

# The Effect Of Electronic Banking Service On Customer Satisfaction: Evidence From Commercial Banks Of Ethiopia Operating In Hawassa City Administration

Sintayehu Zeleke<sup>1</sup> and Dr. Sapana Chauhan<sup>2</sup>

*1 PhD scholar Parul University, Faculty of Management Department of Strategic Management.*

*2 Associate professor, Parul University, Faculty of management Department of strategic Management.*

## Abstract

The aim of this study is to examine the effect of e-banking service on customer satisfaction with reference to commercial bank of Ethiopia in Hawassa city Administration. The study was an explanatory research design with quantitative research approach. The structured Likert scale-based questionnaires were distributed and collected from 343 E-banking service users out of 400 respondents. This implies the response rate of 85.57% that indicates all more than half respondents were participated in the process of data collection. Results of the study revealed that among the six independent variables such as service reliability, responsiveness, assurance, and empathy, tangibility and convenience. Five variables such as responsiveness, empathy, convenience, reliability, and assurance has the positive effect on customer satisfaction in the study area. Whereas variables like tangibility has no effect on customer satisfaction. As a result, the researcher concludes that e-banking service quality has positive and significant effect on customer satisfaction. Based on findings of this study the researcher forwarded the possible recommendations to commercial bank of Ethiopia operating in Hawassa city Administration in order to improve the service quality more than the current status to improve customer satisfaction.

**Keywords:** Electronic banking, customer satisfaction, Service Quality, Commercial bank of Ethiopia.

## 1. Introduction

The first major mission and purpose of any business organization is satisfying customers. When customers are satisfied the organization achieve higher sales, profit and market share and vice versa. In the past, customers' demand for banking services was driven basically by safety of their money as well as interest accruing from such savings (Agarwal & Josh, 2016). However, the present-day customers' demand has shifted from just safety of money to how banks deliver their services.

The present-day customer requires efficient, fast and convenient services through e-banking (Kwashi, 2012). However, the main problem of the e-banking faced by the satisfaction to ward

e-banking include service quality. There for previous research showed there is only small percentage customer who preferred performed and e-banking quality service on customer satisfaction is burning issue that attracted the interest of the researchers across the world.

Hence, different researchers addressed the effect of e-banking service quality on customer satisfaction in different countries and reached on different conclusion outside and in Ethiopia. For instance the researcher like Kapoor (2015) studied Trinity India, Merugu (2018) studied in Visakhapatnam, Singh (2019) studied in India, (Aker, 2010; Bichanga & Wario, 2014; Kombo, Paulik & Kwarteng, 2016) studied in Kenya All

together found that an attempt to identify the factors that contribute to customer satisfaction with internet banking services. Dimension of service quality like tangibility, liability, responsiveness, assurance and empathy have shown more or less a great impact on customer satisfaction with internet banking services. Have been reported that customers were satisfied with the internet banking services being rendered by their respective banks. On other hand, Juma (2013) studied the influence of electronic banking services on customer service delivery in banking industry, in Bungoma County, Aduda and Kingoo (2012) also studied the Relationship between Electronic Banking and Financial Performance among Commercial Banks in Kenya, In addition, Kaburu (2010), evaluated E-banking in Kenya, Mchemi (2013), studied E-banking Technology In Kenyan, Munyoki and Ngigi (2012), investigated Challenges of e-banking adoption among the commercial banks in Kenya. Rono (2015) evaluated the determinants of electronic banking and operational performance of commercial banks in Kenya and suggested that the factors has positively influence on customers satisfaction.

But this study different the aforementioned research Ethiopia that the e-banking services has any impact on profitability of CBE. This implies that prior research works did not give an emphasis on e-banking service in relation to customer satisfaction. Also, the sample size of studies outside Ethiopia is less than 400 respondents with only five explanatory variables while this study incorporated about eight explanatory variables in the model.

Concerning studies in Ethiopia, Sisay (2016), Belay & Deribie studied (2012, Tigist (2016), Mesfine (2018), Mesfine & Mulubirhan (2018) and found out that five explanatory variables such as responsiveness, tangibility, empathy, reliability and assurance have positive effect on

customer satisfaction. The researchers highlighted the effect of electronic banking on customer satisfaction in five service dimension that are reliability, assurance, empathy, tangibility and responsiveness among commercial banks. However, due to inconsistent service quality dimension, and methodological application can affect customer satisfaction on E-banking utilization.

But this study was different from aforementioned studies by incorporating three additional variables such as convenience, security and time of delivery with reference to commercial bank of Ethiopia in Hawassa city Administration.

### **Objectives of Study**

The general objective of this study is to investigate the effect of e-banking service quality on customer satisfaction with reference to CBE in Hawassa city Administration. Specifically, this study was addressed the following specific objectivities:

1. To examine the effect of E-banking service reliability on customer satisfaction in case of CBE Hawassa City Administration.
2. To examine the effect of E-banking service responsiveness on customer satisfaction in case of CBE Hawassa City Administration.
3. To examine the effect of E-banking service assurance on customer satisfaction in case of CBE Hawassa City Administration.
4. To examine the effect of E-banking service empathy on customer satisfaction in case of CBE Hawassa City Administration.
5. To examine the effect of E-banking service tangibility on customer satisfaction in case of CBE Hawassa City Administration.
6. To examine the effect of E-banking service convenience on customer satisfaction in case of CBE Hawassa City Administration.

## Research Hypotheses

Based on the research objectives and questions of the study the following hypotheses are developed and were tested in this study: These hypotheses are:

H1: E- banking service reliability does influence customer satisfaction

H2: service empathy positive and statistically significant effect on customer satisfaction

H3: service tangibility positive and statistically significant effect customer satisfaction

H4: service reliability positive and statistically significant effect on customer satisfaction

H5: Service responsiveness positive and statistically significant effect customer satisfaction

H6: Service Convenience positive and statistically significant effect on customer satisfaction

## Need of the Study

In the areas of electronic banking service there are different journals, articles and studies conducted globally in relation with service quality and customer satisfaction. However, in the case of developing countries like Ethiopia, there is lack of sufficient theoretical and empirical literature at national level to fulfill literature requirements and no recent study was conducted in this study area. Hence, the findings of this study may contribute in addressing gaps in customer satisfaction levels of E-banking service and the finding may be helpful. The findings of the study may give a descriptive analysis on the relevance of e-banking service quality on customer satisfaction in CBE. The study finding may allow bank administrators to gain a comprehensive understanding of the e-banking service quality issues associated with automated self-service technology, thereby allowing them a better opportunity to improve customer satisfaction and help gain a competitive advantage. The study helps to managements to understand the effect of

electronic banking on the profitability of their banks as well as the complaints of their customers.

## Scope of the Study

The study is delimited of geographical, conceptual, methodological and time scope. Geographically, the study will considers Hawassa city Administration 23 branches of commercial banks of Ethiopia. Conceptually, the study was conducted to assess the effect of E-banking service quality on customer satisfaction based on the eight-service quality dimensions such as: Reliability, Responsiveness, Assurance, Empathy, Tangibility, Convenience, privacy/security and Time of delivery. Methodologically, among the types of non-probability sampling the researcher was used convenience sampling technique to select each respondent due to difficulty to have listed of E-banking customers the type of data year of 2020.

## 2. Literature Review

### 2.1 Definition of E-Banking

Bob Bachelor (2017) defines Electronic banking, or e-banking, is the term that describes 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. Despite the dot-com crash, e-banking grew alongside the Internet.

Growth of Electronic banking in a country depends on many factors, such as success of internet access, new online banking features, household growth of internet usage, legal and regulatory framework. E-banking can offer

speedier, quicker and dependable services to the customers for which they may be relatively satisfied than that of manual system of banking. E-banking system not only generates latest viable return, it can get its better dealings with customers. The rationale of this research is to recognize the impact of variables of e-banking on customer pleasure in Bangladesh.

Ali and Akter (2010) argued that a transitional period in the banking sector of Bangladesh has been passing through since shifting from the traditional banking system to the online banking system. These comments indicate that gradually electronic banking is gaining its importance in Bangladesh. Customers' liking is necessary for the banking sector to elevate profitability, business expansion and accomplishment. Now-a-days banking sector is modernizing and expanding its hand in different financial events every day. At the same time the banking process is becoming faster and easier. In order to survive in the competitive field of the banking sector commercial banks are looking for better service opportunities to provide their customer.

The evolution of the e-banking industry can be traced to the early 1970s when banks began to look at these types of services as an alternative to some of their traditional bank functions. First, such a choice was considered appropriate since it ensures reduced costs as branches were very expensive to set up and maintain. Second, e-banking products and services like ATMs and electronic fund transfer were an important element of differentiation used by banks (Driga & Isac, 2014).

The evolution of banking technology has been driven by changes in distribution channels as evidenced by automated teller machine (ATM), Phone-banking, Tele banking, PC-banking and most recently internet banking (Chang, 2003). The term e-banking became popular in the early

1980's referring to using a computer to access banking service via a phone line. E-banking first appeared in New York in 1981, where it was offered by major banks in that city, such as Citibank, Chase Manhattan, Chemical and Manufactured Hanover. Banks from the United Kingdom started to adopt the concept in 1983 where the Bank of Scotland was the first to introduce it. The early electronic banking services were basic, covering services like viewing bank statements and paying bills online without being a full transaction banking service (Driga & Isac, 2014).

E-banking is a high-order construct, which consists of several distribution channels. It should be noted that E-banking is a bigger platform than just banking via the Internet. However, the most general type of E-banking in our times is banking via the Internet, in other words Internet banking. The term E-banking can be described in many ways. In a very simple form, it can mean the provision of information or services by a bank to its customers, via a computer, television, telephone, or mobile phone (Daniel, 1999).

## **2.2 Types of E-Banking Services**

The E-banking services are the banking services which delivered to the customers through the channel of electronic intelligent devices. Gan & Clemes (2006) state that E-banking can be defined as a variety of platforms such as internet banking or (online banking), TV-based banking, mobile phone banking, and PC (personal computer) banking (or offline banking) where by customers access these services using an intelligent electronic device, like PC, personal digital assistant (PDA), automated teller machine (ATM), point of sale (POS), kiosk, or touch tone telephone. Thus, the types E-banking services that delivered via intelligent electronic devices are here stated as follows.

**a) Automated Teller Machine (ATM)**

ATM is a machine where cash withdraw can be made over the machine without going in to the banking hall. It also sells recharge cards and transfer funds, it can be assessed 24 hours/7 days with account balance enquiry (Fenuga, 2010). Rose (cited in Prince, 2015), describes ATMs as follows: “an ATM combines a computer terminal, database system and cash vault in one unit, permitting customers to enter the bank’s book keeping system with a plastic card containing a PIN or by punching a special code number into the computer terminal linked to the bank’s computerized records 24 hours a day”. It offers a great deal of banking services to clients. However, as a result of the rapid increase in technology, ATMs go to the extent of given accounts balances and bill payments. Banks use this E-banking device, to gain competitive advantage. The combination of automation and human tellers gives more productivity for the bank during banking hours (Prince, 2015).

**b) Mobile Banking**

In the study Munir, M. M. M., & Rahman, M. (2015) Mobile banking a very recent innovation of e-banking services. It is a wireless internet applications of banking-sometimes called m-banking. With the combination of internet and mobile phone, a new service (mobile data service) is thus enabled and the first such wireless internet commercial transaction was performed by the banking industry. Tiwari et al. (2007) state that Mobile banking is a term used for performing balance checks, account transactions, payments credit applications and other banking transactions through a mobile device such as a mobile phone or personal digital assistant (PDA). The mobile banking services were offered over SMS, service known as SMS banking. Mobile banking is used in many parts of the world with little or no infrastructure, especially remote and rural areas. The scope of offered services may include

facilities to conduct bank and stock market transactions, to administrate accounts and to access customized information. In the study by Fikerselassie (2017) Mobile banking is a system or platform in which customers are automatically updated on any changes in their account. These changes are may come in the form of account debits and credits or any charges to the account. All it needs for mobile banking is a mobile phone with a well-functioning text messaging system. SMS banking falls under this category. This system uses short text messaging system to inform customers of their account.

**c) Internet banking**

In the Prince (2015) study, Internet banking is to give customers access to their bank accounts via a web site and to enable them to enact certain transactions on their account, given compliance with stringent security checks. Internet banking provides convenient and flexible services to customers. It enables customers to transact almost all their banking transactions online. One could check accounts, query the bank and also transfer funds to other people on different accounts, it is the most financially savvy innovative method for yielding higher profitability. Another feature of internet banking is that, it gives a 24/7 access to customers. Merugu (2018) Define the online/Internet banking is becoming a popular tool to attract new customers and deliver customer satisfaction. A fundamental understanding of factors causing customer satisfaction in online banking has attained greater prominence as more and more banks compete to offer superior services to their clients making it imperative for banks to align their strategies in response to changing customer’s needs and technology.

**d) Point of Sales (POS)**

In the study Abebe (2016), POS is sometimes referred to as point of purchase (POP) or

checkout is the location where a transaction occurs. A "checkout" refers to a POS terminal or more generally to the hardware and software used for checkouts, the equivalent of an electronic cash register. A POS terminal manages the selling process by a sales person accessible interface. The same system allows the creation and printing of the receipt. POS systems record sales for business and tax purposes. POS enhances customers to make payment for goods and services without necessarily coming in contact with physical cash as the purchase price would be debited on the buyer's card and credited on the seller's account (Fikerselassie, 2017).

#### **e) Personal Computer Banking**

In the study Munir, M. M. M., & Rahman, M. (2015), PC-banking is increasing consciousness of the importance of computer learning has resulted in increasing use of personal computers through the entire world. The term "PC-banking" is used for banking business transacted from a customer's PC, i.e., customers can use their personal computers at home or at their office to access their accounts through the banks intranet proprietary software system by using password.

#### **f) Agent Banking**

A banking agent is a retail or postal outlet contracted by a financial institution or a mobile network operator to process clients' transactions. Rather than a branch teller, it is the owner or an employee of the retail outlet who conducts the transaction and lets clients deposit, withdraw, and transfer funds, pay their bills, inquire about an account balance, or receive government benefits or a direct deposit from their employer. Banking agents can be pharmacies, supermarkets, convenience stores, lottery outlets, post offices, and many more. Banking agents are usually equipped with a combination of POS card reader, mobile phone,

barcode scanner to scan bills for bill payment transactions, PIN pads, and sometimes personal computers (PCs) that connect with the bank's server using a personal dial-up or other data connection. Clients that transact at the agent use a Magnetic Stripe (Mag-Stripe) bank card or their mobile phone to access their bank account or e-wallet respectively. Identification of customers is normally done through a PIN. With regard to the transaction verification, authorization, and settlement platform, banking agents are similar to any other remote bank channel (Abebe, 2016).

#### **g) CBE Birr**

Commercial Bank of Ethiopia (CBE) officially launched its mobile money services dubbed CBE Birr on December 11, 2017 after successfully testing its functionality for six months. It is a mobile based banking whereby the bank selects, trains and authorizes agents to provide banking services on behalf of the bank through a mobile phone. It is deployed as a means of extending financial services to the unbanked segment of the public. Customers may no longer need to travel long distances to visit CBE branch as they can get the service from the nearest CBE agents through CBE Birr. A CBE Birr customer can deposit, withdraw, transfer money, make payments, buy mobile airtime and pay bill using a mobile phone in a very simple and convenient way (.combanketh.et/CBE 2020).

### **2.3 Customer Satisfaction**

Satisfaction became a popular issue in marketing during 1980s and is a doubtful topic during both business expansions and recessions. Most thoughts on customer satisfaction involve customer expectation of the service provision, actual delivery of the customer expectation and experience that are either unmet or exceeded (Holjevac et al. 2010). According to Kotler et al, (2016) many companies are systematically

measuring how well they treat customers, identifying the factors shaping satisfaction, and changing operations and marketing as a result. Wise firms measure customer satisfaction regularly, because it is one key to customer retention. A highly satisfied customer generally stays loyal longer, buys more as the company introduces new and upgraded products, talks favorably to others about the company and its products, pays less attention to competing brands and is less sensitive to price, offers product or service ideas to the company, and costs less to serve than new customers because transactions can become routine.

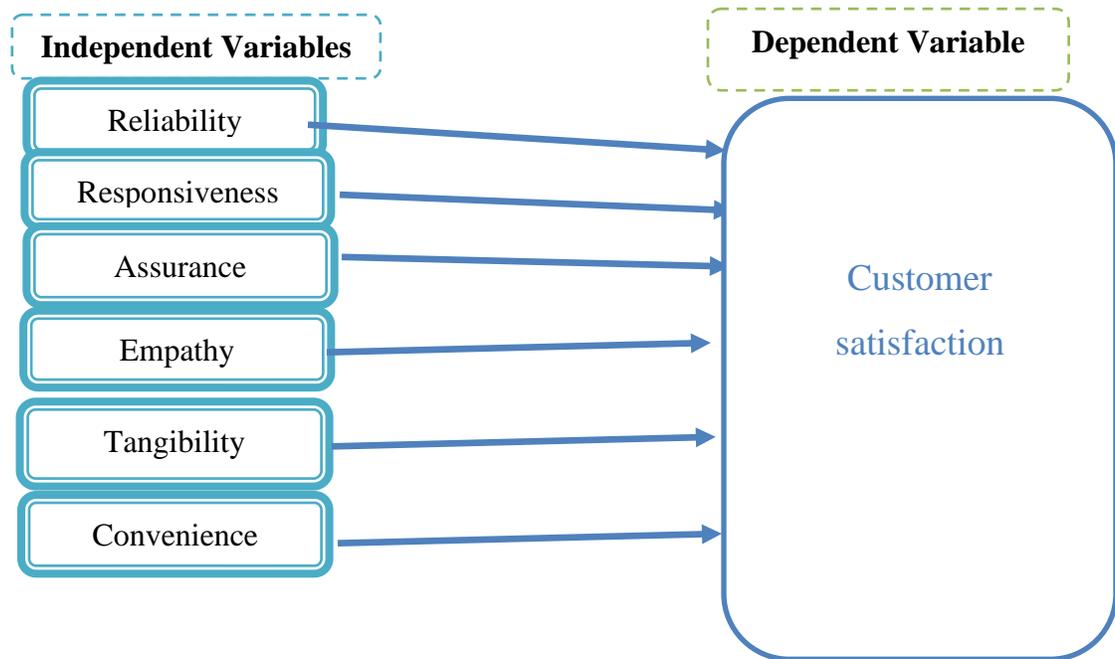
### 2.3. Empirical review literature Review

In other countries outside Ethiopia, Washburn (2009), Toor A. et al., (2016), Bold (2011), Mwangi (2011), Mohammed A., (2013); conducted a research on the impact of E-banking variables on customer satisfaction in different countries and found out that five service quality dimensions; reliability, responsiveness, assurance, tangibles and empathy, derived from the SERVQUAL model has positive effect on customer satisfaction. And finally they concluded that service quality in E-banking leads to satisfied customers and thus banks can gain competitive advantage by offering better-quality services to their customers in today's world.

In Ethiopia researchers such as Wondwossen and Tsegai (2005), Habits T. & Bacha E., (2015), Mohammed A., (2013), Gardachew (2010), Ayana (2014), Hitesh (2015), Areeba et al. (2016), Abebe (2016), Ababaw, A. (2018) and Teshome, G. (2018). have addressed the related topic and concluded that five dimensions of service quality (tangibility, reliability, responsiveness, assurance and empathy). The result of the study showed that the three service quality dimensions (Reliability, Responsiveness and Assurance) have significant correlation with customer satisfaction whereas Tangible and Empathy not have significant relation with customer satisfaction.

### 2.4. Conceptual Framework

Figure 1, shows the relationship between variables (service quality and customer satisfaction). It is developed based on the service quality dimensions developed by (Parasuraman, Berry, & Zeithaml, 1985) which are (Tangible, Reliability, Responsiveness, Empathy, Assurance, and Convenience ) with the objective of assessing their impact on dependent variables. The left side of the figure shows the five service quality dimensions while the right side shows Customer satisfaction which is affected by service quality. The right side is the ultimate Dependent variable which is affected by service quality Dimensions

**Figure 1: Conceptual Framework of the study**

Source: Researcher's own model based on literature review (2020)

### 3. Materials and Methods

#### 3.1. Research design

This study used an explanatory research design that helps the researcher to identify the nature of the relationship between the E-banking service quality and customer satisfaction Hawassa town commercial banks. An explanatory research design aids the researcher to determine and explain the characteristics of dependent as well as independent variables (Saunders, et al., 2009).

#### 3.2. Research approach

According to Areeba et al., (2016) the study used quantitative research approach. The quantitative research approach makes use of statistics and numbers which are mostly presented in figures. Quantitative research involves large samples and planned questionnaire that is then numerically and statistically analyzing. The quantitative data enables the researcher to analyze objectively by using descriptive and inferential statistics.

#### 3.3. Data Types, Sources, Collection and Analysis Tools

The present study was based on both primary and secondary sources for collected facts and figures relating to topic under study. The primary data were collected with the help of questionnaire. Secondary source were gathered previously published literature, books, articles, journals, bulletins, magazines and specialized banking periodicals and various websites. The primary data was collected through structured close-ended questionnaire. The structured questionnaire was anchored on 5-point Likert type scale with the following degree of response: Strongly disagree, Disagree, Moderately Agree, and Agree and strongly agree. Data collected was compiled and entered into Statistical Package for Social Science (SPSS) software version 20. The data analysis was conducted to explain the relationship and effect of the independent on customer satisfaction in E-banking service

### 3.4. Target population, Sample Size and Sample Techniques

The target population includes the E-banking services users of 23 in branches CBE Hawassa city Administration. According to CBE Hawassa city Administration there are annual report of December, 2019, 42,269 E-banking services users in all 23 branches of CBE in the Hawassa city. Hence, the researcher considered these are target population of this study. The sample size will be determined by Yamane (1967) simplified formula for finite population is used to determine the sample size for the study. The sample size will be calculated using a confidence level of 95% and acceptable error unit of 5% that is acceptable in social science research (Akuffo-Twum, 2011).

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

Where,

CUS\_SAT= Customer satisfaction

REL= Reliability

RES= Responsiveness

ASS= Assurance

MP= Empathy

### 3.6 Ethical Considerations

The researcher was submitted supporting letters from Pharma college studies to selected commercial banks Hawassa and had got permit before the commencement of the research. During the collection of data via questionnaires, each respondent was first informed about the objective of the study whereas the ethical issues such as privacy, anonymity of respondents, confidentiality and voluntarism were considered.

## 4. Results

### 4.1. Response Rate

A total of 400 questionnaires were issued. Out of these questionnaires 343 were returned duly

n = sample size,

N= population size and

e = (5%) is the level of precision or sampling error = (0.05)

The total population (N) = 42,269

$$n = \frac{42,269}{1 + (0.05)^2 * 42,269} = 399.99 \approx 400$$

n = 400

### 3.5. Model Specification

The researcher used multiple regression model to determine significance level of the variables towards E-banking induced customer satisfaction.

Customer satisfaction = f (E-banking five service quality dimensions)

$$CUS\_SAT = \alpha + \beta_1 REL + \beta_2 RES + \beta_3 ASS + \beta_4 EMP + \beta_5 TAN + \beta_6 CON + \varepsilon$$

Where:

TAN= Tangibility

CON =Convenience

Thus  $\alpha$  (alpha) is constant

$\beta$  (beta) is coefficient of estimate,

$\varepsilon$  is the error term,

completed. This represents 85.57% response rate. This was considered a representative sample for further studies according to Mugenda and Mugenda (2003) who report that a rate of 50% and above is acceptable.

### 4.2 Correlation Analysis

The possible values of correlation coefficients range from -1 (a perfect negative relationship) to +1 (a perfect positive relationship) or a direct relationship between two variables. A value of 0 indicates no linear relationship between two variables (Kothari, 2004). In this section, the independent variables were analyzed one by one using correlation analysis in order to identify their individual relation with the dependent

variable. For this purpose, independent variables such as reliability, responsiveness, assurance, empathy, tangibility, and convenience were tested their degree of relationship with customers' satisfaction before conducting the

regression analysis. Table 1 shows the correlation between customers' satisfaction and service quality (reliability, responsiveness, assurance, empathy, tangibility and convenience).

**Table 1: Correlation Analysis Result**

Variables		Reli	Res	Ass	Emp	Tang	Conv	TD	P/S	CS
Reliability (Reli)	Correlation	1	.538**	.483**	.390**	.380**	.284**	.310**	.289**	.551**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
Responsiveness (Res)	Correlation	.538**	1	.525**	.517**	.467**	.417**	.375**	.386**	.626**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
Assurance (Ass)	Correlation	.483**	.525**	1	.526**	.447**	.453**	.285**	.352**	.620**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
Empathy (Emp)	Correlation	.390**	.517**	.526**	1	.539**	.485**	.436**	.425**	.551**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
Tangibility (Tang)	Correlation	.380**	.467**	.447**	.539**	1	.529**	.471**	.502**	.501**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
Convenience (Conv)	Correlation	.284**	.417**	.453**	.485**	.529**	1	.409**	.437**	.485**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000

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

Source: Personal survey, 2020

The correlation analysis shows that reliability has positive and statistically significant relationship with customers' satisfaction ( $r = 0.551$ ,  $p < 0.01$ ). This indicated that the tangibility has significant relationship with customers' satisfaction. In the same manner, responsiveness has positive and statistically significant relationship with customers' satisfaction ( $r = 0.626$ ,  $p < 0.01$ ). Similarly, assurance has positive and statistically significant relationship with Customers' satisfaction ( $r = 0.620$ ,  $p < 0.01$ ). Equally, empathy has positive and statistically significant relationship with customers' satisfaction ( $r = 0.551$ ,  $p < 0.01$ ). Likewise, tangibility has positive and statistically significant association with Customers' satisfaction ( $r = 0.501$ ,  $p < 0.01$ ). Also, convenience has positive and statistically

significant association with Customers' satisfaction ( $r = 0.485$ ,  $p < 0.01$ ). Similarly, convenience has positive and statistically significant association with Customers' satisfaction ( $r = 0.405$ ,  $p < 0.01$ ). Finally, privacy or security has positive and statistically significant association with customers' satisfaction ( $r = 0.431$ ,  $p < 0.01$ ). The result implies that all the independent variables have weak and moderate correlation to each other, but they have moderate and strong relationship to the dependent variable.

#### 4.3 Regression analysis

In this study, multiple linear regression analysis is applied since it facilitates the evaluation of the level of effect that multiple independent variables that cause on a particular dependent

variable. Before applying regression analysis to test the effect of service quality on customers'

satisfaction, linearity, normality and multicollinearity tests are made and satisfied.

**Table 2: Results of Regression Analysis Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.761	.580	.570	.38186

Source: Own survey, 2020

According to the model summary of multiple linear regression analysis, the R value of the model as per Table 2 was 0.761 which shows the highest degree of relationship between independent and dependent variables. The R<sup>2</sup> value of the regression model was 0.580, indicating that 58% of variance in customers' satisfaction was accounted by reliability,

responsiveness, assurance, empathy, tangibility, convenience, time of delivery and privacy or security. The remaining 42% of variance in customers' satisfaction was not accounted by reliability, responsiveness, assurance, empathy, tangibility, convenience, time of delivery and privacy or security.

**Table 3: Results of ANOVA Output**

Model	Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	67.202	8	8.400	57.607	.000 <sup>b</sup>
	Residual	48.703	334	.146		
	Total	115.905	342			

a. Dependent Variable: Customers' satisfaction

b. Predictors: (Constant), Privacy or security, Reliability, Convenience, Time of delivery, Assurance, Empathy, Responsiveness, Tangibility

Source: Personal survey, 2020

The ANOVA table (Table 3) indicated that the multiple regression model itself is statistically significant or not significant. Because R<sup>2</sup> is not a test of statistical significance (it only measures explained variation in Y from the predictor Xs), the f-ratio is used to test whether or not R<sup>2</sup> could have occurred by chance alone. In short, the f-ratio found in the ANOVA table measures the

probability of chance departure from a straight line. On results of the output found in the ANOVA table, the model is statistically significant when reliability, responsiveness, assurance, empathy, tangibility, convenience, time of delivery and privacy or security were included (F=57.607, p<0.001). Therefore, the overall equation was found to be statistically significant.

**Table 3: Results of Regression Analysis and Discussion**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	SE	Beta		

1	(Constant)	.073	.175		.420	.675
	Reliability	.168	.041	.182	4.103	.000
	Responsiveness	.234	.048	.236	4.904	.000
	Assurance	.237	.044	.252	5.350	.000
	Empathy	.101	.047	.103	2.139	.033
	Tangibility	.045	.048	.045	.926	.355
	Convenience	.087	.041	.097	2.120	.035

**Note:** B= Regression coefficient (Estimate), Std.Error = Standard Error, Dependent variable = Customers' satisfaction

Source: Personal survey, 2020

### Fitted Model

$$CS = 0.073 + 0.168*RELI + 0.234*RES + 0.237*ASS + 0.101*EMP + 0.045*TANG + 0.087*CONV + \text{error}$$

The regression equation is interpreted in the following few paragraphs. Among eight variables which were included in the model, five variables have found to be significant effect on the customers' satisfaction. These are reliability, responsiveness, assurance, empathy, and convenience. The coefficients of explanatory variables incorporated in the model were reliability 0.168 +, responsiveness 0.234 +, assurance 0.237+, empathy 0.101+, tangibility 0.045+ and convenience 0.087 respectively. This implies that 1% increase in the variables like reliability, responsiveness, assurance, empathy, tangibility and convenience leads to 16.8%, 23.4%, 23.7%, 10.1%, 4.5 %, 8.7%, change in customer's satisfaction.

### 4.4 Hypotheses Testing

The discussion of hypothesis testing was based only on five statistically significant variables as follow:

**Concerning the H1,** Reliability has significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration. This study found out that reliability has positive and significant effect on customers' satisfaction. Hence, the researcher accepts the hypothesis

one, because the p-value ( $0.000 < 0.01$ ) for reliability is less than 0.01 or 0.05. The results of the beta coefficient and p-value indicates that customers increases their satisfaction by 16.8 percent as a result of a one unit increase in the reliability. The values of the beta coefficient indicated that for every unit increase in reliability, a .168 unit increase in customer satisfaction is predicted. This finding is supported by Al-Hawary et al. (2011) reported that reliability has a positive and significant effect on customer satisfaction. This indicates that the behavior of commercial bank employees creates confidence in customers; the bank internet service is provided at the promised time; bank employees do understand the specific needs of their customers; and the bank does keep its records accurately.

**Regards to H2,** responsiveness has significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration. This study showed that responsiveness has positive and significant effect on the customers' satisfaction because p-value of  $0.000 < 0.001/0.05$ . Therefore, the researcher accepted the hypothesis two which states responsiveness has significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration. The results of the beta coefficient ( $\beta = 0.234, p < 0.001$ ) indicates that a one unit increase in the responsiveness, leads a 23.4% unit increase customers' satisfaction. This

finding is consistent with result of Mohammad and Alhamadani (2011) found that responsiveness has a positive and insignificant effect on customer satisfaction. The implication of this finding is that responsiveness items such as response of service through e-banking is very prompt and quick; bank employees are ready to response quickly, and always get the detail of my account through electronic device have significant effect on customer satisfaction at commercial Bank of Ethiopia, Hawassa city Administration.

**Also H3:** Assurance has significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration. In connection to assurance, Table 4.20 shows that assurance has positive and significant effect on customers' satisfaction. As a result, the null hypothesis which states assurance has no significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration is rejected and the alternative hypothesis is accepted. The results of the beta coefficient and p-value ( $\beta = 0.237, p < 0.001$ ) indicates that commercial bank increases its customers' satisfaction by 0.237 unit as a result of a one unit increase in the assurance. The values of the beta coefficient indicated that for every unit increase in assurance, a 0.237 unit increase in customers' satisfaction is predicted. Malik et al (2011) reported that assurance has a positive and significant effect on customer satisfaction. The result indicates that the attributes of assurance like feel safe in E-banking transaction with commercial bank; behavior of E-banking employees of CBE instills; and simple and clear language of the machine has positive and significance effect on customer satisfaction.

**H4:** Empathy has significant effect on customers' satisfaction at customers' satisfaction at commercial Bank of Ethiopia, Hawassa city

Administration. In line with empathy, Table 4.20 shows that empathy has positive and significant effect on customers' satisfaction. Therefore, the researcher rejects the null hypothesis and the alternative hypothesis which states empathy has significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration is accepted. The result of the beta coefficient indicates that a one unit increase in the empathy, leads a 0.101 unit increase in the customers' satisfaction ( $\beta = 0.101, p < 0.05$ ). In supporting this finding, Tizazu (2012) approved that empathy has a positive and significant effect on customer satisfaction. This implies that commercial Bank employees of service provider do show a sincere interest in solving it; will give customer individual attention; the bank has convenient working hours, and employees of bank understand customers' specific needs.

Finally, **H6:** Convenience has significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration. According to the results of Table 4.20, convenience has positive and significant effect on customers' satisfaction. Therefore, the researcher rejects the null hypothesis which states convenience has no significant effect on customers' satisfaction at commercial Bank of Ethiopia, Hawassa city Administration and accepts the alternative hypothesis. The results of the regression coefficient ( $\beta = 0.087, p < 0.05$ ) indicates that a one unit increase in the convenience, brings a 0.087 unit increase in customers' satisfaction. In supporting this finding, Maiyaki (2011) stated that customers consider size of bank total assets, nearness of the bank to working office or residence, convenient access to bank location, personal security of customers, and ease of procedures of account opening as most important in customers' satisfaction. Similarly, Ahmed (2011) found that availability of large

branch network have a great influence in customers' satisfaction.

## 5. Conclusion

The service quality rendered by commercial Bank of Ethiopia in Hawassa city Administration had a relationship with customers' satisfaction. That means service quality measurements such as reliability, responsiveness, assurance, empathy, and convenience had a significant effect on customer satisfaction. The dominant factor that affects customer satisfaction was assurance. The customers feeling in E-banking, the behavior of E-banking employees of CBE instills and availability of simple and clear language machine had a high influence on customers' satisfaction. The second important factor that affects customer satisfaction was responsiveness. The speed in which service providers respond to the needs of customers, provide them with the service immediately give the detail of customer account through electronic device had a contribution to customer satisfaction. The third important factor that affects customer satisfaction was reliability. Performing the service right the first time, deliver what promised/ ordered and deliver accurate transaction services as customers desired have a relationship with customers' satisfaction. The fourth important factor that affects customer satisfaction was empathy. The customer understanding, easy access, convenient operating hour and personal attention of employees of commercial bank of Ethiopia had an effect on customer satisfaction. The fifth important factor that affects customer satisfaction was convenience. Location, special services and easily accessibility of ATM card in commercial Bank of Ethiopia contribute to the satisfaction level of customers. So, the researcher was accepted H1, H2, H3, H4, and H6.

## 7. Directions for Future Study

It is suggested that if the future research expect to acquire from this study further experience relating to e-banking service quality on customer satisfaction and how to control the problems by using customers interests and to conduct similar survey in other private and government banks in Ethiopia. The explanatory variables incorporated in the model have only explained 57 % of the model. The remaining 43% of changes in the customer satisfaction was explained by other explanatory variables that not included in the model. The other researchers should incorporate more variables to improve adjusted  $R^2$  with the same topic at the same study area.

## References

1. Ababaw, A. (2018). Assessing the effect of E-Banking practice on customer satisfaction commercial banks of Ethiopian in deberabirhan town (Doctoral dissertation).
2. Abebe, G. (2016). The Impact of Information and Communication Technology on Performance of Commercial Banks in Ethiopia (Doctoral dissertation), Addis Ababa University).
3. Abebe, S. (2016). The Effect of electronic banking service quality on customer satisfaction. In the case of commercial bank of Ethiopia A (Doctoral dissertation).
4. Abebe, S. (2016). The effects of electronic banking service quality on customer satisfaction: A survey study on the commercial bank of Ethiopia (Doctoral dissertation, St. Mary's University).
5. Adewoye, J. O. (2013). Impact of mobile banking on service delivery in the Nigerian commercial banks.

- International Review of Management and Business Research, 2(2), 333.
6. Aduda, J., & Kingoo, N. (2012). The relationship between electronic banking and financial performance among commercial banks in Kenya. *Journal of finance and investment analysis*, 1(3), 99-118.
  7. Adugna, M. (2019). The Effect Of E-Banking Attributes on Customer Satisfaction the Case of Commercial Bank of Ethiopia (Doctoral dissertation, Addis Ababa University).
  8. Agarwal, P. K., & Josh, C. K. (2016). Impact of Service Quality Gap on Customer Satisfaction: A Study on Electronic Banking Service in Wolaita Sodo, Ethiopia.
  9. Ahmad, A. E. M. K., & Al-Zu'bi, H. A. (2011). E-banking functionality and outcomes of customer satisfaction: an empirical investigation. *International Journal of Marketing Studies*, 3(1), 50.
  10. Ahmed, A. M. (2011). Factors Determining Bank's Selection and Preference in Nigerian Retail Banking. An Analysis: *International Journal of business and management*, 6(1), 253-257.
  11. Ahmed, A., Kashif-ur-Rehman and Safwan, N. (2011) 'Testing a model of Islamic banking based on service quality, customer satisfaction and bank performance', *African Journal of Business Management*, 5(5): 1880-1885.
  12. Al-Hawary, S. I. S., Alhamali, M. R., & Alghanim, A. S. (2011), Banking service quality provided by commercial banks and customer satisfaction. *American Journal of Scientific Research*, 27(2011): 68-83.
  13. Aliyu, A. A., Rosmain, T., & Takala, J. (2014). Online banking and customer service delivery in Malaysia: data screening and preliminary findings. *Procedia-Social and Behavioral Sciences*, 129, 562-570.
  14. Alwan, H. A., & Al-Zubi, A. I. (2016). Determinants of internet banking adoption among customers of commercial banks: an empirical study in the Jordanian banking sector. *International journal of business and management*, 11(3), 95.
  15. Asfaw, F. (2017). The Effect of E-Banking Service Quality on Customer Satisfaction in The Banking Sector of Ethiopia (case study: Five Selected Grade Four Branch Customers of CBE) (Doctoral dissertation, St. Mary's University).
  16. Asfour, H. K., & Haddad, S. I. (2014). The impact of mobile banking on enhancing customers' E-satisfaction: An empirical study on commercial banks in Jordan. *International Business Research*, 7(10), 145.
  17. Atavachi, B. S. (2013). Effect of electronic banking on financial performance of deposit taking micro-finance institutions in Kenya. Unpublished MBA Project, University of Nairobi.
  18. Ayo, C. K., Oni, A. A., Adewoye, O. J., & Eweoya, I. O. (2016). E-banking users' behaviour: e-service quality, attitude, and customer satisfaction. *International Journal of Bank Marketing*, 34(3), 347-367.
  19. Berger, A. N., & Bouwman, C. H. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics*, 109(1), 146-176.
  20. Boshoff, C., & Terblanche, N. H. (1997). Measuring retail service quality: a replication study. *South African*

- Journal of Business Management, 28(4), 123-128.
21. Chang, Y. T. (2003). Dynamics of banking technology adoption: An application to Internet banking (No. 2068-2018-1398).
  22. Cherenet, A. (2015). Assessment on the challenges and prospect of E-banking in the case of commercial bank of Ethiopia (Doctoral dissertation, St. Mary's University).
  23. Chiguvi, D. (2016). Effectiveness of Cellphone Banking on Service Quality in Commercial Banks in Botswana. *International Journal of Science and Research (IJSR)*, 5(8), 1334-1345.
  24. Drigă, I. (2014). Online banking in the Romanian banking system. *Annals of the University of Petroșani. Economics*, 14, 85-92.
  25. Drigă, I., & Isac, C. (2014). E-banking services—features, challenges and benefits. *Annals of the University of Petroșani. Economics*, 14, 49-58.
  26. Effect of electronic banking on customer satisfaction in selected commercial banks, Kenya. *International Academic Journal of Human Resource and Business Administration*, 2(2), 41-63.project, School of Business, Univ
  27. Epherem, S. (2016). Impact of electronic banking service on customer satisfaction in Addis Ababa (The case of selected commercial banks) (Doctoral dissertation, St. Mary's University).
  28. Faisal I. (2013), "Barriers to Adoption of Mobile banking: Evidence from Ghana",
  29. Fenuga, O. J., & Oladejo, R. K. (2010). The effect of electronic payment on customer service delivery in Nigerian banks. *International Journal of Economic Development Research and Investment*, 1(1), 227-239.
  30. Gan, C., Cohen, D., Clemes, M. D., & Chong, E. (2006). A survey of customer retention in the New Zealand banking industry.
  31. Gardachew, W. (2010). Electronic-management of accounts in Ethiopia: Practices, and challenges. *Journal of Internet Banking and Commerce*, 79, 223-255.
  32. Gikandi, J. W., & Bloor, C. (2010). Adoption and effectiveness of electronic banking in Kenya. *Electronic commerce research and AP* Jalal, A., Marzooq, J., & Nabi, H. A. (2011). Evaluating the impacts of online banking factors on motivating the process of e-banking.
  33. ICT Infrastructure\_ Building\_on\_MobileRevolution\_2011 Yap, S. F., & Kew, M. L. (2007). Service quality and customer satisfaction: antecedents of customer's re-patronage intentions. *Sunway Academic Journal*, 4, 59-73.
  34. Iluno, E. C., Farouk, B. K. U., & Saheed, Z. S. (2018). Impact of the electronic banking products and services on the customer's satisfaction: A case study of Kaduna state, NIGERIA. *Journal of Good Governance and Sustainable Development in Africa (JGGSDA)*, 4(2).in Nigeria: A Post-Consolidation Review". *Journal of Emerging Trends in International Journal of Academic Research in Business and Social Sciences*,
  35. JOFFE, M. M. (2018). Effect of banking service quality on customer satisfaction : The case of commercial bank of Ethiopia Arab Minch branches.

36. Kapoor, D. H. (2015). Customer Satisfaction and E-Banking services: a Case Study of Tricity. *International Journal of Innovative Research in Science, Engineering and Technology*, 4(10), 10270-10277.
37. Karjaluoto, H. Jarvenpaa, L., & Kauppi, V. (2009). Antecedents of online banking satisfaction and loyalty evidence from Finland, *International Journal for Electronic Finance*, 3 ( 3): 253-269
38. Karungu, C. (2014). Factors hindering consumer adoption of Internet banking in commercial banks in Kenya. Nairobi: University of Nairobi repository.
39. Kothari, C. R. (2004). *Research Methodology, Methods and Techniques Revised (2<sup>nd</sup> Ed.)*. New Delhi: India, New International Publishers.
40. Kumbhar, V. M. (2011). Factors affecting the customer satisfaction in e-banking: some evidences from Indian banks. *Journal of basic scientific research*, 3(4), 1-14.
41. KWARTENG, P. A. (2016). The effect of electronic banking on customer service delivery in Kumasi metropolis (Doctoral dissertation).
42. Maiyaki, A.A. (2011). Factors Determining Bank's Selection and Preference in Nigerian Retail Banking, *International Journal of Business and Management*, 6(1), 253-57.
43. Malik, E. M, Naeem, B., & Arif, Z. (2011), How do service quality perceptions contribute in satisfying banking customers?, *Interdisciplinary Journal of contemporary Research in Business*, 3(8), 646- 653.
44. Mekonnen, E. (2017). Determinates of financial performance of selected commercial banks of Ethiopia: The role of ICT (Doctoral dissertation, St. Mary's University).
45. Miller, G., & Whicker, M. L. (1999). *Handbook of Research Methods in Public Administration*. New York: M. Dekker.
46. Mohammad, S. A. A., & Alhamadani, M.Y.S. (2011), Service quality perspectives and customer satisfaction in commercial banks working in Jordan. *Middle Eastern Finance and Economics*, 1(14), 60-72.
47. Mune, A. (2018). The Effect Of Service Quality On Customer Satisfaction: The Case of Ministry of Trade (Doctoral dissertation, Addis Ababa University).
48. Munir, M. M. M., & Rahman, M. (2015). E-banking service quality and customer satisfaction of a state owned schedule bank of Bangladesh. *The Journal of Internet Banking and Commerce*.
49. Munyoki, J. M., & Ngigi, E. N. (2012). Challenges of e-banking adoption among the commercial banks in Kenya. *University of Nairobi*.
50. Neeli Prameela, D. B. (2012). Loyalty in E-banking. *International journal of trends in economics management and technology*, 1(6).
51. Nigeria. *International Journal of Business and Behavioral Sciences*, Vol. 3, (No 4).
52. Nochai, R. & Nochai, T. (2013). The Impact of Internet Banking Service on Customer Satisfaction in Thailand: A Case Study in Bangkok. *International Journal of Humanities and Management Sciences (IJHMS)*, 1.
53. Nukpezah, D., & Nyumuyo, C. (2009). What drives customers Loyalty and Profitability? Analysis of

- Perspectives from retail Customers in Ghana's Banking Industry.
54. Nupur, J. M. (2010). .E-Banking and Customers' Satisfaction in Bangladesh: An Analysis. *International Review of*.
  55. Olanipekun, W. D. (April 2013). Role of Electronic Banking in Enhancing Human Resource Performance and Customer Satisfaction: Evidence from Guaranty Trust Bank PLC,
  56. Oliver, R. (1997). *Satisfaction: A Behavioral perspective On the Consumer*. New York.
  57. Parasuaman, A., & Zeithmal, V. (1988). A multiple item scale for measuring a customer perception of service quality. *Journal of Retailing*.
  58. Rono, P. K. (2015). Determinants of Electronic Banking and operational Performance of Commercial Banks in Kenya. Unpublished MBA Simon, V. T., & Thomas, A. S. R. (2016).
  59. Sadeghi, T., & Heidarzadeh Hanzaee, K. (2010). Customer satisfaction factors (CSFs) with online banking services in an Islamic country: IR Iran. *Journal of Islamic Marketing*, 1(3), 249-267.
  60. Simon, V. T., & Thomas, A. S. R. (2016). Effect of electronic banking on customer satisfaction in selected commercial banks, Kenya. *International Academic Journal of Human Resource and Business Administration*, 2(2), 41-63.
  61. SM, U., CHERA, M. E., & MUHAMMED, M. S. Challenges in E-banking services and its impact on profitability of public sector of Ethiopia.
  62. Suvittawat, A. (2015). Service Quality at Thailand's Siam Commercial Bank: Chonburi Province. *Journal of Economic & Management Perspectives*, 9(4), 21.
  63. Tafa, M. (2013). The Impacts of Electronic Banking on Customer Satisfaction in Ethiopian Banking Industry (The Case of Dashen and Wogagen Banks in Gondar City). Available at SSRN 2354281.
  64. Taye, L. (2015). The impact of electronic banking service quality on customer service and bank performance; the case dashen bank SC (Doctoral dissertation, St. Mary's University).
  65. Teshome, G. (2018). Assessment of the E- system at commercial bank of Ethiopia: Evidences from selected branches in Addis Ababa (Doctoral dissertation, St. Mary's University).
  66. Tharanikaran, V., Sritharan, S., & Thusyanthy, V. (2017). Service quality and customer satisfaction in the electronic banking. *International Journal of Business and Management*, 12(4), 67.
  67. Tiwari, R., Buse, S., & Herstatt, C. (2007). Mobile services in banking sector: the role of innovative business solutions in generating competitive advantage. *Technology and Innovation Management Working Paper*, (48). Vol., 3, No., 7, ISSN, pp. 2222 – 6990
  68. Tizazu Kassa. (2012). The Effect of Customer Service Quality on Customer Satisfaction in Selected Private Banks (Addis Ababa) (Unpublished masters' thesis). Addis Ababa University, Ethiopia.
  69. Worku, G., Tilahun, A., & Tafa, M. A. (2016). The impact of electronic banking on customers' satisfaction in Ethiopian banking industry (The case of customers of Dashen and Wogagen banks in Gondar city). *Journal of Business and Financial Affairs*, 5(174), 2167-0234.

70. World Bank (2011a), Africa's ICT infrastructure - Building on the mobile revolution. Availableworldbank.org/information and communication and Technologies /Resources/Africa's
71. Zainal, N. S., Shaharudin, M. R., & Jusoff, K. (2010). Service quality perceptions between cooperative and Islamic Banks of Britain. *American Journal of Economics and Business Administration*, 2(1), 1-5.
72. Zeleke, A. (2016). Opportunities and Challenges in the Adoption of E-Banking Services: The Case of Dashen Bank SC (Doctoral dissertation, Addis Ababa University).