



ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**E-PAYMENT CHALLENGES AND OPPORTUNITIES IN COMMERCIAL
BANK OF ETHIOPIA**

BY: BEHAILU TADESSE

JUNE, 2020

SMU

ADDIS ABABA, ETHIOPIA

**E-PAYMENT CHALLENGES AND OPPORTUNITIES IN COMMERCIAL
BANK OF ETHIOPIA**

BY: BEHAILU TADESSE

ID NO. SGS/0262/2011A

ADVISOR: HAILEMELEKOT TAYE (Asst. Professor)

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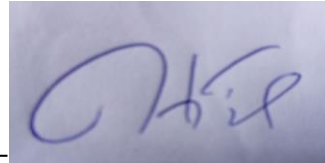
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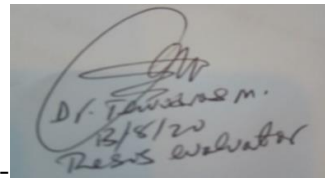
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Hailemeleket T.(Asst. Prof.)

Advisor

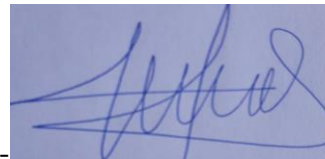
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Thewodros M.(Dr.)

External Examiner

Signature



Mohammed M.(Asst.Prof.)

Internal Examiner

Signature

Declaration

I, the undersigned, declare that this thesis entitled “**E-payment Challenges and Opportunities in Commercial Bank of Ethiopia**” is my original work prepared under the guidance of my advisor Hailemeleket Taye (Asst. Professor). It hasn't been presented to earn degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

Name: Behailu Tadesse

Signature: _____

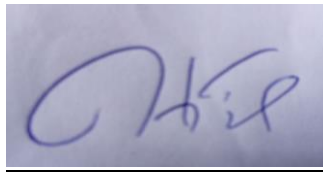
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Endorsement

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

Hailemekot Tave (Asst. Prof.)

Advisor Name



Signature

30th August 2020

Date

Abstract

This study was initiated with the aim to assess the challenges and opportunities of e-payment service at Commercial Bank of Ethiopia (CBE). A descriptive survey design entertaining a mixed approach was adopted. Quantitative and qualitative data were collected through administering a self-completion questionnaire distributed to 168 sample respondents. The study enjoyed a 92% response rate. Analysis performed on the collected data revealed the existence of various external environmental factors standing as challenge for e-payment implementation and expansion including inadequacy of ICT infrastructures and legal framework; lack of sufficient government policy enforcement for implementation and growth of e-payment service; low literacy rate among customers, and fear of security risks due to increasing cyber-crimes globally. But, such factors alone can't halt the growth, expansion and development of the bank's e-payment service, given its internal strengths as confirmed by respondents and the opportunities already observed or to surface in near future including the newly introduced directive of NBE specifying cash withdrawal limits, the new e-commerce law, partial liberalization of the telecom industry, fierce competition among local providers, increased service acceptance among communities, etc. In general, the future is bright even in worst case scenario of Ethiopia. The current COVID-19 scenario in the country which is forcing bank customers to familiarize themselves with and utilize alternative (electronic) banking channels is a proof. So, with more investment and proactive approach in the years to come, CBE can enjoy the tangible and intangible benefits of e-payment in a way it has never seen before. But, support from and collaboration with key stakeholders like the government, national security agencies, telecom service providers and other banks operating in the country is a must.

Key words: Challenges, Opportunities, Prospects, E-payment, E-banking, Ethiopia

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Table of Contents

Abstract.....	I
Acknowledgement.....	II
Table of Contents.....	III
List of Tables.....	VI
List of Acronyms and Abberivations.....	VII
CHAPTER ONE.....	1
INTRODUCTION TO THE STUDY.....	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem.....	3
1.3 Objectives of the Study.....	5
1.3.1 General Objective.....	5
1.3.2 Specific Objectives.....	5
1.4 Research Questions.....	6
1.5 Significance of the Study.....	6
1.6 Scope and Limitation of the Study.....	6
1.7 Organization of the Study.....	7
CHAPTER TWO.....	8
LITERATURE REVIEW.....	8
2.1 Definition of E-payment.....	8
2.2 Evolution of E-payment.....	9
2.3 Traditional Payment System-vs.-E-payment.....	10
2.4 Types of E-payment.....	11
2.4.1 Plastic Cards.....	12
2.4.2 Automated Teller Machine (ATM).....	13

2.4.3 Mobile Banking	14
2.4.4 Point-of-Sale Transfer Terminals (POS).....	14
2.4.5 Telephone and PC Banking	14
2.4.6 Mail Banking	15
2.4.7 Internet Banking	15
2.5 Benefits of Implementing E-payment Systems.....	16
2.6 E-banking (e-payment) Risks.....	18
2.7 Challenges, Realized Benefits, Opportunities and Prospects of E-payment.....	20
2.7.1 Challenges of E-payment.....	20
2.7.2 Realized Benefits of E-payment.....	23
2.7.3 Opportunities of E-payment	24
2.7.4. Prospects of E-payment.....	25
CHAPTER THREE	27
RESEARCH METHODOLOGY	27
3.1 Introduction.....	27
3.2 Description of the Study Area.....	27
3.3 Research Design and Approach.....	27
3.4. Target Population and Sampling	28
3.4.1 Target population.....	28
3.4.2. Sample Size Determination	29
3.4.3 Sampling Technique and Procedure.....	29
3.5 Data Collection Method and Tools	30
3.6 Data Analysis	31
3.7 Ethical Consideration	31
CHAPTER FOUR.....	32
RESULT AND DISCUSSION	32
4.1 Introduction.....	32

4.2 Response Rate	32
4.3 Demographic Profile of Participants	32
4.4 E-payment Challenges and Opportunities	35
4.4.1 External Factors	35
4.4.2 Internal Factors	37
4.5 E-payment Prospects	39
4.6 Benefits of Adopting E-payment System at CBE	39
4.7 Qualitative Data and Result of its Analysis	40
4.8 Discussion	41
CHAPTER FIVE	44
CONCLUSIONS AND RECOMMENDATIONS.....	44
5.1 Introduction	44
5.2 Summary of Findings	44
5.3 Conclusions	45
5.4 Recommendation.....	47
REFERENCE	
Annex I: Questionnaire	
Annex 2: SPSS Output of Survey Results (supplemental)	

List of Tables

Table 4.1: Demographic profile of respondents	33
Table 4.2: Demographic profile of respondents based on job position	34
Table 4.3: External factors for e-payment service	36
Table 4.4: Internal factors for e-payment service	38
Table 4.5: Future prospects of e-payment at Commercial Bank of Ethiopia.....	39
Table 4.6: Benefits of adopting e-payment system at CBE	40

List of Acronyms and Abberivations

ACH	Automated Clearing House
ATM	Automated Teller Machine
B2B	Business to Business
B2B	Business to Government
CBE	Commercial Bank of Ethiopia
EPS	Electronic Payment System
FSA	Financial Service Authority
GDP	Gross Domestic Product
IB	Internet Banking
ICT	Information Communication Technology
INSA	Information Network Security Agency
MB	Mobile Banking
MIS	Management Information System
NBE	National Bank of Ethiopia
PC	Personal Computer
PIN	Personal Identification Number
POS	Point of Sale
RTGS	Real Time Gross Settlement
SME	Small and Medium Enterprise
SPSS	Statistical Package for Social Science
TOE	Technology-Organization-Environment
UNECA	United Nations Economic Commission for Africa

CHAPTER ONE

INTRODUCTION TO THE STUDY

This chapter provides the background and justification for the study by outlining the situation in the study organization, explaining objectives, defining parameters (scope and limits), and indicating the structure of the thesis.

1.1 Background of the Study

In rapidly changing and highly competitive environment success in the banking industry especially depends on having use of the appropriate technology along with retention of well trained and motivated employees who have the capacity to exploit the Bank's existing technology as well as look for better advancement (Abebe, 2016 cited by Atnkut, 2018).

Electronic banking (e-banking) service has become the most advanced technique used all over the world. It brings the stakeholders to perform their various activities and transactions on at their hands. Technological innovations play a crucial role in banking industry by creating value for banks and customers, that it enables customers to perform banking transactions without visiting branches and outlet banking system (Deloitte, 2010).

Electronic funds transfer has been described as the third of the great ages of payment, the first being payment by cash (notes and coins) and the second being paper based payment (for instance, cheques) (Kilonzo, 2007).

E-payment system refers to the automated processes of exchanging monetary value among parties in business transactions and transmitting this value over the information and communication technology (ICT) networks. The common e-banking channels include the payment cards (debit or credit), online web portals, point of sales (POS) terminals, automated teller machines (ATM), mobile phones, automated clearing house (ACH), direct debit/ deposit and real time gross settlement system (RTGS) (Nnaka, 2009).

With the advent of electronic payment system (EPS), e-payment services are no longer the exclusive right of financial institutions. Although non-financial institutions now offer e-payment services, banks are in a better position to play this important role in e-commerce. However, if

banks are to compete effectively with non-financial institutions and establish themselves as the key player in providing e-payment services, they need to understand customer needs and expectations and be able to achieve customer satisfaction by meeting their expectations. It is vital, therefore, that banks take up the challenge in order to retain and enhance their relationship with customers and thus sustain their competitive position in the industry through such service delivery system (Hezlin, Balachander and Mohan, 2011).

The rapidly growing information and communication technology is knocking the front door of every organization in the world, where Ethiopian banks would never be exceptional (Tekabe, 2016).

The Ethiopian government issued proclamation no. 40/1996 in 1996 that allowed the establishment of micro finance institutions. Since then financial services to the unbanked have become a major area of interest for policy actors. The government takes financial inclusion as a policy objective and has been trying to build inclusive financial systems not only to address the previously excluded ones but also to mainstream financial institutions to reach out to the unbanked (Elfagid, 2015).

Electronic payment services, which operates by integrating transactions with ATMs, debit cards, credit cards, mobile banking, internet banking, mobile money, Point-of-Sale (POS) devices and others through third party operators are new to the Ethiopian banking sectors. Agent banking system mainly uses modern technology and it allow customers to access banking services electronically through mobile devices and bank agents to deposit and withdraw cash, transfer fund, make bill payments, obtain content trading. However, these are not well known in Ethiopia (Afework, 2015).

This study has been initiated with intention to give an insight about the opportunities and challenges of electronic payment system which have an important role in financial market of Ethiopia. To this end, a popular bank in the country, Commercial Bank of Ethiopia (CBE) was chosen for study.

The history of CBE dates back to the establishment of the State Bank of Ethiopia in 1942. CBE was legally established as a share company in 1963. In 1974, CBE merged with the privately

owned Addis Ababa Bank. Since then, it has been playing significant roles in the development of the country. Pioneer to introduce modern banking to the country, it has more than 1,456 branches stretched across the country and emerged as one of the leading African banks with assets of 711.96 billion Birr as on June 30, 2019. CBE plays a catalytic role in the economic progress and development of the country (CBE, 2020).

CBE is the first bank in Ethiopia to introduce ATM service for local users. Currently, it has more than 22 million account holders and the number of mobile and Internet banking users also reached more than 2.5 million as of June 30th 2019. Active ATM card holders reached more than 8 million. As of June 30, 2019, 2,513 ATMs and 9,539 POS machines were available (Ibid).

The bank has a strong correspondent relationship with more than 50 renowned foreign banks like Commerz Bank A.G., Royal Bank of Canada, City Bank, HSBC Bank, etc. It has also a SWIFT bilateral arrangement with more than 700 other banks across the world. CBE combines a wide capital base with more than 37,894 talented and committed employees and more than 22,000 outsourced jobs as of June 30, 2019. Pioneer to introduce Western Union Money Transfer Services in Ethiopia early 1990s and currently working with other 20 money transfer agents like Money Gram, Atlantic International (Bole Atlantic), Xpress Money, etc. CBE has opened four branches in South Sudan and has been in the business since June 2009. CBE has reliable and long-standing relationships with many internationally acclaimed banks throughout the world (Ibid).

1.2 Statement of the Problem

Technology has inarguably made our lives easier. It has cut across distance, space and even time. One of the technological innovations in banking, finance and commerce is electronic payment. Electronic payment (e-payment) refers to the technological breakthrough that enables us to perform financial transactions electronically, thus avoiding long lines and other hassles. It provides greater freedom to individuals in paying their taxes, licenses, fees, fines and purchases at unconventional locations twenty four hours a day and seven days per week (Sumanjeet, 2009).

With the rapid growth of mobile phone ownership to facilitate digital payments in the developing world, shifting from cash to digital payments offers high potential payoffs for entrepreneurs worldwide (Klapper, 2017).

Lots of researches on e-banking system have been done across the globe. Different factors are mentioned by the researchers which leads to adopt new technology with its own opportunities and threats, such as environmental factors (like lack of suitable legal and regulatory framework for e-commerce, ICT infrastructure, lack of competitive pressure in the industry), organizational factors (like lack of skilled manpower, resistance to changes in technology among staff) and technological factors (security risk and functionality). However, despite the importance of the continuous adoptions and development of e-banking, limited number of research has been done on the challenges and opportunities of e-banking in developing countries (Zhao, 2008).

For countries like Ethiopia, where financial accessibility is very low, e-payment is suitable in many ways. It enables financial institutions to become accessible in terms of time and place. The e-payment revolution in urban and rural areas also means a golden opportunity for the growth of e-payment. This form of service provision can be used to clear the road for branch operations. With e-payment, it is possible to collect and pay a small number of customers around each customer and introduce the name and the service of the bank to potential clients; which makes easy the operation of a new branch in the area. For the clients, e-payment reduces the time and money needed to visit a branch each day to deposit and withdraw their money. They can complete such transactions from the shop next door. This opportunity motivates fast but small cash movers, like retailers, to put their extra money into the banking system every day. For the client or the customer, the system is a source to reduce switching costs and waste of time. It enables the customer and the bank to save time, cost and or exploitation of human capital (Sewalem, 2016).

When compared with the banking industry operated in developed country, without doubt the banking industry in Ethiopia is underdeveloped and therefore, there is an all immediate need to embark on capacity building arrangements and modernize the banking system by employing the state of the art of technology being used anywhere in the world (Gardachew, 2010).

In the Ethiopian context, e-banking in general is at its infant stage and banks are under implementation stage since the issuance of the NBE directive on e-banking service in 2012. But, till recently only six banks (Dashen Bank, United Bank, Lion Bank, Cooperative Bank of Oromia, Commercial Bank of Ethiopia, and Wegagen Bank) banks are recently announced the

launching of the service. Those banks announced the launching of the service are only 33% of the total which is less than half (Yikeber, 2018). Therefore banks have to launch and expand the service by overcoming the challenges on e-banking.

However, there is quite literature gap and little local research works have been conducted in the field except the research works by Ayana (2012), Abdulkadir (2014), Worku (2015) Henok (2015), Kassahun (2016), Meron (2017), Tamirat (2017), Hayat (2017) Yikeber (2018) and Nardos (2018) having its own gap in scope. Among the studies conducted on the title in the last three years, Hayat (2017) “E- Banking adoption in Ethiopia: A Case of Commercial Bank of Ethiopia” focused on mobile banking only as a title and Commercial bank of Ethiopia from the industry which is very limited and Tamirat Assefa (2017) on assessment of factors affecting adoption of agent banking the case of Lion International Bank S.C. (agent perspective) which is also limited in scope and it is from the agents perspective. Even if the above researchers are conducted their research on single element of e-payment such as mobile banking, internet banking, ATM or agent banking and no attention is given over-all what e-payment in general looks like. In addition to this, the technology is dynamic and the numbers of participant banks in the growing technology are increasing, so the sector needs up-to-date studies to identify challenges and opportunities of its implementation and expansion to overcome the challenges and harness the opportunity of e-payment.

Therefore, to address the current gap in literature; the study is designed to assess the challenges and opportunities in implementation and expansion of e-payment which enables concerned bodies to overcome the challenges and exploit the opportunities entailing to the Service and thereby expedite financial inclusion in Ethiopian banking industry.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to assess the opportunities and challenges of implementing and expanding electronic payment systems in Commercial Bank of Ethiopia.

1.3.2 Specific Objectives

The study was made to have the following specific objectives:

- Exploring the challenges in the implementation and expansion of e-payment systems in the study organization, CBE.
- Identifying the existing opportunities and future prospects for e-payment systems of CBE.
- Identifying the benefits realized by the bank in the implementation and expansion of e-payment systems to complement their service delivery channel.
- Pinpointing the way forward to enhance the performance of the bank in the area.

1.4 Research Questions

Based on the above stated objectives, the study was directed towards giving answers to the following research questions:

- What challenges are there affecting the implementation and expansion of e-payment systems in CBE?
- What are the existing opportunities and future prospects for e-payment systems of CBE?
- What are the benefits realized by Commercial Bank of Ethiopia in the implementation and expansion of e-payment system?

1.5 Significance of the Study

In Ethiopia, as e-payment system is in its initial stage, identification of opportunities and challenges for the implementation of e-payment can impact effectiveness of strategic management decision and policy making positively. In this regard, potentially, the work could benefit not only CBE but also other Ethiopian banks finding themselves in same situation.

As a new addition to existing local research undertakings so far observed in the area; the study output could serve as a reference source and stimulant of further research for the benefit of academia and other stakeholders in the banking sector of Ethiopia.

1.6 Scope and Limitation of the Study

This study was conducted to identify the present challenges and opportunities of e-payment system in Commercial Bank of Ethiopia. The investigation based itself on qualitative and

quantitative data generated through administering a survey questionnaire and document examination. Primary and secondary data sources considered for the purpose included: officials and other employees of the bank and relevant documents produced by CBE and other organizations or institutions. Spatially, the survey covered e-payment department and some branches of the bank in Addis Ababa from which sample respondents were drawn. Study findings basing themselves on analysis of data obtained through the questionnaire and open-end answers reflect the opinion and perceptions of the aforementioned respondent groups selected from the bank. Unfortunately, the perspective of external customers (consumers of the bank's modern and traditional services/ products) was not included at all due to the Covid-19 threat. Such limitations resulted from resource constraints like time & budget and safety problem as well.

1.7 Organization of the Study

The thesis has five chapters. The first chapter already described at beginning. Chapter two presents review of relevant theoretical and empirical studies so far conducted elsewhere and in the context of Ethiopia as well. The research methodology and methodological considerations are presented in the third chapter covering aspects like description of the study area, the research design, approach and methods employed, the study population and sampling techniques considered, how all the data required for the study collected and analyzed in line with acceptable research ethics. Chapter four provides study results and discussions. Finally, the last chapter presents summary of study findings, conclusions drawn from the findings and recommendations made for consideration by CBE and other stakeholders in the area.

CHAPTER TWO

LITERATURE REVIEW

In this chapter, review of relevant literature covering published and grey literature produced in the area are presented. In doing so, focus was made on theoretical/ conceptual works in general and empirical studies conducted in the context of Ethiopia and similar settings in particular.

2.1 Definition of E-payment

Different scholars have defined electronic payment in different ways. Abrazhevich (2004) defined electronic payment as a form of a financial exchange that takes place between the buyer and seller facilitated by means of electronic communications. The author added that electronic payment systems (EPSs) are summoned to facilitate the most important action after the customer's decision to pay for a product or service to deliver payments to vendors in a most effective, efficient and problem-free way.

As defined by Yang (1997), electronic banking is the use of computer to retrieve and process banking data (statements, transaction details, etc.) and to initiate transactions (payments, transfers, requests for services, etc.) directly with a bank or other financial service provider remotely via a telecommunications network. The work by Malak (2007) shares the same view on the concept.

Sathye (1999) asserted that electronic banking can be defined as a variety of platforms such as: (a) Internet banking (or online banking), (b) telephone banking, (c) television-based banking, (d) mobile phone banking, and (e) PC banking (or offline banking).

As indicated in the work of Alagheband (2006), from the above platforms customers can access banking services using an intelligent electronic device, like PC, personal digital assistant (PDA), ATM, POS, kiosk (i.e. a small open fronted cubicle from which newspapers, refreshments and tickets are sold and electronic public phone service found) and mobile phone (both ordinary and smart phones).

Daniel (1999) explained e-banking is online banking (or Internet banking) which allows customers to conduct financial transactions on a secure website operated by their retail or virtual bank, credit union or building society. This implies that e-banking is a service that allows an

account holder to obtain account information and manage certain banking transactions through a personal computer via the financial institution's website on the Internet.

The work by Singh & Malhotra (2004) indicated the possibility that e-banking can be defined as the deployment of banking services and products over electronic and communication networks directly to customers.

Alternative definition by Sidek (2015) enlightened that payment is the act of transferring funds for goods and services. Initiating a payment transaction (i.e., handing over the money, so to speak) is the last chain process in purchasing such products. E-payment is where process such like this is managed electronically using available technology made via face-to-face transactions or online purchases (e-commerce). The role of electronic payment systems is pivotal for future of e-commerce, whose further growth depends on the timely development of EPSs.

In sum, e-banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution.

2.2 Evolution of E-payment

The growth and sophistication of information and communication technology (ICT) is changing societies' ways of life in various parts of the world. One of the leading areas where this is manifested is the way business is conducted. The growth of the Internet and World Wide Web has made electronic commerce (e-commerce) possible. E-commerce in its simplest sense is trading electronically. It offers consumers and merchants convenience and speed. The success and growth of e-commerce, however, depends on efficient electronic payment (e-payment) system. E-payment, the transfer of values electronically, it in turns depend on secure ICT infrastructure, efficient legal and regulatory regime, and widespread awareness among the public and business (Kidan, 2005).

The use of payment cards began in the US State city of California. In 1958, Bank of America, which had a dominant market position in the state, mailed unsolicited credit cards, consisting of a paper card, with a revolving, unsecured \$300 credit line, to several thousand people in a small city outside of San Francisco. It franchised the operations to other banks in the 1960s, and

formalized itself as a separate organization called Visa in 1976. A rival group of California banks created a similar card-based network in 1979 which is called MasterCard (Raja, 2008).

Electronic banking encompasses all transactions that take place among companies, organizations, and individuals and their banking institutions. First conceptualized in the mid-1970s, some banks offered customers electronic banking in 1985. However, the lack of internet users, and costs associated with using online banking, stunted growth. The Internet explosion in the late-1990s made people more comfortable with making transactions over the web. While financial institutions took steps to implement e-banking services in the mid-1990s, many consumers were hesitant to conduct monetary transactions over the web. It took widespread adoption of electronic commerce, based on trailblazing companies such as America Online, Amazon.com and eBay, to make the idea of paying for items online widespread. By 2000, 80 percent of U.S. banks offered e-banking. Customer use grew slowly. At Bank of America, for example, it took 10 years to acquire 2 million e-banking customers. However, in 2001, Bank of America became the first bank to top 3 million online banking customers, more than 20 percent of its customer base (Batchelor, 2017).

Along with this, Raja (2008) argued e-commerce is undergoing huge growth in terms of the volume of goods and services that are being traded on-line. New areas such as B2B and the related business to government (B2G) e-commerce are developing as well as the potential for large numbers of people engaging in e-commerce. In order to bring an on-line transaction to completion, payment must be fully integrated into the online dialogue. Banks will find a demand from their large business clients to effect high value bank mediated transfers of funds easily and efficiently.

The emergence of e-banking in Ethiopia goes back to the late 2001, when the largest state owned Commercial Bank of Ethiopia (CBE) introduced ATM to deliver service to the local users (Tekabe et. al, 2016).

2.3 Traditional Payment System-vs.-E-payment

Given the liquidity and transactional anonymity of cash, cash payments are subjected to “leakage” (payments that do not reach the recipient in full) and “ghost” (fake) recipients, particularly in the context of government transfers. By moving to digital payments, however, the traceability of

the payment process is improved. First, recipients have digital records of the amount of the payments they are to receive. Second, digital payments generally require more strict identification documentation, making it harder for ghost recipients to remain undetected. Given the lack of digital-payment penetration, governments, consumers, and financial providers in Sub-Saharan Africa are still bearing the high cost of cash payment costs associated with manual acceptance, record keeping, counting, storage, security, and transportation (World Bank, 2014).

A research output produced by Girma (2016) indicated that the bricks and mortar approach (traditional banking) requires expensive investment and not economically feasible for financial institution. Otherwise, financial inclusion would be a nightmare in Ethiopia unless banks should make strategic shift to alternative channels like e-banking. Moreover, e-banking technology enhanced accessibility of the bank services to both existing and new customers and also created better relationship among banks and clients. Moreover, cash can easily be stolen and is usually not convenient for large amount of transactions. Cash also does not provide a float (the period of time between a purchase and actual payment for the purchase). It also forces the payer and the payee to physically present themselves. Thus, cash is not a convenient means of payment for e-commerce (Kidan, 2005).

Electronic banking allow banks to expand their markets for traditional deposit taking and credit extension activities, and to offer new products and services or strengthen their competitive position in offering existing payment services. In addition, electronic banking could reduce operating costs for banks. More broadly, the continued development of electronic banking and electronic money may contribute to improving the efficiency of the banking and payment system and to reduce the cost of retail transactions nationally and internationally. Adoption of e-banking service have the benefit of attracting high value customers, enhanced image, larger customer coverage, improvement of organizational efficiency, and load reduction from the view point of the bank (Muche, 2010).

2.4 Types of E-payment

The types of electronic payment services basically mentioned in the literature include plastic cards, smart cards, mobile banking (m-banking), ATMs, POS, telephone and personal computer

(PC) banking, mail banking, Internet banking and electronic check clearing systems (Mishra, 2009).

2.4.1 Plastic Cards

This category includes debit cards, prepaid debit cards, credit cards and smart cards.

Debit cards: - Debit card is a banking card enhanced with ATM and POS features so that it can be used at merchant locations. Debit cards allow you to spend only what is in your bank account. It is a quick transaction between the merchant and your personal bank account. The card is linked to an individual's account, allowing funds to be withdrawn at the ATM and point of sale (POS) without writing a cheque. When using a debit card to pay for goods and services, the purchase amount is deducted from the cardholder's checking account. The types of debit card include online debit card and offline debit card. With offline debit card, debit is not made immediately. This is not true in case of the online debit card. Benefits of using a debit card include making the payment process at the checkout counter quicker and more convenient, eliminating the need to carry a cheque book and a lot of cash, using it at locations where personal cheques are not accepted, and hence, reducing the possibility of loss or theft of cash (Okoye, 2013).

Prepaid debit cards: - These are debit cards not usually linked to a customers' account. They must be funded before being used by cardholders. Prepaid debit cards are identified with such names like cash cards, value cards, and Naira cards etc. They can be used as gift cards, students ID cards, Government payment card, payroll card, Bursary card, insurance cards, travel cards, etc. (Ibid).

Credit Cards: - A credit card is different from a debit card in that it does not remove money from the user's account after every transaction. In the case of credit cards, the issuer lends money to the consumer (or the user) to be paid to the merchant. A credit card allows the consumer to revolve their balance at the cost of having interest charged. The parties involved in a credit card transaction include cardholder, card issuing bank, merchant, acquiring bank, independent sales organization, merchant account, credit card association, transaction network, and affinity partner (Ibid).

Smart Cards: These cards are also called stored value cards, use magnetic strip technology or integrated circuit chips to store customer-specific information including biometric identification and some transaction history of electronic money. The cards can be used to purchase goods or services, store information, control access to accounts and perform many other functions. Smart cards offer clear benefits to both merchants and consumers. They reduce cash handling expenses and losses caused by fraud, expedite customer transactions at the checkout counter and enhance consumer convenience and safety (Mumbai University, 2016).

2.4.2 Automated Teller Machine (ATM)

Among the noticeable budgetary touch-focuses, ATM has been considered as a standout amongst the most critical segments of e-managing an account framework. ATM is a terminal conveyed by a bank or any money related establishment which empowers the clients to withdraw money, make offset enquiries, request bank statements, exchange stores furthermore store money. It gives clients the chance to acquire managing an account administration at whatever time. ATMs are essentially self-overhauled saving money terminals and are gone for giving quick and advantageous administrations to the bank's clients (Rasiah, 2010). To withdraw money, make stores or exchange trusts between records, a purchaser needs an ATM card with a Personal Identification Number (PIN). Rose (1999) describes a broader feature of ATMs as follows: “an ATM combines a computer terminal, record-keeping system and cash vault in one unit, permitting customers to enter the bank’s book keeping system with a plastic card containing a Personal Identification Number (PIN) or by punching a special code number into the computer terminal linked to the bank’s computerized records 24 hours a day. With the presentation of an ATM, banks have the capacity to serve customers outside the banking corridor on the grounds that ATMs are put inside or close to the banks furthermore outside the banks, for example, shopping centers, eateries, airplane terminals or wherever that individuals may accumulate.” In addition, ATM is intended to deal with the most imperative capacity of a bank. With the introduction of ATMs, some limitations of the traditional banking such as time and geographic location has been resolved, according to Hazlina (2011).

2.4.3 Mobile Banking

Managing an account with a mobile phone is the procurement of saving money administrations to clients utilizing an excellent phone line. A customer of a bank can acquire the fundamental data on dialing a phone number determined ahead of time. Since versatile managing an account was presented, clients have possessed the capacity to utilize it to get exceptional administrations 24 hours a day without needing to visit the money keeping lobby (the physical bank branch) for individual exchange. The most important services provided in mobile banking system are: balance enquiry, account transactions enquiry, cheque status enquiry, blocking card, buy prepaid recharge, installments payment, bills payment, received messages archives, ability of receiving various customer accounts information, shopping ability, hotel expenses payment, stock market status enquiry (Aghdaie, 2012 cited by Fikru, 2019).

2.4.4 Point-of-Sale Transfer Terminals (POS)

The POS system allows customers to make retail purchases with a check card. The card looks like credit card but does not function like it. The amount purchased is transferred immediately from the account of the debit card holder to that of the store (Malak, 2007).

2.4.5 Telephone and PC Banking

This is a facility that enables customers, via telephone calls, find out about their position, with their bankers merely dialing the telephone numbers given to them by the banks. In addition, the computers on the phone would require special codes given to the customers as a means of identification of authentic users before they can receive any information they requested for. This is a service introduced into the banking balance as a result of computer telephone technology being made available. The technology has a universe of possible application limited only by the imagination. These areas include: account balance enquiry; account statement printing; intra-banks account to account transfer; inter-banks account to account transfer; download account transaction, etc. Telephone and PC banking brings the bank to the door step of the customer, it does not require the customer to have visits to premises; interactive voice response becomes a regular feature of operations; text-to-speech capability becomes reality; a uniformed messaging capability become permanent feature of the bank (Vassiliou, 2004 cited by Fikru, 2019).

2.4.6 Mail Banking

Mail banking is another form of e-banking service that gives customers the opportunity to communicate with their bankers through the use of the e-mail, Kumar (2011). The writer emphasized that the frequent usage of mail banking is for customers to be able to receive their account statements from their bankers.

2.4.7 Internet Banking

The quick development and notoriety of the Internet service has created great opportunities and threats to companies in different business sectors, to endorse and deliver their items and services utilizing Internet as a circulation channel (Chau & Lai, 2003). Internet banking refers to the use of the Internet as a delivery channel for banking services, which includes every single customary service, for example, balance enquiry, statement of records requisition, trust transfer to other records, charge payment and a new banking service, such as electronic bill presentment and payment without going to a bank (Mukherjee & Nath, 2003). According to Pikkarainen, Karjaluoto & Pahnla (2004), Internet banking is a web entrance, through which clients can utilize various types of managing an account administrations running from bill installment to making speculations. Aside from money withdrawal, web account management (Internet banking) offers the client a complete access to any kind of keeping money exchange at the snap of a mouse (Young, 2001).

The money savings (banking) industry trusted that by receiving new innovation, they will have the capacity to enhance client administration level and attach their clients closer to the banks. Because of the development of progress in the business environment, banks have the capacity to place themselves in the Internet to use the force of the web keeping in mind the end goal to accomplish upper hand (Bill, 2008 cited in Meron, 2017).

Additionally, it is contended that, managing an account (banking) is no more bound to time and topography, thus clients everywhere throughout the world have generally simple access to their records 24 hours a day and 7 days a week. Furthermore, with web account management (internet banking) benefits, the clients who felt that the brick and mortar way of saving money (banking) took a lot of their time and exertion are currently ready to make exchanges at the snap of a mouse (Pikkarainen, *et al.* 2004).

Web savings offer numerous advantages to the client, for example, simple entry, format, predictable subjects, simple route, exceptional substance, access through various media, higher intuitiveness, higher utilization of non-literary data, different dialects, plan and lower expense of exchange (Young, 2001).

2.5 Benefits of Implementing E-payment Systems

Technological innovations play a crucial role in banking industry by creating value for banks and customers, that it enables customers to perform banking transactions without visiting a brick and mortar banking system. On the other hand, e-banking has enabled banking institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space. However, mirroring the development of e-commerce, the adoption and diffusion of electronic banking system is not well developed in Ethiopia (Turban, 2008 cited in Bultum, 2014).

According to Kidan (2005), among other things, the major benefits of e-commerce/ e-payment include:

- Improved response time: communication and flow of information become quick and cost efficient.
- 24/7 World: Round the clock availability of goods and services. Communicating, making order, buying, selling, and paying occurs 24 hours a day, 7 days a week and 365 days a year.
- Extended market reach and revenue potential, and a wide range of choices and convenience for the customer. Geographic barriers or boundaries are removed. A merchant can reach a customer who is physically too far away. The customer on the other hand, can make purchases from a merchant who would otherwise not have been accessible to it.
- Improved competitive positioning: The benefits are not limited to large entities. Small and medium enterprises (SMEs) are also equal participants in the virtual environment.

- Competitive pressure can strongly influence any bank to develop and adopt e-payment initiatives and it may affect the bank's perception towards e-payment system (Atnkut, 2018). E-payment improves competitiveness between banks because of its potential to reach on remote/ rural areas easily where there are many unbanked societies found, banks could expand their customer base through it. In addition, it provides easy access for banking service that the customers prefer in recent time. Therefore, the banks should compete each other in order to secure their present and future market share.
- Reduced costs for the business firm and reduced price for the consumer. This coupled with the fact that there is increased competition in e-commerce would force businesses to avail their products and services at lower prices but with enhanced quality.

A study which covered 70 countries from developing and developed economies revealed that card usage plays an outsize role in driving consumption and economic growth in large part because card usage brings more consumption. That, in turn, creates a virtuous economic cycle whereby increased consumption translates into increased production, more jobs, higher incomes and greater economic prosperity. As more cards are issued and more merchants accept cards, transaction volume grows. That is because consumers feel more comfortable using their cards for a larger percentage of their overall transactions once a critical mass of merchant locations is reached. Electronic payments provide consumers with convenient and secure access to their funds, reduce cash and check handling for merchants, and expand the pool of customers who are guaranteed to pay. Importantly, they also promote greater financial inclusion, giving those without access to the formal banking system an introduction to formal financial services. At the same time, merchants want access to the growing pool of cardholders with guaranteed payment. In other words, a more robust payment ecosystem produces a multiplier effect that can result in significant increases in consumption. In return, banks also can retain their market share. Both emerging markets and developed countries experienced gains in consumption due to higher card usage. Increased card usage added 0.2% to consumption in emerging markets, compared with 0.14% in developed countries between 2011 and 2015. The corresponding figures for GDP were

0.11% for emerging economies and 0.08% for the developed countries. All figures are averages weighted by GDP over the countries and the sample period (World Bank, 2014).

Moving from cash payments to digital payments can lead to significant cost savings in the long term. The potential cost savings are especially striking when considering large scale government to public payments, such as social transfers. Digital payments also connect individuals to the broader economy and can strengthen informal insurance networks. Electronic networks allow families to expand their community and can help households smooth unexpected income shocks by accessing money or support from a community wider than those physically proximate. Thus, increased risk management (Ibid).

In contrast to a cash payment that travels at the speed of its carrier, digital payments can be virtually instantaneous, regardless of whether the sender and receiver are in the same town, district or country. This means that employees are paid on time, which might reduce demand for payday loans and informal loans to meet monthly expenses. Especially in emergency situations that lead to unexpected income shocks such as a health emergency or natural disaster, speedy and timely delivery can be of the essence. In digital form, payments can be made without delay when the need is greatest. Other benefits such as, increased security, increased financial inclusion, increase in women's economic participation and empowerment, increased credit information and fewer nonperforming loans and so on can be mentioned (Ibid).

Using online banking system helps to perform banking activities within a short period of time. Clients can simply check their balance, transfer funds and pay their bills online with just a click of mouse and a touch of button. Using Internet banking is more convenient in terms of saving time and delivering of bank service to customer 24 hours a day and 7 days a week (Ayana, 2012).

2.6 E-banking (e-payment) Risks

Although e-banking has bright prospects, it involves some financial risks as well. FSA (2010) identified the following major risks.

Operational risks: Banks face three main types of operations risk: such as volume forecasts, management information systems and outsourcing. Accurate volume forecasts have proved difficult - one of the key challenges encountered by banks is how to predict and manage the volume of customers that they will obtain. Many banks going on-line have significantly

misjudged volumes. When a bank has inadequate systems to cope up with demand it may suffer reputational and financial damage, and even compromises in security, if extra systems that are inadequately configured or tested are brought on-line to deal with the capacity problems. The second type of operations risk concerns management information systems. Again, this is not unique to e-banking. Banks may have difficulties in obtaining adequate management information to monitor their e-service, as it can be difficult to establish/ configure new systems to ensure that sufficient, meaningful and clear information is generated. Such information is particularly important in a new field like e-banking. Finally, a significant number of banks offering e-banking services outsource related business functions, e.g. security, either for reasons of cost reduction or, as is often the case in this field, because they do not have the relevant expertise in-house, outsourcing a significant function can create material risks by potentially reducing a bank's control over that function. Security issues are a major source of concern for everyone both inside and outside the banking industry. E-banking increases security risks, potentially exposing hitherto isolated systems to open and risky environments. Security breaches essentially fall into three categories; breaches with serious criminal intent (e.g. fraud, theft of commercially sensitive or financial information), breaches by 'casual hackers' (e.g. defacement of websites or 'denial of service attack' - causing websites to crash), and flaws in systems design and/or set up leading to security breaches (e.g. genuine users seeing / being able to transact on other users' accounts). All of these threats have potentially serious financial, legal and reputational implications.

Reputational Risk: This is considerably heightened for banks using the Internet. For example, the Internet allows for the rapid dissemination of information, which means that any incident, either good or bad, is common knowledge within a short space of time. Internet rumors can easily become self-fulfilling prophecies. The speed of the Internet considerably cuts the optimal response times for both banks and regulators to any incident. Banks must ensure their crisis management processes are able to cope with Internet related incidents (whether they be real or hoaxes). Any problems encountered by one firm in this new environment may affect the business of another, as it may affect confidence in the Internet as a whole. There is, therefore, a risk that one rogue e-bank could cause significant problems for all banks providing services via the Internet. This is a new type of systemic risk and is causing concern to e-banking providers. Overall, the Internet puts an emphasis on reputational risks.

Strategic Risk: E-banking is relatively new and as a result there can be lack of understanding among senior management about its potentials and implications. People with technological but not banking skills can end up driving the initiatives. E-initiatives can spring up in an incoherent and piecemeal manner in firms. They can be expensive and can fail to recoup their cost. Furthermore, they are often positioned as loss leaders (to capture market share), but may not attract the types of customers that banks want or expect and may have unexpected implications on existing business lines.

Business Risk: Business risk is also significant in e-banking. Given the newness of e-banking, nobody knows much about whether e-banking customers will have different characteristics from the traditional banking customers. They may well have different characteristics. This could render existing score card models inappropriate, thus resulting in either higher rejection rates or inappropriate pricing to cover the risk. Banks may not be able to assess credit quality at a distance as effectively as they do in face to face circumstances. It could be more difficult to assess the nature and quality of collateral offered at a distance, especially if it is located in an area the bank is unfamiliar with (particularly if this is overseas).

In addition, legal risks (e.g. without proper legal support, money laundering may be influenced). Credit risks; market risks; and liquidity risks are also e-banking risks. Therefore, identification of relevant risks, and formulation and implementation of proper risk mitigation policies and strategies are important for banks while performing e-banking.

2.7 Challenges, Realized Benefits, Opportunities and Prospects of E-payment

2.7.1 Challenges of E-payment

Language Barrier: Language is one of the most important powerful instruments to communicate with the business partner and conduct a business. All humankind as much as possible it needs to do anything by their own native language because that is much better than to understand things in easy way. Otherwise, there is certain impact on the economic activity. On the other side, when it come to the e-payment system instruments such as ATM machine, point of sale (POS) they provide services only in a limited language. This creates a difficulty in using e-payment systems.

Network Challenges: E-payment system needs a network to provide services to the user. Most of the machines fail to provide a service because of poor network connection.

Frequent Power Interruption: Lack of reliable power supply is a key challenge for smoothly running e-banking in Ethiopia. Because, e-payment systems are power dependent.

Lack of Awareness: In order to use or get e-payment service, first and foremost, a potential customer needs to know how to operate the system. Service promotion with focus on benefits of the service and guidelines for use by targeted user groups must be done proactively and continuously.

Other challenges of implementing electronic banking as identified by Tekabe (2016) include the following.

- Lack of skilled human power in the area.
- Unavailability of laws and regulations for e-commerce in general and e-payment in particular. Ethiopia has not yet enacted legislation that deals with e-commerce concerns including enforceability of the validity of electronic contracts, digital signatures and intellectual property ownership (copyright) and restrictions on the use of encryption technologies.
- Low level of Internet penetration and poorly developed telecommunication infrastructure.
- Lack of infrastructure for telecommunications, Internet and online payments impede smooth development and improvements in ecommerce/ e-payment in Ethiopia. Most rural areas of the country, where the majority of small and medium businesses are concentrated, have no Internet facilities and thus are unable to engage in e-commerce/ e-payment activities.
- High rates of illiteracy: Low literacy rate is a serious impediment for the adoption of e-banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of e-banking, they should not only know how to read and write but also possess basic ICT literacy.
- High cost of Internet: Relative to the developed countries, there are higher costs of entry into the e-commerce market in Ethiopia. These include high start- up

investment costs, high costs of computers and telecommunication and licensing requirement.

- Low level of financial networks that links different banks (banks are not yet automated): Most of the banking transactions currently taking place using credit and debit cards supplied by Visa and MasterCard. For conducting e-banking, the use of credit or debit cards is mandatory thus requiring the need for specialized systems which are not currently available.
- 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 comfortable with the existing structures,
 - People may be resistant to new payment mechanism

On the other hand, with services meant for customers through ATM, Internet banking, POS and mobile banking, lack of technical and managerial skills on the use of technological innovation and lack of skills to implement e-payment system are considered as barriers for the adoption of e-banking system. Compared with traditional banking system, using different technological innovation in banking industry is used to perform banking activities at lower costs. These issues can be either drivers or barriers. For instance, if a country has managed to achieve a cost reduction greater than the investment made in adoption of new technology, then the cost factor can be considered as a driver rather than as barrier (Bultum, 2014).

Another challenge of e-payment is unavailability of legal and regulatory frameworks regarding e-payment at national level. Electronic payments are not currently incorporated into Ethiopia's legal system and such gaps in legal framework hinders the expansion of cost effective modern electronic payment instruments such as ATM, mobile and Internet banking, among others. Thus banks show reluctance in implementing e-banking services, paying too much attention instead of competing through traditional ways such as opening new branches etc. (Derso, 2018).

So lack of legal frame work for the implementation of e-banking system is one basic barrier for Ethiopian banking industry. Despite the recent improvements made by Ethiopian government on the national infrastructure, the overall ICT infrastructure in Ethiopia remains inadequate.

2.7.2 Realized Benefits of E-payment

The banks aggressive move to introduce and expand electronic banking service is paying them off in enhancing organizational efficiency and profitability. According to Jayawardhena & Foley, (2000) cited in Kassahun (2016) the primary benefits of e-payment are as follow:

Price- In the long run a bank can save on money by not paying for tellers or for managing branches. Plus it's cheaper to make transactions over the Internet.

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

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

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

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

The main benefits from e-banking for private customers are as per BankAway (2001) cited in Kassahun (2016) are as follows:

Reduced costs: This is in terms of the cost of availing and using the various banking products and services.

Convenience: All the banking transactions can be performed from the comfort of the home or office or from the place a customer wants to.

Speed: The response of the medium is very fast; therefore customers can actually wait till the last minute before concluding a fund transfer.

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.

In addition to the above, the following can also be considered as realized benefits of e-payment.

- Withdrawing cash customers can also have mini bank statements, balance inquiry at these ATMs.
- E-banking has also greatly helped in payment of utility bill. Now there is no need to stand in long queues outside banks for this purpose.
- All services that are usually available from the local bank can be found on a single website.
- The Growth of credit card usage also owes greatly to e-banking. Now a customer can shop worldwide without any need of carrying paper money with him and
- Banks are available 7x24 and they are only a mouse click away.

2.7.3 Opportunities of E-payment

Card-based payment systems in Ethiopia have been growing fast in recent years. Even though, four commercial banks in the country including the state owned Commercial Bank of Ethiopia, Dashen bank, Zemen bank and Wegagen bank have introduced wider use of debit or ATM cards; nowadays, all commercial banks in the country also cited plans to use new technologies for remittance transfers, including mobile-money transfers and remittance-linked financial products such as prepaid cards (Bultum, 2014).

With regard to opportunities of e-commerce/ e-payment, Tekabe (2016) identified the following:

- UNECA and the World Bank are helping developing countries to design national e-strategies, including e-commerce, via National Information and Communication Infrastructure plans.
- Commitment of the government: The Ethiopian government considers ICT as an indispensable tool to alleviate poverty and facilitate a state-transformation aiming an effective and efficient service delivery. It has initiated commendable ICT policy frameworks and several e-government projects, including the Woreda NET Project.
- Opportunities offered by ICT through e-learning programs. The School Net program introduced in Ethiopia to connect more than 500 Schools creates opportunities to citizens to be familiar with ICT applications and increases the awareness of the public.
- Late adopter opportunities- commercial banks in Ethiopia can take advantage of already developed best and existing software applications.

In addition to the above, the newly introduced NBE directive: “Cash Withdrawal Limit Directive No. FIS/03/2020” on cash withdrawal limit can also contribute to e-payment service growth by impeding limitations on physical cash movements. It restricts the daily cash withdrawal of birr above 200,000.00 and 300,000.00 for individuals and corporate businesses, respectively. Furthermore, monthly restriction also obstructs withdrawal of 1,000,000.00 and 2,500,000.00 birr, respectively. However, there is no restriction on transfer of account to account payments whether in the bank premises or by using e-payment services such as Internet banking.

2.7.4. Prospects of E-payment

Despite the industry's rapid progress, it is still at premature stage. E-banking as a whole is comparatively new to Ethiopian banking industry; and the country's largest commercial bank; Commercial Bank of Ethiopia (CBE) pioneered the introduction of Automated Teller Machine in 2001. Electronic banking has brought about commendable results in easing transactions and building institutional and financial capabilities of banks in its short history in Ethiopia's banking industry. The e-banking practice in the country is growing at a significant level and the government, through National Bank of Ethiopia (NBE), has been playing a pivotal role in

supporting the activity by introducing and implementing different electronic payment infrastructures. Capitalizing on the existing e-banking platforms, the state-owned CBE and private banks have continued their high competition in providing services, including ATM, POS, Internet banking, and mobile banking, among others (Nardos, 2019).

According to Yikeber (2018), most local banks embark on mobile and agent banking services latter on with the issuance of NBE's Directive in the area (No. FIS/01/2012). In near future, this move will be supported by new e-commerce law, trade and telecom liberalization projects of the current Ethiopian government.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodological framework applied to solve the research problem and answer the research questions. It begins with description of the study area; this followed by key methodological considerations such as the research design and approach, sampling of the study population and chosen techniques, the data collection process and its analysis. Ethical consideration accounted in and post-data collection process is also indicated.

3.2 Description of the Study Area

According to CBE's Oracle database (ERP system) maintained on and for employees, Commercial Bank of Ethiopia has 1,598 branches and 37,636 employees throughout the country; from these, 515 branches and 12,486 employees are located in Addis Ababa; organized under four districts: North, South, East and West. The type of branches ranged from newly open ones to those graded as 'Special'. For the purpose of this study branches operating in Addis Ababa with Grade III, Grade IV and Special status (148 in number) were considered and each branch has a focal person on e-payment in Customer Service Manager-service (CSM service) level. However, addressing all 148 branches and CSMs are difficult and other staff members are also their own contribution for e-payment. Therefore, these 148 parts of population is selected from 12 different branches and positions. While, the remaining 141 member of population are from e-payment department from head office and the total of population size is 289.

3.3 Research Design and Approach

The study was conducted by using descriptive research design. Descriptive research design is a type of research design that is mainly concerned with describing the nature or condition or degree of the present situation. Creswell (2003) stated that the descriptive method of research design is used to gathering information about the present or existing condition.

This study focuses on describing the current situation of the problem and answer the research questions which are in the form of “what are the challenges and opportunities of e-payment”, on the basis of which factors that can positively or negatively affect e-payment service in Commercial Bank of Ethiopia can be highlighted. Therefore, descriptive research was considered in conducting this study so as to achieve its stated objectives.

Within the above design framework, the researcher adopted a mixed research approach. The rationale of using a mixed approach is to gather data that could not be obtained by adopting a single method (Creswell, 2003). Hence, the provision of such approach helps to neutralize the limitations of applying a single approach relying either on qualitative or quantitative set of data for analysis. Unlike the other two approaches, the mixed approach allows both qualitative and quantitative analysis of data for strengthening or questioning the quality of study findings by checking validity of one source (quantitative data and result of its analysis) against the other (qualitative data and result of its analysis).

3.4. Target Population and Sampling

3.4.1 Target population

The target population for this study consisted of 289 employees of the bank. This included managers, supervisors, and front-office staff from Grade Three, Grade Four and Special branches of the bank and e-payment department members from the bank’s head office (HQ) as well. Originally, the researcher planned to cover all eligible members of 148 staffs in 12 Grade Three, Grade Four and Special branches of the bank targeted from two districts of Addis Ababa (West and South) and 141 member of staffs are from e-payment department found in head office. Therefore the total of sample population is 289. But, due to inaccessibility and safety problems resulted from Corona Virus (COVID 19) pandemic; and the Ethiopian Government’s state of emergency declaration and restrictions that followed, previously proposed plan found unrealistic which is considering all focal persons (CSMs) in 148 branches. This forced the researcher to make some amendments later to select 12 branches and includes all staff members from various positions to replace focal persons; it’s due to consideration that every staff in any branch has his/her own contribution and knowledge on the subject matter.

3.4.2. Sample Size Determination

The sample size for this study was determined by using the following formulae at 95% confidence level.

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

Where,

n=sample size

N=population size

e=the level of precision, sampling error

$$= 289 / (1+289(0.05)^2)$$

$$= 289 / (1+289(0.0025))$$

$$= 289 / (1+0.7225)$$

$$= 289/1.7225$$

$$\underline{\underline{n= 167.78 \approx 168}}$$

Hence, the sample size became 168.

(Source: Yamane (1967:886))

3.4.3 Sampling Technique and Procedure

Considering a quota sampling technique, first, the sample size obtained was apportioned between e-payment department staffs and others (the branch staffs). A 40% quota fixed for the former and the remaining 60% left for the latter. This made number of sample respondents from the e-payment department and others 67 and 101, respectively. The emphasis given to e-payment department members is because of the nature of their job which could possibly increase the chance of getting more reliable data and result for the study. In fact, although their number was

small compared to others, they were and still are more knowledgeable about the subject matter of the study.

Following the above, list of sample respondents was generated with the help of the human resource function of the bank from which actual recipients of a self-completion questionnaire were picked randomly through systematic sampling technique. Accordingly, the questionnaire was distributed to them via email. But, due to high level of unresponsiveness observed which resulted from the emergence of the COVID-19 pandemic and the restrictions that followed, the researcher decided to go for other options in order to get the questionnaire completed by adequate number of sampled respondents. Accordingly, considering their accessibility 12 branches of the bank from West and South Addis Ababa districts were selected for visit and the questionnaire was handed out through convenience sampling technique.

3.5 Data Collection Method and Tools

The descriptive research design considered in this study was accompanied by survey questionnaire administered to generate primary quantitative and qualitative data from the response of sampled respondents. The content of the self-completion questionnaire incorporating both close- and open-ended questions was divided into two parts. The first part focused on demographics of respondents; whereas, the second part covered items focusing on main thematic areas of the study such as e-payment challenges, opportunities, prospects and realized benefits (Annex 1).

Responses to close-ended questions or statements are measured on a five point Likert's scale rating. The use of Likert's scale is to make it easier for respondents to answer the questions in a simple way; and also enable the research instrument permit an efficient use of statistics for the interpretation of data. Moreover, the central issue to argue about Likert scale is that, it can produce ordinal data. In statistical terms, the level of measurement of the Likert response scale is ordinal rather than interval: that is, we can make assumptions about the order but not the spacing of the response options. Thus, the permissible descriptive statistics that can perform on ordinal data is mean (average response) and mode (more frequent responses).

3.6 Data Analysis

In order to meet the stated research objectives, the collected data was analyzed based on the nature of the objective. A descriptive analysis was used to present and interpret the data collected on various variables of factors affecting the implementation of e-payment service. Quantitative data generated through administering the self-completion questionnaire were analyzed with descriptive statistics using Statistical Package for Social Scientists (SPSS Version 22). Statistical functions utilized include frequency distribution tables alongside with percentages, mean (weighted) and mode. In case of, qualitative data obtained through open-ended questions, content analysis was employed. Finally, for the purpose of enriching or questioning the quality of results obtained through quantitative and qualitative data analysis, the triangulation technique was used.

3.7 Ethical Consideration

In order to make the study ethically acceptable, participants were briefed about the aim of the study and asked for their cooperation (consent) to solve the problem under this study. Additionally, they were informed that, no name of respondents would be mentioned and all the data generated through the questioner meant for the purpose of the study and it would be kept confidential.

CHAPTER FOUR

RESULT AND DISCUSSION

4.1 Introduction

This chapter presents data collected through administering the self-completion questionnaire, result of its analysis, and discussion on the result obtained.

4.2 Response Rate

In order to achieve the study's main objective of assessing e-payment challenges and opportunities in Commercial Bank of Ethiopia, the researcher distributed 168 questionnaires to various staff members of the bank in Addis Ababa. Of these, 154 were returned, valid and usable. In other words, a 91.7% response rate was achieved, enabling the researcher to obtain credible and meaningful result from this research.

4.3 Demographic Profile of Participants

The collected data covered five demographic features of the respondents such as gender, age, educational qualification, years of experience and job title (current job position) at the study site, CBE.

As shown on Table 4.1, 72.1% (111) of the respondents were male and the rest, 27.9% (43) were female. This shows that, most of the respondents were male employees of the bank.

Regarding age, majority of respondents were in the age category of 26 - 35 (63.6%). The other age categories such as 18-25 years old accounts 20 (13%) of the respondents, 26 respondents (16.9%) were between 36-45 years of age, there were 2 respondents above the age of 45 which accounts 1.3% and the remaining 8 respondents (5.2%) didn't provide data on the matter and, hence, recorded as missing data. The first two age groups contributes 76.6%, this indicates CBE has a youngest employees in their age.

Concerning educational attainment, 95 (61.7%) of respondents were Bachelor's degree holders and the remaining, 59 (38.3%) were Master's degree holders. This implies that most of the employees had a first degree at the minimum level.

When it comes to years of banking experience they have had at CBE; 65 (42.2%) of respondents claimed to have an experience up to five years, 68 (44.2%) between 6 to 10 years, 12 (7.8%) between 11 to 15 years, and the rest 9 (5.8%) above 15 years.

Table 4.1: Demographic profile of respondents

Respondents Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	111	72.1	72.1	72.1
	Female	43	27.9	27.9	100
	Total	154	100	100	
Age of respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Age	from 18 to 25	20	13	13.7	13.7
	from 26 to 35	98	63.6	67.1	80.8
	from 36 to 45	26	16.9	17.8	98.6
	above 45	2	1.3	1.4	100
	Total	146	94.8	100	
Missing	System	8	5.2		
Total		154	100		
Educational qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Education level	Bachelor's degree	95	61.7	61.7	61.7
	Master's degree	59	38.3	38.3	100
	Total	154	100	100	
Years of experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Experience	Up to 5 years	65	42.2	42.2	42.2
	6 to 10 years	68	44.2	44.2	86.4
	11 to 15 years	12	7.8	7.8	94.2
	16 years and above	9	5.8	5.8	100
	Total	154	100	100	

Source: SPSS output of own survey, 2020.

Based on CBE’s newly introduced banking structure which was put into practice since March 2019 alongside with new/ revised posts, respondents were asked to indicate, among 15 categories, the post they hold at the time of the survey. Accordingly, Branch Business Officers (BBOs) had more frequency than any other job positions, which accounts 32 (20.8%) of the respondents; the remaining job positions had a smaller share which was below half of the BBOs share (Table 4.2).

Table 4.2: Demographic profile of respondents based on job position

Current job position					
No	Job Title	Frequency	Percent	Valid Percent	Cumulative Percent
1	Junior Officer	16	10.4	10.4	10.4
2	CSO (Customer Service Officer)	12	7.8	7.8	18.2
3	Digital Channel Officer	9	5.8	5.8	24.0
4	BBO (Branch Business Officer)	32	20.8	20.8	44.8
5	BOO (Branch Operation Officer)	13	8.4	8.4	53.2
6	SBBO (Senior Branch Business Officer)	11	7.1	7.1	60.4
7	Branch Controller	10	6.5	6.5	66.9
8	SBOO (Senior Branch Operation Officer)	5	3.2	3.2	70.1
9	MBB (Manager Branch Business)	6	3.9	3.9	74.0
10	MBO (Manager Branch Operation)	6	3.9	3.9	77.9
11	MBS 1 (Manager Branch Sales)	5	3.2	3.2	81.2
12	MBS 2 (Manager Branch Service)	2	1.3	1.3	82.5
13	BM (Branch Manager)	5	3.2	3.2	85.7
14	MBC (Manager Branch Controller)	5	3.2	3.2	89.0
15	Others	17	11.0	11.0	100.0
	Total	154	100.0	100.0	

Source: SPSS output of own survey, 2020.

4.4 E-payment Challenges and Opportunities

This section had a total of 37 closed-ended and 8 open-ended questions which were associated with the challenges and opportunities of e-payment and rated on a five point Likert's scale model ranging from "1" strongly disagree to "5" strongly agree. Statistical results were presented under each sub section by using frequency distribution tables, mean, mode, median and standard deviation. Additional output of SPSS annexed at the end of the research report (Annex 2).

In the frequency distribution tables, the "Valid" column shows number of respondents who provided an answer for variables/ items; whereas non-response for variables/ items presented under a column named "Missing".

The "Mean" score indicates that the average of variables. It is used to add up all variables and then divided by the total number of the replies in order to find average point fall for each specific variable. Median is the middle value in the list of number which was listed in their numerical order. Mode is the value that indicates the most frequent point of specific variable. Standard deviation shows the amount of variation or difference of the set of values. The value of standard deviation greater than one (>1) indicates a significance differences (variation) in the response given by respondents.

4.4.1 External Factors

In this sub-section, environmental and technological factors as external elements which could influence the expansion and implementation of e-payment service at the study organization are examined with data collected from study participants.

Technological factors are perceived risks which hinder the adoption of new technology; these are associated with mainly in the adoption and implementation of new technology and extending the existing practice.

On the other hand, environmental factors are issues raised in relation with rules, regulations and laws, government role, infrastructure, literacy level and other issues related to the public at large.

A total of 10 items/ statements were presented to respondents on the two external factors described above. Table 4.3 summarizes responses and result of analysis for each item.

Table 4.3: External factors for e-payment service

External Factors (Environmental and Technological factors)	N		Mean	Median	Mode	Std. Deviation
	Valid	Missing				
Q 1.1) ICT infrastructure required for rendering e-payment service in the city is adequate enough.	154	0	2.80	3.00	2	1.111
Q 1.2) Legal framework put in place in Ethiopia for E-banking is inadequate.	149	5	3.46	4.00	4	.934
Q 1.3) There is lack of sufficient government policy enforcement for implementation and growth of e-payment service.	152	2	3.52	4.00	4	.970
Q 1.4) Compared to other banks in the city, CBE's e-payment service packages are competitive and fulfill all type of payment options.	154	0	3.99	4.00	4	1.057
Q 1.5) Usage of e-payment service is very low among illiterate customers of the bank residing in Addis Ababa.	154	0	4.07	4.00	4	.872
Q 1.6) Due to cybercrimes spreading across the globe, there are security fears among customers of the bank in using e-payment service.	153	1	3.47	4.00	4	.953
Q 1.7) Government and/or National Bank's directives issued on e-banking service created favorable conditions in terms of attracting and having willing customers for the service.	147	7	3.39	4.00	4	.947
Q 1.8) Customers of the bank with low income don't have access to e-payment service.	154	0	2.51	2.00	2	1.259
Q 1.9) Culturally, e-payment is an acceptable practice among communities residing in Addis Ababa.	151	3	3.04	3.00	4	1.216
Q 1.10) Frequent power interruption in the City is hampering the provision of e-payment service.	154	0	3.81	4.00	4	.969

Source: SPSS output of own survey, 2020.

As shown from the above table and the frequency distribution tables on Annex 2 (Table Q.1.1 to Table Q.1.10), majority of respondents questioned the adequacy of ICT infrastructure to render

e-payment service in the city (mean=2.8; mode=2); they also confirmed inadequacy or insufficiency of legal framework and government policy enforcement in the area (mean≈4; mode=4).

Similarly, the existence of other factors standing as challenge for CBE's e-payment service confirmed by large proportion of respondents. These include: illiteracy among customers, security fears, frequent power interruption (mean≈4; mode=4).

On the other hand, the perception of respondents on 4 issues largely showed the existence of good conditions. These are: the competitiveness of CBE's e-payment packages in the market; the directives issued by National Bank of Ethiopia creating favorable conditions in terms of attracting and having willing customers; and, that access to and usage of e-payment service unaffected by income and cultural norm.

4.4.2 Internal Factors

Organizational factors mainly relate with the availability key resources like skilled human resources in implementing and expansion of e-payment service. In addition to this, other important factors are also included. In total, ten items/ issues were considered.

Based on the details shown on Table 4.4 below and on the frequency distribution tables (Annex 2: Table Q.2.1 to Table Q.2.10), one can state that the perception of respondents, almost in all respects, show the strength rather than weakness of the bank. In that, the majority indicated that,

- promotion of e-payment given serious attention; and awareness about the benefits of e-payment has been created among customers, accordingly (mean≈4; mode=4)
- the bank has a well-trained manpower in general (mean≈4; mode=4),
- the bank has developed and maintained a user friendly system for use (mean≈4; mode=4),
- what the bank charging its customers for e-payment service not expensive, relatively,
- the bank has had adequate skilled IT personnel dealing with technological innovation and associated problems (mean>3; mode=4)
- continuous service improvement given appropriate attention (mean≈4; mode=4),
- the bank has been arranging and conducting sufficient staff training in the area (mode=4),
- mechanisms for overcoming resistance to change put in place (mean≈4; mode=4),

- effective control mechanisms for addressing fraud and erroneous transactions put in place (mean≈4; mode=4).

Table 4.4: Internal factors for e-payment service

Internal Factors (Organizational factors)	N		Mean	Median	Mode	Std. Deviation
	Valid	Missing				
Q 2.1) E-payment service promotion given serious attention by management of the bank.	152	2	3.95	4.00	4	.975
Q 2.2) The bank has a well-trained manpower to build and maintain e-payment service.	154	0	3.54	4.00	4	1.133
Q 2.3) Awareness about the benefits of e-payment has been created among customers of the bank.	153	1	3.67	4.00	4	.960
Q 2.4) The bank has developed and maintained a user friendly system for delivering e-payment service.	153	1	3.52	4.00	4	1.001
Q 2.5) What the bank charging its customers for e-payment service is relatively expensive, i.e., ATM service.	154	0	2.42	2.00	2	1.256
Q 2.6) The bank has had adequate skilled IT personnel dealing with technological innovation and associated problems.	149	5	3.42	4.00	4	1.047
Q 2.7) The bank has been arranging and conducting sufficient staff training on how to use and delivering e-payment service.	154	0	3.13	3.00	4	1.130
Q 2.8) CBE gives appropriate attention for continues improvement on adequateness and competency of mobile banking service to satisfy its users.	154	0	3.66	4.00	4	1.055
Q 2.9) Management of the bank has been devising and implementing mechanisms for overcoming resistance to change.	154	0	3.48	4.00	4	.902
Q 2.10) Management of the bank has been devising and implementing effective control mechanisms (MIS audit and others) for addressing fraud and erroneous transactions.	154	0	3.44	4.00	4	.956

Source: SPSS output of own survey, 2020.

4.5 E-payment Prospects

Regarding prospects of e-payment (Table 4.5; Table Q.3.1 to Table Q.3.5: Annex 2), majority of respondents confirmed that,

- the quality of e-payment service has been improving from time to time (mean>4; mode=4),
- the bank is providing continuous strategic direction for e-payment service (mean≈4; mode=4),
- service delivering ways of the bank are attractive to retain e-payment users (mean≈4; mode=4),
- customer request for the service is increasing from time to time (mean>4; mode=4), and their satisfaction with the service also showing an increase (mean≈4; mode=4)

Table 4.5: Future prospects of e-payment at Commercial Bank of Ethiopia

Future prospect of e-payment at CBE	N		Mean	Median	Mode	Std. Deviation
	Valid	Missing				
Q 3.1) The quality of e-payment service has been improving from time to time.	154	0	4.14	4.00	4	.759
Q 3.2) The bank provides continuous strategic direction for e-payment service.	150	4	3.95	4.00	4	.850
Q 3.3) Service delivery ways of the bank are attractive to retain e-payment service users.	152	2	3.52	4.00	4	.970
Q 3.4) Customer request for e-payment service is increasing from time to time.	153	1	4.11	4.00	4	.739
Q 3.5) Customer satisfaction with e-payment service is increasing from time to time.	154	0	3.65	4.00	4	1.000

Source: SPSS output of own survey, 2020.

4.6 Benefits of Adopting E-payment System at CBE

As far as benefits of e-payment are concerned, a total of 12 items were presented to respondents. And, the response and result of data analysis as shown on Table 4.5 and on the frequency

distribution tables (Annex 2: Table Q.4.1 to Table Q.4.12) show that all the 14 benefits of e-payment been realized at CBE, according to respondents (mean>4 but <5; mode=4 or 5).

Table 4.6: Benefits of adopting e-payment system at CBE

Benefits of e-payment adoption	N		Mean	Median	Mode	Std. Deviation
	Valid	Missing				
Q 4.1) Enhanced productivity in the bank.	154	0	4.43	4.00	4 ^a	.614
Q 4.2) Facilitated the development of new products and services by using online payment.	154	0	4.34	4.00	4	.618
Q 4.3) Improved customer service and transaction processing speed.	154	0	4.35	4.00	4	.652
Q 4.4) Reduced queues in the banking hall	154	0	4.27	4.00	5	.833
Q 4.5) Created good relationship between clients and other banks.	154	0	4.22	4.00	5	.880
Q 4.6) Facilitated cost-effective marketing and market access.	154	0	4.32	4.00	5	.747
Q 4.7) Contributed to customer base growth and development.	154	0	4.29	4.00	5	.766
Q 4.8) Improved competitive advantage/ positioning of the bank.	154	0	4.25	4.00	5	.821
Q 4.9) Enabled the bank to expand its market in the area.	154	0	4.38	5.00	5	.751
Q 4.10) Improved customers satisfaction.	154	0	4.32	4.00	5	.799
Q 4.11) Enabled the bank to overcome disadvantages of traditional payment instruments such as, cash and cheque.	154	0	4.36	5.00	5	.839
Q 4.12) Increased the bank's revenue.	151	3	4.23	4.00	5	.905
a. Multiple modes exist. The smallest value is shown						

Source: SPSS output of own survey, 2020.

4.7 Qualitative Data and Result of its Analysis

One of the external challenges found on open-ended question was inconsistent telecom service by the state-owned telecom operator. Previously the internet and data network was deliberately interrupted by government; but now it is relatively better with some changes made in network

infrastructure and network administration. However, the problems associated with internet and data network is still continued as one of the external challenges of e-payment.

On the other hand, some of the respondents mentioned about internal challenges including inadequate internal support for the problems encountered on e-payment service which has been worsen after the main core banking system upgrade on April 2020. In recent days, lack of swift solution to the arising problems serving as a source of irritations and complain. The respondents assert that most of the problems were showed on the internet banking and mobile banking services.

Regarding benefits and opportunities of e-payment, it was indicated that the bank has been benefiting a lot by collecting the third party payments such as water bill, electric bill, telecom bills, traffic fine, tax payments and collection of housing rent etc.; through its e-payment channels the bank has increased its customer base, mobilized deposits, and its e-payment service users. For example, the new tax payment system (e-tax) required each entity to use an internet banking service with CBE account. It creates an opportunity to the bank in order to increase its internet banking users, number of customers and deposit collected from the customer. Traffic fine, water, telecom and electric bills payments etc. were also create an opportunity to increase the users of CBE mobile money transfer which is called CBE Birr.

The responses also indicated that the CBE's e-payment services (mobile banking, internet banking, ATM and CBE Birr) will bring in many benefits by creating easy and swift banking services and play its own role in creating non-cash society. Mainly CBE Birr and internet banking will have a better prospect if they are properly capitalized and supported by sufficient government rules, regulations and policies as per many respondents replied.

4.8 Discussion

The results found in this study are discussed in comparison to the findings of prior works as follows.

- One of the result found on the external factors considered as a challenge was inadequacy of ICT infrastructure to render e-payment service has an agreement of respondents more than 47% while 32.9% of the respondents are neutral. This result was in conformity with

the prior study of Worku, (2015) and Yikeber (2018) whose findings on ICT infrastructure considered as inadequate. Another challenge that most of the respondents in this study confirm, fear of security in global cyber-crime accounted more than 54% in agreement. This finding also consistent with the works of Ziad, (2009) and Yikeber, (2018) whose work showed the factor as a challenge to e-payment. In addition to this, most of the prior works such as Kassahun, (2016) and Meron, (2017) were in line with this study on the finding of power interruption as a major barrier which results above 68% of agreement level by the respondents.

- One of the internal factors identified in this study was availability of well-trained manpower to implement e-payment service. More than 61% of the respondents believe that there is adequate number of well-trained staffs available to implement and maintain e-payment services in the bank. This result also supported by the work of Yikeber, (2018).
- The work by Kassahun, (2016) and Nardos, (2018) showed that there is lack of awareness on e-payment services in the community. Contrary to this, in this study more than 66% of respondents confirmed that the bank has managed to create awareness about the benefits of e-payment among its customers.
- In order to place effective control mechanism to protect the bank and its customers from fraud and erroneous transactions, the response depicts more than 51% of respondents' are agreed on this statement and 33% of respondents are undecided. This shows majority of the respondents believed that the bank has strong control mechanism to protect its customers and itself. The result of this finding is also consistent with previously conducted research by Kassahun, (2016).
- One of the benefits of e-payment found on this study was enhancement in productivity. It scores 74 responses for each agree and strongly agree from the total 154 sample population which accounts 96.2% the total. This shows the staffs' strong certainty on e-payment that will enhance their productivity as well as the bank. The finding of this result is also in line with Kassahun, (2016) that found productivity was enhanced through it by diversifying the service delivered to customers. This study result also showed that

significant number of respondents (more than 92%) realize e-payment improve customer service and transaction processing speed by giving choices through its different channels. This finding also consistent with the work of Nardos, (2018).

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of study findings, conclusions drawn from the findings and the recommendations that the researcher suggesting for consideration by stakeholders.

5.2 Summary of Findings

The purpose of this study was to assess the challenges and opportunities of e-payment in Commercial Bank of Ethiopia. It was conducted at selected branches of the bank located in Addis Ababa by collecting primary quantitative and qualitative data through a self-completion questionnaire distributed to selected management and non-management staffs of the bank.

Quantitative and qualitative analysis performed on the collected data revealed a variety of external environmental factors standing as challenges including inadequacy of ICT infrastructures and legal framework; lack of sufficient government policy enforcement for implementation and growth of e-payment service; low literacy level among customers, fear of security risks due to increasing cyber-crimes globally and frequent power interruption observed in the city. Unlike the above factors, most respondents believe that access to and usage of CEB's e-payment service not affected by income level of customers and cultural norm.

On the other hand, the competitiveness of CBE's e-payment service packages and the acceptability of e-payment service culturally confirmed by large proportion of respondents can be mentioned as opportunities in the area. Moreover, most respondents believe that, even if the Ethiopian commercial code was not amended for 60 years (since, 1960) with the changing global situations, existing Government or National Bank of Ethiopia (NBE) directives playing their own positive role to create favorable condition to attract and serve the customers need. Together with this, the new e-commerce law of Ethiopia, which is expected to be declared and put into practice soon; also the recent government policy to open the Ethiopian telecom market for private investors will definitely create more favorable conditions in the city and country at large.

In connection with organizational factors, the response of most respondents showed strength rather than weakness of the bank. In this regard, the emphasis given to service promotion creating awareness among customers about the benefits of e-payment, availability of skilled human resources with in-house development scheme or otherwise, acceptable service charges, commitment to continuous improvement and existence of effective control mechanisms for addressing fraud and erroneous transactions can be mentioned as examples.

The above plus what the majority of respondents confirmed regarding provisions of strategic directions, and improvements being observed in service quality, customer satisfaction, and request for service subscription show that CBE's e-payment service has a promising future.

According to 80 percent plus respondents, a number of e-payment benefits already realized at CBE like productivity enhancement, facilitation of new products, services, marketing and market access; improved customer service and transaction processing speed; reduction of queues in banking hall, good relationship development between clients and other banks, growth in customer base, improved competitive advantages and customer satisfaction, and increase in revenue.

5.3 Conclusions

The general objective of this study was to assess the opportunities and challenges of e-payment service in CBE. Accordingly the research questions were developed and opinion of the employees at e-payment department and various branches were collected. Based on the alignment of problem statement and general and specific objectives the following conclusions were made.

Based on the findings it can be concluded that the major challenges of e-payment that CBE facing are mainly emanating from its external environment. But, this alone can't halt the growth, expansion and development of the bank's e-payment service, given its internal strengths and opportunities already observed or to surface in near future.

Lack of ICT infrastructure, legal framework that support e-payment service and insufficient government policy enforcements were the major external challenges. Illiteracy, fear of cyber security risks and power interruption were also the factors that hinder the implementation and

expansion of e-payment service. CBE's e-payment service packages competitiveness, NBE directives, policies and societies increasing need of e-payment service especially emergence of the Corona or Covid-19 pandemic were also considered as external opportunities.

Despite most of external factors were considered as challenge the internal factors (organizational factors) were measured as an opportunities such as attention given to promotion by the bank, manpower development, awareness creation, cheap service charge fees (i.e. ATM service charge), providing user friendly products, skilled personnel, adequate training and continuous training given for the service improvement, adaptability for changes and availability of control mechanisms for the transactions takes place were an opportunities within the bank.

It was said to be that e-payment had a good prospect based on the findings. Due to various reasons the request of e-payment service is increasing. The third party payment collection and the Corona (Covid-19) pandemic are also their own role in its recent increase. While accessing a banking service 24/7, technological advancements such as internet and mobile advancements, increase in literacy level and cultural change on using e-payment services and growing public awareness also creates a good prospect for future.

Despite many challenges e-payment service has benefits for the bank and its customers by enhancing productivity, facilitate new products, services, marketing and market access, customer base growth, creates good relationships between clients and other banks, reducing banking queues, improved customer satisfaction and competitive advantage and also increases the bank's revenue and its profitability.

In general, the future is bright even in worst case scenario of the Ethiopian macro environment. The current COVID-19 scenario in the country which is forcing bank customers to familiarize themselves with and utilize alternative (digital) banking channels is a proof. So, with more investment and proactive approach in the years to come, CBE can enjoy the tangible and intangible benefits of e-payment in a way it has never seen before. Undeniably, support from and collaboration with stakeholders (Government, other banks, telecom service providers, etc.) could make a difference.

5.4 Recommendation

Based on the findings and conclusions of this study, the researcher suggests the following recommendations for the study institution, CBE and other stakeholders in the area.

- The government must expand the ICT infrastructure of the country through state owned Ethio-Telecom and as promised by the current Ethiopian government to partial liberalization of the sector for two selected international telecom operators. This will improve the current telecom service through competition.
- In addition to new provisions (policy, legislation, directives, partial liberalization, etc) and infrastructure improvements (including cyber intelligence and institutional capacity) expected from the government and other market players in the country, the bank should provide its e-payment products in more usable manner. The bank's ATM and CBE Birr services are good examples for being accessed and utilized easily because of using various local languages. However, mobile banking and Internet banking services are available in various platforms but using only foreign language (i.e. English). This will reduce the acceptability of these products even by literate customers whose education limited to the primary school level or adult education. Therefore, the bank should provide its Internet and Mobile banking services by including local language to ease the service like ATM and CBE Birr products. Not only this, but the bank is also expected to further strengthen the capacity of its information security department so as to build confidence of its customers by providing adequate security, confidentiality and back up for the transaction made by the customers through e-payment products.
- Even if the bank had been well promoted its e-payment products and creating awareness by various media outlets such as using radio and television programs. It seems necessary to further increase its effort as there are still a large number of societal members unreached through the service. To minimize costs in the area through rational and realistic cost sharing scheme, partnership and collaboration can be forged with parties or actors in the sector including government/ NBE, other banks and telecom service providers.

- The bank should build confidence of its customers by providing adequate security, confidentiality and back up for the transaction made by the customers through e-payment products.
- The bank should build its capacity further by acquiring up-to-date e-payment technologies and conducting sufficient staff training in order to have well trained manpower in dealing with e-payment services. This maximizes the staff's technical know-how, managerial and executive skills that helps to enroll more customers which will in turn leads to build customers confidence in the usage, availability of customer support and simplify the handling of e-payment service encountered problems.
- Exploiting opportunities associated with the third party payments which are increasing from time to time in Ethiopia is quite essential. This payment collection mechanism is not only boost e-payment service but also increase customer base, deposit mobilized and also revenue and profitability of the bank.
- Cost minimization and transaction processing speed is also supported by successful implementation and usage of e-payment services. This helps the bank to use its human, financial and other resources for other posts rather than on the routine and conventional banking posts as usual. Therefore, the bank should take these opportunities and aggressively engaged in the expansion of e-payment service.
- As the study did not consider the customers perspective and other stakeholders in the sector and because of its very limited spatial scope even within CBE, the need for conducting further research in the area can't be questioned.

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Annex I: Questionnaire

St. Mary's University
School of Graduate Studies
Master of Business Administration Program (General MBA)
Research Questionnaire

Name of researcher: Behailu Tadesse

Contact address: Cellphone: 091*6364**; E-mail: behailu***@gmail.com

Dear Sir/ Madam,

I am a postgraduate student in the above mentioned program of St. Mary's University. Currently, I'm undertaking a research on the topic "**E-payment Challenges and Opportunities in Commercial Bank of Ethiopia**" in partial fulfillment of the requirements of the degree of Master of Business Administration. The general purpose of the study is to identify challenges and opportunities of e-payment that Commercial Bank of Ethiopia facing in the context of Ethiopia. It is believed that the study result could possibly benefit not only the bank but also other stake holders in the area.

The expected respondents of this questionnaire are staffs of those randomly selected branches of the bank operating in Addis Ababa, Ethiopia. As staff member working at the chosen research site, you are one of the respondents selected to participate in this study. Please assist me in giving correct and complete information so that it is possible to come up with valid findings on matters chosen for investigation. Your participation is entirely voluntary and the questionnaire is completely anonymous. The data will be kept confidentially and it will be used for study purpose only. Your honest and thoughtful response is priceless. So, I am kindly requesting you to complete and send me the completed questionnaire before 2*/0*/2020.

Thank you in advance for your cooperation.

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

Behailu Tadesse

Part I: Demographic/ Personal Data

Instruction: Please indicate your answer for each question by ticking (√) inside the given box.

1. Are you male or female? A. Male B. Female
2. Your age category: A. 18 – 25 B. 26 – 35
C. 36 – 45 D. Above 45
3. Your educational qualification:
A. Up to diploma B. Bachelor's Degree
C. Master's Degree D. PhD
4. How many years of experience do you have in Commercial Bank of Ethiopia?
A. Up to 5 years B. 6 - 10 years
C. 11 - 15 years D. 16 years and above
5. What is your current job position/ title?
A. Junior officer B. Customer Service Officer
C. Digital Channel Officer D. Banking Business Officer
E. Banking Operation Officer F. Senior Branch Business Officer
G. Branch Controller H. Senior Branch Operation Officer
I. Manager, Branch Business J. Manager, Branch Operation
K. Manager, Branch Sales L. Manager, Branch Service
M. Branch Manager N. Manager, Branch Controller
Others, please specify _____

Part II: Questions regarding e-payment challenges and opportunities

Instruction: In the tables below there are list of statements concerning the implementation and expansion of e-payment in two sections. Please indicate to what extent you agree or disagree with each statement by ticking (√) inside the given box. Each choice is identified by numbers ranged from 5 to 1. Note: **5=SA** (Strongly Agree), **4=A** (Agree), **3=N** (Neutral), **2=D** (Disagree) and **1=SD** (Strongly Disagree). Please don't forget to give answers to open ended questions following each table.

No	Please indicate the extent you agree or disagree with each of the following statements.	SA	A	N	D	SD
1. Environmental factors/external factors		5	4	3	2	1
1.1	ICT infrastructure required for rendering e-payment service in the city is adequate enough.					
1.2	Legal framework put in place in Ethiopia for E-banking is inadequate.					
1.3	There is lack of sufficient government policy enforcement for implementation and growth of e-payment service.					
1.4	Compared to other banks in the city, CBE's e-payment service packages are competitive and fulfill all type of payment options.					
1.5	Usage of e-payment service is very low among illiterate customers of the bank residing in Addis Ababa.					
1.6	Due to cybercrimes spreading across the globe, there are security fears among customers of the bank in using e-payment service.					
1.7	Government and/or National Bank's directives issued on e-banking service created favorable conditions in terms of attracting and having willing customers for the service.					
1.8	Customers of the bank with low income don't have access to e-payment service.					
1.9	Culturally, e-payment is an acceptable practice among communities residing in Addis Ababa.					
1.10	Frequent power interruption in the City is hampering the provision of e-payment service.					
2. Organizational factors/ internal factors						
2.1	E-payment service promotion given serious attention by management of the bank.					
2.2	The bank has a well-trained manpower to build and maintain e-payment service.					
2.3	Awareness about the benefits of e-payment has been created among customers of the bank.					
2.4	The bank has developed and maintained a user friendly system for delivering e-payment service.					
2.5	What the bank charging its customers for e-payment service is relatively expensive, i.e., ATM service charge.					

2.6	The bank has had adequate skilled IT personnel dealing with technological innovation and associated problems.					
2.7	The bank has been arranging and conducting sufficient staff training on how to use and delivering e-payment service.					
2.8	CBE gives appropriate attention for continues improvement on adequateness and competency of mobile banking service to satisfy its users.					
2.9	Management of the bank has been devising and implementing mechanisms for overcoming resistance to change.					
2.10	Management of the bank has been devising and implementing effective control mechanisms (MIS audit and others) for addressing fraud and erroneous transactions.					
3. Future prospects of e-payment at CBE						
3.1	The quality of e-payment service has been improving from time to time.					
3.2	The bank provides continuous strategic direction for e-payment service.					
3.3	Service delivery ways of the bank are attractive to retain e-payment service users.					
3.4	Customer request for e-payment service is increasing from time to time.					
3.5	Customer satisfaction with e-payment service is increasing from time to time.					

1. With regard to e-payment or e-banking in general, what internal challenges have you faced or observed while working for the Bank?

2. What external challenges have you faced or observed in the area while working for the Bank?

3. What should be done to address the identified internal and external challenges?

4. What do you think about future prospects of e-payment service at the bank or in the country as a whole?

4. Benefits of adopting e-payment systems at CBE						
No.	Please indicate the level of your agreement or disagreement with each of the following statements.	SA	A	N	D	SD
		5	4	3	2	1
4.1	Enhanced productivity in the bank.					
4.2	Facilitated the development of new products and services by using online payment.					
4.3	Improved customer service and transaction processing speed					
4.4	Reduced queues in the banking hall					
4.5	Created good relationship between clients and other banks.					
4.6	Facilitated cost-effective marketing and market access					
4.7	Contributed to customer base growth and development.					
4.8	Improved competitive advantage/ positioning of the bank.					
4.9	Enabled the bank to expand its market in the area.					
4.10	Improved customers satisfaction					
4.11	Enabled the bank to overcome disadvantages of traditional payment instruments such as, cash and cheque.					
4.12	Increased the bank's revenue.					

Please state any benefits and opportunities that the bank has been gaining by collecting third party payments such as water and electric bill, traffic fine, tax payments etc. through its e-payment channels? _____

Please specify any other benefits the bank gained from the implementation and expansion of e-payment service (ATM, MB, IB and CBE Birr) in the delivery of service to customers? __

Please specify any existing and future e-payment opportunities in the country that could benefit the bank (if capitalized). _____

If you have any suggestions regarding the expansion and implementation of e-payment service in the bank, please specify. _____

Thank you again for your cooperation!

Annex 2: SPSS Output of Survey Results (supplemental)

Statistics

		Respondents Gender	age of respondent	Educational qualification	Years of experience
N	Valid	154	146	154	154
	Missing	0	8	0	0
Mean		1.28	2.07	2.38	1.77
Median		1.00	2.00	2.00	2.00
Mode		1	2	2	2
Std. Deviation		.450	.606	.488	.829

Respondents Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	111	72.1	72.1	72.1
	Female	43	27.9	27.9	100.0
	Total	154	100.0	100.0	

Educational qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's degree	95	61.7	61.7	61.7
	Master's degree	59	38.3	38.3	100.0
	Total	154	100.0	100.0	

Years of experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 5 years	65	42.2	42.2	42.2
	6 to 10 years	68	44.2	44.2	86.4
	11 to 15 years	12	7.8	7.8	94.2
	16 years and above	9	5.8	5.8	100.0
	Total	154	100.0	100.0	

Age of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	from 18 to 25	20	13.0	13.7	13.7
	from 26 to 35	98	63.6	67.1	80.8
	from 36 to 45	26	16.9	17.8	98.6
	above 45	2	1.3	1.4	100.0
	Total	146	94.8	100.0	
Missing	System	8	5.2		
Total		154	100.0		

Current job position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Junior Officer	16	10.4	10.4	10.4
	CSO (Customer Service Officer)	12	7.8	7.8	18.2
	Digital Channel Officer	9	5.8	5.8	24.0
	BBO (Branch Business Office)	32	20.8	20.8	44.8
	BOO (Branch Operation Officer)	13	8.4	8.4	53.2
	SBBO (Senior Branch Business Officer)	11	7.1	7.1	60.4
	Branch Controller	10	6.5	6.5	66.9
	SBOO (Senior Branch Operation Officer)	5	3.2	3.2	70.1
	MBB (Manager Branch Business)	6	3.9	3.9	74.0
	MBO (Manager Branch Operation)	6	3.9	3.9	77.9
	MBS 1 (Manager Branch Sales)	5	3.2	3.2	81.2
	MBS 2 (Manager Branch Service)	2	1.3	1.3	82.5
	BM (Branch Manager)	5	3.2	3.2	85.7
	MBC (Manager Branch Controller)	5	3.2	3.2	89.0
	Others	17	11.0	11.0	100.0
	Total	154	100.0	100.0	

Frequency distribution tables on environmental factors/external factors.

Table Q .1.1) ICT infrastructure required for rendering e-payment service in the city is adequate enough.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	10.4	10.4	10.4
	Disagree	57	37.0	37.0	47.4
	Neutral	31	20.1	20.1	67.5
	Agree	42	27.3	27.3	94.8
	Strongly Agree	8	5.2	5.2	100.0
Total		154	100.0	100.0	

As shown in **Table Q.1.1** most of the respondents confirm their disagreement on these statement 10.4% and 37% of the respondents were strongly disagreed and disagreed respectively. 20.1% of the respondents were replied as neutral for the statement the remaining 32.9% of the respondents had an agreement on this statement in various levels. This shows inadequacy of ICT infrastructure in the city.

Table Q.1.2) Legal framework put in place in Ethiopia for E-banking is inadequate.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.3	1.3	1.3
	Disagree	22	14.3	14.8	16.1
	Neutral	48	31.2	32.2	48.3
	Agree	59	38.3	39.6	87.9
	Strongly Agree	18	11.7	12.1	100.0
Total		149	96.8	100.0	
Missing	System	5	3.2		
Total		154	100.0		

Legal framework for e-banking the respondents were agreed on more than 51% from which 39.6% and 12.1% for agreed and strongly agreed respectively. 48 respondents who accounted 32.2% provide there answer as neutral and the rest 16.1% disagreed in different levels. Agreement of respondents in the **Table Q.1.2** on the above statement

shows inadequacy of legal framework for e-payment service. Therefore, the law making body required to issue favorable laws and regulations in order to facilitate its growth

Table Q.1.3) There is lack of sufficient government policy enforcement for implementation and growth of e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.3	1.3	1.3
	Disagree	25	16.2	16.4	17.8
	Neutral	38	24.7	25.0	42.8
	Agree	66	42.9	43.4	86.2
	Strongly Agree	21	13.6	13.8	100.0
	Total	152	98.7	100.0	
Missing	System	2	1.3		
Total		154	100.0		

Even if, the policies were emanate from the legal framework, the absence of legal framework contributes to insufficient government policy enforcement. For this statement the result shows that above 57% of agreement level.

Table Q.1.4) Compared to other banks in the city, CBE's e-payment service packages are competitive and fulfill all type of payment options.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	4.5	4.5	4.5
	Disagree	10	6.5	6.5	11.0
	Neutral	14	9.1	9.1	20.1
	Agree	69	44.8	44.8	64.9
	Strongly Agree	54	35.1	35.1	100.0
	Total	154	100.0	100.0	

In comparison with other banks Commercial Bank Ethiopia's (CBE's) e-payment service packages competitiveness more than 79.9% of the respondents were agreed up on it. From this figure 44.8% was agreed and 35.1% was strongly agreed and the result was shown in the above **Table Q.1.4**.

Table Q.1.5 depicts below usage of e-payment service among illiterate customers of the bank in Addis Ababa was very low. The survey result shows that the respondents who replied in agreement and strongly agree were 44.8% and 34.4% respectively. The total agreement level was 79.2%.

Table Q.1.5) Usage of e-payment service is very low among illiterate customers of the bank residing in Addis Ababa.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.6	.6	.6
	Disagree	8	5.2	5.2	5.8
	Neutral	23	14.9	14.9	20.8
	Agree	69	44.8	44.8	65.6
	Strongly Agree	53	34.4	34.4	100.0
Total		154	100.0	100.0	

Table Q.1.6) Due to cybercrimes spreading across the globe, there are security fears among customers of the bank in using e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.3	1.3	1.3
	Disagree	26	16.9	17.0	18.3
	Neutral	41	26.6	26.8	45.1
	Agree	66	42.9	43.1	88.2
	Strongly Agree	18	11.7	11.8	100.0
Total		153	99.4	100.0	
Missing	System	1	.6		
Total		154	100.0		

The above **Table Q.1.6** shows one of the technological factor challenges that most of the respondents were showed their agreement was fear of security in global cyber-crime. This statement had a mean score of 3.47 and a mode of 4. The level of agreement in general accounts 54.9% of which 43.1% of the respondents were agreed 11.8% of them were strongly agreed. Around 26.8% of the respondent replied as undecided the rest 18.3% disagreed with this statement.

Table Q.1.7) Government and/or National Bank's directives issued on e-banking service created favorable conditions in terms of attracting and having willing customers for the service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	2.6	2.7	2.7
	Disagree	24	15.6	16.3	19.0
	Neutral	42	27.3	28.6	47.6
	Agree	65	42.2	44.2	91.8
	Strongly Agree	12	7.8	8.2	100.0
	Total	147	95.5	100.0	
Missing	System	7	4.5		
Total		154	100.0		

Government and National Bank of Ethiopia (NBE) directives in order to create favorable condition was scored more than 52% as shown in the above **Table Q.1.7**, while 28.6% of respondents were undecided and the rest 19% had a disagreement level.

Table Q.1.8) Customers of the bank with low income don't have access to e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	39	25.3	25.3	25.3
	Disagree	49	31.8	31.8	57.1
	Neutral	25	16.2	16.2	73.4
	Agree	30	19.5	19.5	92.9
	Strongly Agree	11	7.1	7.1	100.0
	Total	154	100.0	100.0	

As can be seen from the above **Table Q.1.8**; there is no relationship between customers who got a low income with an access to use e-payment service. The respondents were strongly disagreed with this issue around 25.3% and 31.8% of respondents were disagreed with this statement. Therefore more than 56% of the respondents believed that being a low income customer will not hamper to use e-payment service.

Another statement on e-payment was acceptability and practice by communities resides in Addis Ababa. The response showed on **Table Q.1.9**; the result was exhibited a high

variability by scoring 1.216 on standard deviation. This showed the respondents reply had a substantial variation in their answer. The result of agreement and strongly agreed had a sum of 43.7%, while 20.5% of respondents were undecided and 35.8% of the score had a disagreement level in both disagree and strongly disagree options with the result of 22.5% and 13.2% respectively. This shows acceptability of e-payment was increased through time.

Table Q.1.9) Culturally, e-payment is an acceptable practice among communities residing in Addis Ababa.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	13.0	13.2	13.2
	Disagree	34	22.1	22.5	35.8
	Neutral	31	20.1	20.5	56.3
	Agree	52	33.8	34.4	90.7
	Strongly Agree	14	9.1	9.3	100.0
	Total	151	98.1	100.0	
Missing	System	3	1.9		
Total		154	100.0		

Table Q.1.10) Frequent power interruption in the City is hampering the provision of e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.9	1.9	1.9
	Disagree	13	8.4	8.4	10.4
	Neutral	32	20.8	20.8	31.2
	Agree	68	44.2	44.2	75.3
	Strongly Agree	38	24.7	24.7	100.0
	Total	154	100.0	100.0	

Table Q.1.10 shows the final statement of this section which considered as an external challenge was power interruption. The respondents were agreed up on this statement by more than 66%. In other word 44.2% of the respondents were agreed and 24.7% of the replies showed a strong agreement while 20.8% of the respondents were neutral and the

rest 10.4% of respondents were replied in contradiction with this statement by scoring 1.9% and 8.4% to strongly disagree and disagree respectively. This shows power interruption still considered as one of the major challenge for e-payment service

Frequency table on questionnaires of organizational / internal factors.

Table Q.2.1) E-payment service promotion given serious attention by management of the bank.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.9	2.0	2.0
	Disagree	14	9.1	9.2	11.2
	Neutral	16	10.4	10.5	21.7
	Agree	74	48.1	48.7	70.4
	Strongly Agree	45	29.2	29.6	100.0
	Total	152	98.7	100.0	
Missing	System	2	1.3		
Total		154	100.0		

The first statement discusses in this section **Table Q.2.1**; about the attention given to e-payment service promotion by the management of the bank in which the summation of agreement level of this statement was 78.3% from this 48.7% were agreed on the statement and 29.6% were strongly agreed. 10.5% of the respondents were undecided on the statement while the rest 11.2% were divides between two disagreement levels. This means the bank gives sufficient attention for the promotion of e-payment as per the respondents' perception.

Table Q.2.2) The bank has a well-trained manpower to build and maintain e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	3.9	3.9	3.9
	Disagree	30	19.5	19.5	23.4
	Neutral	24	15.6	15.6	39.0
	Agree	63	40.9	40.9	79.9
	Strongly Agree	31	20.1	20.1	100.0
	Total	154	100.0	100.0	

Table Q.2.2 shows in order to maintain well trained manpower for e-payment service the agreement level had a composition of 40.9% and 20.1% for agree and strongly agree.

This result expressed that the bank had adequate number of staff to deliver e-payment service.

Table Q.2.3) Awareness about the benefits of e-payment has been created among customers of the bank.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.3	1.3	1.3
	Disagree	21	13.6	13.7	15.0
	Neutral	29	18.8	19.0	34.0
	Agree	75	48.7	49.0	83.0
	Strongly Agree	26	16.9	17.0	100.0
	Total	153	99.4	100.0	
Missing	System	1	.6		
Total		154	100.0		

The respondents also agreed that awareness about the benefit of e-payment has been created among the customers by bank was considered as a good opportunity. As shown in **Table Q.2.3**; the percentages of the variables also depicted 49% for agreed and 17% for strongly agreed. 19% of the respondents were undecided and the rest 15% were shared between disagreed and strongly disagreed which was 13.7% and 1.3% respectively.

Table Q.2.4) The bank has developed and maintained a user friendly system for delivering e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	2.6	2.6	2.6
	Disagree	23	14.9	15.0	17.6
	Neutral	38	24.7	24.8	42.5
	Agree	66	42.9	43.1	85.6
	Strongly Agree	22	14.3	14.4	100.0
	Total	153	99.4	100.0	
Missing	System	1	.6		
Total		154	100.0		

Most of the respondents of this survey believed that the bank developed and maintained user friendly systems to the delivery of e-payment service. Out of 153 respondents 43.1% were agreed and 14.4% of them also strongly agreed. Substantial number of respondents

was neutral to this statement by contributing 24.8%. While the rest 17.6% were shared by the respondents who disagreed and strongly disagreed. Therefore the above **Table Q.2.4** shows that the bank uses easily accessible products in order to deliver its service.

Table Q.2.5) What the bank charging its customers for e-payment service is relatively expensive, i.e., ATM service charge.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	39	25.3	25.3	25.3
	Disagree	62	40.3	40.3	65.6
	Neutral	16	10.4	10.4	76.0
	Agree	24	15.6	15.6	91.6
	Strongly Agree	13	8.4	8.4	100.0
Total		154	100.0	100.0	

The other interesting issue about the bank, it was relatively collects expensive charge in comparison to other banks. As shown in the above **Table Q.2.5** the respondents were disagreed with this statement by scoring 40.3% and strongly disagreed by around 25.3%. 10.4% of the respondents were undecided while the rest 24% shared between agreed and strongly agreed. Therefore, most of the respondents believed the service charge of e-payment was relatively cheap.

Table Q.2.6) The bank has had adequate skilled IT personnel dealing with technological innovation and associated problems.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	5.2	5.4	5.4
	Disagree	23	14.9	15.4	20.8
	Neutral	33	21.4	22.1	43.0
	Agree	69	44.8	46.3	89.3
	Strongly Agree	16	10.4	10.7	100.0
Total		149	96.8	100.0	
Missing	System	5	3.2		
Total		154	100.0		

On **Table Q.2.6** the result shows adequacy of skilled IT personnel in dealing with technological innovation and related problems; 46.3% of respondents were agreed up on this statement and 10.7% of them were also strongly agreed 22.1% of replies showed that undecided while 5.4% of the respondent were strongly disagreed and the rest 15.4% of them

were disagreed with this statement. The respondents were agreed up on the issue by more than 56% acceptance level.

Table Q.2.7) The bank has been arranging and conducting sufficient staff training on how to use and delivering e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	7.8	7.8	7.8
	Disagree	41	26.6	26.6	34.4
	Neutral	28	18.2	18.2	52.6
	Agree	61	39.6	39.6	92.2
	Strongly Agree	12	7.8	7.8	100.0
	Total	154	100.0	100.0	

In relation to arranging a training session to use and deliver e-payment service the respondents reply shows in the above **Table Q.2.7** were agreed on 39.6% and 7.8% of the response were strongly agreed by this statement. Meaningful numbers of respondents were not decided on this issue which accounted 18.2%. The disagreement level was also 26.6% and those who strongly disagreed were accounts 7.8% of the respondents. In general, the bank gives sufficient training for its staffs.

Table Q.2.8) CBE gives appropriate attention for continues improvement on adequateness and competency of mobile banking service to satisfy its users.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	2.6	2.6	2.6
	Disagree	21	13.6	13.6	16.2
	Neutral	33	21.4	21.4	37.7
	Agree	61	39.6	39.6	77.3
	Strongly Agree	35	22.7	22.7	100.0
	Total	154	100.0	100.0	

Table Q.2.8 states that the bank gives appropriate attention for the continued improvement on adequateness and competency of mobile banking service in order to satisfy its customer needs to use e-banking services which resulted more than 63% of agreement from the replies of the staff, 21% of the respondents were undecided and the remaining 13.6% and 2.6% of the response were disagreed and strongly disagree.

Table Q.2.9) Management of the bank has been devising and implementing mechanisms for overcoming resistance to change.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.9	1.9	1.9
	Disagree	20	13.0	13.0	14.9
	Neutral	45	29.2	29.2	44.2
	Agree	72	46.8	46.8	90.9
	Strongly Agree	14	9.1	9.1	100.0
	Total	154	100.0	100.0	

As shown in **Table Q.2.9**; 46.8% of the respondents were agreed up on the statement and 9.1% of replies show that they were strongly agreed. Around 29.2% of the replies were neutral while a summation of 14.9% the responses of disagreement and strongly disagreed on the management of the bank had devised and implements mechanism for overcoming the resistance to change on the work place.

Table Q.2.10) Management of the bank has been devising and implementing effective control mechanisms (MIS audit and others) for addressing fraud and erroneous transactions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.2	3.2	3.2
	Disagree	19	12.3	12.3	15.6
	Neutral	51	33.1	33.1	48.7
	Agree	62	40.3	40.3	89.0
	Strongly Agree	17	11.0	11.0	100.0
	Total	154	100.0	100.0	

In order to place effective control mechanism to protect the bank and its customers from fraud and erroneous transactions, the response showed on **Table Q.2.10** had the percentage share of this statement was 40.3% and 11% for agree and strongly agree respectively. Substantial numbers of respondent were undecided whose accounted 33.1% of the total sample population. While strongly disagreed and disagreed respondents were 3.2% and 12.3% of the sample population respectively. In this case the bank has effective control mechanism as per the responses from the staffs.

Table Q.3.1) The quality of e-payment service has been improving from time to time.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.6	.6	.6
	Disagree	7	4.5	4.5	5.2
	Neutral	8	5.2	5.2	10.4
	Agree	92	59.7	59.7	70.1
	Strongly Agree	46	29.9	29.9	100.0
	Total	154	100.0	100.0	

The first table in this section **Table Q.3.1** describes that the quality of e-payment service had been improving through time at CBE. Large numbers of respondents were showed an agreements with this statement with the total of 89.6% from which 59.7% was agreed and 29.9% of it was strongly agree, 5.2% of the replies were undecided. 4.5% of the replies showed a disagreement and only 0.6% of the respondent (1 respondent) replied strongly disagree. Therefore, it's said to be that the quality of e-payment service shows improvement.

Table Q.3.2) The bank provides continuous strategic direction for e-payment service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.3	1.3	1.3
	Disagree	8	5.2	5.3	6.7
	Neutral	22	14.3	14.7	21.3
	Agree	82	53.2	54.7	76.0
	Strongly Agree	36	23.4	24.0	100.0
	Total	150	97.4	100.0	
Missing	System	4	2.6		
Total		154	100.0		

The second statement with the prospect of e-payment shown on **Table Q.3.2** was banks provision of continuous strategic directions for e-payment service the staffs replied 54.7% and 24% of agreed and strongly disagreed respectively. 14.7% of the replies were undecided and remaining 5.3% and 1.3% were agreed and strongly disagreed respectively. Based on the above result finding it is said to be that the bank has a sound and continuous strategic direction for the expansion of e-payment service.

Table Q.3.3) Service delivery ways of the bank are attractive to retain e-payment service users.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.9	2.0	2.0
	Disagree	24	15.6	15.8	17.8
	Neutral	35	22.7	23.0	40.8
	Agree	71	46.1	46.7	87.5
	Strongly Agree	19	12.3	12.5	100.0
	Total	152	98.7	100.0	
Missing	System	2	1.3		
Total		154	100.0		

As described in the above **Table Q.3.3** in order to retain e-payment users the service delivery ways of the bank examined in its attractiveness. Significant portion of respondents were agreed with this statement; it was 46.7% and 12.5% of the respondents were replied as agreed and strongly agreed respectively. Hence, 23% of the staffs were undecided. The remaining 17.8% shared between disagree and strongly disagree with the value of 15.8% and 2% respectively.

Table Q.3.4) Customer request for e-payment service is increasing from time to time.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	7	4.5	4.6	4.6
	Neutral	13	8.4	8.5	13.1
	Agree	89	57.8	58.2	71.2
	Strongly Agree	44	28.6	28.8	100.0
	Total	153	99.4	100.0	
Missing	System	1	.6		
Total		154	100.0		

The statement of another future prospect depicted on **Table Q.3.4** was an increasing customers request for e-payment service from time to time. The significant portion of respondents were agreed with rate of 58.2% and strongly agreed with 28.8%. Undecided replies were 8.5% and 4.6% were disagreed. This shows the customers' need of e-payment service is increasing.

Table Q.3.5) Customer satisfaction with e-payment service is increasing from time to time.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	3.9	3.9	3.9
	Disagree	16	10.4	10.4	14.3
	Neutral	29	18.8	18.8	33.1
	Agree	78	50.6	50.6	83.8
	Strongly Agree	25	16.2	16.2	100.0
Total		154	100.0	100.0	

The final **Table Q.3.5** describes the prospect of e-payment at CBE stated that the customer satisfaction with e-payment service will have increasing trend with time. The proportions of agreed respondents were 50.6% and 16.2% of the replies goes to strongly agreed. Neutral replies were 18.8%, 10.4% for disagreed and 3.9% for strongly disagreed. In general, the standard deviations for all the above five table (statements) were not more than one this demonstrates there were no significant variability in the answer of respondents.

Frequency table of questionnaires on benefits of adopting e-payment systems at CBE.

Table Q.4.1) Enhanced productivity in the bank.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	1.3	1.3	1.3
	Neutral	4	2.6	2.6	3.9
	Agree	74	48.1	48.1	51.9
	Strongly Agree	74	48.1	48.1	100.0
	Total	154	100.0	100.0	

Based on the above **Table Q.4.1**; one of the benefits of e-payment was enhancement in productivity. Both agree and strongly agree variables scored the same result on this issue accounted 74 respondents of for each from the total 154 sample population which was 96.2% the total. The finding of this result shows e-payment has a vital role on improving the productivity of the bank.

Table Q.4.2) Facilitated the development of new products and services by using online payment.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	12	7.8	7.8	7.8
	Agree	78	50.6	50.6	58.4
	Strongly Agree	64	41.6	41.6	100.0
	Total	154	100.0	100.0	

E-payment facilitated the development of new products and services by using online payment. As described on the above **Table Q.4.2** most of the replies recognized the statement in agreement these accounts 92.2% of and the rest 7.8% were undecided and there were no disagreement.

Table Q.4.3) Improved customer service and transaction processing speed.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	1.3	1.3	1.3
	Neutral	9	5.8	5.8	7.1
	Agree	76	49.4	49.4	56.5
	Strongly Agree	67	43.5	43.5	100.0
	Total	154	100.0	100.0	

Significant numbers of respondents were agreed up on the third statement on **Table Q.4.3** that e-payment improved customer service and transaction processing speed. 49.4% of agreement level and 43.5% of it was strongly agreed responses the rest were shared between undecided and disagreed (5.8% and 1.3% respectively). In this case, the finding also taken as e-payment improves and has a role on both customer service and transaction processing speed.

Table Q.4.4) Reduced queues in the banking hall

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	2.6	2.6	2.6
	Neutral	26	16.9	16.9	19.5
	Agree	49	31.8	31.8	51.3
	Strongly Agree	75	48.7	48.7	100.0
	Total	154	100.0	100.0	

The staffs responses were agree and strongly agree for all the remaining nine statements or tables including the above **Table Q.4.4**. As shown in the main body previously on chapter four **Table 4.6** the mode scores were 5 while the mean score ranges from 4.22 - 4.38 and the standard deviation also below 1. This shows that there were no significant differences in their response. The agreement levels for all statements were more than 80%. The responses were in summation of agreed and strongly agreed alternatives. Therefore, e-payment has its own role in order to reduce queues in the bank hall; in creating good relationship between clients

and other banks and on the other hand it facilitates cost effective marketing and market access.

Another interesting issue was its contribution to customer base and development; improved competitive advantage or positioning of the bank; enables the bank to expand its market area and improvement in customer satisfaction.

Table Q.4.5) Created good relationship between clients and other banks.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	5.2	5.2	5.2
	Neutral	22	14.3	14.3	19.5
	Agree	52	33.8	33.8	53.2
	Strongly Agree	72	46.8	46.8	100.0
	Total	154	100.0	100.0	

Table Q.4.6) Facilitated cost-effective marketing and market access.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.6	.6	.6
	Neutral	20	13.0	13.0	13.6
	Agree	61	39.6	39.6	53.2
	Strongly Agree	72	46.8	46.8	100.0
	Total	154	100.0	100.0	

Table Q.4.7) Contributed to customer base growth and development.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	2.6	2.6	2.6
	Neutral	17	11.0	11.0	13.6
	Agree	63	40.9	40.9	54.5
	Strongly Agree	70	45.5	45.5	100.0
	Total	154	100.0	100.0	

Table Q.4.8) Improved competitive advantage/ positioning of the bank.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	5.2	5.2	5.2
	Neutral	13	8.4	8.4	13.6
	Agree	65	42.2	42.2	55.8
	Strongly Agree	68	44.2	44.2	100.0
	Total	154	100.0	100.0	

Table Q.4.9) Enabled the bank to expand its market in the area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.6	.6	.6
	Disagree	2	1.3	1.3	1.9
	Neutral	13	8.4	8.4	10.4
	Agree	59	38.3	38.3	48.7
	Strongly Agree	79	51.3	51.3	100.0
	Total	154	100.0	100.0	

Table Q.4.10) Improved customers satisfaction.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	7	4.5	4.5	4.5
	Neutral	11	7.1	7.1	11.7
	Agree	61	39.6	39.6	51.3
	Strongly Agree	75	48.7	48.7	100.0
	Total	154	100.0	100.0	

As shown in the tables ranging from **Table Q.4.4** to **Table Q.4.12** the respondents strongly agreed on all statements; from these, increased the banks revenue and overcoming the disadvantages of traditional payment instruments such as cash and cheque were also agreed with most respondents by recording more than 80% of their acceptance.

Table Q.4.11) Enabled the bank to overcome disadvantages of traditional payment instruments such as, cash and cheque.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.3	1.3	1.3
	Disagree	4	2.6	2.6	3.9
	Neutral	12	7.8	7.8	11.7
	Agree	54	35.1	35.1	46.8
	Strongly Agree	82	53.2	53.2	100.0
	Total	154	100.0	100.0	

Table Q.4.12) Increased the bank's revenue.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.9	2.0	2.0
	Disagree	4	2.6	2.6	4.6
	Neutral	18	11.7	11.9	16.6
	Agree	56	36.4	37.1	53.6
	Strongly Agree	70	45.5	46.4	100.0
	Total	151	98.1	100.0	
Missing	System	3	1.9		
Total		154	100.0		

Based on the findings all of the statements about the future prospect of e-payment show significant number of responses in both agreed and strongly agreed with the percentage score more than 80% in sum. Therefore, the finding indicates that e-payment has a bright future prospect for the bank and other stakeholders.