The Impact of M-banking Service Quality on Customers' Satisfaction during COVID-19 Pandemic: The case of Commercial Bank of Ethiopia, Jimma town, Southwest Ethiopia

A Thesis Submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Business Administration (MBA)

BY:

KEBRON ABRAHAM

JIMMA UNIVERSITY

COLLEGE OF BUSINESS & ECONOMICS

MBA PROGRAMME

JUNE 14, 2021

JIMMA, ETHIOPIA

The Impact of M-banking Service Quality on Customers' Satisfaction during COVID-19 Pandemic: The case of Commercial Bank of Ethiopia, Jimma town, Southwest Ethiopia

BY:

KEBRON ABRAHAM TEFERRA

Under the Guidance of

Mr. Belay Chekole

And

Mr. Umer Hajji

A Thesis Submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Business Administration (MBA)

JIMMA UNIVERSITY
COLLEGE OF BUSINESS & ECONOMICS

MBA PROGRAMME

JUNE 14, 2021

JIMMA, ETHIOPIA

STATEMENT OF DECLARATION

I, the undersigned, declare that this study thesis titled "*the impact of m-banking service quality on customers' satisfaction during COVID-19 pandemic, the case of Commercial Bank of Ethiopia, Jimma town southwest Ethiopia,*" is my original work. I have prepared it independently except with the guidance and suggestion of my advisors Mr. Belay Chekole and Mr. Umer Hajji. All sources of materials used for this thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher education institution for the purpose of earning any degree. It is submitted here in partial fulfillment of the requirement for the award of the Degree of Master in Business Administration.

Name: Kebron Abraham

Signature_____

Date_____

STATEMENT OF CERTIFICATION

This is to certify that Kebron Abraham has carried out her study on the topic entitled "*the impact of m-banking service quality on customers' satisfaction during COVID-19 pandemic, the case of Commercial Bank of Ethiopia, Jimma town southwest Ethiopia*" under my supervision. This work is original in nature and it is sufficient for submission for the partial fulfillment for the award of Degree of Master in Business Administration.

Main Advisor: **Co- advisor:**

Name: Mr. Belay Chekole Name: Mr. Umer Hajji

Signature _____ Signature _____

Date _____Date _____

APPROVAL SHEET

As members of the examining board of the final open defense, we certify that we have evaluated the thesis prepared by Kebron Abraham "*the impact of m-banking service quality on customers' satisfaction during COVID-19 pandemic, the case of Commercial Bank of Ethiopia, Jimma town southwest Ethiopia*", and recommend it to be accepted as fulfilling the thesis requirements for the award of the Master'sdegree in Business Administration (MBA).

_____ _____ _____

Name of Chairman Signature Date

_____ _____

Name of External Examiner Signature Date

_____ _____ _____

Name of Internal Examiner Signature Date

Abstract

Today competition is not only rife, but growing more intense constantly. However, companies need to start paying keen attention to their competitors; they must understand their customers. Banking sector are suffering from competition. Moreover, COVID-19 pandemic posed a great challenge for the financial industry in Ethiopia leading to an increase of mobile banking services which becomes a new normal and necessity for users of financial services. This study assesses the relationship between the quality of mobile banking services and customer satisfaction using the SERVQUAL service quality model that has various dimensions. Therefore, a quantitative study approach and a descriptive research design with survey research method were used.Descriptive research design was used becausethe output is in emphasizes form, it is easy for the researcher to deduce results and implement them.Consecutive sampling technique was employed in the study. The study respondents wereaccounts holders of the selected banks of commercial bank of Ethiopia in Jimma town branch. The collected data was analyzed with the help of tools SPSS version 20, descriptive statistics, and inferential statistics.Descriptively tables, percentages, mean and standard deviations were used to present demographic variables. Inferentially, regression and correlation were used.Regression was employed to test the impact of m-banking services quality on customer satisfaction during COVID-19 pandemic while correlation was used to determine the strength of the relationship of the variables.The research findings from the hypothesis test using the SERVQUAL quality dimensions show thatcustomers were satisfied by reliability, privacy, ease of use, and facilitating role of m-banking on service delivery during COVID-19.The study also found that reliability and ease of use have a strong positive influence on customer satisfaction.Additionally, the regression analysis indicatesthat privacy/security of m-banking has a positive and significant influence on customers' satisfaction, and responsiveness has a negative influence.Finally, based on the findings of the study, it was recommended to trainthe staff members in order to build the knowledge and courtesy of employees to inspire and give satisfactory service to the m-banking customers.

Key words:*Mobile Banking, Customer satisfaction, COVID-19, Service Quality, Commercial Bank of Ethiopia, Jimma*

Acknowledgements

First and foremost, I would like to thank the almighty God for helping me accomplish this thesis.I also have a deep gratitude to my advisors Mr. Belay Chekole and Mr. Umer Hajji for their valuable comment and suggestions.

Additionally, my heartfelt gratitude goes to my mother W/ro Roman Merdassa and my father Ato Abreham Teferra who did not give up on me even for a second and always believed in me. Without their passionate support, I would not have reached this position. My sister, Gelila Abraham (Ass. Prof) had the lion's share in the process of accomplishing this thesis successfully.

Lastly, but not the least,I also would like to thank the staff and management of all the five branches of Commercial Bank of Ethiopia in Jimma city for their cooperation.

Table of Contents

List of Tables

List of Figures

Acronyms

ATM	**Automated Teller Machine**
CBE	**Commercial Bank of Ethiopia**
COVID-19	**Corona Virus Disease, 2019**
E-S-QUAL	**Electronic Service Quality**
GDP	**Growth Domestic Product**
ICT	**Information and Communication Technology**
SERVQUAL	**Service Quality**
SIM	**Subscriber Identity Module**
SPSS	**Software Package of Social Science**
SSA	**Sub-Saharan Africa**

CHAPTER ONE

INTRODUCTION

This chapter begins by introducing brief background of the study which is followed by the statement of problem. Following the statement of the problem,basic research question, research hypotheses, general and specific objectives of the study are presented. Finally, significance of the study, scope and limitation of the study including organization of the paper are presented.

1.1 Background

Technology enables both customers and employees to be more effective and productive in receiving and providing service. Through self-service technologies, customers can now serve themselves more effectively. Via online banking, customers can access their accounts, check balances, apply for loans, and take care of just about any banking need they might have—all without the assistanceof the bank's employees. These online banking services are just one example of the types of self-service technologies that are proliferating across industries. For employees, technology can provide tremendous support in making them more effective and efficient in delivering service. (Vargo & Lusch, 2010).

Mobile banking consistsof banks, telecommunication companies and mobile devices. It uses software called an app, which can bedownloaded to a mobile device. Since the apps handle sensitive personal information, their safety is important. The mobile user is connected to a mobile network through a SIM card.Mobile banking has a unique competitive edge over traditional banking because it allows customers to perform banking transactions irrespective of place and time. Advantages of mobile banking for both banks and customers include easy access anywhere, control over your money, availability on 24-hour basis, and reduction in the cost of handlingbanking transactions. One does not need to have Internet connection; a mobile connection is all that is required. Right now, banks are not charging customers for their mobile banking services. But wireless carriers do charge some fees(Sadiku et al., 2011a).

The mobile and Internet market has been one of the fastest growing markets in the world and it is still growing at a rapid pace. This opens up new markets for financial institutions interested in

offering value added services with reduction in cash usage and its associated costs. With mobile technology, banks can offer a wide range of services to their customers, transfer funds between accounts and will have immediate and full control over their finances or even performing stock trading while being in traffic. Mobile devices, due to their ability to provide services anytime and anywhere, have a high rate of penetration and potential to grow(Lacmanovic et al., 2012).

The Ethiopian commercial banking system is composed of two state owned commercial banks and 16 private banks. Though it is true that traditional banking has grown steadily over the years, in terms of technological based financial service/ product the Ethiopian banking sector didn't fully benefit from ICT in general and M-banking in particular. Currently there are six commercial banks that commenced M-banking service, albeit the M-banking regulation directive was issued in January 2013.(Gunte, 2015) In Ethiopia, the traditional banking service penetration is very low and the rural community near to 80 percent of the total inhabitants has no good access to banking services. Ethiopia has the least bank penetration and because of this fact, citizens are using traditional way of exchange activities with high opportunity cost. The status of mobile banking at Africa level has been increasing and by the year 2017, it was around 12%(Reta Entele, 2019).

CBE is a pioneer in installing ATM cash dispensers and other e-payment systems in Ethiopia and introducing new and innovative bank services and products that attract many customers who were not users due to their belief and demographic reason. The devotion CBE displays in fulfilling its strategic objectives and creating pioneering role in technology-based products and services has been impressive. In a few years, it has introduced Card Banking, ATM and POS terminals which have won the acceptance of customers. Interest in CBE's Internet and Mobile banking services and the subsequent subscriptions are also growing remarkably (Mehari, 2019).

1.2 Background of the organization

The history of the Commercial Bank of Ethiopia (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. Currently CBE has more than 27.5 million

account holders and the number of Mobile and Internet Banking users also reached more than 4.6 million as of Dec. 31st 2020 Active ATM card holders reached more than 6.4 million. CBE combines a wide capital base with more than 40,000 talented and committed permanent employees and more than 22,000 outsourced jobs as of June 30, 2020. It has strong correspondent relationship with more than 50 renowned foreign banks like Commerz Bank A.G., Royal Bank of Canada, City Bank, HSBC Bank. It has a SWIFT bilateral arrangement with more than 700 others banks across the world for foreign remittance worldwide (*The History of the Commercial Bank of Ethiopia*, 2021).

The latter include 120 branches in the national capital Addis Ababa. With the opening of a branch in the Gechi in the Illubabor Zone , CBE's banking network has reached online 783 branches. The bank has reached 1284 branches as of 10 August 2018. The bank also operates two branches in South Sudan, and is contemplating opening re-opening a branch in Djibouti, andopening branches in Dubai and Washington, DC, all to serve the Ethiopian diaspora.The bank is pioneer to introduce modern banking to Ethiopia and credited for playing a catalytic role in the economic progress and development of the country. It is also the first bank in Ethiopia to introduce ATM service for local users (Commercial bank of Ethiopia, 2019).

1.3Statement of the Problem

As mobile banking technology is growing in the world, Ethiopian banks are putting their maximum exertion to be part of this global technological advancement of mobile banking services(Teshome, 2016). Even though the penetration of mobile phones among the population continues to grow in significant numbers year to year, out of 18 fully operating CBs in Ethiopia, there are, currently, six banking institutions that commence m-banking as per the Directive No. FIS /01/2012(Gunte, 2015).

In this way, to progress from conventional branch tasks and first-generation web-based solutions to the mobile web and portable applications, banks face new difficulties in managing and building noteworthy relation with their client base. Particularly, the unexpected COVID-19 virus has disrupted peoples' life completely and caused over two million deaths so far worldwide (World Health Organization, 2021).COVID-19 (Coronavirus) has affected day to day life and is slowing down the global economy. This pandemic has affected thousands of peoples, who are

either sick or are being killed due to the spread of this disease. It has rapidly affected day to day life, businesses, disrupted the world trade and movements. Presently the impacts of COVID-19 in daily life are extensive and have far reaching consequences including healthcare, economic and social aspects(Haleem et al., 2020).

The pandemic has severely affected the global economy. The strict lockdown measures have also changed the daily live, including consumer behavior in retail banking. There is also the tendency to use internet and mobile banking services even afterthepostpandemicstage,as newconsumptionbehavior models are developing. According to the World Bank analysis of the COVID-19 financial sector support measures, low-income countries have taken actions to promote the use of digital channels in the payment sector, such as waiving charges, fees and simplifying digital identification procedures. There is alsoa change in the attitude of consumers in using internet opportunities(Baicu et al., 2020).

The banking sector is getting popular as account holders are already much leaned toward online banking. Unpredictably, where COVID-19 has shutdown business around the world and put a huge number of people below the poverty line, ample opportunities are created, For example; information technology businesses, tele-health care and security firms. Traditional banking has declined during the COVID-19, and consequently, increase in e-banking platforms is observed. Thus, the empirical potential to evaluate the banking services is needed to understand the behavioral changes(Ul Haq & Awan, 2020).

To date, though there are studies which probed the impact of mobile service quality on satisfaction in different countries where m-banking service is matured;further studies are required studying the impact of m-banking service quality on satisfaction in late adopters' environment such as in Ethiopia. During the pandemic of COVID-19, the movements of people were restricted which includes not making transactions by going to banks.People were encouraged to stay at their homes and use their mobiles to transact.

High-quality m-banking services significantly impact trust towards the bank, and it can influence the level of customer satisfaction. Users' positive cognitions and feelings of safety when using

m-banking as the main payment method have been formulated, which reduces the virus transmission risk, protects personal safety and supports the social economy. To the researcher's knowledge, the impact of mobile service quality on customer's satisfaction during COVID-19 pandemic in Ethiopian commercial banks perspective is yet to be surveyed. This study attempts to investigate the impact of service dimensions/attributes on perceived service quality and customer satisfaction during COVID-19 pandemic in Commercial Bank of Ethiopia, Jimma town.

1.4 Basic Research Questions

This study attempted to provide answer to the following basic research questions as a guide to achieve the stated objectives:

i. What is the impact of reliability on the satisfaction of mobile banking serviceusers of Commercial Bank of Ethiopia, Jimma, during COVID-19 pandemic?
ii. What is the impact of efficiency on the satisfaction of mobile banking service users of Commercial Bank of Ethiopia, Jimma, during COVID-19 pandemic?
iii. What is the impact of privacy/security on the satisfaction of mobile banking service users of Commercial Bank of Ethiopia, Jimma, during COVID-19 pandemic?
iv. What is the impact of responsiveness on the satisfaction of mobile banking service users of Commercial Bank of Ethiopia, Jimma, during COVID-19 pandemic?
v. What is the impact of empathy on the satisfaction of mobile banking service users of Commercial Bank of Ethiopia, Jimma, during COVID-19 pandemic?
vi. What is the impact of ease of use on the satisfaction of mobile banking service users of Commercial Bank of Ethiopia, Jimma, during COVID-19 pandemic?
vii. What is the impact of mobile banking in facilitating service delivery during COVID-19 among m-banking service users in Jimma town, South west Ethiopia?

1.5Research Objective

The main objective of this study was to assess the impact of the quality of the service of mobile banking; which was measured using the six dimensions of SERVQUAL model on customer's satisfaction during the lockdown of COVID-19 in selected branches of Commercial banks of Ethiopia, Jimma town, Southwest Ethiopia.

The specific objectives of the study include:

- ✓ To identify the impact of reliability of m-banking on the satisfaction of customers of Commercial Bank of Ethiopia, Jimma.
- ✓ To find out the impact of efficiency of m-banking on the satisfaction of customers of Commercial Bank of Ethiopia, Jimma.
- ✓ To assess the impact of privacy/security of m-banking on the satisfaction of customers of Commercial Bank of Ethiopia, Jimma.
- ✓ To understand the impact of responsiveness of m-banking on the satisfaction of customers of Commercial Bank of Ethiopia, Jimma.
- ✓ To find out the impact of empathy of m-banking on the satisfaction of customers of Commercial Bank of Ethiopia, Jimma.
- ✓ To assess the impact of ease of use of m-banking on the satisfaction of customers of Commercial Bank of Ethiopia, Jimma.
- ✓ To assess the impact of role of mobile banking in facilitating service delivery and thus customer satisfaction during COVID-19 among customers of Commercial Bank of Ethiopia, Jimma.

1.6Significance of the Study

This research identified the important quality dimensions to Commercial Bank of Ethiopia to enable the bank to develop strategies and improve the quality of service delivery. This improves the competitive position of the Bank in the banking industry and ensures the survival of the bank, especially in an era of intense competition. Through measuring the level of customer satisfaction; Commercial bank of Ethiopia can develop a customer-centric approach to deal with customer service, avoid the tendency of existing customers, and switch to a competing bank. Furthermore, the research serves as a guide for Commercial Bank of Ethiopia to develop policies that will improve overall service delivery, particularly in areas where the gap between expectation and perception so wide to improve customer satisfaction; particularly during catastrophic health events, like the recent one, COVID-19. This helps the bank to keep its customers delighted with the services provided using the technology of mobile banking.

1.7Scope of the Study

The scope of this study was delimited on five branches of Commercial Bank of Ethiopia out of fifteen branches of the bank found in Jimma town. These are Sedecha branch, Jiren branch, Jimma Main branch, Abajifar branch and Shenen Gibe branch. To achieve the stated objectives, the study specifically investigated the level of satisfaction of customers of the mobile banking service provided by the bank. From the 21-item scale created by scholars called the SERVQUAL scale,variables taken to measure the satisfaction of mobile banking users in this study are only reliability, efficiency, security/privacy, responsiveness, empathy and ease of use. They directly contribute to the satisfaction level of the customers. Specifically, this study tried to investigatethe impact of M-banking service quality on customers' satisfaction during COVID-19 Pandemic, in selected branches of Commercial Bank of Ethiopia found in Jimma town, Ethiopia.

1.8 Limitation of the study

The study experienced an initial slow response from the respondents who may be busy to be served and go. COVID-19 was also a challenge to conduct this study because it was not safeto travel as intended to get and talk to a number of customers at a time. The other limitation of the study is that it only represents the branches of Commercial Bank of Ethiopia found in Jimma town.

1.9 Organization of the Paper

The study contains five chapters. The first chapter is the introduction part which contains background of the study, background of the organization, statement of the problem, basic research questions, general and specific research objectives, and significance of the study, scope and limitation of the study.Chapter two presents the definition of mobile banking, the theoretical framework, the previous empirical studies, the research gap and lastly, the conceptual framework of the study.Chapter three deals with the research design and approach, target population, sample size and sampling technique, instruments, data collection and data sources, variable description and model specification, data analysis, reliability of test results, ethical consideration and finally the study result dissemination plan. Chapter four incorporates the response rate, demographic profile of respondents, item reliability test, descriptive statistics, correlation analysis, multiple

regression analysis, hypotheses test, and discussion of findings. The last chapter states the summary, conclusion and recommendations of the study.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

This chapter presents the relevant literature related with mobile banking service. The first part discusses the theoretical viewfor the study. Under the theoretical review, the concepts of mobile banking and the theories that are related to the study are discussed.The second section of the chapter, the previous empirical study discusses the status of mobile banking in the developed countries, mobile banking in the developing countries, mobile banking inAfrica, mobile banking in Ethiopia, the concept of mobile service quality, Mobile Banking Service Quality Scale. The last section illustrates the conceptual framework of the study.

2.1 Theoretical framework

This section discusses the theories that support the relationship between m-banking service quality and customer satisfaction. These include contemporary banking theory, bank focused theory, technology acceptance model and transactions cost innovative theory, by first defining the term mobile banking. It also discusses about the variables used to measure customer satisfaction.

2.1.1 Definition of Mobile Banking

Mobile banking (or m-banking) is an emerging branch of electronic or online banking. It is an application of mobile commerce based on wireless networks and mobile devices. It consists of banks, telecommunication companies and mobile devices. It uses software called an app, which can be downloaded to a mobile device. Since the apps handle sensitive personal information, their safety is important. The mobile user is connected to a mobile network through a SIM card(Sadiku et al., 2011b).

Mobile banking has emerged as a wireless communication channel for creating value by customers in banking transactions. Today, the main focus has been the field of modern methods of banking services, Supply of banking and financial services using mobile phones, it is a few

years the use of mobile phones for banking and financial affairs, but in the short term, significant progress has been made in this field. It could be a lot of promise in this new way of banking future. Another definition is a service that will enable customers' information, such as your bank account balance and be informed of through your cell phone. This is done with high security. As usual banking services, mobile banking services are offered through the mobile network. Factor that the bank has focused heavily on the issue; could unique mobile services at reduce cost banking services(Rahmani et al., 2012).

2.1.2 Contemporary Banking Theory

This theory was postulated by Bhattacharya & Thakor. Contemporary banking theory suggests that commercial banks and other financial intermediaries are necessary in order to efficiently allocate capital resources in the economy. This implies that a well-functioning banking industry through ICT has a great potential to enhance bank performance and ultimately broad based development. Moreover it reduces the occurrence of asymmetric information that causes adverse selection and moral hazard complications. This theory contributes immensely to the independent variable service quality of m-banking and the dependent variable customer satisfaction. Electronic banking has enabled clients to have easy access to information on the banking products and services without going through the traditional bank branches which was the primary point of contact between the bank and the bank clients in the past. Easy access to information on bank products through modern e-banking channels has helped in improving financial inclusion and consequently financial performance(Bhattacharya & Thakor, 1993).

2.1.3 Bank Focused Theory

This theory was postulated by Rogers in 1962 and has been modified by him many times. He postulated that diffusion of innovation theory attempts to explain and describe the mechanisms of how new inventions, in this case mobile banking, are adopted and become successful. Not all innovations are adopted and even if they are good, it may take a long time for an innovation to be adopted. He further states that resistance to change may be a hindrance to diffusion of innovation and although it might not stop the innovation, it will slow it down. Moreover, Rogers (1995) identified five critical attributes that greatly influences the rate of adoption. These include relative advantage, compatibility, complexity, attainability and serviceability. This theory was

used as basis in this study to investigate how various electronic banking products such as mobile banking affect the level of customer satisfaction(Rogers et al., 2019).

2.1.4 Technology Acceptance Model

It was originally proposed by Fred Davis in 1985. It has helped in explaining and predicting user behavior of information technology. It is considered an influential extension of theory of reasoned action. It explains why a user accepts or rejects information technology by adapting theory of reasoned action. Technology Acceptance Model provides a basis with which one traces how external variables influence belief, attitude, and intention to use. According to Technology Acceptance Model, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system. The model emphasizes the positive impact of perceived simplicity of use on the impression of the system's usefulness(Davis, 1985).

2.1.5 Transactions Cost Innovative Theory

This theory was initiated by Niehansin 2006. The theory stated that the dominant factor of financial innovation is the reduction of transaction cost, and actually financial innovation is the reaction of the development in technology which caused the transaction cost to reduce. The reduction of transaction cost can accelerate financial innovation and improvement of financial service. Further, it states that financial innovation reduces transaction costs. This theory is also relevant in this context: since it states clearly the relationship between independent variable of mobile banking and dependent variable of customer satisfaction. Consequently, reduction of operation costs through the use of mobile banking and other electronic banking product may contribute to improvement in financial performance of the bank(Antonenko& Baev, 2017).

2.2 Variable Description

The independent variables of this study were:

Reliability

Reliability is on time consideration, in the setting of the use of environmental conditions or time conditions, and product or service can reach the required functional standard. For bank-customer system in the process of service, each service will likely cause failure and lead to customer complaints. In other words, reliability means the stability of performance and delivery service properly and better than the first time and meets the bank of what has been promised to the client(Asfour & Haddad, 2014).

Reliability is also defined as the ability to perform the promised service dependably and accurately. In broad sense reliability means, service firms' promises about delivery, service provisions, problem resolutions and pricing. Customers like to do business with those firms, who keep their promises. So it is an important element in the service quality perception by the customer and his loyalty. Hence the service firms need to be aware of customer expectation of reliability (Ramya, 2019).

Efficiency

From a customer's point of view, mobile banking service must be viewed as productive if the system is easy to utilize, organized appropriately, and requires least data to be input by the customers (Sharma and Malviya, 2011). To be exact, how rapidly customers can get to the mobile banking service, how adaptable is the user interface of the system and how rapidly or timely the system reacts to demands for banking data or transaction by the customers every one of these features characterizes the efficiency of the m-banking service (Ganguli and Roy, 2011).

Security/Privacy

Security is defined as a potential loss due to fraud or a hacker compromising the security of a mobile user. Fear of the lack of security is one of the factors that have been identified in most

studies as affecting the growth and development of e-commerce. Therefore, it is very important to ensure the mobile banking system is secure while the user doing the financial transaction. Besides that, it will increase the customer satisfaction of mobile banking and encourage the user to adopt this service. Privacy, on the other hand, refers to the protection of various types of data that are collected with or without the knowledge of the users during user's interactions with the Mobile banking system (Bakar et al., 2017).

Responsiveness

Responsiveness refers to the willingness of the service holders to help clients and to give instant service. This measurement accentuates mindfulness and instantaneousness in managing client questions, solicitations, issues and protests (Hitt et al., 2016). Responsiveness is imparted to clients by the length of time they have to wait for assistance, answers to inquiries or thoughtfulness regarding issues. In other words, this service quality might be improved through responsiveness. This dimension focuses in the attitude and promptness in dealing with customer requests, questions, complaints and problems. It also focuses on punctuality, presence, and professional commitment etc., of the employees or staff. It can be calculated on the length of time customers wait for assistance, answers to questions etc. The conditions of responsiveness can be improved by continuously view the process of service delivery and employees attitude towards requests of customers (Ramya, 2019)

Empathy

Empathy is caring for developing individualized attention to provide its customers. The essence of empathy is conveying through personalized service so that customers are special and unique (Carey & Miller, 2016). Clients need to feel critical and comprehended by the associations that give services to them. Employees working in the m-banking industry may show empathy to customers by sound behavior, sympathetic and politely. It is defined as the caring; individualized attention provides to the customers by their banks or service firms. This dimension tries to convey the meaning through personalized or individualized services that customers are unique and special to the firm. The focus of this dimension is on variety of services that satisfies different needs of customers, individualized or personalized services etc. In this case the service providers need to know customers personal needs or wants and preferences (Ramya, 2019).

Ease of Use

Mobile phone can be used and bring at anywhere so the user can access the system anytime to do the bank transaction. Therefore, most the customer that use this service can adopt to their daily life especially the customer from government or private sector because they do not need go to the bank and also can save their time. Perceived ease of use is defined the level of a person believes that using a mobile banking system would be free effort (Bakar et al., 2017). By using this particular system it's do not need a lot effort as it very easy and convenient. Since, mobile banking services is easy to use it will increase the customer satisfaction while do the bank transaction instead of waiting in line at the bank counters (Barajas et al., 2013). Previous study done found that perceived ease of use has positive impact on the intention to adopt mobile banking. Sometimes customer will judge the best services that will give advantages and convenient while using it.

The dependent variable of the study was customer satisfaction.

Customers Satisfaction

Customer satisfaction refers to the utility drawn by customers from products or services offered by services supplied by an organization meet or surpass customer's expectation. According to Ketema, the key drivers to customer satisfaction in relation to mobile banking are reliability, efficiency, privacy/security, responsiveness, empathy and ease of use (Ketema, 2020a).

Customer satisfaction is considered to be one of the most important competitive factors and will be the best indicator of a company's profit ability in addition, customer's satisfaction will drive company to improve their reputation and image, to reduce customer's turnover, and to increase attention to customers' needs. Further definition of customers' satisfaction is; it is a term generally used to measure a customer's perception of a company's products and/or services.

Customer satisfaction is important because it provides business owners with a metric that they can use to manage and improve their business. Mobile banking menu is very easy and navigate. Mobile banking provides faster services. Customer satisfaction is influenced by reliability, ease

of use and etc. Financial institutions should improve on, but again, it also lacked finding out the expectations and what the customers really wanted from the service. It brings out a positive relationship and highlights the factors which any bank or financial institution should focus on improving mobile banking services(Asfour & Haddad, 2014).

2.3 Previous Empirical Studies

2.3.1 Mobile Banking in the Developed Countries

With the implementation of information technology, the banking industry has brought a revolutionary change in the workability of banks. Now banks provide Information Technology based products and services to their customers. Bank customers are becoming highly demanding and curious about the new technology-based banking products andservices. Information Technology is not confined only to transaction processing and management information system, but it has created a competitive environment for banks to retain their customers. New technology has rapidly transformed the traditional ways of doing banking operations. Traditional banking is branch based banking in which banks need to establish a physical presence in geographical area to carry out banking operations. It requires a maximum of interaction with physical services, processes, payments and medium of exchange mainly includes cash, check, bank cards and other such operations.(Fozia, 2018)

China has developed into an Internet hot spot.1 In 2008, China surpassed the US in number of Internet users, a number projected to reach 690 million in 2017.2 China is also one of the fastest growing mobile markets in the world, with approximately 451 million cellphone owners.(To & Lai, 2014)

2.3.2 Mobile Banking in the Developing Countries

In many developing countries, however, 9 out of 10 people do not have a bank account or access to basic financial services. Poor people are often not considered viable customers by the formal financial sector as their transaction sizes are small, and many live in remote areas beyond the reach of banks branch networks. Informal banking services such as microfinance and village savings and loan associations remain limited in their reach. In order for banks to view the poor as

viable customers, new ways of serving them profitably need to be explored. Extending branch networks is often too expensive, but the development of appropriate technologies can provide one answer to this problem. Offering banking products through mobile phones is one option that offers great potential for reaching poor people.(Andrew, 2009)

Banks areconstantly adopting technology to expand its business and to reach different level of customers. Apart from ATM, Internet banking and other technology enabled services Mobile Banking is one of the services provided by banks to its customers. Astonishing growth in telecommunication sector, its penetration including rural population and technology feasibility are the major factors for the introduction of Mobile banking services. Some banks in India are started providing the mobile banking service to their customers that include State Bank of India, Union Bank of India, Punjab National Bank, and etc.(Devadevan,2013)

2.3.3 Mobile Banking in Africa

In Africa, the majority of the population has no access to banking services, with only 20% of African families having bank accounts2. For instance, in 2007, only about 30% of household in Kenya had bank accounts; and in Benin, with a population of 7 million had only 35 bank branches in 2006.3 The limited access to financial services in Africa stems particularly from deficient infrastructure, physical-geographical isolation or inaccessibility, financial illiteracy, all of which culminate into exceedingly high cost of providing banking services. Ethiopia, Uganda and Tanzania for instance, each have less than one bank branch per every 100,000 people compared to 100 in Spain. Sub-Saharan Africa (SSA) has the lowest deposit institution penetration in the world standing at an average of 16.6% compared to 63.5% in developing countries. The rapid development in Africa's ICT sector, particularly mobile telephony is sending a strong message about the continent's potential to innovate. Africa is now considered as the fastest emergent continent in the ICT sector growth. Mobile phone penetration has exploded since 2000.(Ondiege, 2010)

The mobile phone revolution is the origin of change in many Africans' lives, providing not just telecommunications but also access to basic financial services in the form of phonebased money transfers and storage. In fact, the substantial penetration rates of mobile telephony, which is transforming cell phones into pocket-banks in Africa, provide opportunities for countries on the

continent to increase affordable and cost-effective means of bringing on board a large portion of the population that, until recently, had been excluded from formal financial services for decades. Mobile banking has grown at a breathtaking pace in certain countries (e.g., Kenya), most African nations still need to take full advantage of the 4 many benefits procured by these mobile banking services. (Nguena, 2019)

2.3.4Mobile Banking in Ethiopia

Technology has become an increasingly vital element of the global banking industry, since they have changed the design and delivery of financial services. Mobile banking (m-banking) is among the latest in a series of recent mobile technological wonders. It is a form of banking transaction carried out via a mobile phone. Mobile banking allows bank customer to check account balances, perform credit card transaction, as well as provide latest information on the latest transaction made by customers(Hanudin & Baba, 2007).Hence, mobile banking is a service provided by a bank that allows customers to access theirBank information, conduct financial transactions make transfers and pay bills without physical visiting the branch of the bank where account is domiciled.

Nowadays, the adoption of electronic banking become common as a channel of banking services because of the quick advancement in information technology (IT) and strong competition of banking market.To overcome the inefficiency and accessibility of banking services, adopting mobile banking technology could reduce the extent of the problem.(Reta Entele, 2019)

Mobile banking has the ability to redesign and also redefine total area of the business and business models of financial services sector. In the current business world, customers expect services twenty-four hours a day and three hundred and sixty-five days per year. All these will become a reality due to higher ownership of mobile phones than the personal computers. Hence, majority of transactions between banks and customers will be through mobile phones than personal computer in the near future.(Sylvie, L., & Xiaoyan, 2005).

Mobile banking system is new development in Ethiopian Banking industry. Recently, mobile banking services are being used with increasing frequency in Ethiopia. The adoption of mobile

banking (M-banking) began to occur quite extensively as a channel of distribution for financial services due to rapid advances in the banking market. Banking in Ethiopia faces numerous challenges to fully adopt mobile banking application and seize the opportunities presented by ICT applications in general. Part of key challenges for Mobile banking applications are low level of internet penetration and poorly developed telecommunication infrastructure, lack of infrastructure for telecommunications, lack of suitable legal and regulatory framework for e-commerce and e-payment, high rate of illiteracy, high cost of internet, absences of financial institutions networks that link different banks, frequent power interruption, 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 areas(Goshu, 2019)

2.3.5Mobile Service Quality

Service quality measurement is the significant managerial tool to understand consumers' needs and wants by analyzing the experience of consumers inthe service provided. It can help firms to find their weaknesses and advantages to make a better service for consumers. Moreover, the most important role of service quality is by affecting the customers' satisfaction. High service quality strongly and positively influences customers'satisfaction and consumers' loyalty. Furthermore, it can influence customers' intention to repurchase. Therefore, firms need to measure the consumers' perception of the service quality to offer a better service and improve their firm in today's competitive market(Ghotbabadi et al., 2015)

As it is important in every industry, quality perceptions also have great importance in mobile services. There was no proper scale to measure mobile service quality directly for a long time. It could have been considered as a lack because mobile services have their own characteristics such as mobility, anytime and anywhere computing, and social conditions.The arrival of mobile commerce era motivates mobile service providers to develop methods that help them appropriately evaluate the perceived mobile service quality of customers in order to achieve higher customer satisfaction and to increase the value of services in the extremely competitive environment of mobile services (Petrova, 2004).

Lin (2013) defines mobile banking service quality as a global consumer judgment of the quality and excellence of mobile content delivery in the context of m-banking. Studies exploring the dimensions of mobile banking service quality (Bach et al., 2020) and motivations for using/adopting mobile banking employ dimensions primarily associated with utilitarian consumer value such as perceived usefulness, perceived risk, perceived compatibility (with lifestyle or device), responsiveness, reliability, security, perceived cost and ease of use. An enhanced understanding of the specifics of mobile banking service quality and how the latter relates to commitment, trust and satisfaction is needed to identify the primary drivers of successful customer relationships in the banking sector.

2.3.6Mobile Banking Service Quality Scale

Banking industry could definitely improve market competitiveness if they further use information technology to develop mobile commerce and understand the needs of customers to create value for them. Gandy (Gandy, 2014)argued that the financial services provided by the banking industry via E-commerce will affect the banks' relationships with their customers, and that this will then change the bank's structure and the development of E-commerce.

The five dimensions of the SERVQUAL scale proposed by (Berry et al., 1988)include reliability, responsiveness, assurance, empathy and tangibles. Therefore, the SERVQUAL scale is applicable to the service quality of traditional brick and mortar stores. In the advanced online condition, distinctive service quality measurements with new items become significant. To quantify electronic service quality, scholars created 22-item scale called E-S-QUAL(Tharanikaran et al., 2017). Later on a 7-dimesion scale in which, the initial four measurements establish the center e-SERVQUAL scale (efficiency, fulfillment, reliability, privacy, responsiveness, compensation, contact); however, the last 3 become an integral factor just when online clients have questions or run into problems (Zeithaml et al., 2002). Therefore, measuring the nature of e-service experience incorporates signs that happen previously, during and after the e-purchase transaction and it is plausible just through e-SERVQUAL. Therefore, Zeithaml, et al. (2000) recommended that characteristics like efficiency, reliability, fulfillment, privacy, responsiveness, compensation are the appropriate measures to survey the e-service quality, or e-SERVQUAL. To this end, a multi-dimensional scale including reliability,

efficiency, security/privacy, responsiveness, empathy, and ease of use were drawn from the previous literature to assess the mobile banking service quality in selected branches of Commercial Bank of Ethiopia found in Jimma town.

In Ethiopia, mobile banking services are expanding so as to gain great economic benefits in case of reducing banks costs and increasing their productivity through financial inclusion. But from the survey of relevant empirical literature, it has been found that there are too few studies conducted in Ethiopia on the area of m-banking service quality and customer satisfaction especially during catastrophic health events like COVID-19 occurs. Moreover, the majority of previous research study related to m-banking in Ethiopian commercial banking industry mainly focused on adoptions and its challenges of m-banking in Ethiopia.

Therefore, assessment of this new technology and service quality related to customer satisfaction in Ethiopia is essential, to identify whether driving factors of mobile banking service quality is attained or not. Therefore, the main objective of this study is to fill relevant gap (literature gap) with a systematic analysis of the impact of m-banking service quality on the satisfaction of customers of selected branches of Commercial Banks of Ethiopia found in Jimma town during COVID-19 pandemic.

2.4Conceptual Framework

The conceptual framework illustrates the impact of quality service on customer's satisfaction during Covid-19 pandemic. In this particular study, the independent variables were reliability, efficiency, security/privacy, responsiveness, empathy and ease of use; the dependent variable was customer satisfaction of selected Commercial Banks of Ethiopia found in Jimma town.

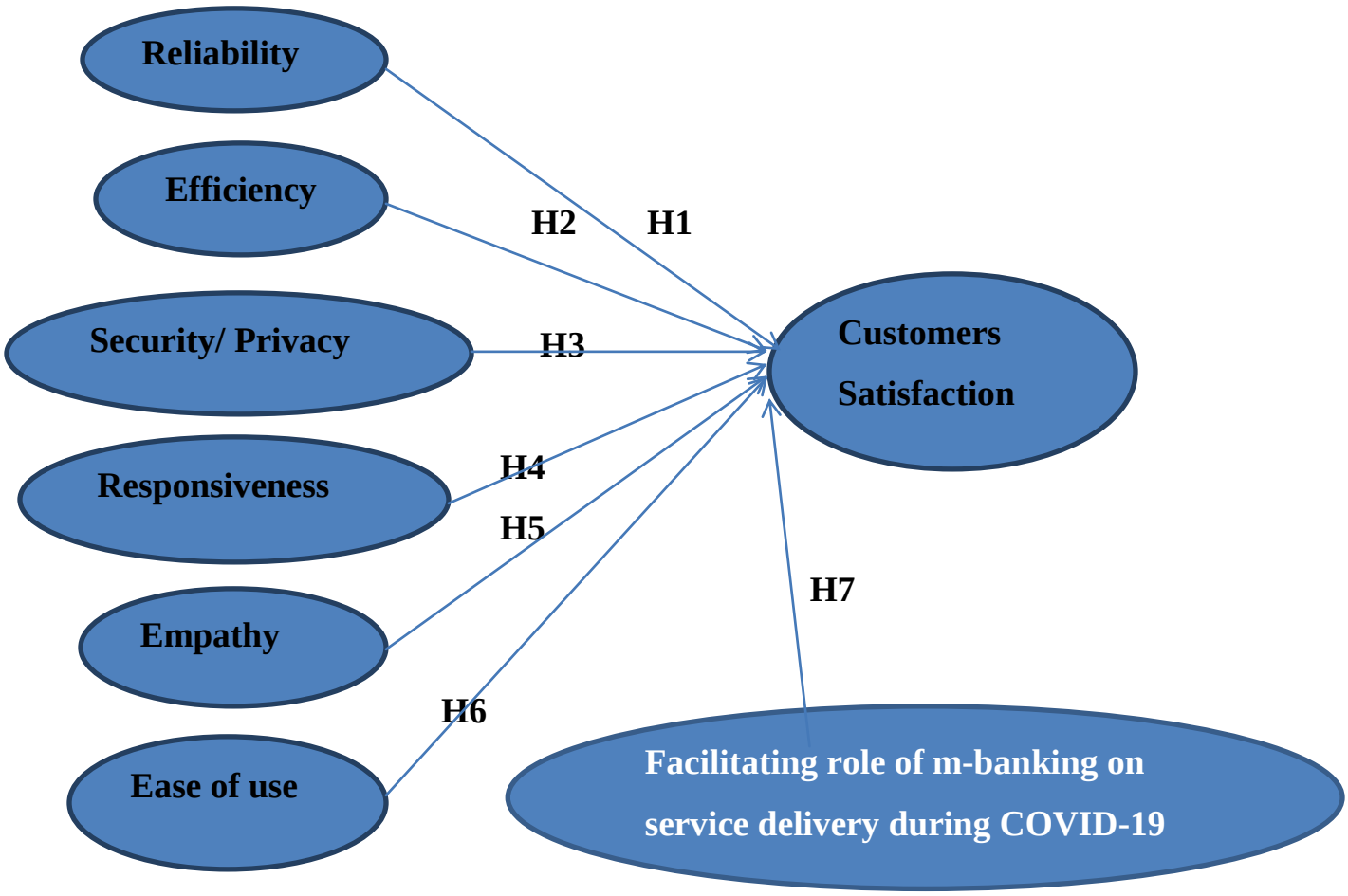

Figure 1: Conceptual framework of the study (Adopted from Z. Saleem, K. Rashid – Relationship between Customer Satisfaction and Mobile Banking Adoption in Pakistan, 2011).

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter deals with methodology that was used to carry out the study. The chapter is organized in tensub sections. Accordingly, the chapter briefly presents the study design and approach, target population, sample size and sampling technique, instruments, data collection and data sources, variable description and model description, method of data analysis and reliability of test results. The last two sub sections present the ethical consideration and study result dissemination plan.

3.1 Research Design and Approach

The primary objective of the study is to examine the impact of mobile banking service quality on the satisfaction of customers of Commercial Bank of Ethiopia during COVID-19 pandemic. To achieve this objective, explanatory research design with a quantitative approach has beenused. Hence, explanatory research design enables the researcher to examine the impact of mobile banking service quality on customers' satisfaction during COVID-19 pandemic. Quantitative research approach is based on the measurement of quantity. It is applicable to phenomena that can be expressed in terms of quantity. Thus, quantitative analysis provided the researcher with objective results and ensures a lack of bias.

3.2 Target population

The study has been undertaken to assess the relationship between service quality of mobile banking and customer satisfaction in the selected branches of Commercial Bank of Ethiopia found in Jimma town. Commercial Bank of Ethiopia has15branches (report of the bank) in Jimma town with total population of more than 300,000 (report of the bank) customers. Branches in Jimma town are selected randomly to be included in the study. Moreover, to obtain representative samples,consecutivesampling technique has been used to select customers who were willing to complete the questionnaire. Lottery method was used to select bank branches in this research because it provides an equal and nonzero chance of being selected for each branches of the bank (Showkat & Parveen, 2017).

3.3 Sample Size and Sampling technique

In branches found in Jimma town, there are about 29,900 total customers of mobile banking users as at February, 2021. (Management Information Systems of CBE). To determine the sample size, a previously proven formula has been applied. That is:

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

Where, n= Sample size

N = Total population

e= sampling error = 0.05 (95% of level of confidence)

$n = 29,900 / (1+29,900(.05)^2)$

n=394

Using this formula, considering 10 percent margin of error, 95 percent level of precision and a proportion of 90 percent for the maximum possible degree of variability the sample size taken from the population is394respondents. The total sample size is proportionally allocated to the selected branches of the bank based on the average monthly flow of mobile-banking service customer, which is sought from the management information system report of the bank. The researcher has distributed the questionnaires to each selected respondents (customers) personally during working hours when customers come to get services.

3.4 Instruments

Questionnaire survey was used for data collection. The questionnaire hasthree major sections. The first section contains questions about personal profiles of the respondents including gender, educational level, age, and occupation. The second section comprisessix constructs measuring of SERVQUAL. And the third section comprisesten items that measure Customer satisfaction. The instrument used a five-point Likert scales, representing a range of attitudes from 1 – strongly disagree to 5 – strongly agree to measure service quality and a five-point Likert scales, representing a range of attitudes from very dissatisfied(1) and very satisfied (5) to measure Customer satisfaction.

3.5 Data collection and Data Sources

To measure the customers' evaluation of mobile banking services at commercial bank of Ethiopian in Jimma town branch, a survey has been conducted; using a questionnaire. A list of critical variables that were known to influence customers' evaluation of mobile banking services beenprepared based on previously published literatures. The SERVQUAL is a six-dimensionalconstruct of service quality consisting of efficiency, reliability, responsiveness, ease of use, security/privacy, and empathy. The model was formulated by Parasuramanet. and it has a 21-item instrument that captures customers‟ expectations of service and their perceptions of the received service. The SERVQUAL model constitutes the basis for analyzing of customers' perception of service quality and derived satisfaction. The main source for this study was primary data through a standard questionnaire.

Model-Specification

Basically, CSMB = α+ β1X1+ β2X2+ β3X3+ β4X4+ β5X5+ β6X6+ β7X7 + ε

Where, CSMB = Customer Satisfaction in M-Banking Service Quality, **α=** constant alpha

X1= Reliability, X2= Efficiency, X3= Security/Privacy, X4= Responsiveness

X5 = Empathy, X6= Ease of Use and X7= facilitating role of m-banking on service delivery during COVID-19.

Here α is constant and βi is coefficient of estimate and ε is the error term. Customer satisfaction in m-banking service quality is dependent variable and X1 to X7 are independent variables.

3.7 Data Analysis

Analysis of data in this research was done by using statistical tools, regression and correlation models. Regression analysis was used to know by how much the independent variable i.e. service quality explains or influences the dependent variable which is customer satisfaction. Correlation analysis wasalso conducted to measure the strength of the association between mobile service quality dimensions and customer satisfaction. Moreover, descriptive analysis has beenused for the demographic factors such as gender, age, education, occupation, monthly income and for how many times the customers are using the bank's services. Tables and percentageswere used to present the findings. Data analysis was performed by using

SPSSsoftware version 20. In order to reduce the possibility of getting wrong answers, different actions will be undertaken to ensure the soundness of this study. This includes:

1. Data was collected from reliable sources, from respondents who are customers of the bank.
2. The questionnaire was based on literature review to ensure the soundness of the results.
3. SPSS software version 20was used to analyze the data and special emphasis will be given during data coding.

3.8 Reliability of Test results

Alpha reliability is regarded as a measure of internal consistency of the mean of the items at the time of administration of the questionnaire. Cronbach's alpha is a reliability coefficient that indicates how well the items in a set are positively related to one another. It is computed in terms of the average inter correlations among the items measuring the concept. Reliability is calculated in such a way that it represents the reliability of the mean of the items, not the reliability of any single item. So, the alpha reliability of 10 items would be higher than that of 5 similar items. This coefficient can hold a value of 0 to1. The result of 0.7 and above implies an acceptable level of internal reliability.

3.9 Ethical Consideration

Ethical approval was sought fromJimma University, College of Business and EconomicsEthical Review Board. Then after, permission was sought from selected commercial banks and the main branch in Jimma town to carry out the study. Participation in the study was on voluntary basis and informed consent was sought from the customers. Respondent consent was sought and formally obtained after a detailed explanation of the purpose of the study. All information was treated with utmost confidentiality and participants were free to decline or withdraw from responding to the questionnaire at any time during the study period.

3.10 Study result dissemination plan

The result of the study was presented for Jimma University, School of Business and Economics for approval and a formal report was submitted Department of Management. Effort will also be done to publish the study output in a peer reviewed journal for the wide community in related field.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Response rate

Three hundred ninety-four questionnaires were managed to mobile-banking user customers of selected Commercial bank of Ethiopia in Jimma town. A total of 378 useable copies of the questionnaires were returned. Therefore, the response rate was 95.9 percent.

Table 1: Response rate for the study

Particulars	Total (figure)	Percentage
Total questionnaires distributed	394	100
Total questionnaires collected	383	97.2
Total valid questionnaires	378	95.9

4.2 Demographic profile of respondents (N=378)

4.2.1 Socio-demographic characteristics of respondents

Table 2: Socio-demographic characteristics of the study respondents

Variable	Frequency	Percentage
Gender		
Male	312	82.5
Female	66	17.5
Age group		
18 – 25	69	18.3
26–35	193	51.1
36 – 45	93	24.6
46 – 55	19	5.1
Above 55	4	1.1
Occupation		
Government employee	229	60.6
Self employed	66	17.5

NGO employee	34	9
Business person	31	8.2
Student	18	4.8
Highest academic qualification		
Bachelors	301	79.6
Masters	50	13.2
PhD	14	3.7
High school complete	13	3.4

The socio-demographic characteristics of respondents for this study include sex, age group, and occupation, and highest academic qualification, frequency of visiting the bank in need of service, and duration of relation with the bank. As it can be shown from the table below (table 4.2), male respondents were more than five folds in number than female respondents. Regarding age group of respondents, slightly more than half, 193 (51.1%) is in the age group 26-35 followed by 93 (24.6%) respondents being in the group 36-45. As far as their occupation is concerned, government employee and self-employee were the largest in number; 229 (60.6%0 and 66 (17.5%) respectively. In line with this, 301 (79.6%) respondents were Bachelor degree holders followed by 50 (13.2%0 Master's degree holders.

4.2.2 Banking service related variables

Table 3: Banking service related variables of study respondents

Variable	Frequency	Percentage
Frequency of visiting the bank in need of service use		
Weekly	144	38.1
Daily	126	33.3
Twice a month	78	20.6
More than a month	18	4.8
Monthly	12	3.2
Duration of relationship with the bank		
1 – 5 years	220	58.2
6 – 10 years	119	31.5

Less than a year	25	6.6
10 – 15 years	7	1.9
Above 15 years	7	1.9

On the other hand, concerned with the variables related to banking service 144 (38.1%) respondents visit the bank weekly to get service and the second largest segment of respondents visit banks daily to get services (126 (33.3%)). Majority of respondents, 220 (58.2%) have been customers to the bank for 1-5 years followed by 119 (31.5%) respondents having 6-10 years of relation with the bank.

4.3 Item Reliability Test

Although the questionnaires were adopted from standard tools, Cronbach's coefficient alpha was used to test the internal consistency and reliability of the multiple item scales. We use Cronbach's alpha because every item is measuring an underlying construct. It is statistically valid and reliable if the Alpha coefficient is more than 0.60. The Alpha coefficient of the whole items for this study was 0.923. Therefore, it is found to be reliable.

Table 4: Item Reliability Statistics

Constructs	**Cronbach's Alpha**	**Number of Items**
Customer satisfaction	0.805	10
Facilitating role of m-banking during COVID-19	0.700	10
Reliability	0.611	4
Efficiency	0.805	4
Privacy	0.819	4
Responsiveness	0.700	4
Empathy	0.797	5
Ease of use	0.873	4
The whole items	0.923	45

4.4 Descriptive Statistics

This method describes and presents an overview of all variables used in the analysis. In descriptive statistics, we produced the mean and standard deviation for each variables of the study. Mean and standard deviation are the major measures of variation a study. The summary statistics for all variables of this study was presented in table below (table 4.5). The result shows there were 378 observations for all variables along with their mean and standard deviations.

Table 5: Descriptive Statistics

Variable	N	Mean	Standard Deviation
Reliability	378	4	0.581
Efficiency	378	4.0542	0.72861
Privacy	378	4.4616	0.63223
Responsiveness	378	4.0119	0.62697
Empathy	378	4.0767	0.67697
Ease of use	378	4.1746	0.82400
Facilitating role of m-banking during COVID-19	378	4.4206	0.73221
Customer satisfaction	378	3.8029	0.70347
Valid N (list wise)	378		

4.5 Correlation Analysis

The objective of correlation analysis was to measure the strength of linear association between two variables. The correlation coefficient measures this strength of association, which is linear. To determine the relationship between service quality dimensions (reliability, efficiency, privacy, responsiveness, empathy, and ease of use) and facilitating role of m-banking during COVID-19 with customer satisfaction, Pearson correlation was computed. Table below shows the correlation between variables for the study.

Table 6: Correlations table

	Variables		1	2	3	4	5	6	7	8
1	Reliability	Pearson Correlation	1							
		Sig. (2-tailed)								
2	Privacy	Pearson Correlation	.290**	1						
		Sig. (2-tailed)	.000							
3	Responsiveness	Pearson Correlation	.373**	.314**	1					
		Sig. (2-tailed)	.000	.000						
4	Empathy	Pearson Correlation	.308**	.521**	.395**	1				
		Sig. (2-tailed)	.000	.000	.000					
5	Ease of use	Pearson Correlation	.273**	.620**	.199**	.551**	1			
		Sig. (2-tailed)	.000	.000	.000	.000				
6	Efficiency	Pearson Correlation	.230**	.518**	.218**	.443**	.659**	1		
		Sig. (2-tailed)	.000	.000	.000	.000	.000			
7	Role of m-banking during COVID-19	Pearson Correlation	.185**	.508**	.110*	.398**	.570**	.453**	1	
		Sig. (2-tailed)	.000	.000	.032	.000	.000	.000		
8	Customer satisfaction	Pearson Correlation	.411**	.412**	.117*	.305**	.460**	.328**	.410**	1
		Sig. (2-tailed)	.000	.000	.023	.000	.000	.000	.000	
		N	378	378	378	378	378	378	378	378

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

*. Correlation is significant at the 0.05 level (2-tailed).

As it shown in the correlation matrix above, each variable is perfectly correlated with its self and the coefficient, r=1 along the diagonal of the table. As indicated in the table, there is a positive and significant correlation between reliability and customer satisfaction (r=0.411, P=0.00),

privacy and customer satisfaction (r=0.412, P=0.00), responsiveness and customer satisfaction (r= 0.117, P=0.023), empathy and customer satisfaction (r= 0.305, P=0.00), ease of use and customer satisfaction (r=0.46, P=0.00), efficiency and customer satisfaction (r=0.328, P=0.00), facilitating role of m-banking with customer satisfaction (r= 0.41, P=0.00).

Moreover, the above finding further indicates that the highest relationship is found between ease of use and customer satisfaction (r=0.46, P=0.00) followed by privacy and customer satisfaction (r=0.412, P=0.00), while the lowest relationship was found to be between responsiveness and customer satisfaction ((r= 0.117, P=0.023). Eventually, all service quality dimensions (reliability, privacy, responsiveness, empathy, ease of use, and efficiency) and facilitating role of m-banking during COVID-19 pandemic have a positive and significant relationship with customer satisfaction.

4.6 Multiple Regression Analysis

Before carrying out multiple regression analysis, the assumptions (linearity, normality and homoscedasticity) were checked. Multiple regression analysis was carried to get the predictive values of the constructs considered in this study. It is needed to carry out a separate regression analysis against each variable which are considered to be affected by other variables, because the model is developed in such a way that each construct is affected by other constructs. Thus, it is used to determine the linear combination of the constructs. The following tables (table 4.6, 4.7, and 4.8) shows the results from the multiple regression analysis carried out using the five service quality dimensions and the facilitating role of m-banking in service delivery during COVID-19 as independent variables and customer satisfaction as dependent variable.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.586[a]	.344	.331	.57529

a. Predictors: (Constant), DURING_COVID, RESPONSIVENESS, RELIABILITY, EFFICIENCY, EMPATHY, PRIVACY, EASE_OF_USE

From the above table, it can be seen that R square value for the model showed 34.4% of the variance in the model could be predicted from the five dimensions of service quality and the facilitating role of m-banking on service delivery.

Table 8: ANOVA table

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.114	7	9.159	27.675	.000[b]
	Residual	122.453	370	.331		
	Total	186.567	377			

a. Dependent Variable: CUSTOMER_SATISFACTION

b. Predictors: (Constant), DURING_COVID, RESPONSIVENESS, RELIABILITY, EFFICIENCY, EMPATHY, PRIVACY, EASE_OF_USE

Table 4.7 above shows the ANOVA test on the general significance of the model. As the value of P (significance level) is less than 0.05, the model is significant. Thus reliability, efficiency, privacy, responsiveness, empathy, ease of use and facilitating role of M-banking in service delivery significantly predict the dependent variable customer satisfaction (F= 27.675; P=0.00).

Table 9: Co-linearity Coefficients

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Co-linearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.581	.292		1.993	.047		
RELIABILITY	.393	.057	.323	6.904	.000	.809	1.236
EFFICIENCY	-.018	.055	-.019	-.326	.745	.537	1.862
PRIVACY	.153	.065	.138	2.342	.020	.514	1.943
RESPONSIVENESS	-.115	.055	-.103	-2.106	.036	.747	1.399
EMPATHY	-.013	.058	-.012	-.219	.827	.577	1.735

	EASE_OF_USE	.192	.058	.225	3.341	.001	.390	2.562
	DURING_COVID	.170	.051	.176	3.310	.001	.624	1.602

a. Dependent Variable: CUSTOMER_SATISFACTION

As shown in the above table, the tolerance value for each predictor variable was calculated and none are found to be 0.10 or belowwhich indicatesno correlation that create problem of multi-colinearity. Additionally, variance inflation factors (designated as VIF in the regression model table 4.9 above)calculated for the independent variables are below 3. This is well below the recommended guideline, 10**.** Given the VIF and tolerance levels found in the analysis, there is no problem with multicollinearity. Generally, based on the aforementioned criteria, all scales used in this study proved to be valid and reliable.

The above table (table 4.9) showed the standardized beta coefficients. A unit change in the independent variables (service quality dimensions and m-banking facilitating role on service delivery) would produce an effect on the dependent variable (customer satisfaction). As it can be seen from this table, reliability (β=0.323; p=0.00) had the highest impact on customer satisfaction, followed by ease of use (β=0.225; p=0.001); m-banking facilitating role on service delivery (β=0.176; p= 0.001) and privacy (β=0.138, p= 0.02). This result was supported by the largest t values for reliability (t=6.904), ease of use (t=3.341), m-banking facilitating role on service delivery (t=3.310), and privacy (t=2.342) in line with their corresponding p values for which there are high beta coefficients.

On the other hand, although responsiveness had a significant influenceon customer satisfaction, the influence is negative. Moreover, the finding also showed that efficiency and empathy have a negative and statistically insignificant influence on customer satisfaction. At most, the findings of this study indicated that reliability is the most important factor to have a significant and positive effect on customer satisfaction followed by ease of use and m-banking facilitating role on service delivery. From the results generated in table above we can develop the regression analysis equation as follows:

CSMB=0.581 +0.323**X1 + 0.138** X3- **0**.103X4 + **0**.225X6 + **0.176X7**

Where,

X1=one unit change in reliability will change customer satisfaction by 0.323 unit in average.

X3=one unit change in privacy will change customer satisfaction by 0.138 unit in average.

X4=one unit change in responsiveness will change customer satisfaction by -0.103 unit in average.

X6=one unit change in ease of use will change customer satisfaction by **0**.225 unit in average

X7=one unit change in service delivery during Covid-19 pandemic will change customer satisfaction by 0.176 unit in average

4.7 Hypotheses Test

Table 10: Hypotheses test

Hypothesis	Coefficient	p-value	Effect	Remark
H1: M-banking reliability service has positive impact on customer satisfaction	0.323	0.000	Significant	Accepted
H2: M-banking efficiency service has positive impact on customer satisfaction	-0.019	0.745	Insignificant	Rejected
H3: M-banking privacy service has positive impact on customer satisfaction	0.138	0.020	Significant	Accepted
H4: M-banking service responsiveness has positive impact on customer satisfaction	-0.103	0.036	Significant	Rejected
H5: M-banking service empathy has positive impact on customer satisfaction	-0.012	0.827	Insignificant	Rejected
H6: M-banking service ease of use has positive impact on customer satisfaction	0.225	0.001	Significant	Accepted
H7: M-banking service facilitating role in service delivery during COVID-19 has positive impact on customer satisfaction	0.176	0.001	Significant	Accepted

H1: M-banking reliability service has positive impact on customer satisfaction.

As shows in the above table 4.5 and 4.8 Reliability has a positive correlation with customer satisfaction of m-banking 0.411and the regression coefficient analysis is 0.323 with significance level of 0.00.This implies that reliability has a positive and significant impact on customer satisfaction. Therefore,the hypothesis is accepted.

H2: M-banking efficiency service has positive impact on customer satisfaction.

Among service quality dimensions, efficiency has a positive and significant correlation with customer satisfaction(r=0.328, P=0.00). However, in regression analysis, it is found to be insignificantly associated with customer satisfaction(p=0.745). This implies efficiency has no impact on customer satisfaction. Therefore, depending on this finding, the formulated hypothesis isrejected.

H3: M-banking privacy service has positive impact on customer satisfaction.

Service security/privacyhasa positive and significant correlation with customer satisfaction (r=0.412, P=0.00), and also regression coefficient of 0.138 with significance level of 0.02. This shows, service security/privacy has a positive and significant impact on customer satisfaction. Therefore, a hypothesis formulated is accepted.

H4: M-banking service responsiveness has positive impact on customer satisfaction.

In linear correlation analysis, responsiveness has a positive and significant correlation analysis with customer satisfaction (r= 0.117, P=0.023). However, in regression analysis the influence is found to be negative with a coefficient of -0.103 at significance level of 0.036. This means, though the influence is not strong, responsiveness has a negative influence on customer satisfaction. Therefore, this hypothesis is rejected.

H5: M-banking service empathy has positive impact on customer satisfaction.

Empathy of m-banking service quality has a positive and significant correlation with customer satisfaction (r= 0.305, P=0.00). However, in regression analysis it is found to be insignificant and negative; coefficient of -0.12 with significant level of 0.827. This implies empathy has no influence on customer satisfaction. Therefore, the above hypothesis is rejected.

H6: M-banking service ease of use has positive impact on customer satisfaction.

The independent variable, ease of use has also a positive and significant correlation with customer satisfaction (r=0.46, P=0.00). Moreover, the regression coefficient is 0.225 with significance level of 0.001.This shows ease of use has a strong and positive influence on customer satisfaction. Therefore, this hypothesis accepted based on the finding**.**

H7: M-banking service facilitating role in service delivery during COVID-19 has positive impact on customer satisfaction.

In addition to the service quality dimensions, this intermediate variable (facilitating role of m-banking on service delivery during COVID-19) is considered to have a positive impact on customer satisfaction during the current pandemic. Interestingly, this variable has a positive and significant correlation (r= 0.41, P=0.00) and also impact on customer satisfaction with regression coefficient of 0.176 and significance level of 0.001. This implies m-banking has a positive and strong influence in facilitating the service delivery during COVID-19. Therefore, the above hypothesis is accepted as per the finding of the study.

4.8 Discussion of Findings

This section discusses the findings of the statistical analysis in relation to the previous research and literature.

4.8.1 Effect of service quality dimensions on customer satisfaction

The result of this study is in line with conducted by Romario Gopmachab(GOMACHAB, n.d.)In Namibia customer satisfaction of m-banking using the SERVQUAL dimensions; and the results revealed that the most important factor influencing customer satisfaction was reliability followed by the other service quality dimensions. There is also a similar study conducted in Ethiopia (Ketema, 2020b)which focuses in measuring customer satisfaction in m-banking service in case of bank of Abyssinia, Ethiopia. The study found that reliability and ease of use have a strong positive influence on customer satisfaction. Conversely, the study result indicated that the dimension efficiency, privacy, responsiveness, and empathy have insignificant impact even though they positively influence customers' satisfaction on mobile banking. Again, this is in line

with our study findings showing that efficiency and empathy have no association and influence on customer satisfaction. This means, at least at the time of data collection for the study, respondents did not focus on the efficiency and empathy of the service.

However, the study revealed that privacy/security of m-banking has a positive and significant influence on customers' satisfaction, and responsiveness has a negative influence. This could be linked to the fact that Commercial Bank of Ethiopia was among the pioneer banks in Ethiopia in implementing the technology and thus customers have a positive attitude toward the privacy of the service, but feel disappointed with the way service is delivered (responsiveness). And this could be linked with the high number of customer flow at the branches of Commercial bank of Ethiopia.

In contrast to this study, there are many literatures elsewhere revealing that all service quality dimensions have a positive and significant influence on customer satisfaction(Chandrasekar & Lemma, 2019),(Kartawidjaja, 2020), (Khan et al., 2021). This difference could be because of the study period and area, which is influenced by the current COVID-19 pandemic.

4.8.2 Facilitating role of m-banking on service delivery during COVID-19

Strength of this study is that it considered and assessed the facilitating role of m-banking on service delivery during COVID-19. The finding revealed that this intermediate variable has a strong, positive association and influence on customer satisfaction. This finding is quite easy to be understood in a positive way because of the catastrophic health event that our world is facing right now.

It is well known that the pandemic forces humans not to move and work as they like or like the former time due to the high transmissibility of the virus. Because of this, many countries implemented lockdown for limited period of time to reduce the infection. In line with this, our country also implemented a partial lockdown in response to the prevention process and in this procedure; many governmental and non-governmental organizations changed their service delivery way, so that people couldn't be expected to contact other individuals physically to get a service. Because of this reason, Commercial Bank of Ethiopia widens the m-banking service for

its customers, and moreover, customers satisfied with the service as it help them to do their transactions through their mobile phone rather than visiting the branch of the bank physically. Eventually, this will support both a quality service delivery and prevention of the pandemic.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

The aim of the study was to examine the effect of mobile banking service quality on customer satisfaction during Covid-19 pandemicin the case of selected branches of Commercial bank of Ethiopia found in Jimma town, Southwest Ethiopia.The findings indicate that reliability has a positive correlation with customer satisfaction of m-banking 0.411 and the regression coefficient analysis is 0.323 with significance level of 0.00, implying that reliability has a positive and significant impact on customer satisfaction. The second SERVQUAL parameter isefficiency which has a positive and significant correlation with customer satisfaction (r=0.328, P=0.00). But, in regression analysis, it is found to be insignificantly associated with customer satisfaction (p=0.745),implying that it has no impact on customer satisfaction. Thirdly, service security/privacy has a positive and significant correlation with customer satisfaction (r=0.412, P=0.00), and also regression coefficient of 0.138 with significance level of 0.02, showing that it has a positive and significant impact on customer satisfaction. The fourth parameter, responsiveness has a positive and significant correlation analysis with customer satisfaction (r= 0.117, P=0.023). on the contrary, in regression analysis the influence is found to be negative with a coefficient of -0.103 at significance level of 0.036, indicating that even though the influence is not strong, responsiveness has a negative influence on customer satisfaction. The fifth factor, empathy of has a positive and significant correlation with customer satisfaction (r= 0.305, P=0.00). But in regression analysis, it is found to be insignificant and negative; coefficient of -0.12 with significant level of 0.827 implying that it has no influence on customer satisfaction. The last parameter, ease of use has also a positive and significant correlation with customer satisfaction (r=0.46, P=0.00). And also, the regression coefficient is 0.225 with significance level of 0.001, indicating that ease of use has a strong and positive influence on customer satisfaction. The other measured parameter was the, intermediate variable (facilitating role of m-banking on service delivery during COVID-19) which has a positive impact on customer satisfaction during COVID-19 pandemic. It also has a positive and significant correlation (r= 0.41, P=0.00) and also impact on customer satisfaction with regression coefficient of 0.176 and significance level of

0.001. This implies m-banking has a positive and strong influence in facilitating the service delivery during COVID-19.

5.2 Conclusion

The objective of the research was to examine the effect of mobile banking service quality on customer satisfaction in the case of Commercial bank of Ethiopia in Jimma town, Southwest Ethiopia. The result of the descriptive analysis shows, majority of the current mobile banking users at CBE in Jimma town are male within the age group of 26-35. From educational level, again majority of them are Bachelor degree holders and they are government employees. From the result gained, majority of the m-banking users visit the branch weekly and have 1-5 years long relationship with the branch.

Regarding dimensions of quality service, customers were satisfied by reliability, privacy/security, and ease of use. Among these three, customers were most satisfied with reliability followed by ease of use. Additionally, most customers were satisfied with the facilitating role of mobile banking in service delivery during COVID-19 pandemic. However, customers were less satisfied with responsiveness dimension of the service quality.Regardless of responsiveness, the four independent variables (reliability, privacy/security, ease of use, and m-banking facilitating role in service delivery during COVID-19 pandemic) are positively and significantly related with customer satisfaction. Two service quality dimensions; efficiency and empathy had insignificant relation with customer satisfaction.

In terms of the stated research hypotheses the following specific empirical findings emerged from the research: The four service quality dimensions including reliability, privacy, ease of use and m-banking facilitating role in service delivery during COVID-19 have positive and significant effect on customer satisfaction. And then reliability and ease of useare the most influential factors to have a positive and significant effect on customer satisfaction. Although responsiveness has a significant relation, it has a negative effect on customer satisfaction. The rest service quality dimensions (efficiency and empathy) have no relation and thus effect on customer satisfaction.

5.3Recommendations

Based on the findings and conclusions of the study, the researcher forwards the following recommendations to the management of the bank. Responsivenessdimension was considered as the most important factor influencing customer satisfaction. However, the customers ofCBE branches in Jimma town were found less satisfied in terms of the responsiveness dimension. One way of addressing this could be by designing strategies of staff training and development to build the knowledge and courtesy of employees and their ability to inspire trust and confidence for customers. This is to say, the bank management should focus on this factor to maximize customer satisfaction.

The finding of the study also indicates that customers of the bank were satisfied by only three service quality dimensions (reliability, privacy and ease of use). Therefore, Commercial bank of Ethiopia should adopt the service quality strategies regarding responsiveness.

Furthermore, facilitating factor of m-banking in service delivery during COVID-19 was considered as one of the most important factor influencing customer satisfaction. Based upon this finding, the study recommends that the management of commercial banks and all other concerned bodies should focus on increasing the number of m-banking users and also workon training their clients on the use of m-banking. This contributes in modernizing and improving the living style of people and also decreases the wide and speedy spreadof pandemics like the one we are facing now-COVID-19.

From the findings, the study established that service quality of m-banking affects customer satisfaction. Therefore, it recommends commercial banks in Ethiopia to focus on creating awareness on m- banking service and as well customize the m- banking service on every mobile device by working in cooperation with the telecommunication sector in order to increase the quality of the m-banking service delivered which in turn results in the satisfaction of customers especially when they need it the most like during the time we are living in now fighting COVID-19.

5.4 Suggestions for further studies

For future studies, it is recommended to include mobile bankingservice quality from service providers' perspective to have a comprehensive understanding of the variables that have impact on customer satisfaction.

REFERENCES

Andrew, W. (2009). *MOBILE BANKING IN DEVELOPING COUNTRIES . (A CASE STUDY ON KENYA). Degree Programme of Information Technology*. 45.

Antonenko, E., & Baev, I. (2017). Transaction costs of innovative enterprise. *SHS Web of Conferences*, *35*, 01118. https://doi.org/10.1051/shsconf/20173501118

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). https://doi.org/10.5539/ibr.v7n10p145

Bach, M. P., Starešinić, B., Omazić, M. A., Aleksić, A., & Seljan, S. (2020). m-Banking quality and bank reputation. *Sustainability (Switzerland)*, *12*(10), 1–18. https://doi.org/10.3390/su12104315

Baicu, C. G., Gârdan, I. P., Gârdan, D. A., & Epuran, G. (2020). The impact of COVID-19 on consumer behavior in retail banking. Evidence from Romania. *Management and Marketing*, *15*(s1), 534–556. https://doi.org/10.2478/mmcks-2020-0031

Bakar, R. A., Aziz, N. A., Muhammud, A., & Muda, M. (2017). Perceived Ease of Use, Security and Privacy of Mobile Banking. *International Journal of Business and Social Research*, *2*(1), 56–62.

Barajas, A., Beck, T., & Dabla-Norris, E. (2013). Too Cold, Too Hot, or Just Right? Assessing Financial Sector Development Across the Globe. *IMF Working Papers*, *13*(81), 1. https://doi.org/10.5089/9781484351086.001

Berry, L. L., Parasuraman, A., & Zeithaml, V. A. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, *64*(1), 12–40.

Bhattacharya, S., & Thakor, A. V. (1993). Contemporary banking theory. *Journal of Financial Intermediation*, *3*(1), 2–50. https://doi.org/10.1006/jfin.1993.1001

Carey, K. B., & Miller, M. B. (2016). One size should not fit all, so use the right tool for the job. *Addiction*, *111*(10), 1729–1731. https://doi.org/10.1111/add.13283

Chandrasekar, K. S., & Lemma, E. T. (2019). Impact of Mobile Banking on Customer Satisfaction : A study with special reference to Addis Ababa, Ethiopia. In *International Journal for Research in Engineering Application & Management (IJREAM)* (Issue July). https://doi.org/10.18231/2454-9150.2019.0459

Commercial bank of Ethiopia. (2019). *Commercial Bank of Ethiopia*. Commercial Bank of

Ethiopia. http://www.combanketh.et/

Davis, F. D. (1985). A technology acceptance model for empirically testing new end-user information systems: Theory and results. *Management, Ph.D.*(May), 291. https://doi.org/oclc/56932490

Devadevan, V. (2013). Mobile Banking in India – Issues & Challenges. *International Journal of Emerging Technology and Advanced Engineering*, *3*(6), 516–520. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.413.6951&rep=rep1&type=pdf

Fozia. (2018). Impact of Mobile Banking on Overall Customer Satisfaction: An Empirical Study. *London Journal of Research in Management and Business*, *18*(1).

Gandy, O. H. (2014). Audience Construction : Race , Ethnicity and Segmentation in Popular Media Race , ethnicity and segmentation Audience Construction : Race , Ethnicity and Segmentation in Popular Media Oscar H . Gandy , Jr . The Annenberg School for Communication Universit. *50th Annual Conference of the International Communication Association*, *May*, 1–30.

Ghotbabadi, A. R., Feiz, S., & Baharun, R. (2015). Service Quality Measurements: A Review. *International Journal of Academic Research in Business and Social Sciences*, *5*(2). https://doi.org/10.6007/ijarbss/v5-i2/1484

GOMACHAB, R. (n.d.). THE IMPACT OF MOBILE BANKING ON CUSTOMER SATISFACTION: COMMERCIAL BANKS OF NAMIBIA (KEETMANSHOOP). *Journal of Internet Banking and Commerce*, *26*(2). https://www.icommercecentral.com/open-access/the-impact-of-mobile-banking-on-customer-satisfaction-commercial-banks-of-namibia-keetmanshoop.php?aid=87001#:~:text=The results revealed that mobile,income (social aspect of transacting)

Goshu, F. B. (2019). Determinants of Mobile Banking Adoption at Commercial Bank of Ethiopia in Case of Bako District. *Computer Engineering and Intelligent Systems*, *10*(1), 5–12. https://doi.org/10.7176/ceis/10-1-02

Gunte, G. (2015). *BIRRITU NO.119*. *01*(01), 1–39.

Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects of COVID-19 pandemic in daily life. *Current Medicine Research and Practice*, *10*(2), 78–79. https://doi.org/10.1016/j.cmrp.2020.03.011

Hanudin, A., & Baba, R. (2007). An analysis of mobile banking acceptance by Malaysian

customers. *Sunway Academic Journal*, *4*(August), 1–12.

Hitt, M. A., Li, D., & Xu, K. (2016). International strategy: From local to global and beyond. *Journal of World Business*, *51*(1), 58–73. https://doi.org/10.1016/j.jwb.2015.08.016

Kartawidjaja, J. (2020). THE IMPACT OF MOBILE BANKING SERVICE QUALITY ON CUSTOMERS SATISFACTION (THE CASE OF COMMERCIAL BANK OF ETHIOPA IN SELECTED BRANCH). *Orphanet Journal of Rare Diseases*, *21*(1), 1–9.

Ketema, E. (2020a). The impact of M-banking quality service on customers satisfaction during Covid-19 lock down: The case of Bank of Abyssinia, Ethiopia. *African Journal of Marketing Management*, *12*(2), 21–37. https://doi.org/10.5897/AJMM2020.0651

Ketema, E. (2020b). The impact of M-banking quality service on customers satisfaction during Covid-19 lock down: The case of Bank of Abyssinia, Ethiopia. *African Journal of Marketing Management*, *12*(2), 21–37. https://doi.org/10.5897/AJMM2020.0651

Khan, A. G., Lima, R. P., & Mahmud, M. S. (2021). Understanding the Service Quality and Customer Satisfaction of Mobile Banking in Bangladesh: Using a Structural Equation Model. *Global Business Review*, *22*(1), 85–100. https://doi.org/10.1177/0972150918795551

Lacmanovic, D., Lacmanovic, I., & Markoski, B. (2012). Mobile Banking - Financial services technology. In *MIPRO 2012 - 35th International Convention on Information and Communication Technology, Electronics and Microelectronics - Proceedings* (Issue January).

Mehari, A. T. (2019). Determinants of Mobile Banking Usage or Transaction Frequency: Evidence from Selected Branches of Commercial Bank of Ethiopia (CBE) in Addis Ababa, Ethiopia. *Modern Management Forum*, *3*(1). https://doi.org/10.18686/mmf.v3i1.1084

Nguena, C. L. (2019). *Mobile Financial and Banking Services Development in Africa*. https://www.afdb.org/en/documents/publications/working-paper-series/

Ondiege, P. (2010). *AfDB in Africa : Taking the Bank to the People*. *1*(8).

Petrova, K. (2004). Mobile Commerce Adoption: End-User/Customer Views. *Navigating Crisis and Opportunities in Global Markets: Leadership, Strategy and Governance. Proceedings of the 2004 GBATA International Conference*, *June*, 604–615.

Rahmani, Z., Tahvildari, A., Honarmand, H., Yousefi, H., & Daghighi, M. S. (2012). The definition of mobile banking (mobile banking). *Arabian Journal of Business and Management*, *2*(5), 37–40.

Ramya, N. (2019). *Development*. *May*.

Reta Entele, B. (2019). Mobile Banking Technology in Ethiopia: Adoption and implication for Financial Service Inclusion. *Ethiopian Journal of Science and Sustainable Development*, *6*(2), 2019.

Rogers, E. M., Singhal, A., & Quinlan, M. M. (2019). Diffusion of innovations. *An Integrated Approach to Communication Theory and Research, Third Edition, December 2016*, 415–433. https://doi.org/10.4324/9780203710753-35

Sadiku, M. N. O., Tembely, M., & Musa, S. M. (2011a). Mobile banking. In *ITU News* (Issue 7). https://doi.org/10.23956/ijarcsse/v7i6/01615

Sadiku, M. N. O., Tembely, M., & Musa, S. M. (2011b). Mobile banking. *ITU News*, *7*, 32–37. https://doi.org/10.23956/ijarcsse/v7i6/01615

Showkat, N., & Parveen, H. (2017). *Non-probability Sampling* (Issue August).

Sylvie, L., & Xiaoyan, L. (2005). *Effect Of Mobile Banking On Customers Satisfaction In Commercial Banks In Anambra State*. *8*(1), 101–109.

Teshome, F. (2016). *OPPORTUNITIES A Research Proposal Submitted to the School of Graduate Studies of St . Mary ' s University to Undertake a Research in Partial Fulfillment of the Requirements for the Award of the Degree of Business Administration (MBA)* (Issue June).

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. https://doi.org/10.5539/ijbm.v12n4p67

The history of the Commercial Bank of Ethiopia. (2021). Commercial Bank of Ethiopia. https://combanketh.et/en/about/

To, W. M., & Lai, L. S. L. (2014). Mobile banking and payment in China. *IT Professional*, *16*(3), 22–27. https://doi.org/10.1109/MITP.2014.35

Ul Haq, I., & Awan, T. M. (2020). Impact of e-banking service quality on e-loyalty in pandemic times through interplay of e-satisfaction. *Vilakshan - XIMB Journal of Management*, *17*(1/2), 39–55. https://doi.org/10.1108/xjm-07-2020-0039

Vargo, S. L., & Lusch, R. F. (2010). *Handbook of Service Science* (Issue 2008). https://doi.org/10.1007/978-1-4419-1628-0

World Health Organization. (2021). Coronavirus disease (COVID-19) Situation Report – 198. In

A & A Practice (Vol. 14, Issue 6).

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, *30*(4), 362–375. https://doi.org/10.1177/009207002236911

Appendix

Jimma University

College of Business and Economics

Department of Management

Dear participants: The questionnaire is prepared by Master of Business Management (MBA) graduate student for the purpose of writing thesis on "The impact of mobilebanking quality serviceon customer satisfaction during COVID-19 pandemic" In case of Commercial bank of Ethiopia, branches in Jimma town. Your honest response is very much important input to my thesis. I want assure you that your privacy for responding to this questionnaire is completely kept in secret. I know that your time is valuable, and I hope that you will take the time (an estimated 10-15 minutes) to complete the questionnaire. Please attempt to answer all the questions and click one appropriate box that best suits your perspective for each statement.

Thank you very much for your time and assistance.

Section I

Respondent's profile

Please tick [□] the appropriate box for your answers. Please tick only one box.

1. Please what is your gender/sex?

[ ] male [ ] female

2. Please select your age group.

[ ] Below 20 years [ ] 20 – 29 [ ] 30-39

[ ] 40 – 49 [ ] 50 and above

3. What is your occupation?

[ ] Government employed [ ] student [ ] Business Person

[ ] Self-employed [ ] Unemployed

[ ] Others……..

4. Select your highest academic qualification?

[ ] Primary school [ ] High school complete [ ] Diploma

[ ] Bachelor's [ ] Post graduate/Masters/

[ ] Doctorate degree/PhD/

5. What is your frequency of visiting the branch to use its service?

[ ] Daily [ ] Weekly [ ] Two times a month

[ ] Monthly [ ] More than a month

6. How long is the period, since you established relationship with the bank?

[ ] Less than one year [ ] 1- 5 years [ ] 6-10 years

[ ] 10-15 years [ ] More than 15 years

Part II

Please, indicate your opinion by marking the appropriate box on the five point scale where: 1=Strongly Disagree 2= Disagree 3=No Opinion 4=Agree 5=Strongly Agree

No.	**Reliability**	1	2	3	4	5
1	Bank employees provide services as promised					
2	Bank employees are dependable in handling customer's service Problems					
3	Bank employees perform services right at the first time					
4	Bank employees provide services at the promised time					

No.	Efficiency	1	2	3	4	5
1	This system makes it easy to find what I need.					
2	This system enables me to complete a transaction quickly.					
3	The system loads its pages fast.					
4	The system makes it easy to get anywhere on the site.					

No.	Privacy/Security	1	2	3	4	5
1	Bank employees instill confidence in customers					
2	Bank employees make customers feel safe in their transaction.					
3	Bank employees are consistently courteous.					
4	Bank employees have the knowledge to answer customer questions.					

No.	Responsiveness	1	2	3	4	5
1	Bank employees provide prompt service to customers.					
2	Bank employees are always willing to help customers.					
3	Bank employees are ready to respond to customers' request.					
4	Bank employees are never too busy to respond to customer questions.					

No.	Empathy	1	2	3	4	5

1	Bank employees giving customers individual attention					
2	Bank employees deal with customers in a caring fashion					
3	Bank employees have the customer's best interest at heart					
4	Bank has hours convenient to all customers					
5	Bank employees understand the individual needs of their Customers					

No.	**Ease of Use**	1	2	3	4	5
1	The system interface is attractive and visible.					
2	The M-Banking system is user friendly.					
3	The system enables me to get on to it quickly.					
4	The system is well organized.					

The following items are designed your responses towards the degree of satisfaction with your bank. Please respond to each item and indicate the extent of your important or unimportant when you select a bank by using the following scale:

Very Dissatisfy =1 Neutral=3 Satisfied=4 Dissatisfy=2 Very satisfied=5

No.	**Customer satisfaction**	1	2	3	4	5
1	I have an inner stimulant to deal with the bank.					
2	I have full satisfaction with the way service is provided					
3	I have full satisfaction with the responsiveness speed to the complaints submitted					
4	I have full satisfaction with the workers' skill in providing services.					
5	I am fully satisfied with the way the workers treat me					
6	I am fully satisfied with the speed of providing services					
7	I am fully satisfied with the means of communication					

	with the bank					
8	I am fully satisfied with the facilities the bank is provided with					
9	I persuade my friends to deal with the bank.					
10	I am fully satisfied with the amount of time I spend waiting for a service					

The following questions are related to the role of m-banking in facilitating the service delivery during Covid-19 pandemic.

Please, indicate your opinion by marking the appropriate box on the five point scale where: 1=Strongly Disagree 2= Disagree 3=No Opinion 4=Agree 5=Strongly Agree

No.	**Questions**	1	2	3	4	5
1	Mobile banking services are highly efficient and will improve quality of services delivery.					
2	Great value on the improved quality of life, inter relationship and other personal gains can be achieved from using of mobile banking services.					
3	Security concern is one of the major problems affecting the use of mobile banking service.					
4	Network problem is also one of the contributory factors that hinder the effectiveness of mobile banking service.					
5	Mobile banking service is very flexible and comfortable to use.					
6	Mobile banking service increase customer loyalty patronage.					
7	Mobile banking helps customer in attaining personal satisfaction.					
8	Mobile banking does not positively influence service delivery of Commercial Bank of Ethiopia.					
9	The introduction of electronic payment products such as m-banking, ATM, internet, etc. has increased the level of					

	economic activities.					
10	There is no relationship between mobile banking and service delivery in Commercial Bank of Ethiopia.					