lack of employees' technical knowledge on CBE Birr & police clearance for agent recruit. Despite the above-mentioned and other challenges, the study showed that Growing acceptance of CBE Birr, ICT Infrastructure and NBE's policy direction that enforce banks to adopt technological innovation are some of the major opportunities identified by the study. On other hand, Saba (2016) assessed challenge's and prospects of E-payment of CBE and factors those strongly influence customer's decision to become and stay user. Using descriptive method, the findings of the study show that the bank has faced some challenges relating with e-payment service. Lack of awareness, less responsiveness system, dependency on government network provider, heavy investment costs, poor telecommunication network infrastructure and electric power interruption challenges are the serious ones. All these factors affected the development of the service as expected. In this study, the management is advised to review its staff's knowledge on the basic features of service and monitoring strategy should also be designed on how the service support to deliver. CBE has to keep working to retain the good attitude of customer towards the e-payment services by keeping up meeting and exceeding customer's expectation.

2.3. Research Gap

Several studies such as Adnan (2008) focused on the development of e-payment and challenges, Rahman (2012) assessed e-payment in terms of mobile banking and its benefits and Asaolu, *et al.,* (2011) concentrated the electronic payment system and Eva & Tony (2014) assessed mobile money services development. Edmundo and Oxana (2017) reviewed extensive literature to gain familiarity principally on the diffusion of innovation theory, secondary on government electronic payment systems and cashless societies and they analyzed empirical evidence related to the perceived attributes of diffusion of innovations theory and the rate of adoption of e-payment system designed for public services from the perspective of consumers, public service providers, and payment

operators. They also rated adoption of public e-payment systems by using a case study approach in the case of the governmental payment gateway. Even in Ethiopia, Mohammed (2014) concerted on financial institutions poised to provide e-banking services. Sewalem (2018) investigated the challenges of not exhaustively include the major factors. It used perceived usefulness, perceived ease of use, attitude toward as external variables and operational factors, payment mode factors and lack of adequate legal and regulatory framework as internal factors. Besides, Saba (2016) assessed challenge's and prospect of E-payment of CBE based on awareness of customer on E-payment service, the ability of e-payment users and the perception quality of e-payment users. Thus, this study attempted to assess e-payment system benefits in terms of speed, immediacy, security, ubiquity and convenience, and investigate both internal and external challenges of e-payment system in Ethiopia.

2.4. Conceptual Framework

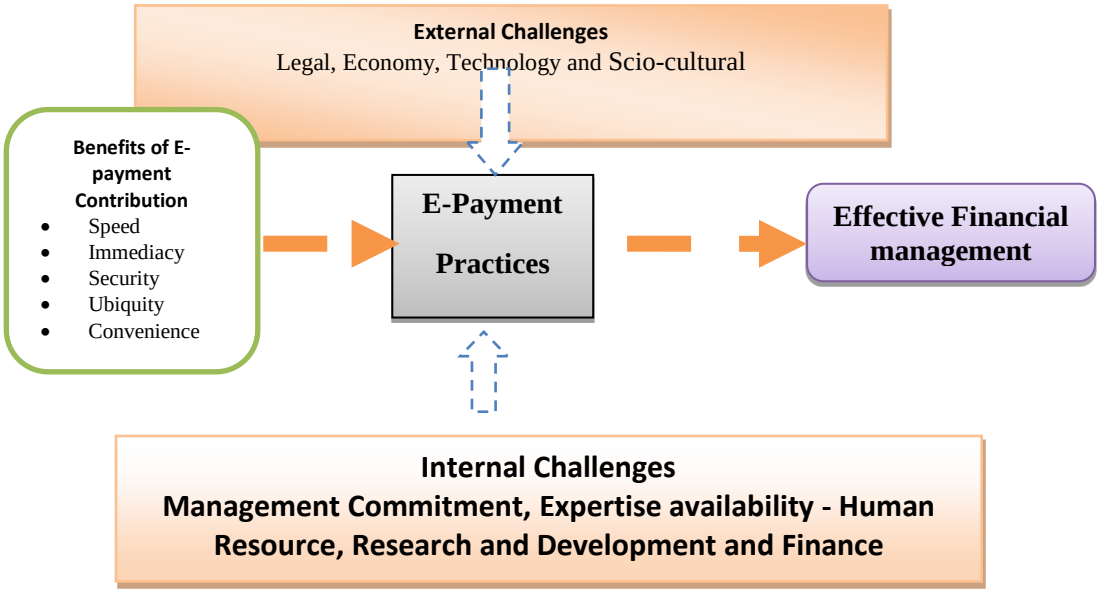

Figure 1 Conceptual Framework
Source: Adapted from (Sewalem, 2018 and Adnan, 2008).

The conceptual framework includes the e-payment system practices and its ultimate or contribution of e-payment in terms of speed, immediacy, security, ubiquity and convenience and the possible internal and external challenges of e-payment system in Addis Ababa districts of Commercial Banks.

CHAPTER THREE
RESEARCH METHODOLOGY

This chapter presents all those methods/techniques that are used for conduction of challenges and benefits of e-payment research. It includes research design, research approach, sampling techniques, and instruments, methods of data collection and method of data analysis along with ethical consideration during and after the study.

3.1 Description of Study Area

This study was conducted in four central place of the city ; it included Arada, Kirkos, Lideta and Addis Ketema. Addis Ababa is the hub of the financial and economic sector of the country. It is also a hub of the country's money-making and international and local commercial hub. The area of this study divided into eleven (11) sub-city administrations. It hosts the Federal Government sector bureaus, and headquarters of various international organizations. The study was conducted on the capital city of Ethiopia. Inhabitants of Addis Ababa are more connected to the digital world.

Figure 2 Map of Addis Ababa

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data (Kothari, 2004).

As of descriptive research studies, this study mainly concerned with describing the characteristics of e-payment system in Ethiopia a particular. In this study, the researcher clearly describes the benefits of e-payment and challenges in terms of external and internal. This helps to obtain complete and accurate information and the procedure to be

used that are carefully planned. Accordingly, this study enabled to describe characteristics of banking electronics payments, its challenges, benefits explained the conditions of the present by using questionnaires. In addition, the researcher employed the facts or raw data already available to analyze and make a critical evaluation of the data. In view of that, this study provided a complete picture of banking e-payment system in Addis Ababa and explains the financial marketing situation of the target market that is the essential task of companies, stockholders and financial manager under modern finance marketing in Ethiopia. Meanwhile the objective of this study is to assess the challenges and benefits of e-payment system in Addis Ababa, Ethiopia. It was conducted using descriptive type of research. Overall, the study employed descriptive research design.

3.3 Research Approach

Research can be considered as qualitative and quantitative or mixed research approach. Qualitative research is more subjective in nature than quantitative research and involves examining and reflecting on the less tangible aspects of a research subject. While, the emphasis of quantitative research is on collecting and analyzing numerical data; it concentrates on measuring the scale, range, frequency etc. of phenomena. Besides, mixed method integrates quantitative and qualitative data collection and analysis in a single study or a program of enquiry (Creswell, 2009). This study used quantitative approach that is concerned with expressed in numbers and graphs and used to test or confirm theory and assumptions. Research in such a situation is a function of researcher's insights and impressions. Such an approach to research generates results either in non-quantitative form or in the form which are not subjected to rigorous quantitative analysis. This study applied depth interviews and highly concentrate on measuring the scale, range, and frequency of phenomena. The study was highly detailed and structured and results can be easily collected. Generally, the study applied quantitative research approach.

3.4 Data Type and Source of Data

There were two types of data, which were used, in research. These are primary data and secondary data. Gathering of data is also very important task in writing a research thesis. In order to achieve the objective of this research, both primary and secondary sources of data were used.

3.4.1 Primary Data

Primary data is defined as the data that a particular organization collects itself for the purpose of dealing with a specific problem (Saba, 2016). The main advantage with this type of data is that it is collected with the research's purpose in mind. Primary data is collected by researcher's own creating and analysing results. Questionnaire and interview were used to collect primary data and interview was made with officials and practitioners of the bank. The researcher used primary data for the entire analysis of this study. The researcher prepared and sent a standard questionnaire to sample of respondents (users of e-payment) in Addis Ababa. Hence, the data collected from the respondents through standard questionnaires was used as primary data.

3.4.2 Secondary Data

Most common source to get secondary data in social science include censuses, surveys, organizational records and through research and qualitative methods. Secondary data can be obtained from the previous research, journals, and other study literature, which may help in one's study research. The researcher also used secondary data to construct the basic framework of the study before proceeding with the primary data, cash limit and other directives of national bank of Ethiopia as secondary data. Secondary data sources were obtained from the surveyed bank ICT and electronic banking manuals, reports, and some management documents. This included banks' annual report and government annual reports and national bank of Ethiopia documents related to electronic banking. In addition, the study used both quantitative and qualitative data.

3.5 The Population of the Study

3.5.1 Target Population

Population in research refers to the aggregate or totality of objects or individuals regarding which inferences are to be made in a sampling study and it are concerned as all possible individuals making up a group of interest in a study (Kotari, 2004). In this study, the study population consists of customers who use considerately electronic banking around the central part of Addis Ababa. The total population of the study summed up to 261,800 customers. (Respective surveyed banks, 2021)

3.5.2 Sampling Technique

This study used non-probability sampling specifically convenient sampling technique is used to select the existing respondent and who are easily accessible for selection of customers to distribute questionnaire which to be filled in a self-administration manner and managers and employees for interview. This included a researcher selected sample members to conform to basic criterion like e-payment experience, having extensive banking transactions and knowing the electronic services of commercial banks

3.5.3 Sample Size Determination

This study employed the known sampling formula called Yamane's formula for calculating sample size In order to sample size determination and allocation to respondents. Yamane (1967) suggested simplified formula for calculation of sample size from a population which is an alternative to Cochran's formula. The formula to be used to calculate the sample size of the study is the statistical formula given by Yamane (1967) formula. Sample size for ±5% precision levels (the size of the interval estimate the ± .5 researcher accepted, high precision) Where Confidence Level is 95% and P=.5. For 261,800 size of population, the sample Size (n) for precision (e) of 5% was 399. The formula is presented below:

$$n = \frac{N}{1 + A = \pi r^2 N(e)^2}$$

$$n = \frac{261,800}{1 + 261{,}800(0.05)^2}$$

$$=399$$

Where

n = number of sample size and N = Total number of study population e= level of confidence to have in the data or degree of freedom which is 95% apply for this study with 5% error. Therefore, sample size of the study was 399 respondents of the surveyed bank customers in Addis Ababa.

Table 1 Selection of Target Customers

No.	Sub City	Active e-payment Users	Proportion (399/261,800)	Sample size per
1	Arada	50150	0.00152	76
2	Kirkos	80375	0.00152	122
3	Lideta	40850	0.00152	62
4	Addis Ketema	90425	0.00152	138
	Total	261,800		399

Source: Commercial Banks and survey result, 2021

3.5.4 Sampling Procedure

In this study, convenient sampling was used to select the respondents from branches in central part of Addis Ababa. The study selects branches based on their performance on holding active users and having higher performance (as per the banks' ranking system higher market share) which includes higher international trading and transaction performance, high saving rate and good performers of the year 2020.

For this study, the procedure is first, four sub cities are identified as central part of Addis Ababa, five active branches are selected which have active in serving electronic banking application including import export, mobile and internet banking and ATM and similar platforms. This study selected three electronic payment transactions including import export and local and international transfers, teller or mobile banking transaction desk was chosen from these branches. Respondents were selected from customers who were interested and willing to complete a questionnaire while spending time in those places without consideration of any selection criteria. For qualitative data a non-probability sampling technique was recognized fifteen participants from senior management team and employees using convenient sampling.

3.6 Instruments of Data Collection

The researcher employed two data collection method including interview and questionnaire for collection of primary data.

3.6.1 Questionnaire

Questionnaire was prepared and distributed to targeted respondents or customers of the bank. The questionnaire was adapted from Ogedebe&Babatunde (2012). The questionnaire had two most common types of survey questions that are closed-ended and open-ended questions. In addition, open-ended questions were included to give a free-form answer and to increase the validity of the data and minimize dropping of information. The questionnaire was prepared by close-ended questions that are organized on a five-point Likert scales ranging from '1' "Strongly Disagree" to '5' "Strongly Agree" and it also included open questions. Rating scales, such as Likert scales, are very common on opinion surveys, population studies, and numerous other fields. This study selected five ordered response levels as it helps to the uppermost possible attainable score, compared to those produced from a 10-point scale, and this difference are statistically significant.

3.6.2 Interview

Interview checklist was used for issues that require further elaboration and clarifications concerning e-payment benefits and challenges with respective stakeholders of the bank and employees and managers of the bank. This study employed the unstructured, purely qualitative interview is rather like an informal conversation. Here questions were asked based on the specific objective of the study that included e-payment practices in commercial banks and its associated challenges in Ethiopia. In the natural course of interaction and arise from the particular context. Unstructured interviews can give a greater insight and more in-depth understanding of the topic researched, but need more expertise to control and more time for analysis. On the other hand, interview sessions were scheduled with selected employees, managers and higher executives of the corporation. For interview sampling, the study applied Guest, Bunce and Johnson (2006) recommendation for the minimum sample size for interview. They cited Bertaux (1981) and they said that the minimum sample size for interview is fifteen. Accordingly, the interview sample size of this study was fifteen as per the smallest acceptable sample size (adapted from Guest et al., 2006). Thus, fifteen interview sessions was scheduled with the mentioned interviewees via face to face and telephone due to Covid 19.

3.7 Instruments Validity and Reliability

3.7.1 Instrument Validity

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. Validity can also be thought of as utility. In other words, validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested (Kothari, 2004). This study applied content validity that is the extent to which a measuring instrument provides adequate coverage of the topic under study. It can also be determined by using a panel of persons who shall judge how well the measuring instrument meets the standards, but there is no numerical way to express it. In this study, content validity was assessed by consulting the expertise of the supervisor and two financial managers and information technology experts. These experts and the research advisor properly investigated each question in the questionnaire and do their own analysis to ascertain that the questions answer research objectives of the area understudy. Based on their recommendations (to continue with the instrument with some correction), necessary amendments was taken into consideration in order to improve the instruments. Further, pilot test was conducted with ten respondents.

3.7.2 Instrument Reliability

The test of reliability is another important test of sound measurement. A measuring instrument is reliable if it provides consistent results. Reliable measuring instrument does contribute to validity, but a reliable instrument need not be a valid instrument. Accordingly reliability is not as valuable as validity, but it is easier to assess reliability in comparison to validity (Kothari, 2004). Thus, this study employed Cronbach's alpha as it gives the proportion of the total variation of the scale scores that is not attributable to random error.

Table 2 Cronbach's alpha Test Result

	Reliability Statistics	
	Cronbach's Alpha	**No. of Items**
External Challenges	.924	16
Internal Challenges	.838	16
Benefits	.763	20
Practices	.790	10
Directive Challenges and benefits	.762	4
Overall	.887	66

Source: Survey result, 2021

Chronbach's alpha is a coefficient of reliability used to measure the internal consistency of the scale. According to Choudhry, A. (2015), scale with coefficient alpha between o.6 and 0.7 indicate fair reliability so for this study a Chronbach's alpha score of >0.70 or higher is consider adequate to determine reliability. Thus, it was checked as the data collection tool was reliable.

3.8 Data Analysis Methods

The data collected through survey questionnaire was analyzed using descriptive statistics that included percentage, mean and standard deviation. Descriptive statistics was applied to summarize data as central tendency (or groups' "middle values") like mean and variation (or summary of differences within groups) like standard deviation. For that reason, the percentages show the frequency distribution of the variables. While, standard deviation shows how diverse are the perceptions of respondents for a given questions. In this regard, deviation means that the data are wide spread, which implies respondents give variety of opinion while, low standard deviation implies respondent's close opinion whether positively or negatively.

In addition, data gathered through interview was transcribed, classified and categorized. The categorized data was enrolled under thematic areas and was prepared in narrative form and quantitative and qualitative data integrated to triangulate the finding. The

secondary data gathering was performed to validate the respondents' opinion and the previously mentioned detailed interview discussions.

3.9 Ethical Consideration

This study was basically guided by standard research ethics and practices that included basic ethical codes of conduct throughout the research process. First, respondents' dignity, culture, time and interest were kept carefully. The data was collected based on the willingness and time of participants. Before actual data collection, research data collection methods including letters and short notices were prepared. Covering letter was attached to the questionnaire and interview guide to ensure the participant's anonymity and confidentiality that information obtained from them disclosed to the third party. Next, respondents were informed about the objectives of the study during actual data collection. Moreover, the study provided anonymity that means the information from the respondents were kept confidential and not biased for any other personal interest.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents findings of the study, followed by their interpretations and discussion as compared and contrast to previous studies. It includes the frequency of response rate and respondents profile of customers as well as response analysis by descriptive statistics and qualitative data analysis to answer the research objective.

4.2 Response Rate

The survey questionnaire was administrated by face to face sent out from March – April, 2021, interested participants being given two hours to respond to the initial response. After couples of days' time frame, 292 responses were received. Response rates are discussed in more detail in below. .

Table 3 Response Rate

No.	**Sub City**	**Sample Size Per**	**Returned**	**Response Rate**
1	Arada	76	54	71%
2	Kirkos	122	91	74%
3	Lideta	62	46	74%
4	Addis Ketema	138	101	73%
Total		**399**	**292**	**73%**

Source: survey result, 2021

A total of 399 self-administrated questionnaires were distributed to the respondents with close follow up and guide in filling the questioners. Accordingly, 292 respondents properly filled and returned the questionnaires in suitable form; and they were used to analysis. It indicates that seventy (73%) of the total targeted respondents were participated in the study. In addition, only eleven interviewees were conducted over phone based on the prepared interview checklist and the result of their responses are discussed accordingly. According to Masihuddin, *et al*., (2017), a response rate of 50% is adequate for a study, 60% is good and 70% and above is excellent. Consequently, a response rate of 73% was appropriate and consistent for the study as shown above table. In consequence, within Covid 19 hit and its consequence, it can be said that the study achieved well-thought-of data response rate.

4.3 Respondents' Profile and E-payment Challenges and Preferences in Commercial Banks

This part of the data presentation summarized demographic profiles of the respondents, i.e. distribution of respondents in sex, age, and educational, marital status as well as their contact years with surveyed commercial banks. In view of that, their responses are presented in the following figures, followed by the implication of the responses. Analyses were also done using the chi-square test. This was done as a measure of test of no association between categories of e-payment cumbersome challenges and preferences with demographic profiles.

Table 4 Gender vs e-payment cumbersome challenges and preferences

Crosstab

Count

		The most preferred e-payment system in Addis Ababa					Total	Pearson Chi-Square [Value, df, Asymp. Sig. (2-sided)]
		ATM	Mobile	Agent	IBD	Others		
Gender	Female	14	41	24	39	11	129	2.864[a] , 4, .581
	Male	25	42	27	50	19	163	
Total		39	83	51	89	30	292	
		More cumbersome e-payment system in commercial banks					Total	
		ATM	Mobile	Agent	IBD	Others		
Gender	Female	13	25	28	19	44	129	8.752[a], 4, .068
	Male	35	32	25	16	55	163	
Total		48	57	53	35	99	292	

(IBD - *International Banking Division)*

Survey Result, 2021

As shown in the above pi graph, out of 292 the total of customer respondents of this study, 129 (44%) in number of the respondents are females and 56% of the respondents are male. out of the total female respondents, the majority (41 female respondents) of them preferred to mobile while 42 and 50 male respondents preferred to mobile and IBD e-payment system. On other hand, for the total gender respondents (89) preferred to IBD and 83 preferred to mobile e-payment system. This shows that the majority of the customers need e-payment system that related to mobile, agent and IBD. This data also shows that out of 129 female respondents only 28 respondents stated that agent banking has more cumbersome while from 163 male respondents only 25 respondents stated that agent banking has more cumbersome e-payment system in commercial banks. This shows that 99 individuals preferred to the other category to indicate the major problem related to e-payment may be another possibilities. The majority of the interviewees indicated that the major e-payment problems may be related to legal and regulatory issues (cash limit and others), technology, support system and others. Sewalem (2018) stated that the potential for system error, malfunction and resulting losses will increase correspondingly as data communication networks are used to accomplish financial transactions. This potential for error and malfunction in computer transmission results in enormous loss of funds and consequential damage. On other hand, Pearson's chi-square with two-degrees of freedom further confirmed acceptance of the hypothesis at the significant level of $p = .581$; which is greater than the set value of $p = 0.05$.It can be concluded that the perception by surveyed customers about the most preference of e-payment system in Addis Ababa and the most cumbersome e-payment system in commercial banks are independent of the status of the gender. This means that the e-payment preference and their related problems are independent of gender. This means female and male have similar preferences and have the same challenges.

Table 5 Age (in year) vs preference and challenges of e-payment system in Addis Ababa

Crosstab

Count

		The most preferred e-payment system in Addis Ababa					Total	Pearson Chi-Square [Value, df, Asymp. Sig. (2-sided)]
		ATM	Mobile	Agent	IBD	Others		
Age (in year)	Less than 30	3	6	8	13	1	31	42.794[a], 12, .000
	31 -46 tears	22	35	9	45	17	128	
	47-65 years	13	39	21	20	10	103	
	Above 66 years	1	3	13	11	2	30	
Total		39	83	51	89	30	292	
		More cumbersome e-payment system in commercial banks					Total	
		ATM	Mobile	Agent	IBD	Others		
Age (in year)	Less than 30	15	0	11	2	3	31	135.756[a], 12, .000
	31 -46 years	16	51	11	10	40	128	
	47-65 years	17	4	31	10	41	103	
	Above 66 years	0	2	0	13	15	30	
Total		48	57	53	35	99	292	

Survey Result, 2021

The above table shows that the majority of respondents sampled from customer lie within the age group of above 31 – 65 (128 of them 31-46 years and 103 individuals from 47-65 years).It indicates that most of the respondents are in active and at the age of maturity

where they can feel more responsible to properly play the roles expected of them with the sense of accountability. 83 individuals of the total respondents from age 31 to 65 preferred to mobile e-payment system. However, only aged from 31 to 46 selected mobile e-payment system as the more cumbersome e-payment system. This may be related to that this age group may be frequent users and they faced such kind of problem in mobile system. On other hand, Pearson's chi-square with two-degrees of freedom further confirmed acceptance of the hypothesis at the significant level of p = .000 ; which is less than the set value of p = 0.05: It can be concluded that the perception by surveyed customers about the most preference of e-payment system in Addis Ababa and the most cumbersome e-payment system in commercial banks are not independent of the composition of age category. This means that the e-payment preference and their related problems are dependent of age composition. This means different age category have dissimilar preferences and have the various challenges.

Table 6 Martial Status vs preference and challenges of e-payment system in Addis Ababa

Crosstab

		The most preferred e-payment system in Addis Ababa					Total	Pearson Chi-Square [Value, df, Asymp. Sig. (2-sided)]
		ATM	Mobile	Agent	IBD	Others		
Marital Status	Single	12	31	9	45	9	106	34.594[a] 12 .001
	Married	22	36	26	29	16	129	
	Divorced	3	4	13	11	3	34	
	Refused or Others	2	12	3	4	2	23	
Total		39	83	51	89	30	292	
		More cumbersome e-payment system in commercial banks					Total	
		ATM	Mobile	Agent	IBD	Others		
Marital Status	Single	33	13	11	26	23	106	103.965[a] 12 .000
	Married	5	39	22	1	62	129	
	Divorced	8	1	14	2	9	34	
	Refused or Others	2	4	6	6	5	23	
Total		48	57	53	35	99	292	

Survey Result, 2021

Most of the respondents (129 in number) are married and single (106 in number). In view of this, the majority respondents are married showing that they have been exercising the role of accountability and responsibility and in better social relations they are taking part. In addition, it shows the distribution of gender participants in the study is relatively equal even if the majority of the respondents are male. Likewise, the majority (36) of married respondents preferred to mobile banking and 39 of them indicated that mobile banking was the more cumbersome and difficult to handle e-payment system. On other hand, Pearson's chi-square with two-degrees of freedom further confirmed acceptance of the hypothesis at the significant level of p = .000 ; which is less than the set value of p = 0.05. It can be decided that the perception by surveyed customers about the most preference of e-payment system in Addis Ababa and the most cumbersome e-payment system in commercial banks are not independent of the composition of status of marital. This means that the e-payment preference and their related problems are dependent of status of marital arrangement. This means different status of marital has dissimilar preferences and have the various challenges.

Table 7 Educational Status vs preference and challenges of e-payment system in Addis Ababa

Crosstab

Count

		Indicate your most preference of e-payment system in Addis Ababa					Total	Pearson Chi-Square [Value, df, Asymp. Sig. (2-sided)]
		ATM	Mobile	Agent	IBD	Others		
Educational Status	Below High school	6	12	6	1	1	26	67.064[a] 12 .000
	Diploma and Degree	21	26	27	40	10	124	
	Masters	10	41	13	18	17	99	
	Refused or Others	2	4	5	30	2	43	
Total		39	83	51	89	30	292	
		more cumbersome e-payment system in commercial banks					Total	
		ATM	Mobile	Agent	IBD	Others		
Educational Status	Below High school	20	0	2	2	2	26	155.431a 12 .000
	Diploma and Degree	4	44	30	5	41	124	
	Masters	23	6	21	13	36	99	
	Refused or Others	1	7	0	15	20	43	
Total		48	57	53	35	99	292	

Survey Result, 2021

The educational profile of respondents indicate that 124 respondents sampled from customer lie within the educational category of diploma and 99 respondents within the educational category of first degree holders participant in this study. 26 respondents sampled from customer lie within the educational category of diploma and 41 respondents within the educational category of first degree holders preferred to mobile banking. This data shows that most of the respondents preferred to IBD and mobile banking as e-payment favorite. The majority of diploma holders (44) indicated that mobile banking has been the most cumbersome e-payment system. This shows that the

well-educated personnel have various preference and problems that associated with e-payment system, It may be related to that when one gains higher education, he or she may solve technological problems be themselves. On other hand, Pearson's chi-square with two-degrees of freedom further confirmed acceptance of the hypothesis at the significant level of p = .000 ; which is less than the set value of p = 0.05. It can be decided that the perception by surveyed customers about the most preference of e-payment scheme and the most cumbersome e-payment system in commercial banks are not independent of the composition of status of education level. This means that the e-payment preference and their related problems are dependent of status of education level. This means different education level has unrelated preferences and have the several challenges.

Table 8 Work Experience with commercial banks vs preference and challenges of e-payment system in Addis Ababa

Crosstab

Count

		The most preferred e-payment system in Addis Ababa					Total	
		ATM	Mobile	Agent	IBD	Others		
experience in working with commercial banks	Less than a year	12	27	12	8	6	65	41.246a 12 .000
	About two or three years	15	21	9	33	4	82	
	4 – 6 years	5	20	7	27	6	65	
	Above 7	7	15	23	21	14	80	
Total		39	83	51	89	30	292	
		more cumbersome e-payment system in commercial banks					Total	
		ATM	Mobile	Agent	IBD	Others		
experience in working with commercial banks	Less than a year	9	16	11	2	27	65	85.277a 12 .000
	About two or three years	13	28	5	18	18	82	
	4 – 6 years	23	9	8	8	17	65	
	Above 7	3	4	29	7	37	80	
Total		48	57	53	35	99	292	

Survey Result, 2021

The above table shows that sampled respondents have extensive years of contact with the study company. 145 of the total respondents have known private commercial banks for more than 6 years and 65 of them known it for less than 1 year. This indicates that the study fortunately included those customers who have extensive experience with private commercial banks get better picture of the private commercial banks under study from their experience. On other hand, Pearson's chi-square with two-degrees of freedom further confirmed acceptance of the hypothesis at the significant level of p = .000 ; which is less than the set value of p = 0.05. It can be decided that the perception by surveyed customers about the most preference of e-payment scheme and the most cumbersome e-payment system in commercial banks are not independent of the experience in working with commercial banks. This means that the e-payment preference and their related problems are dependent of experience in working with commercial banks. This means customers with different experience with commercial banks has unconnected preferences and have the several challenges.

4.4 Response Analysis

Targeted respondents were asked to express their opinion about security and privacy, relative advantage, information quality, system quality and customer satisfaction and retention in relation to mobile banking service of commercial banks. This response analysis presents ratings of respondents' level of agreement for each dimension: Raúl and Yazmín (2016) indicates the mean value of the data are more than 4.51 as excellent, 3.51-4.50 good, 2.51 – 3.50 satisfactory and below 2.50 poor.

4.4.1 External Challenges

Table 9 Respondents' Response on External Challenges

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
Ever changing financial management directives of National bank (example cash limit) is a challenge for e-payment system in Addis Ababa	17	5.8%	12	4.1%	10	3.4%	118	40.4%	135	46.2%	4.17	1.077
Monopolized electronic banking products by banks are a challenge for e-payment system in Addis Ababa	18	6.2%	8	2.7%	17	5.8%	139	47.6%	110	37.7%	4.08	1.047
Obsolete legal frameworks are is a challenge for e-payment system in Addis Ababa	18	6.2%	17	5.8%	13	4.5%	104	35.6%	140	47.9%	4.13	1.139
Lack of awareness about existing e-payment laws are challenges for e-payment system in Addis Ababa	13	4.5%	16	5.5%	9	3.1%	141	48.3%	113	38.7%	4.11	1.014
Fear of Exchange rate fluctuations are challenges for e-payment system in Addis Ababa	28	9.6%	23	7.9%	29	9.9%	144	49.3%	68	23.3%	3.69	1.191
Less income of the local inhabitants are challenges for e-payment system in Addis Ababa	31	10.6%	19	6.5%	22	7.5%	150	51.4%	70	24.0%	3.72	1.206
Undeveloped Ethiopian economy are challenges for e-payment system in Addis Ababa	29	9.9%	22	7.5%	15	5.1%	133	45.5%	93	31.8%	3.82	1.240
Lack of business infrastructures are challenges for e-payment system in Addis Ababa	32	11.0%	27	9.2%	17	5.8%	127	43.5%	89	30.5%	3.73	1.286
High internet price are challenges for e-payment system in Addis Ababa	20	6.8%	37	12.7%	13	4.5%	103	35.3%	119	40.8%	3.90	1.254

Slow-moving ICT facilities development are challenges for e-payment system in Addis Ababa	16	5.5%	37	12.7%	10	3.4%	120	41.1%	109	37.3%	3.92	1.186
Undeveloped digital advertisement are challenges for e-payment system in Addis Ababa	23	7.9%	35	12.0%	10	3.4%	120	41.1%	104	35.6%	3.85	1.249
Weak internet connection are challenges for e-payment system in Addis Ababa	24	8.2%	35	12.0%	11	3.8%	115	39.4%	107	36.6%	3.84	1.266
Cultural difference in urban and rural	21	7.2%	33	11.3%	15	5.1%	145	49.7%	78	26.7%	3.77	1.171
Lack of using technology habits	23	7.9%	31	10.6%	11	3.8%	123	42.1%	104	35.6%	3.87	1.231
Varity of social norms	11	3.8%	18	6.2%	2	.7%	170	58.2%	91	31.2%	4.07	.950
Limited e-payment services	11	3.8%	20	6.8%	1	.3%	172	58.9%	88	30.1%	4.05	.958

Survey Result, 2021

The above data show that only 23.3% of the sampled respondents preferred to the category of strongly agree to indicate fear of exchange rate fluctuations are challenges for e-payment contribution and 24.0 % of them said less income of the local inhabitants are challenges for e-payment contribution and 26.7% of them related the external problem with cultural difference in urban and rural are challenges for e-payment contribution in Ethiopia. On other hand, 30.1% of the sampled respondents preferred strongly agreed that limited e-payment services are challenges for e-payment contribution and 30.5 % of them strongly said lack of business infrastructures are challenges for e-payment contribution and 31.2 % of them have strongly agreed that variety of social norms are challenges for e-payment contribution; 31.8 % of them strongly deviated to undeveloped Ethiopian economy are challenges for e-payment contribution in Ethiopia. Besides, 35.6% of the sampled respondents preferred strongly accepted that undeveloped digital advertisement are challenges for e-payment contribution and lack of using technology habits are challenges for e-payment contribution in Ethiopia. The majority of the respondents strongly decided to ICT applications; 36.6% of them for weak internet connection are challenges for e-payment contribution, 37.3% for slow-moving ICT facilities development are challenges for e-payment contribution, 37.7% for monopolized electronic banking products by banks are a challenge for e-payment contribution and 38.7% of the sampled respondents preferred to strongly agreed to lack of awareness about existing e-payment laws are challenges for e-payment contribution, 40.8% for high internet price are challenges for e-payment contribution and 46.2% of the sampled respondents strongly accepted that ever changing financial management directives of National bank (example cash limit) is a challenge for e-payment contribution in Ethiopia. Finally, almost half of them (47.9) strongly agreed that obsolete legal frameworks are is a challenge for e-payment contribution in Ethiopia. This shows that the major external problems included limited e-payment services, verity of social norms; monopolized electronic banking products, lack of awareness about existing e-payment laws and obsolete legal frameworks are is a challenge for e-payment contribution in Ethiopia. Berhanu (2019) studied on electronic banking practices, challenges and opportunities and he listed the main challenges affecting the adoption and growth of e-banking high internet cost, frequent network/internet interruption, lack of awareness about e-banking,

frequent power interruption, inconvenient locations of ATMs and POS and inaccessible ATM and POS as the econometrics model revealed in detail. A cross tabulation diagnosis analyses also presents the main challenges resisting the adoption and growth of e-banking technology customers of CBE in the selected sample sites.57 percent of customers were unable to withdraw large amount of money from ATM as they strongly agree. However, high e-banking services' fees was not the problem as 47% and 40%of the sample respondents strongly disagree and disagree respectively and statistically there was a significance different association among sample study sites at 5% degree of confidence. The majority if the interviewees indicated that e-banking has been around for moderately sometime in the form of ATMs and mobile phones in Ethiopia. In more recent times, it has added a new delivery channel called internet banking which has facilitated banking transactions for both customers and banks. This new delivery channel, internet banking, is at a nursling stage with a very small number of customers compared to the other forms of e-banking. For the customers, internet banking offers moderately fast and more convenient banking products and services which are available around the clock irrespective of the customer's locations. In addition, it is much less efficient and less cost saving channel. As it is stated in the above, internet banking is in its infant stage and only few customers subscribe to use internet banking. Due to its dependency on the nonfinancial infrastructure particularly internet connection, the Internet banking is not widely accepted by the customers. In addition, the majority of the respondents specified that e-payment system has more or less financial infrastructure but is has thoughtful non-financial infrastructure problems; power and connection are the main challenges. The power outage in the middle of processing the e-banking transaction causes stops the ATM terminal and holds the payment instrument. This may also a severe problem that related to IBD and other e-payment systems including mobile and agent banking. Likewise, Equbamariam (2018) found that the power outage stops the process of the fund transfer made by the POS terminal without even showing whether fund transfer is effective or not. Similar to the power outage, the frequent downtime of connectivity is one cause for the breakdown and inaccurate e-banking transactions.

Therefore, by now, the Ethiopian e-banking consumers are witnessing substantial financial losses due to power outage and downtime of connection during processing of the e-banking transactions.

4.4.2 Internal Challenges

Table 10 Respondents' Response on Internal Challenges

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
Lack of banking managers capability are challenges for e-payment system in Addis Ababa	12	4.1%	16	5.5%	1	.3%	121	41.4%	142	48.6%	4.25	1.010
Poor learning and development of e-services are challenges for e-payment system in Addis Ababa	15	5.1%	27	9.2%	1	.3%	142	48.6%	107	36.6%	4.02	1.098
Lack of giving priority for e-service are challenges for e-payment system in Addis Ababa	12	4.1%	14	4.8%	2	.7%	125	42.8%	139	47.6%	4.25	.993
Lack of learning from previous traditional operations are challenges for e-payment system in Addis Ababa	12	4.1%	23	7.9%	3	1.0%	131	44.9%	123	42.1%	4.13	1.050
Low salary scale of workers are challenges for e-payment system in Addis Ababa	18	6.2%	22	7.5%	6	2.1%	104	35.6%	142	48.6%	4.13	1.162
Scarce skilled manpower in Ethiopian are challenges for e-payment system in Addis Ababa	20	6.8%	36	12.3%	11	3.8%	109	37.3%	116	39.7%	3.91	1.241
Lack of proper communication practices in Ethiopian are challenges for e-payment system in Addis Ababa	16	5.5%	26	8.9%	10	3.4%	143	49.0%	97	33.2%	3.96	1.104

Lack of managerial know-how in e-services are challenges for e-payment system in Addis Ababa	20	6.8%	27	9.2%	10	3.4%	127	43.5%	108	37.0%	3.95	1.180
Unexpanded Research and development in e-services are challenges for e-payment system in Addis Ababa	14	4.8%	34	11.6%	11	3.8%	146	50.0%	87	29.8%	3.88	1.106
Insufficient e-services related researches are challenges for e-payment system in Addis Ababa	8	2.7%	24	8.2%	32	11.0%	151	51.7%	77	26.4%	3.91	.971
Inadequate research investment in Ethiopia are challenges for e-payment system in Addis Ababa	16	5.5%	34	11.6%	11	3.8%	130	44.5%	101	34.6%	3.91	1.157
Having insufficient ICT research centres in Ethiopia are challenges for e-payment system in Addis Ababa	27	9.2%	49	16.8%	16	5.5%	120	41.1%	80	27.4%	3.61	1.297
Lack of e-services resources are challenges for e-payment system in Ethiopia	43	14.7%	41	14.0%	16	5.5%	87	29.8%	105	36.0%	3.58	1.461
Unable to create additional values in e-services are challenges for e-payment system in Addis Ababa	29	9.9%	47	16.1%	11	3.8%	106	36.3%	99	33.9%	3.68	1.349
domestic tourists financial constraint are challenges for e-payment system in Addis Ababa	36	12.3%	37	12.7%	12	4.1%	107	36.6%	100	34.2%	3.68	1.379
Financial constraints for innovation of e-services are challenges for e-payment system in Addis Ababa	36	12.3%	35	12.0%	14	4.8%	126	43.2%	81	27.7%	3.62	1.333

Survey Result, 2021

The above data shows that almost 27.4% of the sample customers strongly agreed that insufficient e-services related researches are challenges for e-payment contribution, 27.7% of them strongly indicated that having insufficient ICT research centres are challenges for e-payment contribution in Ethiopia and 29.8 % of them associated it with financial constraints for innovation of e-services are challenges for e-payment contribution. In addition 33.2 % of the sample customers strongly agreed unexpanded Research and development in e-services are challenges for e-payment contribution and almost same number of them strongly stated that lack of proper communication practices are challenges for e-payment contribution. Others strongly listed the challenges as unable to create additional values in e-services, domestic tourists financial constraint, inadequate research investment, lack of e-services resources, poor learning and development of e-services and lack of managerial know-how in e-services are and scarce skilled manpower in Ethiopian. Still, the majority of the sample customers strongly listed as (42.1% of them) lack of learning from previous traditional operations, 47.6% for lack of giving priority for e-service, 48.6% to lack of banking managers capability and 48.6% strongly stated that low salary scale of workers are challenges for e-payment contribution in Ethiopia. From the primary data and interviewee results, the major challenges included poor learning and development of e-services, low salary scale of workers, lack of learning from previous traditional operations, lack of banking manager's capability and lack of giving priority for e-service are noted as the major challenges for e-payment contribution in Ethiopia. Equbamariam (2018) also associated internal problems with the introduction of technology; he said that electronic banking is not without risks; it is disclosed to many risks including to strategic, operational and reputational risks. As a result, such risks associated to the electronic banking causes the loss of billions of dollars yearly. To counter these problems the bank community has been trying to deal with those risks by establishing international trade and institutional framework that aims to ensure among other things secured, prudent and predictable e-banking services to the users. Not all countries effectively obey the international standards, sound management principles, guidelines or model laws of e-banking regulation. He said that the internal problems may be solved with strong regulation that determines the policy, legislative and regulatory frame work of the e-banking regulation in general, and the entry requirement, prudential

regulation, competition regulation and consumer protection issues in particular. While Berhanu (2018) associated the problem with pitfalls on the activities of slow banks response to correct erroneous transactions and delay of the bank to maintain e-payment particularly in ATMs' that are failed to provide services as 68 percent and 50percent of sample respondents were strongly agree and disagree respectively and the chi-square analyse tests was statistically a significance difference among the sample respondents at 5% confidence level. Therefore, commercial banking service providers of those sample study sites of staff members and the managers had lack of giving attention in response to correct erroneous transactions and quickly maintaining of ATMs' to boost the quality of services to satisfy the needs of the customer. This all shows that the commercial banks have severe problem that related to lack of synergy, decision structure, methods, standards, systems and procedures that yield high performance and respond to changing e-payment circumstances; it may be mainly focused on e-payment operational capabilities.

4.4.3 E-payment benefits

Table 11 Respondents' Response on e-payment benefits

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
Swift transactions are the benefits of e-payment system in Addis Ababa	10	3.4%	40	13.7%	29	9.9%	129	44.2%	84	28.8%	3.81	1.101
Rapid trading responses are the benefits of e-payment system in Addis Ababa	17	5.8%	45	15.4%	17	5.8%	127	43.5%	86	29.5%	3.75	1.199
Quick addressing transaction issues are the benefits of e-payment system in Addis Ababa	20	6.8%	59	20.2%	22	7.5%	116	39.7%	75	25.7%	3.57	1.257
Instantaneous communications are the benefits of e-payment system in Addis Ababa	32	11.0%	56	19.2%	21	7.2%	99	33.9%	84	28.8%	3.50	1.369
Assurance of banking integrity are the benefits of e-payment system in Addis Ababa	15	5.1%	52	17.8%	19	6.5%	122	41.8%	84	28.8%	3.71	1.204
Quite certain what to expect from banking information system are the benefits of e-payment system in Addis Ababa	18	6.2%	48	16.4%	20	6.8%	131	44.9%	75	25.7%	3.67	1.199
Banking secure personal information are the benefits of e-payment system in Addis Ababa	16	5.5%	44	15.1%	26	8.9%	134	45.9%	72	24.7%	3.69	1.158
E-payment system act in personal best interest of customers are the benefits of e-payment system in Addis Ababa	25	8.6%	42	14.4%	17	5.8%	123	42.1%	85	29.1%	3.69	1.266
Accessing account in any 24 hours and seven days a week are the benefits of e-	29	9.9%	53	18.2%	18	6.2%	116	39.7%	76	26.0%	3.54	1.317

payment system in in Addis Ababa												
Brings self-service banking are the benefits of e-payment system in Addis Ababa	33	11.3%	51	17.5%	17	5.8%	104	35.6%	87	29.8%	3.55	1.370
Saving time are the benefits of e-payment system in Addis Ababa	27	9.2%	43	14.7%	13	4.5%	123	42.1%	86	29.5%	3.68	1.289
Helpful for personal and business needs are the benefits of e-payment system in Addis Ababa	25	8.6%	39	13.4%	19	6.5%	121	41.4%	88	30.1%	3.71	1.263
Convenience are the benefits of e-payment system in Addis Ababa	9	3.1%	38	13.0%	28	9.6%	135	46.2%	82	28.1%	3.83	1.073
Suitability of technology are the benefits of e-payment system in Addis Ababa	16	5.5%	40	13.7%	14	4.8%	126	43.2%	96	32.9%	3.84	1.182
Ease application of technology are the benefits of e-payment system in Addis Ababa	18	6.2%	48	16.4%	19	6.5%	123	42.1%	84	28.8%	3.71	1.219
Closeness of banking transactions are the benefits of e-payment system in Addis Ababa	32	11.0%	48	16.4%	16	5.5%	107	36.6%	89	30.5%	3.59	1.358
Universality are the benefits of e-payment system in Addis Ababa	22	7.5%	53	18.2%	16	5.5%	112	38.4%	89	30.5%	3.66	1.286
Reliability are the benefits of e-payment system in Addis Ababa	29	9.9%	47	16.1%	15	5.1%	114	39.0%	87	29.8%	3.63	1.324
Universal operating system are the benefits of e-payment system in Addis Ababa	23	7.9%	53	18.2%	17	5.8%	121	41.4%	78	26.7%	3.61	1.270
user-friendly system are the benefits of e-payment system in Addis Ababa	28	9.6%	45	15.4%	16	5.5%	112	38.4%	91	31.2%	3.66	1.318

Survey Result, 2021

This data shows that only few respondents strongly indicated the benefits of e-payment as that (24.7 %) helps for banking secure personal information, 25.7 % quick addressing transaction issues, 25.7 % quite certain what to expect from banking information system, 26.0% accessing account in any 24 hours and seven days a week, 26.7% universal operating system, 28.1% convenience, 28.8 % swift transactions, 28.8 % instantaneous communications, assurance of banking integrity and ease application of technology are the benefits of e-payment contribution in Ethiopia. On other hand, almost 30 % of the respondents' customers strongly designated that e-payment system act in personal best interest of customers; rapid trading responses, saving time, brings self-service banking, reliability, helpful for personal and business needs, closeness of banking transactions and universality and user-friendly system are the benefits of e-payment contribution in Ethiopia. Only 32.9% of the respondents strongly agreed suitability of technology is the benefits of e-payment contribution in Ethiopia. Thus, the man benefits of e-payment found in this study included ease application of technology, assurance of banking integrity, helpful for personal and business needs, rapid trading responses, swift transactions and convenience. Edmundo and Oxana (2017) narrated as part of the Strategic Program for Governance Technological Modernization (e-Transformation), Moldova has registered significant results by creating a convenient electronic payment system. This allowed more citizens of the country to benefit from it, making the relative advantage of the innovation more visible. Government of Moldova launched MPay that could be treated as an innovation and performance-enhancing product that re-positioned the perception about the Moldova Government, payments for the public services and association with corruptive practices in the public sector. The transition from a cash payment system to an electronic payment system at the governmental level is already representing a big leap for the Moldovan public sector as e-payments methods have a competitive advantage compared to the traditional payment systems. MPay, the online payment instrument, was developed and expanded among all central public authorities (CPAs), as a service embedded in government portals that allows citizens and businesses to authorize payments for public services such as taxes, police fines, medical insurance, criminal records, business licenses and visas to enter the country. Comparing to the study of Edmundo and Oxana (2017), our e-payment system is weak and needs a major

transformation from its traditional payment methods. This is because MPay also offers additional benefits to public service providers (public authorities) and citizens by providing them the freedom and convenience to choose any payment method available in the country legally (credit/debit cards, internet banking, e-wallet or with cash) without charging any additional fees. However, Equbamariam (2018) noted that the traditional banking practice the commercial instruments deposited in the bank were only physically presented to the drawee bank to get the amount of the money debited to the drawer's account, which was a cumbersome process and resulted in the delay in the clearing of cheques. Cheque or other paper-based payment instrument truncation is developed to overcome the limitations of the traditional clearing system that requires several days. He also stated that by doing so, the time and cost of the clearance process is reduced substantially. He acclaimed that the country needs to establish the said institution that not only provides advices to the NBE, but also minimizes the dangers of the discretionary power of the regulator to facilitate the issuance of the National Retail Payment Strategy as well as to gain the benefits of the advisory roles of the National Payment System Council. This study also agreed that the government should establish the Council so as to advise the NBE. Besides, the government need to get an opportunity to identify the limits of the e-banking regulation that necessitates regulation.

4.4.4 Possible E-Payments Practices

Table 12 Possible e-payments practices

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%	N	%
Availability of facilities at the shop visited	20	6.8%	52	17.8%	15	5.1%	117	40.1%	88	30.1%	3.69	1.261
Adequate internet network	30	10.3%	46	15.8%	16	5.5%	112	38.4%	88	30.1%	3.62	1.332
Smartphone owned supports	24	8.2%	51	17.5%	15	5.1%	114	39.0%	88	30.1%	3.65	1.295
Experience of failing to pay with e-payment	27	9.2%	48	16.4%	14	4.8%	115	39.4%	88	30.1%	3.65	1.312
Very easy to practice or apply	28	9.6%	50	17.1%	16	5.5%	110	37.7%	88	30.1%	3.62	1.328
Payment methods are very easy to learn	19	6.5%	47	16.1%	27	9.2%	123	42.1%	76	26.0%	3.65	1.210
Installing applications is easy	19	6.5%	42	14.4%	18	6.2%	124	42.5%	89	30.5%	3.76	1.214
Continuing to use e-money	18	6.2%	50	17.1%	21	7.2%	130	44.5%	73	25.0%	3.65	1.202
Planning to use e-money in the future	30	10.3%	47	16.1%	17	5.8%	118	40.4%	80	27.4%	3.59	1.317
Getting used to using e-money	26	8.9%	46	15.8%	15	5.1%	123	42.1%	82	28.1%	3.65	1.283

Survey Result, 2021

The above table also shows the practices of e-payment in Ethiopia. As result, the majority of the respondent's agreed (40.1 %) and 30.1% of them strongly agreed that there is availability of facilities at the shop visited which supported e-payment system in Ethiopia. Only 30 % of the respondent customer strongly agreed that there is adequate internet network, smart phone owned supports, experience of failing to pay with e-payment and very easy to practice or apply; this may be associated with the study area. As the study is mainly focused on central Addis Ababa, such are may be full coverage of internet communication and problems may be solved immediately as it is a hub of the country's business linkage. This area may be a good internet facility access to support smart phone applications. As such, Experience of failing to pay with e-payment may be easy, fast and covalence for customers. Only around 25 - 30 % of them strongly agreed and 40 – 42 % of them agreed that payment methods are very easy to learn and installing applications, continuing to use e-money, planning to use e-money in the future and getting used to using e-money. The practice of e-payment was rated as good and there is moderate level of east payment methods to learn, continuing to use e-money, smart phone owned supports, availability of facilities at the shop visited and easy to installing applications. Thus, as Gardachew (2010) noted that the financial institution is accommodated to ensure secure operating system by defining: the user risks; infrastructure and software application risks; communication media risk; agent and third party service providers risks; business continuity plan; and interface feature of the application. In addition, the financial institution is housed to create adequate awareness to the customers on the information security including how to secure the PIN of the e-banking products and services with regard to user risks. Creating an informed user is very significant to secure the interests of both the customers and the financial institutions. Commercial banks tried to aware customers but the question may be related to the level of customer awareness. It may be associated with of the consequence of the non-secure use of their PIN and other information's related to the e-banking products and service. That is why banking in Ethiopia faces frequent challenges to fully adopt and utilize E-Banking applications and seize the opportunities presented by ICT applications in general. A study conducted 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 neighbouring 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 (Equbamariam (2018).

4.4.5 Possible e-Payments Practices like Cash Withdrawal Limit Directive

Table 13 Possible e-payments practices like Cash Withdrawal Limit Directive

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
Cash Withdrawal Limit Directive can easily diversified non-cash based payment services	31	10.6%	49	16.8%	16	5.5%	119	40.8%	77	26.4%	3.55	1.324
Cash Withdrawal Limit Directive can encouraging the public to use non-cash based payment	23	7.9%	47	16.1%	24	8.2%	120	41.1%	78	26.7%	3.63	1.252
Cash Withdrawal Limit Directive discourages of digital financial services	20	6.8%	46	15.8%	22	7.5%	124	42.5%	80	27.4%	3.68	1.224
The maximum cash withdrawal limit hinders my business.	21	7.2%	45	15.4%	21	7.2%	127	43.5%	78	26.7%	3.67	1.225

Survey Result, 2021

The above table shows that the possible e-payments practices like Cash Withdrawal Limit Directive. Almost 66 % of the respondents have least agreed indicating that Cash Withdrawal Limit Directive can easily diversified non-cash based payment services and Cash Withdrawal Limit Directive can encouraging the public to use non-cash based payment. However, around 70 % of them also agreed that Cash Withdrawal Limit Directive discourages of digital financial services and the maximum cash withdrawal limit hinders my business. This study compared the mean value of the benefits and challenges of cash withdrawal and the result indicated that the cash limit may have a sever e-payment transaction consequence. This may include users may not trust the transition of e-payment, insecurity issues may be crated and other e-payment risks may be developed like corruption.

4.4.6 Level of Challenges and Benefits

The overall perceived level of e-payment challenges have been calculated using maximum scale percentage means scores in each variable.

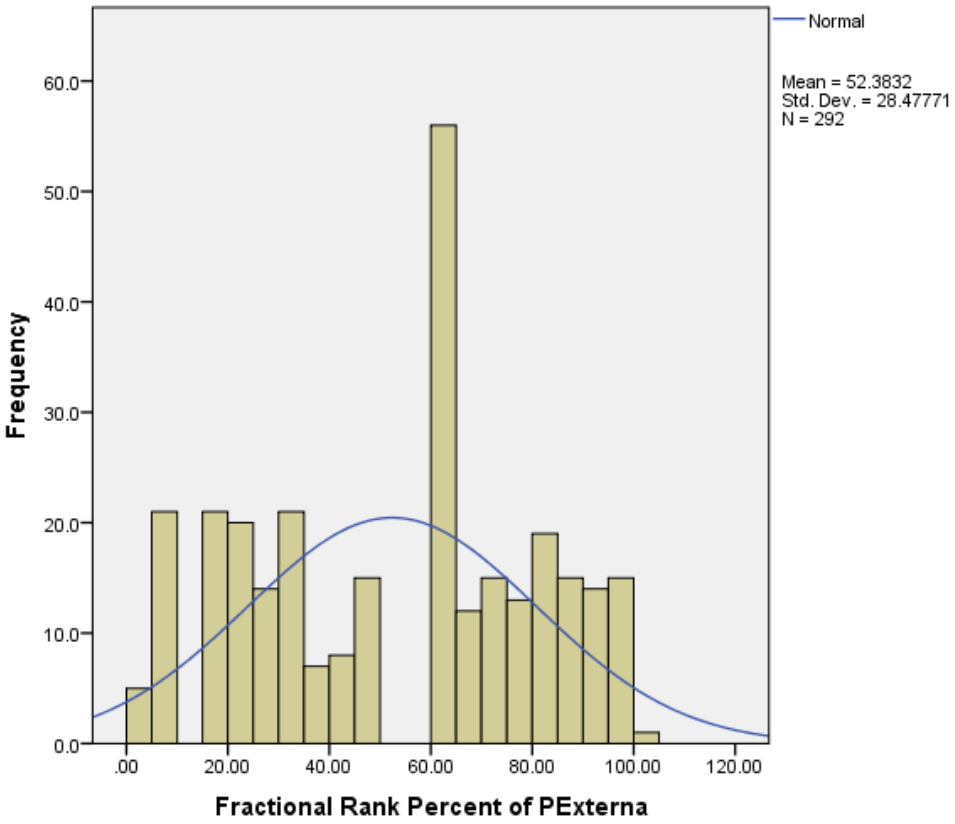

Figure 3 The level of external challenges of e-payment

Survey Result, 2021

The above figure shows that the level of external challenges perceived by the respondents customer. The data shows that the overall perceived level of external challenges of e-payment was almost 52.3 % for of the surveyed customers which can be the prioritized point of focus for commercial banks intervention. It shows that on average half of the respondents agreed that the external changes have been the main e-payment challenges. This meant that legal, economic, infrastructure and social factors have been a burden for e-payment system in Ethiopia. As it is mentioned in the above, as far as the standard terms and conditions is concerned the various directive does not provide adequate regulations. Yet again, the current directive, has failed to regulate some significant issues of the e-banking service agreements; thus, the current regulation is surrounded by the following legal and practical limits like cash limit, e-banking regulations, and IBD and ecommerce transaction directives.

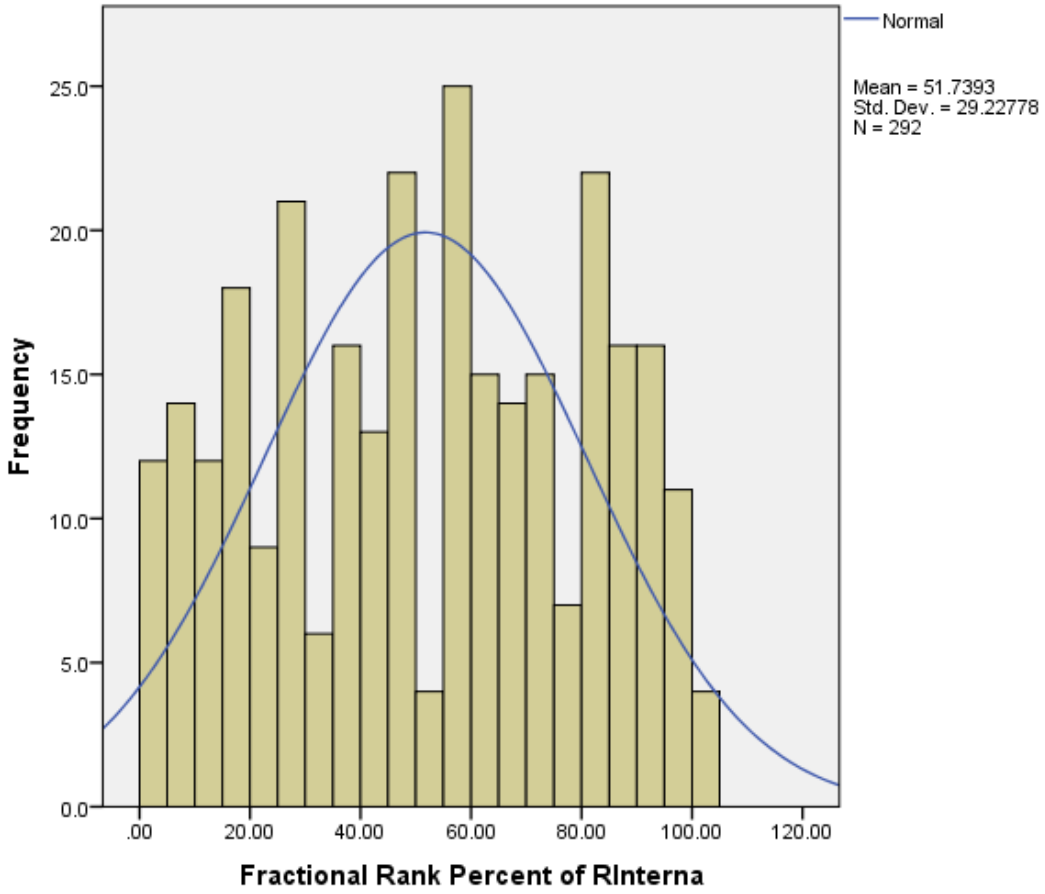

Figure 4 The level of Internal Challenges of e-payment

Survey Result, 2021

The above figure shows that the level of internal challenges faced or perceived by the respondents customer. The data shows that the overall perceived level of internal challenges of e-payment was almost 52% for of the surveyed customers which can be the prioritized point of focus for commercial banks intervention. It shows that on average half of the respondents strongly agreed that the internal changes have been the main e-payment challenges. This meant that top management commitment, human resource capabilities are weak to contribute e-payment in Ethiopia. This also shows that relatively the external challenges are high instead of internal challenges.

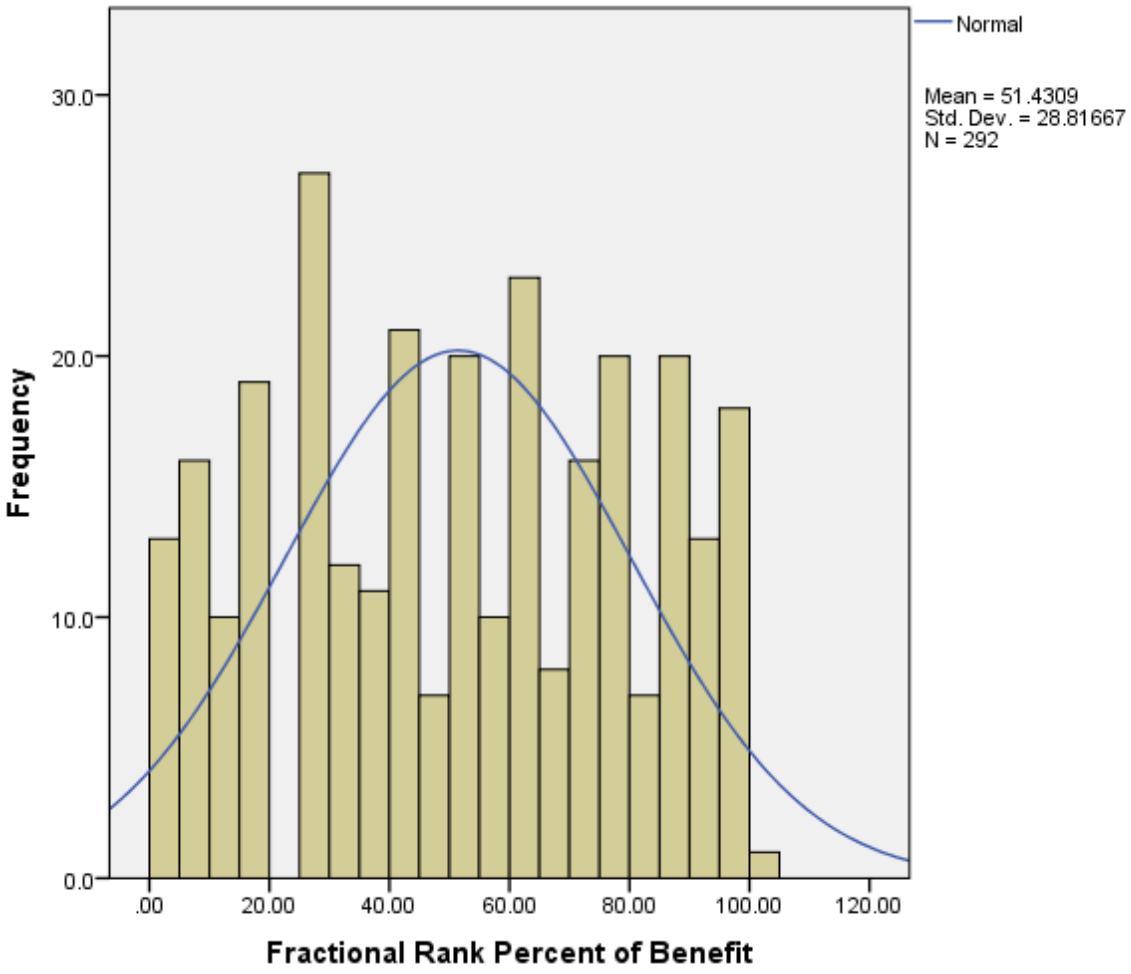

Figure 5 The level of e-payment benefits

Survey Result, 2021

The above figure shows that the level of benefits obtained or perceived by the respondents customer. The data shows that the overall perceived level of benefits customers obtained from e-payment was almost 51.4 % for of the surveyed customers which can be the prioritized point of focus for commercial banks intervention. It shows that on average half of the respondents strongly agreed that they obtained almost half of the benefits from e-payment.

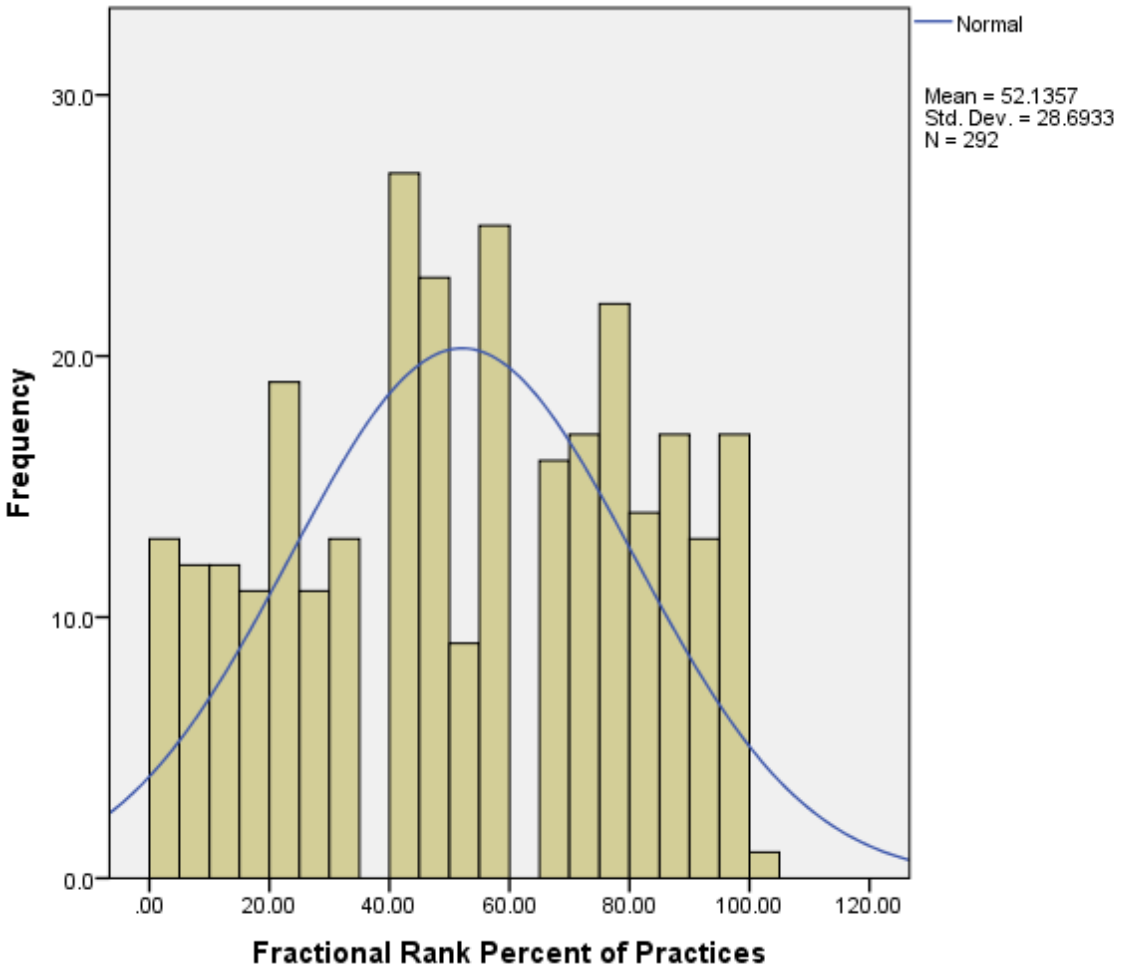

Figure 6 The level of e-payment practices in Ethiopia

Survey Result, 2021

The above figure shows that the level of e-payment practices in Ethiopia perceived by the respondents' customer. The data shows that the overall perceived level of e-payment practices of customers was almost 52.13 % for of the surveyed customers which can be the prioritized point of focus for commercial banks intervention. It shows that the customers' e-practices in the commercial banks of the country were partial. For example, these banks are not providing preauthorized fund transfer services by the traditional mode of delivery. Consequently, the absence of experience on the one hand and the sophistication of the technology on the other makes the provision of preauthorized electronic fund transfer problematic; and the presence of such problems calls for the strict regulation of the preauthorized fund transfer services.

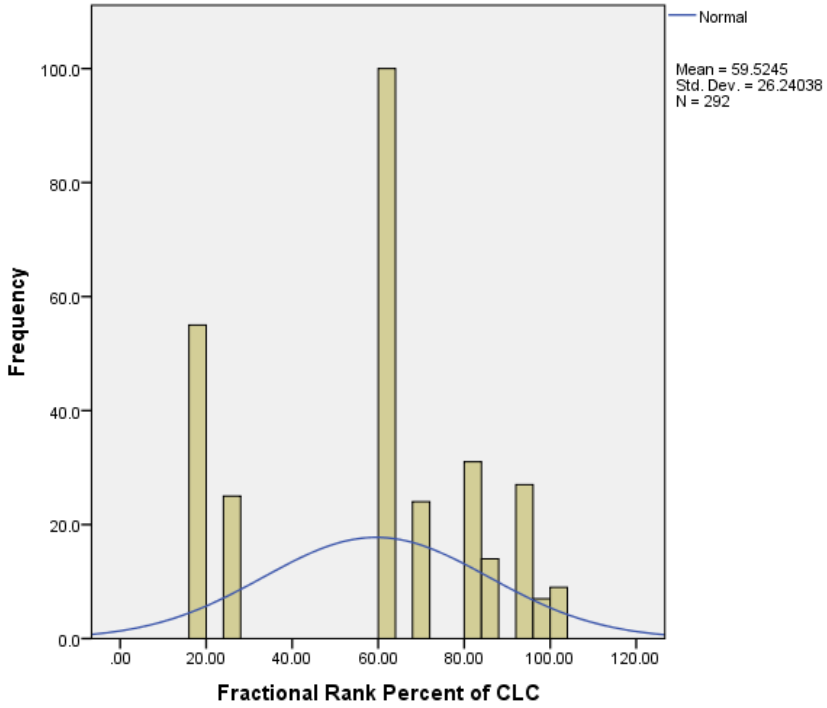

Figure 7 The level of NBE's cash withdrawal limit Directive

Survey Result, 2021

The above figure shows that the level of cash limits challenges in e-payment practices in Ethiopia perceived by the respondents' customer. The data shows that the overall perceived level of e-payment challenges in related to cash limit was 59 %; it is the highest among all the challenges. This shows that there is a sever e-payment problem that hider its contribution thoroughly. This shows that a financial institution is in problem to provide policies and procedures that address issues including deployment of diversified

non-cash based payment services. As of the respondent's customers and interviewees, the majority of them are disheartened to use non-cash based payment even if banks tried to adopt various strategies arid incentives, undertaking of awareness of digital financial services and ensuring of compliance with this Directive, among others. In addition, the maximum cash withdrawal limit in a single financial institution by a person would be ever altering frequently. Thus, a financial institution could not effect cash withdrawal transactions based on the limit any customers. Cash withdrawal transactions or encashment of cheques made by a customer in different branches of a financial institution from one or more deposit accounts in a day or month could not be aggregated and compared with the limit due to the use of low technology in e-payment system. Thus, its aim to ensure compliance with this Directive has not been effective. Moreover, the National Bank could not have a capacity to conduct examination on the systems and records of a financial institution to ensure compliance with this Directive due to human resources powerlessness, nature of the banks and limited inspection and auditing capacity.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This part of the study presents closing chapter of the study which includes summary of findings, conclusion and appropriate recommendations regarding the study findings.

5.2 Summary of Findings

This study aimed to assess the challenge and benefits of E-payments system in Ethiopia commercial banks. It utilized descriptive research design and attained 73% response rate. This study mainly used primary data and it used secondary sources like e-payment directives and others. This study found that from the total gender respondents the majority preferred to IBD and mobile e-payment system. However, most of the respondents aged from 31 to 46 selected mobile e-payment systems as the more cumbersome e-payment system. On other hand, using Pearson's chi-square, this research concluded that the perception by surveyed customers about the most preference of e-payment system in Ethiopia and the most cumbersome e-payment system in commercial banks are not independent of the composition of education level, service year, marital status and age category. In addition, this study found that

- The major external problems included limited e-payment services, variety of social norms, monopolized electronic banking products, lack of awareness about existing e-payment laws and obsolete legal frameworks.
- The major internal challenges included poor learning and development of e-services, low salary scale of workers, lack of learning from previous traditional operations, lack of banking manager's capability and lack of giving priority for e-service.
- The main benefits of e-payment surveyed customers perceived or obtained included reduce various expenses, enhances financial inclusion, ease application of technology, assurance of banking integrity, helpful for personal and business needs, rapid trading responses, and swift transactions and convenience.
- The data shows that the overall perceived level of external and internal challenges of e-payment was almost around 51 % for of the surveyed customers which can be the prioritized point of focus for commercial banks intervention.

- The level of cash limit challenges in e-payment practices in Ethiopia perceived by the respondents' customer was assessed. The data shows that the overall perceived level of e-payment challenges in related to cash limit was 59 %; it is the highest among all the challenges. This shows that there is a sever e-payment problem that hider its contribution thoroughly. This shows that a financial institution is in problem to provide policies and procedures that address issues including deployment of diversified non-cash based payment services.

5.3 Conclusions

This study found that Ethiopian commercial banks have been suffering from e-payment challenges and they have gained less fruits from these transactions. Even if this kind of technology based services are found to be more accessible and convenient to their customer, these banks have been back from its benefits. These all indicate the strategic prominence of adopting modern day banking technologies such as e-banking to ease the banks operational activities and to satisfy customers in a greater level which leads in to a greater success. The adoption of the new and advanced technology however needs well established external factor like infrastructure, social and economic as well as legal and regulatory mechanisms. It also needs well trained manpower, cutting-edge technology and well industrialised top management commitment. Beyond the strategic benefits that banks acquire from the implementation of the service. Customers of the banks also get services in a reduced cost, easier access to information, increased comfort and timesaving transactions as they can check on multiple accounts at a time.

These banks have been trying to adopt the state-of-the-art technologies and introduce some innovative services. The banks however have faced several challenges relating with e-payment service. Among the challenges, ever changing banks' regulatory, limited e-payment services, variety of social norms, monopolized electronic banking products, poor learning and development of e-services, low salary scale of workers and lack of giving priority for e-service are the serious ones.

5.4 Recommendations

The sustainability aspect of a commercial electronic system would be strongly related to several dimensions analysed into the present research: ownership by the Government, financial sustainability, and institutional sustainability. The data analysed proves that e-

payment as a service created to enable contributors to pay fees, taxes, and contributions due to state authorities is generating huge savings for enhancing Ethiopian economic and investment condition. Thus,

- Government, international organizations and development institutions may encourage the adoption of e-payments not just as a technology, but a more complex tool, would bring value and service providers. Moreover, to keep a system working and increase its adoption rate, driving incentives should be also considered.
- Commercial banks including development banks of Ethiopian and micro finance institutions may increase their banking technology adoption rates; it includes planning to introduce a new product in the market, conduct current market research, find out the best the compatibility attributes the perspective of citizens (meeting expectations and satisfaction of quality) and services providers (meeting expectations and change perception). All these factors are considering the citizen's satisfaction with the quality of the online business services
- Banks may identify the citizens' needs, and be consistency with existing citizen's values, and they may quickly generate a steady degree of the rate of adoption in terms of meeting citizen's expectations parameter and the ultimate banking services.
- All stakeholders of country including Ethiotelecom, may enhance E-commerce to create an opportunity for companies to increase sales over the internet and to development e-payment transactions. Since every individual and company familiar with e-commerce to make sales and purchase products and services nowadays, the country's e-commerce system should create new financial needs that are effective in many cases met discard traditional payment systems. An electronic payment system should come to replace a cash payment system here in Ethiopia. Sales of goods and services increased significantly with the adoption of the use of e-payment systems so that electronic payments became an increasingly important part of the payment system.

- National bank of Ethiopia may publish unchanging and sustainable e-payment law and regulation to promote use of non-cash payment instruments and ensuring safety and efficiency of the payment system and to mitigate the risk of robbery, fraud, money laundering, tax evasion, illicit activities including smuggling, counterfeiting and other criminal activities which are illegal and immoral; increased use of non-cash payment instruments minimizes liquidity risk and helps to ensure soundness of the financial system and to minimize the huge cost related to printing, processing and handling of physical cash;

5.5 Future Studies

This study assessed the challenge and benefits of e-payment system in Ethiopia commercial banks. Nevertheless, it did not consider all financial institutions and stockholders.

Therefore, the student would like to recommend further research be made on the area especially to capture all financial institutions including Banks,Micro finance institutions, Payment instrument issuers and payment system operators (POS, ATM, EthSwich and payment gateways. and the data collection to use other methods improving and generating solutions to unseen e-payment risks and problems with regard to several issues, especially issues concerning future electronic payments. Research institutions and academicians may propose the way to bring research methods and findings on how to create trust in electronic payment systems, customer interest in using electronic payment systems and about the importance of security in electronic payment systems as they can affect user trust, and research on the future of electronic payment systems.

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APPENDIX

Appendix I – Questionnaire

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

(Questionnaire Filled by Customers)

Dear Respondent,

My name is Fikadie Amsalu, a post graduate student in the department of MBA in Accounting and Finance, at St. Marry University. I am currently gathering data for my thesis entitled "A study of e-payment system Challenges and Benefits in Commercial Banks of Ethiopia." In case of selected district of Addis Ababa.

Please not that your name will not be mentioned and any information provided by you will be kept confidential. Thank you in advance for your kind cooperation and dedicating your time.

Fikade Amsalu
+251 920 110905
E-mail- yamylove100@gmail.com

Part I Demographic information

Direction - please insert (x) in the box for your appropriate answer your demographic or personal information,

Gender:	Male	☐	Female	☐			
Age	Less than 30	☐	31 -46	☐	47-65	☐	Above 66 ☐
Education Level	Below High school	☐	Diploma and Degree	☐	Masters	☐	Refused or Others ☐
Marital Status	Single	☐	Married	☐	Divorced	☐	Refused or Others ☐

Your experience in working with commercial banks

	Less than one year	☐	About two or three years	☐	4 – 6 years	☐	Above 7 ☐

Please indicate your most preference of e-paymnet system in Ethiopia

	ATM	☐	Mobile	☐	Agent	☐	IBD ☐

Others please indicate _____

Please indicate more cumbersome e-paymnet system in commercial banks.

	ATM	☐	Mobile	☐	Agent	☐	IBD ☐

Others please indicate _____

(IBD means International Banking Division)

Question 1 – How do you perceive and rate the following listed possible challenges of e-payment contribution in Ethiopia? Please put "X" mark with the answer you choose and note that 1 represents for "Strongly Disagree"; 2 for "Disagree"; 3 for "Neutral"; 4 for "Agree" and 5 for "Strongly Agree."

Measure Items		1	2	3	4	5
Legal						
1	Ever changing financial management directives of National bank (example cash limit) is a challenge for e-payment system in Addis Ababa					
2	Monopolized electronic banking products by banks are a challenge for e-payment system in Addis Ababa					
3	Obsolete legal frameworks are is a challenge for e-payment system in Addis Ababa					
4	Lack of awareness about existing e-payment laws are challenges for e-payment system in Addis Ababa					
Economy						
1	Fear of Exchange rate fluctuations are challenges for e-payment system in Addis Ababa					
2	Less income of the local inhabitants are challenges for e-payment system in Addis Ababa					
3	Undeveloped Ethiopian economy are challenges for e-payment system in Addis Ababa					
4	Lack of business infrastructures are challenges for e-payment system in Addis Ababa					
Technology						
1	High internet price are challenges for e-payment system in Addis Ababa					
2	Slow-moving ICT facilities development are challenges for e-payment system in Addis Ababa					
3	Undeveloped digital advertisement are challenges for e-payment system in Addis Ababa					
4	Weak internet connection are challenges for e-payment system in Ababa ababa					
Scio-cultural						
1	Cultural difference in urban and rural are challenges for e-payment system in Addis Ababa					
2	Lack of using technology habits are challenges for e-payment contribution in Addis Ababa					
3	Varity of social norms are challenges for e-payment system in Addis Ababa					
4	Limited e-payment services are challenges for e-payment contribution in Addis Ababa					

Question 2 – How do you perceive and rate the following listed possible challenges of e-payment contribution in Ethiopia? Please put "X" mark with the answer you choose and note that 1 represents for "Strongly Disagree"; 2 for "Disagree;" 3 for "Neutral;" 4 for "Agree" and 5 for "Strongly Agree."

Measure Items		1	2	3	4	5
Top Management Commitment						
1	Lack of banking managers capability are challenges for e-payment system in Addis Ababa					
2	Poor learning and development of e-services are challenges for e-payment system in Addis Ababa					
3	Lack of giving priority for e-service are challenges for e-payment system in Addis Ababa					
4	Lack of learning from previous traditional operations are challenges for e-payment system in Addis Ababa					
Human Resource						
1	Low salary scale of workers are challenges for e-payment system in Addis Ababa					
2	Scarce skilled manpower in Ethiopian are challenges for e-payment system in Addis Ababa					
3	Lack of proper communication practices in Ethiopian are challenges for e-payment system in Addis Ababa					
4	Lack of managerial know-how in e-services are challenges for e-payment system in Addis Ababa					
Research and Development						
1	Unexpanded Research and development in e-services are challenges for e-payment system in Addis Ababa					
2	Insufficient e-services related researches are challenges for e-payment system in Addis Ababa					
3	Inadequate research investment in Ethiopia are challenges for e-					

	payment contribution in Addis Ababa					
4	Having insufficient ICT research centers are challenges for e-payment system in Addis Ababa					
Resource availability						
1	Lack of e-services resources are challenges for e-payment system in Addis Ababa					
2	Unable to create additional values in e-services are challenges for e-payment system in Addis Ababa					
3	domestic tourists financial constraint are challenges for e-payment system in Addis Ababa					
4	Financial constraints for innovation of e-services are challenges for e-payment system in Addis Ababa					

Question 3 – How do you perceive and rate the following listed possible benefits of e-payments in Ethiopia? Please put "X" mark with the answer you choose.

Measure Items		1	2	3	4	5
Speed						
1	Swift transactions are the benefits of e-payment system in Addis Ababa					
2	Rapid trading responses are the benefits of e-payment system in Addis Ababa					
3	Quick addressing transaction issues are the benefits of e-payment system in Addis Ababa					
4	Instantaneous communications are the benefits of e-payment system in in Addis Ababa					
Security						
1	Assurance of banking integrity are the benefits of e-payment system in Addis Ababa					
2	Quite certain what to expect from banking information system are the benefits of e-payment system in Addis Ababa					
3	Banking secure personal information are the benefits of e-payment system in Addis Ababa					
4	E-payment system act in personal best interest of customers are the benefits of e-payment system in Addis Ababa					
Immediacy						
1	Accessing account in any 24 hours and seven days a week are the benefits of e-payment system in Addis Ababa					
2	Brings self-service banking are the benefits of e-payment system in Addis Ababa					
3	Saving time are the benefits of e-payment system in Addis Ababa					
4	Helpful for personal and business needs are the benefits of e-payment system in Addis Ababa					
Convenience						
1	Convenience are the benefits of e-payment in Addis Ababa					
2	Suitability of technology are the benefits of e-payment system in Addis Ababa					
3	Ease application of technology are the benefits of e-payment system in Addis Ababa					
4	Closeness of banking transactions are the benefits of e-payment system in Addis Ababa					
Ubiquity (appearing everywhere)						
1	Universality are the benefits of e-payment system in Addis Ababa					
2	Reliability are the benefits of e-payment system in Addis Ababa					
3	Universal operating system are the benefits of e-payment system in Addis Ababa					
4	user-friendly system are the benefits of e-payment system in Addis Ababa					

Question 4 – How do you perceive and rate the following listed possible e-payments practices in terms of facility, effort expectancy and e-money intention behavior in Ethiopia? Please put "X" mark with the answer you choose.

	Measure Items	1	2	3	4	5
Facilitating Conditions						
1	Availability of facilities at the shop visited					
2	Adequate internet network					
3	Smartphone owned supports					
4	Experience of failing to pay with e-payment					
Effort Expectancy						
1	Very easy to practice or apply					
2	Payment methods are very easy to learn					

e-money intention behavior						
1	Continuing to use e-money					
2	Planning to use e-money in the future					
3	Getting used to using e-money					
3	Installing applications is easy					

Question 5 – How do you perceive and rate the following listed possible e-payments practices like Cash Withdrawal Limit Directive? Please put "X" mark with the answer you choose.

Measure Items		1	2	3	4	5
Benefits						
1	Cash Withdrawal Limit Directive can easily diversified non-cash based payment services					
2	Cash Withdrawal Limit Directive can encouraging the public to use non-cash based payment					
Challenges						
1	Cash Withdrawal Limit Directive discourages of digital financial services					
2	The maximum cash withdrawal limit hinders my business.					

Question 6 Please indicate the reason that customers use the e-money payment in the transaction.

Question 7 What are the advantages and disadvantages, and why use e-payment in your transaction?

Question 8 what are the challenge of NBE's directive enforcement system in Ethiopia?

Question 9 what are the benefits of NB's E directive enforcement system in Ethiopia?

Thank you!

Appendix II – Interview Checklist

I am Fikade Amsalu, a postgraduate student of St. Mary University. I am conducting an academic research regarding benefits and challenges of e-payment system in Ethiopia, Addis Ababa.

If you allow me, can I proceed? Thank you for your support and cooperation!

1. What are the major challenges of e-payment in developing countries like Ethiopia, Addis Ababa?

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_____

2. What are the major benefits of e-payment system in Ethiopia, Addis Ababa?

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3. What are the major practices of e-payment system in Ethiopia, Addis Ababa?

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4. What are the benefits of NBE's cash withdrawal limit directive enforcement in Ethiopia?

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Thank you!