THE ROLE OF DIGITAL FINANCIAL SERVICE ON CUSTOMER SATISFACTION:

THE MODERATING ROLE OF DEMOGRAPHIC FACTORS:

THE CASE OF COMMERCIAL BANK OF ETHIOPIA

In Partial Fulfillment of the Requirements for the Award of Master of Arts Degree in Business administration

By: Kaleu W/Medhin

October 2021

Addis Ababa, Ethiopia

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A Thesis Submitted to Addis Ababa University

In Partial Fulfillment of the Requirements for the Degree of Master of Art in Business Administration

By: Kaleu W/Medhin

Advisor: Yitbarek Takele (PhD, Associate professor)

October, 2021

Addis Ababa, Ethiopia

DECLARATION

I, the under signed, declare that this thesis entitled ‘The Role of Digital Financial Service on Service Quality: The Moderating Role of Demographic Factors: The Case of Commercial Bank of Ethiopia, is my original work and to the best of my knowledge has not been presented for a degree by any other person, and that all the sources of material used for the thesis have been duly acknowledged.

Declared by:

Kaleu W/Medhin

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Signature

STATEMENT OF CERTIFICATION

This is to certify that the thesis carried out by Kaleu W/Medhin on the topic entitled “The Role of Digital Financial Service on Service Quality: The Moderating Role of Demographic Factors: The Case of Commercial Bank of Ethiopia” is his original work and is suitable for submission for the award of Master of Art Degree in Business administration.

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Date & Signature

ADDIS ABABA UNIVERSITY

This is to certify that the thesis carried out by Kaleu W/Medhin entitled 'The Role of Digital Financial Service on Service Quality: The Moderating Role of Demographic Factors: The Case of Commercial Bank of Ethiopia' and submitted in partial fulfillment of the requirements of the Degree of Master of Art in business administration complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

External Examiner _____Signature _____ Date _____

Internal Examiner _____Signature_____ Date_____

Advisor _____Signature _____Date_____

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List of acronyms

ANOVA	=	Analysis if variance
SPSS	=	Software package for social science
SERVQUAL	=	Service quality
SERVPERF	=	Service performance
ATM	=	Automated teller machine
PIN	=	Personal identification number
PDA	=	Personal digital assistant
POS	=	Point of sale
POP	=	Point of purchase
CRM	=	customer relationship management

Abstract

This research examined the Role of Digital Financial Service on customer satisfaction: The Moderating Role of Demographic Factors: The Case Of Commercial Bank Of Ethiopia. To achieve the objectives of this study explanatory research designs used. Data collected through a questionnaire from 156 customers that were selected as a sample using a convenience sampling method. The data collected from the questionnaires were analyzed using structural equation modeling statistical tools such as Amosresult and multiple regression analysis. The results of mean and standard deviation indicate that digital financial service customers/users somehow agreed on the factors that are creating influences on the digital financial service such as, efficiency, reliability, security and privacy, responsiveness and communication. The result of the inferential analysis indicates that, factors that affect the digital financial service such as (efficiency, reliability, security and privacy, responsiveness and communication) have a positive and significant effect on service quality. Furthermore, the aforementioned factors that affect the digital financial service dimensions significantly contribute, 35% to service quality. Based on the findings of the study, the researcher forwards sound recommendations.

Key Words: Efficiency, reliability, security and privacy, responsiveness and communication and service quality

CHAPTER ONE

INTRODUCTION

This chapter contains introductory part of the entire study. It states background of the study, statement of the problem, basic research questions, objectives of the study, significance of the study, scope of the study, and organization of the study.

1.1Background of the Study

The cutting-edge E-banking, for example, ATM, POS, Internet banking and portable banking are some ways or another new to Ethiopia banking industry. E-banking applies the utilization of current innovation that permits clients to get to banking administrations electronically whether it is to pull out cash, move assets, to take care of bills or to acquire business data. This innovation acquainted with the financial areas by hardly any private and one state claimed business bank of Ethiopia presented ATM administration for neighborhood clients in 2001 where ATMs situated in Addis Ababa. These days, the opposition in financial area become solid and reshaped because of the presentation of ATM, POS, Internet banking and portable financial which are the significant achievements of digitalize banking in Ethiopia (Garedachew, 2010).

Banks have consistently battled to acquire outright force and piece of the pie knowing their opposition and serving a commercial center that had moderately barely any elective options. Nonetheless, the war zone is changing as monetary innovation propels and new players arise. Today, monetary clients have become as fretful, requesting more from their monetary specialist organizations than any other time in recent memory. Many retail banks all throughout the planet have now arrived at a significant crossroads in their set of experiences, and they need to change through monetary mechanical progressions to remain applicable, or hazard the likelihood that deft monetary new businesses could keep them to a restricted utility job. This test comes at an untimely for retail banks similarly as industry benefit deteriorates, and clients' unwaveringness turns out to be significantly more questionable. (Luigi Wewege, 2016)

Digitalization: has brought the financial business new plans of action, advancement ideas and spaces of upgrades, from web banking to money related exchanges. These new executions to the monetary area require the representatives to know about the quickly changing workplace and the

general condition of progress in the monetary area. Right now, digitalization and change the executives are one of the significant turbulences that are changing the financial business always and with terrible administration, the outcomes can be durable.

It is a general client's disposition towards a specialist organization, or a passionate response to the distinction between what clients expect and what they get .with respect to the satisfaction of some need, objective, or want (Hansemark and Albinsson, 2004). Consumer loyalty is to degree at which the item or administrations rich the norm of the purchaser in their assumptions. It manages what individuals called as shock remainder. This is to reach out at which firms give out surprising specialized attributes or individual support of a client. This definition discusses the degree at which an association's exhibition or it administrations rich the standard assumption for the client necessity. Most analysts concur that fulfillment is disposition or assessment that is framed by the clients by contrasting what they expect with get to their emotional impression of the exhibition of they really get (Oliver.1980).

By remembering the significance of consumer loyalty there is a need of banks to keep up with close and stable relationship with their clients by giving the great of items and administrations. Thus, there was a need to pass judgment fair and square oo administration quality taking everything into account in getting a consistent client experience. As the financial business is the high inclusion industry. Banks are monitoring the significance of this reality that the arrangement of top notch administration to clients is essential for their endurance and the accomplishment in the present worldwide cutthroat climate. (Wang, Han, and Wen, 2003)

As consumer loyalty alludes to the degree to which clients are content with the item or administration given by a business. In the financial business of Ethiopia business banks are essentially giving e-banking framework to their clients to raise consumer loyalty through their significant expectations of presenting the embraced current financial innovation and accomplishing benefits. So that, exploring and comprehension of the degree of consumer loyalty and distinguishing the chances and difficulties of digitalization towards consumer loyalty in agreement to the effect of digitalization on consumer loyalty will be verifiable issue for better tomorrow of the financial area (Philipose,2013).Thus, this study will aim to examine digitalization in commercial bank of Ethiopia and its influence on level of customers' satisfaction.

Customer Satisfaction: Customer satisfaction is a psychological concept that involves the feeling of wellbeing and pleasure that results from obtaining what one hopes for and expects from an appealing product and/or service (Kotler and Keller, 2006). Lovelock (2004) conceptualizes customer satisfaction as an individual's feeling of pleasure (or disappointment) resulting from comparing the perceived performance or outcome in relation to the expectation. According to Lovelock and Wirtz (2007), customer satisfaction is a consumer's post-purchase evaluation and affective response to the overall product or service experience

Demographic: It has been widely recognized that demographic factors have a great impact on consumer attitudes and behavior towards new technology acceptance such as e-banking. Age, gender, educational level, income and occupation are among the most influential demographic variables affecting e-banking usage. The empirical studies related to these important demographic factors from the perspective of e-banking usage are discussed in the following sections

1.2 Statement of the Problem

Satisfaction is a function of perceived performance and expectation. The term 'customer satisfaction' is subjective and non-qualitative term. It results from the quality of banking services product (technical quality), quality of service delivery, engagement of the customers (functional quality) price factors and exceeding customer's expectations. Expectation influences customer satisfaction through market communication, image, word of mouth and customer needs. Customers are now becoming increasingly conscious of their rights and are demanding ever more than before (Kim, Ng and Ki, 2009). The changing needs of customers affect the expectation of value added servicing for basic banking requirements. This is made possible only in the post liberalization era through "customer centric" services (Mohammad and Alhamadani, 2011). Besides, retaining unsatisfied customer is elusive as customers can easily switch from one service provider to the next at low cost.

Service quality is the main factor for the drawn out achievement of any association. The power of the bank's relationship with its clients is under danger as at no other time. Requests and assumptions keep on advancing, regularly filled by encounters outside monetary administrations,

and customers are progressively creating associations with various suppliers. Also, to compound an already painful situation, clients' perspectives have on a very basic level changed. Clients are as yet sitting tight for this new financial experience, promoted as a progressive change that will bring many new components, including whenever and anyplace banking, super quick reaction times, and inescapable counselors. The business has been in an agreeable situation for quite a long time with low client turnover, basically no territorial contest, great individual connections and trust as selling focuses, and very little intercession from controllers. Remaining on top of things was simple, and there was no strain to change. Contenders from adjoining enterprises and monetary innovation new businesses are currently flooding the market with inventive, innovation driven deviations from the customary financial mode, MPESA a genuine model in Kenya. Clients currently are settling on choices a lot quicker and approach a plenty of offers, leaving monetary organizations battling for client devotion. The Ethiopian financial industry is now with 19 completely working banks. The opposition is vicious and new contestants are additionally coming in.

Digital modernization, is giving traditional banks a second chance to deepen customer satisfaction and loyalty, driving long-term relationships and profitability with the approach also embracing the potential to meet consumers' expectations and bring banking back to the bank. How customers perceive their banks, the services they get from their banks and whether their banks deliver on these promises is a matter worth looking at. Digital banking channels improve customers' access, facilitate the offerings of more services, increase customer loyalty, attract new customers, provide services offered by competitors and reduce customer attrition. According to the previous researchers in the different areas as mentioned above, it shows that customer satisfaction in commercial banks is still a challenge in most parts of the world and Ethiopian banks are no exception. It is against this backdrop that this studyexamined the role of digital banking financial service on service quality incase of commercial bank of Ethiopia.

The customers' demographic characteristics among other moderator variables have the ability to enhance understanding of the customer relationship management and satisfaction variables (Walsh, Evanschitzky & Wunderlich, 2008).

Customer relationship management is a critical tool in banking industry that establishes long lasting relationships with customers and enhances customer satisfaction. Customer satisfaction

enables commercial banks to attain their long-term objectives as well as their significant contribution to the economy (Kombo, 2015; Belas, Cipova, Demjan, 2014). However, the relationship between CRM, demographic characteristics and customer satisfaction has not been clearly identified. For example, scholars have demonstrated the importance of moderator variables such as consumer characteristics in relation to customer satisfaction and loyalty link in different industries (Narteh & Kuada, 2014; Ranaweera, McDougall, Bansal 2005; Fonseca, 2014)

Consumer demographic factors have been found to be important when examining customer relationship management and satisfaction. The consumers' demographic characteristics among other moderator variables have the ability to enhance understanding of the customer relationship management and satisfaction variables (Walsh, Evanschitzky&Wunderlich, 2008). However, studies interrogating the moderating effect of demographic characteristics on the relationship between Customer satisfaction reveal mixed findings and indicate both positive and negative outcomes (Evanschitzky&Wunderlich, 2006). Notably previous studies such as Zulkifli and Tahir (2012) did not find any significant relationship between age, gender and bank customers' perception of CRM practices and satisfaction. Narteh and Kuada (2014), established that age, gender and income are moderators of customer satisfaction in many service industries. Similarly, Oyewole's (2001) study on customer satisfaction with airline services reported that education, gender and occupation have significant effect on satisfaction while household income and age had no significant effect on satisfaction with airline services. In Kenya, Kombo (2016), found that age, gender and income level determine customer satisfaction in commercial banks. Hence, there is need for an empirical study to validate such propositions.

This study sought to fill these gaps by examining the moderating effect of age, gender, income and education level on the relationship between digital financial service and customer satisfaction in the Ethiopian context.So, this research tries to answer the following questions.

1.3. Research questions

1. To what extent does Demographic characteristics (sex, age, income and education) influence customer satisfactionof digital financial service in commercial bank of Ethiopia?
2. How does Efficiency influence customer satisfaction of digital financial service in commercial bank of Ethiopia?

3. How does Reliability influence customer satisfaction of digital financial service in commercial bank of Ethiopia?
4. To what extent does Security and Privacy influence customer satisfactionof digital financial service in commercial bank of Ethiopia?
5. To what extent does Responsiveness and Communication influence customer satisfactionof digital financial service in commercial bank of Ethiopia?

1.4 Objectives of the study

1.4.1 General objective of the study

The main objective of this research is to investigate the role of digital financial service on service quality: moderating role of demographic factors the case of Commercial bank of Ethiopia.

1.4.2 Specific objective of the study

The research objectives of the study are: -

1. To assess how Demographic characteristics (sex, age, income and education) influence customer satisfaction of digital financial service in commercial bank of Ethiopia.
2. To determine how Efficiency influence customer satisfactionof digital financial service in commercial bank of Ethiopia.
3. To assess how Reliability influence customer satisfactionof digital financial service in commercial bank of Ethiopia.
4. To determine how Security and Privacy influence customer satisfactionof digital financial service in commercial bank of Ethiopia.
5. To assess how Responsiveness and Communication influence service quality of digital financial service in commercial bank of Ethiopia.

1.5 Significance of the Study

The study would be important to bank executives and policy makers who could find the recommendations and results from the study useful in determining how best to embrace digital banking, to enhance customer satisfaction, the gaps need to be addressed. The study would also give an insight on how service quality is critical to the success of banking sector in terms of increasing market share and increasing profitability in the face of stiff competition. The study

could be crucial to emerging financial institutions in terms of the challenges ahead of them, since profitably and service quality is paramount.

1.6 Scope of the study

Conceptually, the study focused on the five variables of the digital financial service called efficiency, reliability, security and privacy, and responsiveness and communication. Besides these variables, there might be other factors. The study focuses on the role of digital financial service on service quality: moderating role of demographic factors only. Therefore, the study delimited methodologically to raise other issues.

Geographically, considering all customers of CBE under this study is difficult and unmanageable. In addition to that the rationality is due to the proximity of the researcher. Therefore, this study only focused at the selected branches.

Methodologically, this study used quantitative research approach, and explanatory research design. Moreover, with regard to the **temporal scope**, this research focused on cross sectional survey.

1.7 Limitation of the study

It is commonly true that every researcher faces with different problems, while doing the research. In the same logic the researcher faced many challenges in the process of writing this thesis Among others, there were difficulties in gathering data from the respondents in the study area. The availability of the customers to fill the questionnaires was problematic because of extremely busy schedule. As a solution to the problem the researcher tried his best by visiting and insisting the office of the concerned professionals repeatedly to achieve her goal.

1.8 Organization of the study

The study was organized into five chapters. The first chapter deals with the introduction part of the study in which the background of the study, statement of the problem, research questions, objectives of the study, significance of study, scope and organization of paper. The second chapter was concerned with presenting the review of related literature. The third chapter deals with the research methodology of the study. Forth chapter deals with result and discussion of the study output. At last the fifth chapter deals with conclusion and recommendation of study.

CHAPTR TWO

LITERATURE REVIEW

This chapter discusses the term “Customer satisfaction” and “Digital banking” and variousdigital banking channels and how it influences customer satisfaction. The chapter covers theinfluence of Reliability, Responsiveness, Assurance, Empathy and Tangibility on customersatisfaction. The concepts, models and theories which are relevant in the field of customersatisfaction have been discussed in order to facilitate analysis and understanding of the researchquestions.

2.1 Digitalization

As recently referenced, digitalization was initially characterized as the method involved with changing over text and pictures into a progression of numbers comprising of ones and zeros. This to empower a minimal expense of overseeing, duplicate and the appropriation of information for a huge scope (Lindholm, 2019). Be that as it may, recently, digitalization has acquired a more extensive significance regarding mechanical turn of events. Central for the term digitalization is that data is progressively accessible in computerized design, and to measure and deal with the advanced data, apparatuses as PCs and cell phones assume an inexorably significant part (Lindholm, 2019).

The digitalization advancement of computerized frameworks and joined stages prompts new items, administrations, plans of action and practices, which additionally affects the general public with new working strategies and more effective freedoms for business measure improvement (Lindholm, 2019).

Contrasting ongoing occasions and earlier many years, new innovation has worked with quick cultural changes requesting organizations to tailor their plans of action and show an inclination to change, to have the option to take advantage of development lucky breaks (Mishra and Singh, 2015, p.223). These mechanical changes significantly affect the financial business as clients have been empowered to use the majority of the financial administrations on the web and as of now not should visit the bank genuinely to go through with monetary exchanges (Mishra and Singh, 2015, p.223).

Gender as a moderator

In the Indian situation, both in country and metropolitan arrangement, it is the male individuals who prevalently take monetary choices. Since versatile banking is related with monetary exchanges, the distinctions in level of innovation reception in male and female mentality might be because of uniqueness in monetary dynamic. Zhang and Prybutok (2003) have analyzed the impact of sexual orientation as a directing variable on web based shopping buy expectation and the outcomes showed that outcomes show that sex is a significant directing variable in web-based business. Guys are more disposed to embrace bank innovation (Wan et al., 2005), web banking (Akinci et al., 2004), portable banking (Amin et al., 2006) than females. Nysveen et al. (2005) tracked down a more grounded extent of saw value of portable talk administrations among men than among ladies. Nysveen et al. (2005) tracked down a more grounded extent of saw value of portable visit administrations among men than among ladies. Suki (2011) in Malaysian setting led to study to explore whether sex, age and schooling truly moderate internet based music acknowledgment. It was tracked down that more youthful individuals under 25 years, male and higher instructed were all the more emphatically influenced by apparent energy and saw usability towards online music. Onyia and Tagg (2011) in an example of Nigerian clients discovered sex to fundamentally impact the demeanor of retail banking clients. Liu et al. (2015) with regards to versatile coupon application in China discovered individual imaginativeness in IT utilization emphatically affects social expectation for guys than females. Falahati and Paim (2015) discovered huge contrasts in monetary demeanor, monetary socialization and optional socialization specialists among male and female understudies in Malaysia. Nysveen et al. (2005) tracked down that no distinctions in directing impact across sexual orientation were found between convenience and mentalities. Wang et al. (2016) found that sex directs the connection between saw usability, seen satisfaction and goal to utilize.

Age as a moderator

Essentially, considers on innovation reception exhibit that more youthful clients act distinctively when contrasted with their partners. More seasoned people because of their restricted openness to PCs, versatile handsets and web, have lower impression of self-viability to learning web

(Porter and Donthu, 2006). More seasoned clients will in general be somewhat laid back as far as utilizing innovation for going through with exchanges as they are suspicious with regards to the innovation and depend more on eye to eye exchanges. More seasoned individuals will in general have more prominent innovation uneasiness; are less mechanically inventive, contrasted with youthful shoppers. That is, more youthful individuals are somewhat early adopters of novel thoughts, administrations and items (Lee et al., 2010). Age has been recognized to have a directing impact between innovation use and discernments (Yi et al., 2005). Innovation uneasiness appears to impact the level of reception distinctively among fluctuating age bunches with more established buyers having more innovation nerves (Morris et al., 2000; Porter and Donthu, 2006; Demirci and Ersoy, 2008; Lee et al., 2010). Age reinforces apparent handiness, seen cost and saw framework quality and thusly directs mentality towards aim to take on portable banking (Riquelme and Rios, 2010). Faqih and Jaradat (2015) segment factors old enough and sexual orientation have impressive directing effect on the reception of portable advances in medical care frameworks in Jordan. Chong (2013) in an example including Chinese respondents found that age has a critical relationship with m-trade use exercises. Martins et al. (2014) in an example of clients from Portugal found that age clarifies social expectation of web banking reception and that more established respondents have more aim to utilize web banking. In a later report by Wang and Sun (2016) including old respondents tracked down that more established individuals are hesitant to embrace more current advancements. They found that age moderatingly affects more established individuals' interactivity expectation.

Educational background as a moderator

Instructive foundation alludes to the space of earlier training and the idea of degrees got. Foundation as an order is significant as some instruction streams are more specialized in nature when contrasted with others. Studies on the connection between instructive foundation and mentality and aim towards innovation reception are restricted. It is placed that not just the capability or the degree of training yet in addition space of schooling might direct the mentality towards portable financial reception.

Income as a moderator

Income is characterized as the cash procured by people or organizations in return for giving items or administrations. Pay levels impacts client mentality and conduct. Past research studies have inspected how pay might energize or deter client from innovation reception. Doorman and Donthu (2006) concentrate on shows that lower pay purchasers are the shoppers who are generally worried about cost and their insight is that the expense is high family member (gadget, access charge) to saw value. Actually, big league salary buyers can manage the cost of top notch most recent innovation and web association. This differential admittance to innovation brings about shifting degrees of tensions among clients, with low pay clients having high nerves. Consequently pay level impacts the circumstance and the degree of innovation reception. As per Hernandez et al. (2011) major league salary makes clients see lower chances while making on the web buys though low pay debilitate online exchanges. It is sensible to accept that with rising livelihoods, discernments identified with usability, productivity, comfort and entrust with innovation reception moderates client conduct and aim. This is obvious from the discoveries of a review be Lee et al. (2010) who found that innovation nervousness diminishes as pay level increments.

2.2 Customer satisfaction

A few creators have characterized consumer loyalty in various ways:

- According to Kotler (2000) fulfillment is an individual's sensation of joy or frustration coming about because of looking at an items saw exhibitions (result) according to his/her assumptions.
- Customers' fulfillment is a mental idea that includes, the sensation of prosperity and strain that outcomes from getting what one expect and anticipates from a working item/administration. (WTO, 1985).
- Customer fulfillment as a demeanor like judgment following a buy act or administration of client item collaboration (Lovelock and Wirtz, 2007).

In the present serious climate consumer loyalty is significant test for the financial areas because of clients have elective decision in various sorts of administrations like electronic financial

administrations given by banks with the goal that this review takes on the meanings of consumer loyalty as the advantageous assumptions for clients through electronic financial assistance quality in incredible difficulties and utilizing open doors in to contemplations and Customer fulfillment is conceptualized as a general client assessment of an item or administration dependent on buy and utilization encounters throughout a time span (E.W. Anderson, et.al, 1994) . It is contended that since aggregate fulfillment depends on a progression of procurement and utilization encounters, it is more valuable and solid as an indicative and prescient device than the exchange point of view that depends on a one-time buy and utilization experience. In this way, the review conceptualizes consumer loyalty as total estimated of being an electronic financial help client.

In a real sense, consumer loyalty might be portrayed as an interaction or a result. One region that has gotten significant discussion in consumer loyalty writing is whether consumer loyalty ought to be characterized as a result or interaction. Numerous early definitions conceptualized fulfillment as an interaction which is as of now an overwhelming perspective obeyed by most researchers (Oliver,1980,Parasuraman et.al, 1988) the cycle viewpoint assume that consumer loyalty is a sensation of fulfillment that outcomes from the method involved with contrasting apparent execution and at least one prescient principles like assumptions or wants (Khalifa and Liu,2002). The client is fulfilled of the exhibition of the presentation of the item/administrations equivalent to his/her assumptions and the inverse is there that is if the assumptions not exactly saw execution, the client is profoundly disappointed. Inside this setting of the analysts accept that clients fulfillment ought to be characterized according to the interaction viewpoint to demonstrate the effect of E-betting on consumer loyalty according to the use of this advanced innovation in financial industry while clients gets benefits and being tested in the utilization of the framework on the cycle.

2.3 Relation between customer satisfaction and service quality

In the time of hardened contest of the financial business, both private and state banks are in the round of market field as far as offering support quality in each part of their cutthroat methodologies in light of the fact that the consciousness of their clients are created in choosing whose bank gives better nature of administrations according to the fulfillment level they expected to accomplish so various banks planned winning techniques of delivering best

assistance quality to upgrade their consumer loyalty over existing rivals in the market competition. The connection between assumption, seen administration quality and clients fulfillment have been explored in various investigates (Zeithaml, et al, 1988). They found that, there is extremely amazing connection between nature of administration and consumer loyalty (Parasuraman et al, 1985; 1988). Expansion in help nature of the banks can fulfill and foster attitudinal faithfulness which at last holds esteemed clients (Nadiri, et al 2009).

The more significant level of apparent assistance quality outcomes in expanded consumer loyalty. At the point when seen administration quality is not exactly expected assistance quality client will be disappointed (Jain and Gupta, 2004). As indicated by Cronin and Taylor (1992) fulfillment super ordinate to quality that quality is one of the assistance measurements calculated in to consumer loyalty judgment Parasuramanet. al (1985) and Zeithaml et., al (1990) noticed that the critical procedure for the achievement and endurance of any business foundation is the liberation of value administrations to clients. The nature of administrations offered will decide consumer loyalty and attitudinal faithfulness (Ravichandran et al. 2010).

Administration quality has been generally used to assess the presentation of banking administrations (Cowling and Newman, 1995).The banks comprehend that clients will be faithful on the off chance that they offer more prominent benefit (quality administrations) than their rivals (Dawes &Swailes, 1999), and on other hand, banks can possibly procure high benefits in case they can situate themselves better than contender inside explicit market (Davies et al., 1995).There is positive direct connection between the help quality and consumer loyalty. Thusly, banks need to zero in on help quality and consumer loyalty as a center serious system (Chaoprasert and Elsey, 2004).

2.4 Service quality dimensions (Service quality Model)

As Johnston (1995) called attention to that ID of the determinants of administration quality is important to have the option to indicate measure, control and further develop client saw administration quality. The most habitually utilized scales in the estimation of saw administration quality are SERVQUAL (Parasuram, Zeithaml, and Berry 1988) and SERVPERF (Cronin and Taylor 1992). Both are the aftereffect of exploration work from the US school of value hence Among the models for estimating administration quality, the most recognized and applied model in variety of ventures is the SERVQUAL (administration quality) model created

by (Parasuraman et al,1985) The SERVQUAL model of Parasuraman et al. (1988) proposed a five dimensional develop of apparent help quality effects, dependability, responsiveness, affirmation and compassion as the instruments for estimating administration quality (Parasuramanetel al., 1988; Zeithamletel al., 1990). Subsequently in this review SERVQUAL model is utilized to quantify to support nature of electronic banking given by chosen banks towards their consumer loyalty.

Unwavering quality

It includes two ideas, trustworthiness and consistency in execution. Unwavering quality additionally implies respecting the responsibilities in regions like charging precision, legitimate record upkeep and conveying the help inside satisfactory time limit. It likewise alludes to the right specialized working of a self-administration's innovation and the precision of administration conveyance. Many creators have distinguished that dependability is critical in the assurance of administration quality (Bagozzi, 1990; Davis et al., 1992; Parasuraman et al., 1988 Zeithaml and Bitner, 2000). What's more, dependability is the most critical attributes for clients in the assessment of administration quality. Zeithaml and Bitner (2000) prompted that client ought to be explicitly affected by the dependability of new innovation since they may be related with dangers, for example, the innovation failing.

Parasuraman et al. (1988) likewise thought about dependability of the help as significant factor of administration quality. Moreover it is additionally found that dependability is the most significant determinant of administration quality. Exploration on the utilization of PCs or advances what share comparative qualities likewise influence execution (or steadfastness) as it is a significant trait (Davis et al., 1989; Bagozzi, 1990; Davis et al., 1992). At last, Dabholkar (1996) in his review uncovered that unwavering quality and exactness are proper measure for surveying administration that has to do with innovation.

Affirmation

Parasuraman et al. (1985) characterized affirmation as information and politeness of workers and their capacity to motivate trust and certainty. As indicated by Sadek et al. (2010), in British banks confirmation implies the considerate and well-disposed staffs, arrangement of monetary exhortation, inside solace, facilitates of admittance to account data and educated and experienced

supervisory group. This is comprised of the assurance that the record showing banking exercises and security of record Information isn't shared (Yang and Fang 2004). Security is one more fundamental determinant in the choice of customers to utilize web banking. Solid issues on security are a typical worry to people thus their reluctance to utilize web banking (Madu, 2002). Different investigations additionally demonstrated that in Australia security concerns were demonstrated to be the significant reason for the sluggish development of electronic banking in the country while Polatoglu and Ekin (2001) likewise showed that danger as far as monetary, physical and social attributes was the fundamental driver of slow development of electronic financial utilization. Bagozzi (1990) in their review discovered that most people had faint information and comprehension of internet banking security chances however they are aware of the dangers. A further discovering shows that people know that their bank will secure their protection subsequently their solid trust in their bank yet have a feeble trust in innovation use for web based banking., Cunningham (2003) demonstrated that perhaps the main future challenge confronting people or clients of a bank is the dread of higher dangers related with utilizing the Web for banking and monetary exchange.

Responsiveness

Clients are especially intrigued by the speed with which an assistance is offered or conveyed. (Bateson, 1985). Also, most explores have demonstrated that as a rule, clients misrepresent the preparing season of a help. Base on the above Lovelock and whrtiz (1979) set that on specific event clients has a solid jumping at the chance to complete the assistance by them likewise settled that lethargic help conveyance negatively affects people by and large view of the help quality. Along these lines, in case people are anticipating a quick help conveyance, it is plausible that they will evaluate the assistance all the more emphatically (Dabholkar, 1996). Likewise found additionally that time was a critical figure for people utilizing another help or innovation. What's more, similarly found that time investment funds were fundamental for people who utilize electronic banking and shopping (Dabholkar, 1996). Clients regularly uses the bank responsiveness towards e-banking when they are on the situation of pulling out of cash from ATM machine the machine may not work because of different reasons with the goal that the client's implemented to demand the bank for guaranteed reaction of serving them in taking care of their concern utilizing either POS machine found in the bank or other system.

Compassion

Parasuraman et al. (1985) characterized sympathy as the mindful and individual consideration the firm gives its clients. It includes giving clients individual consideration and workers who comprehend the requirements of their clients and accommodation business hours. Ananth et al. (2011) alluded to sympathy in their review on private area banks as giving individual consideration; advantageous working hours; giving individual consideration; wellbeing in heart and comprehend client's particular requirements.

Substantial quality

Parasuraman et al. (1985) characterized substantial quality as the presence of actual offices, gear, faculty, and composed materials. Ananth et al. (2011) alluded to substance in their investigation of private area banks as present day looking hardware, actual office, workers are fashionable and materials are outwardly engaging.

2.5 Electronic banking

Presently a day, it is incomprehensible that the accomplishment of a financial framework without data and correspondence innovation. It has expanded the job of banking area in the economy. The monetary exchange and installment would now be able to be delivered rapidly and without any problem. The manages an account with the most recent innovation and strategies are more effective in the cutthroat monetary market by creating increasingly more benefit (Kaur Rupinder, 2012). Because of productive conveyance channels of innovation for the financial business like electronic banking brings new systems of building the limit of business banks for ceaseless and comprehensive development (R. Seronmodevi and M.G Sarvanaraj, 2012). Electronic banking, otherwise called electronic assets move (EFT), is just the utilization of electronic means to move reserves straightforwardly starting with one record then onto the next, instead of with a money order or money.

It tends to be utilized electronic assets move to:

Paycheck stored straightforwardly in to bank or credit association financial records.

Withdraw cash from financial records from an ATM machine with an individual distinguishing proof number (PIN), at comfort, day or night.

Instruct bank or credit association to naturally cover specific month to month bills from account, for example, car advance or home loan installment.

Have the bank or credit association move supports every month from financial records to your common asset account.

Have government federal retirement aide benefits check or duty discount stored straightforwardly into financial records.

Buy food, gas and different buys at the retail location, utilizing a check card instead of money, credit or an individual check.

Use a shrewd card with a prepaid measure of cash installed in it for use rather than cash at a compensation telephone, interstate street cost, or on school grounds at the library's copier or book shops.

Use PC and individual budget programming to organize absolute close to home monetary administration measure, coordinating information and exercises identified with pay, spending, saving, contributing, recordkeeping, bill-making good on and charges, alongside fundamental monetary investigation and dynamic.

All electronic installment techniques share number of normal qualities. These are freedom, Interoperability benefit, security, namelessness, distinctness, instance of utilization, and exchange charges. Freedom alludes to the capacity of E-trade strategies for drawing nearer without introducing specific programming. Interoperability and transportability allude to the capacity of types of E-business to interlink with entered probably the least fortunate financial aspects because of the staggering interest for any type of the interchanges.

2.6 Types of E-banking

There are numerous electronic financial conveyance channels to give banking administration to clients among them ATM, POS, Mobile banking and Internet banking are the most generally utilized and recorded underneath.

Versatile financial Mobile banking is a subset of E-banking in which client's entrance a scope of banking items like investment accounts and credit instruments, through electronica channels. Versatile banking requires the client to hold a store record to and from which installments to hold a store record to and from which installments or moves many be made . Portable banking diminishes the exchanges expenses of installments in light of the fact that there is an electronically open condition of significant worth.

Further more versatile banking is a term utilized for performing balance cheeks, account exchanges, installments credit applications and other financial exchanges through a cell phone like a cell phone or individual advanced right hand (PDA). The portable financial administrations were presented over SMS, administration known as SMS banking. Versatile banking is utilized in many regions of the planet with practically zero foundation, particularly remote and provincial regions. This part of versatile Communication is additionally well known in nations where a large portion of their populaces is unbaked. In the vast majority of these spots, banks must be found in huge urban areas and clients need to go many mile to the closest bank. The extent of offered administrations might incorporate offices to lead bank and securities exchange exchanges, to administrate accounts and to get to modified data (Tiwari R, 2007)

Web banking

Web banking permits clients of monetary foundation to go through with monetary exchange on a solid site worked by the establishment, which can be a retail or virtual bank credit association or society. It might incorporate any exchanges identified with online utilization. Banks progressively works sites through which clients are capable not exclusively to ask about account equilibrium, premium and trade rates yet additionally to manage orchestrate of exchanges. Sadly, information on web banking are scant and distinction in definitions make crosscountry correlations troublesome (ArbarT.Timothy, 2012).

POS (Point of offer)

It is additionally here and there alludes to as place to checkout (POP) or look at is the area where an exchange happens. "What could be compared to an electronic sales register. APOS terminal deals with the selling system by a salesman available interface. A similar framework permits the creation and printing of the receipt in view of the costly associated with a POS framework, the e Bay aide suggests that if yearly income surpasses the edge of 700,000 interests in a POS framework will be invaluable. POS frameworks record deals for business and expense purposes illicit programming named "critics" is progressively utilized on them to adulterate these records with the end goal of sidestepping the installments of duties (Shittu O, 2010). It is one of the e-banking conveyances divert in which clients utilized it to pull out cash from the bank for the benefit of ATM machine harmed and buying administrations and items from emergency clinics, stores and lodgings.

ATM

Computerized teller Machine (ATM) is a machine where money pull out can be made over the machine without going in to the financial lobby. It likewise sells re-energize cards and move reserves, it tends to be evaluated 24 hours/7 days with account balance enquiry (Fenuga, 2010).

2.7 Theories related to electronic banking of information technology

Advancement Diffusion hypothesis is created by Roger in 1983 discloses people's expectation to take on an innovation as a methodology to play out a conventional action. The basic factors that decide the reception of a development at the overall level are the accompanying: relative benefit, similarity, and intricacy of preliminary capacity. It is worried about the way wherein another innovative thought, ancient rarity or method, or another utilization of an old one, relocates from creation to utilize. As indicated by (IDT) hypothesis, mechanical development is conveyed through specific channels, after some time, among the individuals from a social framework. The stages through which a mechanical advancement passes are: information (openness to its reality, and comprehension of its capacities); influence (the shaping of a good mentality to it); choice (obligation to its reception); execution (putting it to utilize); and affirmation (support dependent on certain results from it).

Dishaw and Strong (1999) demonstrate that the Technology Acceptance Model (TAM) and the Task-Technology Fit model (TTF) have been utilized widely to clarify the reception of e banking. The models give very unique yet now and then covering points of view on the use conduct of these electronic channels The Task-Technology Fit model (Irick, 2008) joins innovation to execution and sets that presentation will be expanded when a given innovation furnishes components and backing that relate with the prerequisites of the undertaking. In this manner for banks, they will embrace e-banking advancements in the event that it conveys better administrations to clients.

Innovation Acceptance Model (Davis, 1989) but stands apart as the best hypothesis supporting innovation reception by clients. It was created to clarify and anticipate PC utilization conduct and has its hypothetical establishment in the Theory of Reasoned Action by Ajzen and Fishbein (1980). The TAM (Davis, 1989) sets that the reception of any innovation is affected by two related elements of saw value and saw convenience. The TAM hence inspects the way wherein factors, for example, framework qualities guarantee ease of use of the innovation. Here, the client uses data in a methodical way to choose whether or not to utilize the innovation being referred to (Al-Hajri, 2008). Moreover, it additionally hypothesizes that clients will embrace the innovation on the off chance that they think that it is helpful.

Cap has been depicted also settled and hearty (Yuttaponget al., 2009). As per Yuttaponget al., (2009), the model reliably clarified a critical extent of the contrasts between use expectations and real conduct.

2.8 Relationship between electronic banking and customer satisfactions

Many banks think about innovation as a course for administration quality upgrades, while others consider it as a practical new help conveyance apparatus whatever the subordinate system no one inquiries the significance of innovation and reception by banks. Additionally evaluate how client discover themselves, among these advances from ATMs to Mobile banking, Internet banking and POS terminals) and can meet genuine client needs.

According to the investigation of Hasan et.al (2013) the preliminary to analyze the commitment of different elements of administration quality in consumer loyalty a consequence of the review demonstrates that most factors were acceptable indicators of generally fulfillment in e-banking. Anyway an aftereffect of rule part investigation shows that apparent worth, brand discernment, cost adequacy, simple to utilize, accommodation, issue taking care of, safety/affirmation/and responsiveness are significant elements in consumer loyalty in E-banking.

Responsiveness, simple to utilize, cost viability and remuneration are indicators of brand insight in e-banking and satisfaction effectively. Security confirmation, responsiveness accommodation, cost viability; issue taking care of and pay are indicators of saw esteem in e-banking. With the goal that brokers and e-banking administration architects should thoroughly consider these measurements and roll out potential improvements in the e-banking administrations as per the clients' assumption and need of the time. It will assist with improving help nature of e-banking and increment the level of clients' fulfillment in e-banking.

The review directed by (Saha M and Siddiqui, 2006) likewise uncovered that general senior consumer loyalty level is helpless which can be improved by the bank through upgrading the nature of their IT based administrations. During the review it is likewise seen that clients' assessment of E banking administration is influenced by their involvement with utilizing current innovation of banking framework this examination demonstrated that segment attributes have relationship with IT based help in the financial business as far as age, occupation and schooling of the clients who utilize electronic financial which outlined the higher the client of the innovation were early age, taught and in great status of occupation. Next to this advanced innovation can assist the keeps money with accomplishing more significant level of consumer loyalty. The innovation alone doesn't ensure a positive outcome since consumer loyalty would be founded to a great extent on how clients see administrations execution comparative with their assumptions.

As per Polotoglu and Ekin (2010) web banking is exceptionally compelling to banks and to buyers since it resembles an electronic handout which gives institutional and limited time data ways for reaching the bank unique offers enrollment declaration and so on Then again, a concentrate by Kumbhar (2011) on buyer fulfillment towards E-banking administrations of ICICT bank in channi city, India which considered elements influencing on consumer loyalty. An observational examination of points administration and inspected that the expense adequacy of ATM administration was center assistance quality measurement and it was essentially influencing a general consumer loyalty in ATM administration given by business banks. In any case, consequences of components examination shows that cost adequacy, right on time to utilize and security and responsiveness were additionally impact consumer loyalty. Thusly, banks should focus their endeavors on those measurements for the future better ATM administration to fulfill their clients.

2.9Challenges and opportunities in E-banking

2.9.1 Challenges of electronic banking

Banking associations have been conveying electronic administrations to shoppers and organizations distantly for quite a long time. Electronic finances move, including little installments and corporate money the executives' frameworks, just as freely available robotized machines for cash withdrawal and retail account the board, are worldwide apparatuses. Nonetheless, the expanded overall acknowledgment of the Internet as a conveyance channel for banking items and administrations gives new business freedoms to banks just as administration benefits for their clients (BCBS, 2001). In any case the critical advantages of E-banking and its abilities, it conveys dangers and difficulties as which are perceived and should be overseen by banking foundations in a judicious way. The speed of progress identifying with mechanical and client care advancement in E-banking is remarkable. By and large, new financial applications were carried out throughout generally significant stretches of time and solely after inside and out testing. Today, in any case, banks are encountering serious strain to carry out new business applications in exceptionally compacted time periods, regularly a couple of months from idea to creation. This opposition increases the administration challenge to guarantee that sufficient key appraisal, hazard investigation and security surveys are directed before executing new e-banking applications (BCBS, 2001).

E-banking builds banks reliance on data innovation, subsequently expanding the specialized intricacy of numerous functional and security issues and facilitating a pattern towards more organizations, unions and re-appropriating courses of action with outsiders, a significant number of whom are unregulated. This advancement has been prompting the formation of new plans of action including banks and nonbank elements, for example, Internet specialist co-ops, media transmission organizations and other innovation firms (BCBS, 2001).

Then again, electronic banking related issues are client mistake, awful web associations, access issues and security issues like Cyber security is a worldwide test that requires worldwide and multi-dimensional reactions concerning strategy, financial, lawful and innovative angles. E-banking applications address a security challenge as they profoundly rely upon basic ICT frameworks that make weaknesses in monetary establishments, business and possibly hurt financial clients

E-banking in Ethiopia is in its soonest phase of advancement. The vast majority of them are essential administrations just the liberation of e-banking industry combined with the rise of new financial innovation is empowering new contenders to enter the monetary administrations showcases rapidly and productively. Anyway it should be perceived that discernment standards and an improvement in working of e-bank. Electronic financial like some other mechanical based organizations is presented to different components that prevent banks from embracing E banking framework so the scientist sums up significant difficulties of electronic banking in Ethiopia in the accompanying viewpoint Social and social obstructions, for example, High pace of lack of education, less mindfulness and client acknowledgment Proper comprehension of the client is the essential part of the E-banking. It is realized that PC proficiency in Ethiopia is still extremely low and is boundary in quick acknowledgment of web.

Mentality of the Ethiopian client should be changed by giving mindfulness about specialized terms in e-banking. Despite the fact that it embraces in the quick changing specialized situation, obsolesce of innovation is quick. Henceforth there is consistently lack of talented individual and dread of innovation takes care of the client from electronic conveyance channels. Monetary factors, for example, High expense of web, low pay and weighty speculation and cost of Technology:

Regarding Startup cost electronic banking is gigantic at beginning level for obtaining PC and other gear; oneself to do internet banking is as yet not with reach of the working class and upper working class clients the expense of support of all hardware like, modem, switches, extensions and organization the board frameworks. The expense of modern equipment and programming and ability level of representatives required. In e-banking there is need of talented workers or proficient experts to course the financial exchanges through the web. Banks can utilize programming application engineers, data set chairmen and preparing to existing bank staff on the changing frameworks and techniques who can deal with e-banking applications under appropriate management.

Legitimate and security issues, for example, Cyber security issues and absence of reasonable lawful, administrative casing works of E-installment and limited business in a paper less exchanges, numerous issues of safety are involved. A mystery danger as a choice to make the financial difficulty information, annihilation of organization, assets divulgence, adjustment of information or misrepresentation, forswearing in administrations and mutilation of data, Providing proper security of utilizing encryption methods execution of firewalls and infection assurance programming to ensure the electronic activity framework and clients account and legitimate edge work for perceiving the legitimacy of banking exchanges. Data innovation act gives security &legal outline work to web based business exchanges. Data innovation act or NBE proposed that standard of Digital Signature Certification Board for validation of electronic records and correspondence with advanced marks. In the viewpoint of confined business not everything exchanges can be conveyed electronically; many stores and a few withdrawals require the utilization of actual administrations. A few banks have computerized to their clients (front end) yet to a great extent rely on manual interaction (back end).It result, a large portion of demographic or clients were limited by need and mindfulness and because of specialized issues.

The executives and banking issues like Resistance to change in innovation among staffs and clients and E-banking have chances and less legitimate Organization Structure: Banks might need to embrace compliment association structure for reasonable mixing of requirements for more noteworthy assignment of force, decentralization, client driven plans of action, rapidly response of client needs in making mindfulness by having a superior mechanical expertise, gain

constantly from clients, give client access, whatever and anyway they need to execute and cooperate particularly for carrying out electronic assistance.

Infrastructural hindrances like Low degree of web entrance, frail media transmission and incessant force interference. At whatever point there is a continuous force interference, low degree of web entrance and powerless media transmission electronic financial assistance would be prevented therefore clients won't get expected fulfillment and lead them not to transfer on the cutting edge innovation situated administrations given by banks. Information obstructions like Lack of trust by client, absence of innovative information and language boundaries

These difficulties are regularly normal in Ethiopia because of less interest of clients towards present day innovation and less endeavors of banks to bring trust of clients for the assistance of electronic banking by means of mindfulness creation.

Competition

The nationalized banks and commercial banks have the competition from foreign and new private sector banks. Competition in banking sector brings various challenges before the banks such as product positioning, innovative ideas and channels, new market trends, cross selling a managerial and organizational part this system needs to be manage, assets and contain risk. Banks are restricting their administrative folio by converting manpower into machine power i.e. banks are decreasing manual powers and getting maximum work done through machine power. Skilled and specialized man power is to be utilized and result oriented targeted staff will be appointed.

2.9.2 E-banking Opportunities in Ethiopia

Data innovation upset has changed over the world into a worldwide town. The reasoning, structure, work-culture and working styles are changing on hour premise. IT has set out colossal occupation open doors for individuals all throughout the planet also made the associations effective and useful. There has been an IT unrest on the planet over the most recent 40 years. This insurgency has changed the manner in which we work and think. It has contacted each venture, area, society and government where banking is the most set off region. IT has set out enormous occupation open doors for individuals all throughout the planet, and has made the associations effective and useful. In the greater part of the created nations like USA, it has added

to half of the useful development and 33% of the financial development throughout the most recent five years. In Ethiopia the greater part of the associations have effectively sent IT to change their cycles. The chances of e banking can be broke down from the perspective of clients, banking associations and economy overall. Late advancements have presented numerous chances for improvement in financial industry. IT as an empowering agent has broken all limits of cost, distance and time.

Opportunities for Customers:

General banking customers have been significantly affected by the advent of e-banking revolution.

- A banking customer's account is extremely accessible with an online account.
- Through internet banking customer can operate his account remotely from his office or home. The need for going to bank in person for every single banking activity is dispensed with.
- Electronic banking lends an added advantage towards payment of utility bills. It eliminates the need to stand in long queues for the purpose of bill payment.
- All services that are usually available from the local bank can be found on a single website.
- Sharp growth in credit card/debit card usage can be majorly attributed to e banking customer can shop globally without any need for carrying paper currency with him.
- By the medium of e-banking (including internet banking), banks are available 24/7 and are just a mouse click away.

Opportunities for Banking Sector:

As well as banking clients, development of e-banking foundation overall and web based banking specifically has ended up being incredibly advantageous to banks and generally speaking bank associations because of following:

- The idea of internet banking has hugely helped the banks in putting a tab over their particular overheads and working expense.

- The ascent of electronic banking has made the banks more cutthroat. It brought about opening of better possibilities and roads for banking activities.
- The web based banking has guaranteed straightforwardness of exchanges and worked with towards eliminating the documentation prerequisites to a significant degree, since greater part of records under an e-banking set up are kept up with electronically.
- The reach and conveyance capacities of web empowered banks, ends up being altogether better compared to the organization of actual bank offices.The significance of e-banking can't be overemphasized. E-banking gives simple admittance to banking administrations. The cooperation among client and bank has been generously improved by conveying ATMs, Internet banking, and all the more as of late, portable banking. Cheng (2006) additionally added that, it diminishes the exchange expenses of banking for both Small and Medium Enterprises (SMEs) and banks. SMEs need not visit banks for banking exchanges, offering nonstop types of assistance. Cheng TCE, (2006) additionally places that e-banking guarantees accommodations, speedy administrations and admittance to the record from any region of the planet. E-banking offers advantages to banks too. Banks can profit from lower exchange costs as e-banking requires less administrative work, less staffs and actual branches. E-banking prompts more significant level of clients' fulfillment and maintenance (Polatoglu, 2010). E-banking decreases credit preparing time as borrower's advance application can be seen by advance handling and advance endorsement authority at the same time (Smith AD, 2003). Normally, credit applications got at branch even out and ship off head office for endorsement. This reports move to and from branch to head office burn-through much time and defer credit authorize period (Riyadh N, 2009).

2.10 Empirical studies

The specialist attempts to survey related writing works relating to the point to exhibit through comprehension of the exploration theme as follows:-

The investigation of (Yitbarek, 2015) on the effect of electronic financial help on consumer loyalty in chose business banks of Addis Ababa, It plans to explore effects of electronic financial assistance on consumer loyalty, its connection with segment qualities and significant moves in electronic financial exercises to fulfill clients in chose private and public business banks in Addis Ababa. The observational outcomes showed that assistance quality measurements dependability client care and usability has solid effect on electronic financial clients in both private and state possessed banks hence the administration assortments of the business banks ought to endeavor to fortify these help measurements, there is likewise a connection between fulfillment in electronic banking and age, schooling level of clients of electronic banking. Also, the review demonstrated that the serious issue looked by business banks corresponding to electronic banking is network disappointment because of inadequately created media transmission foundation, absence of dependable force supply, absence of ICT information from client end to support the assistance the business banks should work with government's bodies (Ethio-telecom and Ethiopian electric force) and expanding the clients' information and trust in utilizing electronic financial framework.

Vaithianathan, S. (2010) in his review remarks that because of the great Internet entrance among fostered nations' populaces, these nations can send electronic business for their potential benefit, while agricultural nations are as yet dragging along. Aside from this, different issues like absence of innovation framework, absence of mindfulness, absence of gifted HR, and the absence of government drives, including different monetary and social components are refered to as obstacles that forestall unavoidable web based business reception in emerging nations.

As per Jannatul (2009) on his piece of investigation of electronic banking and consumer loyalty focusing on the effect of factors of electronic betting on consumer loyalty in Bangladesh under five assistance quality measurements to be specific dependability, confirmation, responsiveness, compassion and physical assets are set up dependent on SERVIOUAL model. These factors are tried in electronic banking to investigate the connection between administration quality and consumer loyalty. The consequences of the review showed that the elements are the significant help quality measurement for consumer loyalty in electronic banking and the three factors dependability, responsiveness and affirmation have more commitment to fulfill the clients of e-banking in Bangladesh.

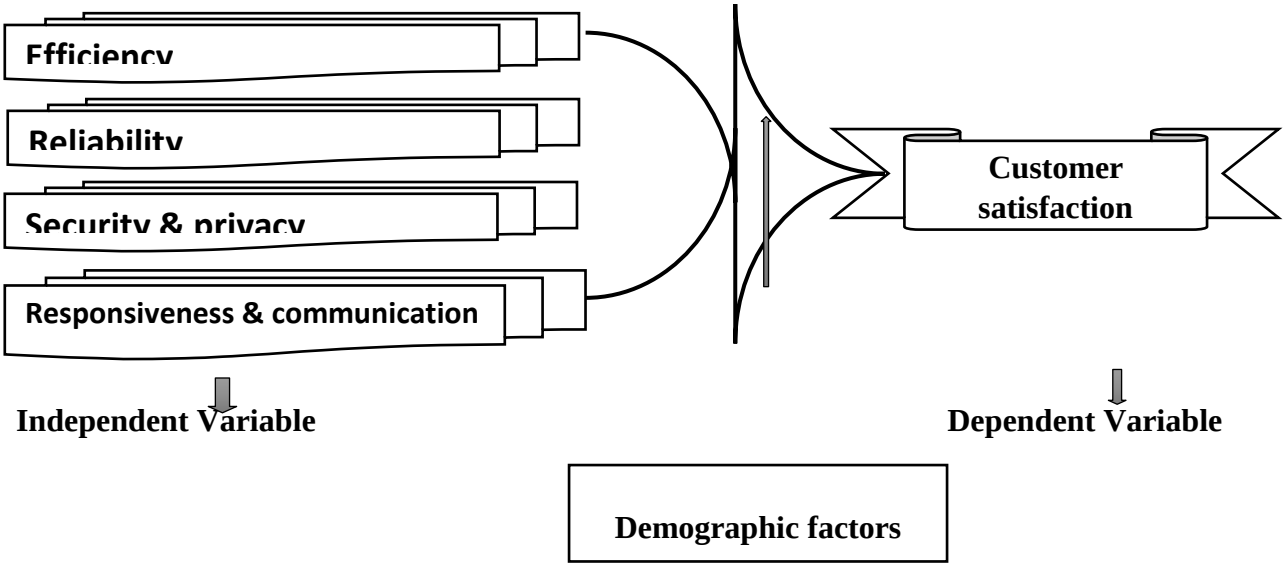
Also, in view of the investigation of (Assefa, 2013) directed examination on the effect of electronic betting on consumer loyalty in Ethiopian financial industry. The review degree was on the two private banks Dashen bank and Wagagen bank in Gonder city and its point was in contrasting the customary physical financial help, understanding the segment qualities age, occupation, training relationship with electronic banking prompted consumer loyalty and understanding the degree of consumer loyalty through the chances and difficulties of electronic banking. The specialist called attention to therefore greater part of clients of electronic banking are the youthful, the informed, salaried, and understudies, finance manager ladies are not effectively utilizing the assistance of electronic banking. Electronic banking diminished recurrence of bank corridor for banking administration, decreased hanging tight an ideal opportunity for clients. there are clients who don't have the foggiest idea about the expense charged for being electronic financial clients the bank consumer loyalty expanded subsequent to being electronic financial clients, empowered clients to control their record developments and there is high freedom to extend electronic financial help in the city. At last the creator recommended that bank should work much in expanding the quantity of clients from all perspectives that from sexual orientation, age, instruction status, occupation and make money manager and ladies to utilize electronic financial assistance.

Raopun (2005) assessed the degree of web banking administrations in Thailand and Compared the general assistance nature of web banking. The creator utilized eight dimensional quality model given by David A. Garvin, to be specific, execution, highlights, dependability, conformance, strength, workableness, style and saw quality. The aftereffects of the review demonstrated that dependability, security framework and data precision were the main viewpoints and least significant was the apparent nature of business bank. The consequences of the review could be utilized as a rule to set up a type of administration to fulfill the requirements of target bunch precisely and fittingly and the exploration concentrate by MesaySata Shankar (2012) shows all assistance quality measurements are emphatically corresponded with consumer loyalty demonstrating quality financial help as an essential for setting up and having a fulfilled client. As per the consequence of relationship, compassion and responsiveness are the predominant determinants of consumer loyalty.

2.11 Conceptual framework of the study

The independent variables are the digital financial service quality dimensions areEfficiency, Reliability, Security and Privacy, Responsiveness and Communication and Satisfaction and Quality of Service. Service quality is the dependent variable that the study measure with the independent variables.

Conceptual framework of the study



Based on the conceptual frame work of the study above, the researcher pointed out the following hypothesis that indicates the positive or negative relationship of overall service quality towards digital banking service. Therefore, this study emphasizes on the analytical frame work and hypothesis that became tested using qualitative analysis then the null hypothesis either be accepted or rejected.

$H_{0:}$ There significant effect rolls of the demographic factor in the customer satisfaction on FDS In the bank service commercial bank in Ethiopia

H1: Efficiency has positive and significant relationship towards customer satisfaction of digital financial service in commercial bank of Ethiopia.

H_2:Reliability has a positive significant impact towardscustomer satisfaction of digital financial service in commercial bank of Ethiopia.

H_3:Security and Privacy has a positive significant impacttowards customer satisfaction of digital financial service in commercial bank of Ethiopia.

H_4:Responsiveness and Communication has a positive significant impacttowards customer satisfaction of digital financial service in commercial bank of Ethiopia.

H_5:Digital financial service has a positive and significant effect on demographic factors

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter describes how the study conducted. It focuses on the research design and approaches that was adopted, target population, sample size and selection. The chapter would examine sampling techniques and procedures, pre-testing of instruments, methods and procedures for data collection and analysis.

3.1 Research Method and Design

The choice of research method and research design depends on objectives that the researchers want to achieve (John, 2007). In order to study the role of digital banking service quality on service quality in case of Commercial Bank of Ethiopia, the student researcher will use quantitative research approach. The quantitative approach used descriptive analysis method. Descriptive method of research is a technique of gathering information about the present existing condition. This research design is a fact-finding study with adequate and accurate interpretation of findings.

3.2. Sampling

Sample Size refers to the number of items to be selected from the universe to constitute a sample. According to Kothari(2004) determining sample size is a very important issues because samples that are too large consumes a lot of time, resource and money, while sample that are to small may lead to inaccurate result.

Sampling frame contains a list of contact people from where sample is drawing. Therefore,the sample frame were selected through convenience sampling method based on the closeness of these districts and branches to the researcher, because it was very difficult to address all districts' and branches within those districts of commercial bank of Ethiopia. As a result, this research will consider customers of CBE found in Addis Ababa as a target population and from this Andinet and Hayahulet branch from east Addis, Mexico branch from north Addis and finally Teklehaimanot branch from western Addis Ababa was selected.

With respect to sampling techniques, the primary data from selected branch customers was collected through probability sampling techniques. Along with this technique, convenient sampling techniques was used. That were the reason used convenient sampling techniques,

Low cost: Low cost is one of the main reasons why researchers adopt this technique. When on a small budget, researchers – especially students, can use the budget in other areas of the project. Readily available sample: Data collection is easy and accessible. Most convenience sampling considers the population at hand.

Research generality is highly affected by sample size. Hence determining the number of representative sample size is a pivotal concern of every researcher to a given population. The following sample size determination formula, by Yamane (1967) formula developed for sampling size, using 92% confidence level with 8% margin error population for customer 127,758, the sample size is 156.

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

Where **n** is the sample size,

N is the population size, and

e is the sampling error = (0.08)

$$n = \frac{127{,}758}{1+127{,}758(0.08)^2} = 156$$

Hence, the total sample size is 156. Since the number of people in each bank is not the same, the number of samples for each bank was calculated by the following formula:

Branches	**Total number of population**	**Total number of samples**
Andinet Branch	51,046	63
Hayahulet Branch	24,607	30
Mexico Branch	19,805	24
Teklehaimanot Branch	32,300	39
Total Population	**127,758**	**156**

Source: CBE, June 2020 report

Table 3.1: Number of Customers and Proportion of Samples that was taken from Each Branch

$$n1 = \frac{nN1}{N}$$

Where

n= total number of samples

N= total number of population

N1= total number of population in each bank

n1= number of samples in each bank

3.3. Source of Data

The researcher was used both primary and secondary sources of data in the study. The secondary datawas collected from publications including articles, researches and various materials that haverelevance to this study and the sources is used only for literature purpose. In this study, primarydata wasgenerated and presented through a structured questionnaire fully applied. Data wascollected personally by the researcher. The questionnaire was arranged in to open ended questionsand a five-point Likert scale anchored with “strongly disagree” and “strongly agree” on the scale.

3.4 Method of data analysis

The researcher will be analyzed the data by using qualitative data analysis through the use of descriptive statistical tools such as frequency, valid percentage of results with the help of SPSS Version 26 and AMOS Version 23 Software. Descriptive analysis would be used to describe the data that will be collected from questionnaires in the form of frequency, percentage and tabulation form Additionally, ANOVA, correlation analysis and multiple regression analysis will be conducted to explain the relationship and impact of the variables which will determine the role of digital banking service quality on service quality. Lastly the final research of the study would be presented using tables and graphs.

3.4.1 Research model

As the purpose of the study is to assess and examine the role of five digital banking service quality dimensions on customer satisfactionof commercial bank of Ethiopia. The researcher used multiple regression model to determine significance level of the variables towards digital banking induced service quality.

customer satisfaction of digital banking service =f (digital banking five service quality dimensions) CSDBS= α +β1E+β2R+β3SP+β4RC+β5SQ+ε

Where CSDBS= customer satisfaction ofdigital banking services

E= Efficiency

R= Reliability

SP= Security and Privacy

RC= Responsiveness and Communication

CS= Customer Satisfaction

Thus α (alpha) is constant, β (beta) is coefficient of estimate, ε is the error term and digital bankingCustomer Satisfaction is dependent variable and Efficiency, Reliability, Security and Privacy, Responsiveness and Communication and Satisfaction and Quality of Service are independent variables.

3.5 Reliability and Validity Analysis

3.5.1 Reliability

Reliability refers to the consistency or stability of a measuring instrument. In other words, the measuring instrument must measure exactly the same way every time it is used. This consistency means that individuals should receive a similar score each time they use the measuring instrument Jackson, (2010).

Cronbach's Alpha is a reliability coefficient that indicates how well the items in a set are positively related to one another. In addition to these structured questionnaires with likert-scale would be used to remove unstructured answers. So Cronbach's alpha will be used to assess the internal consistency of variables in the research instrument. Cronbach's alpha is a coefficient of reliability used to measure the internal consistency of the scale; it represented as a number between 0 and 1.According to Zikmundet al., (2000) scales with coefficient alpha between 0.6 and 0.7 indicate fair reliability. So, reliability test will be conducted.

Table 3.2: Reliability Statistics

S/N	Variables	# of items	Cronbach alpha result	Justification
1	Efficiency	6	.812	Optimal
2	Reliability	4	.877	Optimal
3	Security and privacy	5	.812	Optimal
4	Responsiveness & communication	5	.800	Optimal
5	Service quality	4	,704	Optimal

3.5.2 Validity Analysis

Validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested, Kothari, (2004). In other words, Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. In order to ensure the quality of the research design content and construct validity of the research will be checked. The questionnaire was evaluated by respondents, university professors and they respond that the contents included in the questionnaire were good and easy to understand implying that the instrument fulfills content validity. The questionnaire has an adequate sample size to make inference about the population, as a result, it fulfills external validity of the study can generalize about the population based on the sample.

3.6 Ethical Considerations

In order to keep the confidentiality of the data given by respondents, the respondents will not be required to write their name and assured that their responses willbe treated in strict confidentiality.The purpose of the study will be disclosed in the introductory part of the questionnaire.Furthermore, the researcher will try to avoid misleading or deceptive statements in the questionnaire.Lastly, the questionnaires will be distributed only to voluntary participants

CHAPTER FOUR

Data Presentation, Analysis, and Discussions

This chapter presented a discussion of the final results and the process through which the results were obtained. It addresses the research questions raised in the first chapter. The first part of this chapter reports the demographic characteristics of the respondents. The second part is the statistical methods of analysis were discussed, which included a descriptive analysis, a correlation analysis, ANOVA, Model summary, T-test and regression analysis through SPSS version. Under this chapter data gathered through survey is analyzed and interpreted. Accordingly, the section contains respondents' profiles, data presentation, data analysis and interpretation. As explained in the methodology part of this thesis, for 156 sample size was taken and questionnaire was distributed to them accordingly. Thus, a total of 156 questionnaire collected which make the response rate 100% which is acceptable to make this study rigorous and generalizable.

4.1 Quantitative Data Analysis and Interpretation

To facilitate ease in conducting the empirical analysis, the results of the descriptive analysis were presented first, followed by the inferential analysis. The first phase involved editing, coding and the tabulation of data. This assisted in identifying any anomalies in the responses and the assignment of numerical values to the responses in order to continue with the analysis. The data was then checked for possible erroneous entries and corrections made appropriately. The descriptive statistics utilized were based on frequency tables to provide information on the demographic variables. Through tables, summary statistics such as means, standard deviations are computed for each digital financial service dimensions and service quality in this study. This is followed by presentation of inferential statistics based on each research question formulated for the study.

4.1.1 Demographic Characteristics

The study participants have different personal information. The presentation of the results characteristics of respondent's bio data such as gender, age, educational level, income level in

the CBE is presented here. The following tables depict each demographic characteristic of the respondents.

Table 4.1: Demographic Characteristics

Table 4.2: Total variance explained

Description		Frequency	Percent
Gender	Male	66	42.3
	Female	90	57.7
	Total	**156**	**100.0**
Age	Less than 20	11	7.1
	Between 20-30	55	35.3
	Between 31-40	39	25.0
	Between 41-50	30	19.2
	Greater than 51	21	13.5
	Total	**156**	**100**
Income	No income	9	5.8
	less than 2000	34	21.8
	between 2001 – 4000	45	28.8
	between 4001 – 8000	36	23.1
	between 8001 – 15000	20	12.8
	15000 and above	12	7.7
	Total	**156**	**100**
Educational Status	Less than grade	30	19.2
	Diploma or certificate	42	26.9
	First degree	61	39.1
	master's degree	20	12.8
	PhD degree	3	1.9
	Total	**156**	**100**

SPSS result, 2021

Assessing common method bias

Common method bias assumes that a single factor explains the majority of the variance. Researchers rely on the same respondent who provides information about all the variables (Podsakoff, 2012). Common method bias is a problem because it is considered to be the

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.400	39.168	39.168	9.400	39.168	39.168
2	2.223	9.261	48.429	2.223	9.261	48.429
3	1.582	6.592	55.022	1.582	6.592	55.022
4	1.228	5.119	60.140	1.228	5.119	60.140
5	1.075	4.479	64.619	1.075	4.479	64.619
6	.915	3.814	68.433			
7	.799	3.330	71.763			
8	.734	3.058	74.821			
9	.666	2.776	77.597			
10	.593	2.469	80.066			
11	.552	2.302	82.368			
12	.520	2.165	84.533			
13	.506	2.109	86.642			
14	.485	2.022	88.664			
15	.401	1.669	90.334			
16	.372	1.551	91.884			
17	.329	1.369	93.253			
18	.307	1.280	94.534			
19	.281	1.173	95.706			
20	.257	1.071	96.778			
21	.231	.962	97.740			
22	.215	.895	98.635			
23	.190	.792	99.426			
24	.138	.574	100.000			
Extraction Method: Principal Component Analysis.						

mainsource of measurement error which has a negative effect on the validity of the measure (Podsakoff, 2012). Due to the method bias, correlations are inflated (Meadeet, 2007).

Total Variance Explained

The next item shows all the factors extractable from the analysis along with their eigenvalues,

the percent of variance attributable to each factor, and the cumulative variance of the factor and the previous factors. Notice that the first factor accounts for 39.168% of the variance, the second

9.261%, the third 6.592%. the fourth 5.119% and sixth 4.479% All the remaining factors are not significant.

Multi-Collinearity Diagnosis

Multicollinearity is a problem that occurs with regression analysis when there is a high correlation of at least one independent variable with a combination of other independent variables. Sometimes, it will be difficult to identify the unique contribution of each variable in predicting the dependent variable, when variables are highly correlated. Collinearity diagnostics' is part of the multiple regression procedure that can help the researcher to pick up on problems with multi-collinearity that may not be evident in the correlation matrix. Under collinearity diagnostics, two values are given: Tolerance and VIF. According to Pallant (2005), Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model. If this value is very small (less than 0.10), it indicates that the multiple correlation with other variables is high, which suggests the likelihood of multi-collinearity. The other value given is the VIF (Variance Inflation Factor), and VIF values above 10 indicate the presence of multi-collinearity. Table 4.8 below indicates amounts of Tolerance and VIF (Variance Inflation Factor) of the given independent variables, which is obtained from 'collinearity diagnostics' performed by SPSS version. As it is shown on the Table , there is no multi-collinearity among independent variables. Because, tolerance amount for all variables is greater than 0.10 and VIF are also less than 10.

Table 4.3 Multi-collinearity Statistics

Variables	**Tolerance**	**VIF**
Efficiency	.595	1.681
Reliability	.332	3.013
Security and privacy	.267	3.739
Responsiveness & communication	.410	2.436

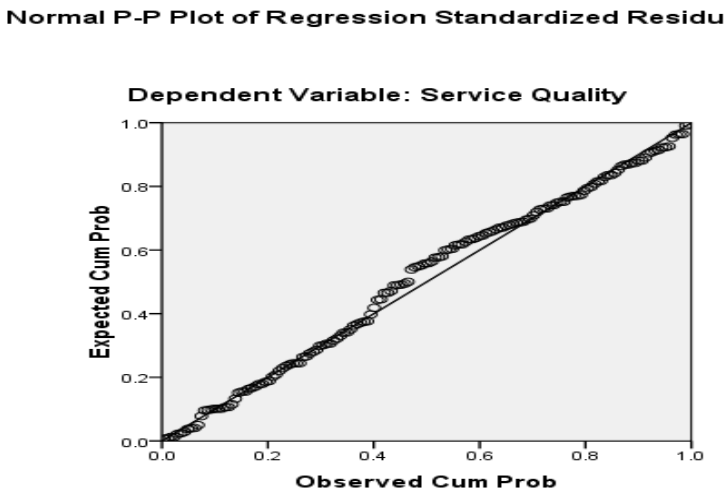
Source: SPSS result, 2021

Testing for normal distribution of data

shows the frequency distribution of the standardized residuals compared to a normal distribution. As you can see, although there are some residuals (e.g., those occurring around 0) that are

relatively far away from the curve, many of the residuals are fairly close. Moreover, the histograms are bell shaped which led to infer that the residual (disturbance or errors) are normally distributed for all models. Thus, no violations of the assumption normally distributed error term. Thus, from an examination of the information presented in all the four tests the researcher concludes that there are no significant data problems that would lead to say the assumptions of classical linear regression have been seriously violated. Furthermore, according to Field (2013) and Pallant (2010) the P-P plot (probability–probability plot) is another useful graph for testing normality. As a result, figure 4.1 shows the normal distribution of residuals around its mean of zero. Hence the normality assumption is fulfilled as required based on Figure 4.1. From this it is possible to conclude that the inferences that the researcher will made about the population parameter from the sample is valid.

Figure 0-1 Frequency Distribution of the Standardized Residuals



Source: SPSS result, 2021

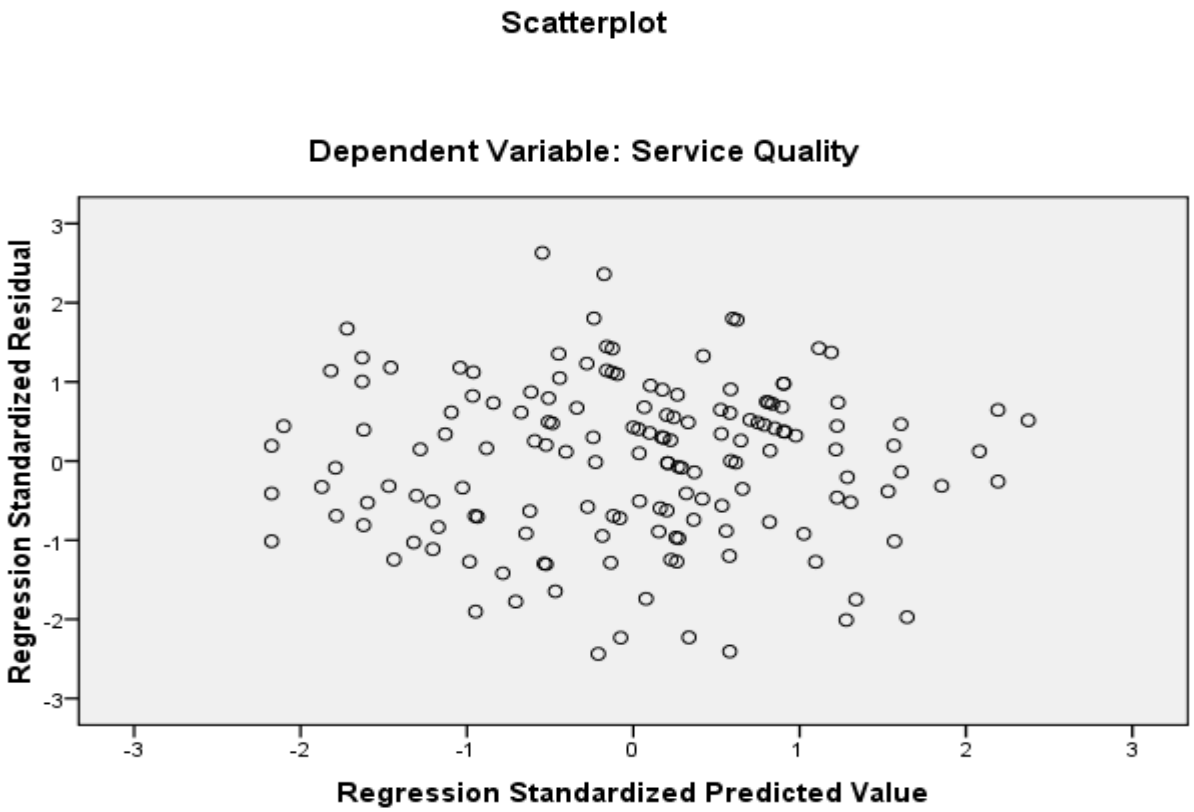
Linearity testing assumption

Linearity refers to the degree to which the change in the dependent variable is related to the change in the independent variables. To determine whether the relationship between the dependent variables and the independent variables is linear; scatter plots of the regression residuals for each model through SPSS software had been used. The scatter plot of residuals (see 4.2 below) showed in that the points lie in a reasonably straight line from bottom left to top right. This is, therefore, showed that the assumption of linearity was not violated.

Homogeneity

Homoscedasticity is checked whether the residual is equally distributed, spread far apart or tend to bunch together at some random values or at other values. The data in homoscedasticity looks a shotgun blast rather than a cone or fan shape in which points are equally distributed above or below the X-axis to the left/right of zero on the y-axis.Figure 0-1 below shows the spread of residuals randomly distributed variance or homogeneity of variance which is constant across the linear model and as a result homoscedasticity is not violated.

Figure 0-1 Spread of Residuals Randomly Distributed Variance



Source: SPSS result, 2021

Factor analysis

Factor analysis is the oldest and best known statistical techniques for explaining the relationship between a set of observed and construct variables. There were, also, two SPSS generated measures to evaluate the factorability of the data. These were Kaiser-Meyer-Olkin (KMO); and Bartlett's test of sphercity (Pallant, 2003). The KMO measure of overall sampling adequacy assesses the degree to which indicators are valid or appropriate for factor analysis. A KMO value is between 0 (Factor analysis is likely to be inappropriate) and 1 (Factor analysis yield reliable factors). Kaiser (1974) recommended that the KMO value might be excellent, great, good, middling, and unacceptable (above 0.9, between 0.8 and 0.9, between 0.7 and 0.8, between 0.5, 0.7, and less 0.5, respectively). In this study, Table 4.5 showed that KMO was .904(excellent) indicating that this data was suitable for conducting factor analysis or this sample was factorable. Moreover, Bartlett's test of Sphericity tests a null hypothesis; this supposed that the population correlation matrix was an identity matrix. This test depended on the assumption of normality that was proved above. From the same table, we can see that the Bartlett's test of sphericity is significant. That is, its associated probability is less than 0.05. In fact, it is actually 0.000, i.e. the significance level is small enough to reject the null hypothesis. This means that correlation matrix is not an identity matrix.

As shown Table 4.4 reported that Chi-Square was 1549.978with (df = 190, p=000<0.001) which Therefore, the study was able to continue to complete the remaining steps of the factor analysis.

Table 4.4: KMO and Bartlett's Test

KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.904
Bartlett's Test of Sphericity	Approx. Chi-Square	1549.978
	Df	190
	Sig.	.000

Factor extraction

Factor extraction is concerned with finding the smallest numbers of factors that can be used to best represent the inter relations among the set of variables (Pallant, 2003). The two methods for this issue are as follows.

Communality

For any variables, the variances can be divided into components. These are called common variances that are shared with other variables and the unique variance that is specific to that measure. The community was interested in common variances (field, 2009). Therefore, the communality related to how much of the variance in the variables had been explained or was accounted for by the extracted factors. Through the common source with others, the communality estimates a part of the variance in a variable. Low communality (below .5) may lead to its variable being omitted (Thompson, 2004). The principal component analysis starts with 24 variables and common factors. Initially, it assumes that all variances are common. Hence, the communalities equal 1 before extraction. This means that there are common factors that, after extraction, represent the common variance in the data structure. The communalities after extraction represented the amount of variance in each variable that could be explained by the retained factors. All the variables in the data were above 0.5 indicating high communality.

The next item from the output is a table of communalities which shows how much of the variance in the variables has been accounted for by the extracted factors. For instance, over 80.3% of the variance in the respondent were that rated Digital banking service is reliable and dependable is accounted for while 73.8% of the respondents were given rate that variance in I have always found digital banking service channels in working order.

Table 4.5Factor extraction

ExtractedVariables that measured	Initial	Extraction
The use of digital banking services are time saving	1.0	.599
The service delivered through the digital banking services is quick	1.0	.538
Digital banking services are provided in various languages	1.0	.521

Learning to operate the digital banking system is easy for Me and flexible enough to interact with.	1.0	.655
I have high confidence in the digital banking services in the bank	1.0	.558
Digital banking service is reliable and dependable	1.0	**.803**
I have always found digital banking service channels in working order.	1.0	.**738**
I prefer using digital banking services instead of visiting the branch for doing my transactions	1.0	.689
Digital banking services do not allow others to access my accounts	1.0	.631
Digital banking service is secured and safe from any fraud or hacking	1.0	.681
The security devices of the digital banking services protect the data that are sent byme.	1.0	.549
Digital banking services offers secure personal privacy and does not share my personal information with other sites.	1.0	.657
Digital banking services are available 24/7.	1.0	.563
Digital banking services respond immediately to clients' requests	1.0	.590
Help is immediately available if there is any problem	1.0	.616
Bank deals gently with customer complaints about electronic service	1.0	.460
I am satisfied with the transaction processing via digital banking services.	1.0	.558
I think I made the correct decision to use the digital banking services.	1.0	.715
My satisfaction with the digital banking service quality is high	1.0	.597
Overall, digital banking services is better than my expectations	1.0	.485

Source; SPSS Output 2022 Extraction Method: Principal Component Analysis.

Rotated Component (Factor) Matrix

The idea of rotation is to reduce the number factors on which the variables under investigation have high loadings. Rotation does not actually change anything but makes the interpretation of the analysis easier. Looking at the table below, we can see that The use of digital banking services are time saving, The service delivered through the digital banking services is quick, Digital banking services are provided in various languages, and Learning to operate the digital

banking system is easy for Me and flexible enough to interact with,are substantially loaded on Factor (Component) 3 while “I have high confidence in the digital banking services in the bank” and some others are substantially loaded on Factor 1,. All the remaining variables are substantially loaded on Factor 2 and 4. These factors can be used as variables for further analysis.

Rotated Component Matrix[a]

Table 4.6Rotated Component Matrix[a]

Variables	Component			
	factor1	factor2	factor3	factor4
The use of digital banking services are time saving			.716	
The service delivered through the digital banking services is quick			.644	
Digital banking services are provided in various languages			.552	
Learning to operate the digital banking system is easy for Me and flexible enough to interact with.			.585	
I have high confidence in the digital banking services in the bank	.560			
Digital banking service is reliable and dependable	.847			
I have always found digital banking service channels in working order	.817			
I prefer using digital banking services instead of visiting the branch for doing my transactions	.774			
Digital banking services do not allow others to access my accounts	.774			
Digital banking service is secured and safe from any fraud or hacking	.787			
The security devices of the digital banking services protect the data that are sent by me.		.662		
Digital banking services offers secure personal privacy and does not share my personal information with other sites.		.654		
Digital banking services are available 24/7.	.602			
Digital banking services respond immediately to clients’ requests			.511	
Help is immediately available if there is any problem	.532	.552		
Bank deals gently with customer complaints about electronic service				
I am satisfied with the transaction processing via digital banking services.		.596		
I think I made the correct decision to use the digital banking services.				.705
My satisfaction with the digital banking service quality is high				.769
Overall, digital banking services is better than my expectations				.620

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Confirmatory Factor Analysis

There are wide scopes of insightful devices accessible to break down quantitative exploration results. As a second-age information investigation method, primary condition displaying (SEM) stands apart by offering benefits not given by original measurable procedures like connection examination, exploratory factor investigation, numerous relapses, discriminant examination, examination of fluctuation or strategic relapse (Bagozzi and Yi 2012; Haenlein and Kaplan 2004). SEM can assess inactive factors in the estimation model and at the same time test various connections of dormant factors in the primary model. Factor examination and speculations are tried in a similar investigation, henceforth giving a more thorough examination of the proposed research model (Gefen et al, 2000).

After identifying the underlying structure using exploratory factor analysis with a method of principal component analysis, confirmatory factor analysis (CFA) through structural equation modeling (SEM) was used to assess construct validity through model fit indices (Tabachnick and Fidell, 2007). CFA demands the presence of a theoretical framework, and an a priori theory the based assumption that defines how each variable loads on each factor and vice versa (Byrne 2001). CFA examines the link between factors and their measured variables. Hence, CFA represents what is termed a measurement model (Byrne, 2001). The measurement model is then evaluated for its 'goodness of fit to the sample data by statistical means (Byrne, 2001). Structural equation modeling (SEM) is defined as "a statistical method that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory bearing on some the phenomenon". This theory represents "causal" processes that generate observations on multiple variables (Byrne, 2010). SEM aims to test the relationships between one or more independent and dependent variables by assessing the extent to which the hypothetical constructs are suitable or fit with the obtained data. These variables may be measured (manifest or observed) or latent. The observed variable, such as income, heart rate, or weight, is measured directly whilst the latent variable is not measured directly but through two or more observed variables, for instance, buying behavior or personality (Kline, 2005). This study conducted an SEM process using Analysis of Moment Structures (AMOS) version 24.0 for both measurement and structural models

Measurement Model

The main purpose of using SEM to assess the measurement model is to find the most the parsimonious model which is well-fitting and valid. A measurement model is employed to evaluate construct validity in terms of convergent and discriminant validity to discover the extent to which the measures have adequate internal consistency by conducting the necessary tests and the acceptance levels for the goodness of fit. The full structural model will then only be valid and reliable when the measurement model is based on theory and well-defined constructs, so that the subsequent structural model is based on a solid theoretical foundation (Paschke, 2009).

Construct Validity

Once the factor structure underlying each of the theorized research constructs was determined through EFA, it was necessary to assess construct validity further through CFA before assessing the structural model and testing the research hypotheses (Byrne, 2010; Hair et al, 2010). A critical consideration in using the CFA is the sample size. A sample size above 200 is generally considered 'good' (Hair et al, 2010). Since the valid sample size for this study is 156, it meets the requirement.

Construct validity assesses the extent to which a set of measured items reflect the underlying factor model that those items are designed to measure (Hair, 2010). The construct validity focuses on the measurement of individual constructs. Three construct validity assessments composite validity, convergent validity and discriminant validity were tested. The tests were undertaken for the full measurement model (Lewis, 2005). This section provides an overview of convergent and discriminant validity as well as Composite reliability and reports the results of the construct validity of the measurement model.

1. Convergent Validity

Convergent validity measures whether items of the same variable or construct measure the same thing and, therefore, reveal correlations to each other. In CFA, convergent validity measures whether items of the same latent factor share a proportion of variance (Hair, 2006). Convergent validity is, therefore, a direct measure of the extent of the relationship between an observed variable and a latent construct. According to Holmes- Smith (2007), convergent validity is achieved when this relationship, represented by factor loadings, is significantly different from

zero. To assess the statistical significance of the factor loading, critical ratios and p-values were calculated for each factor loading. Critical ratios outside the -1.96 to +1.96 z-value range and p-values below $p<0.05$ indicate factor loadings that are significantly different from zero. This statistical test of the significant factor loading is the key criterion in assessing factor validity (Holmes-Smith, 2007).

Furthermore, regression weights, standardized regression weights, and squared multiple correlations (SMC) can be calculated to assess convergent validity. Standardized regression weights should be above 0.5, with values of above 0.7 optimal (Hair, 2006). SMC is squared standardized factor loadings and represent the extent to which a measured variable's variance is explained by a latent factor (Hair et al, 2006). SMC can also be used to assess the item reliability. An SMC between 0.3 and 0.5 indicates that the item is a weak but adequate measure of the construct (Holmes-Smith, 2007). An SMC of 0.5 calculates to a standardized loading of 0.7, which indicates that the item reflects the construct very well (Hair et al, 2006; Holmes Smith, 2007).

Table4.7Convergent Validity

Construct	AVE
RC	1.038
SP	1.494
Reliability	0.806
Efficiency	0.812

If AVE >0.5 that indicated the convergent validity, therefore as shown the above table all value a AVE is greater than 0.5.

2. Discriminant validity

Discriminant validity measures to what extent latent variables differ from each other. In contrast to convergent validity, which is a measure within latent variables, discriminant validity is a measure between variables. Discriminant validity can be assessed based on correlations between different constructs. High correlations (above 0.8 or 0.9) between constructs indicate a lack of discriminant validity (Holmes-Smith 2007).

In addition to model fit statistics, discriminant validity measures would be presented for the measurement model.

Table 4.8Discriminant validity

Construct	RC	SP	Reliability	Efficiency
RC	**1.019**			
SP	0.940	**1.222**		
Reliability	0.780	0.950	**0.898**	
Efficiency	0.780	0.770	0.730	**0.558**

If square root of AVE > inter-construct correlation, therefore from the above table AVE is greater than all the inter-construct correlation. Which indicated the model had achieved the Discriminant validity.

3. **Composite reliability**

First of all, Cronbach's α value is calculated for each dimension separately. Values greater than 0.7 threshold indicate that the internal reliability of the scale used is sufficient. Cronbach's α is a measure based on correlations between items in a construct. It takes a value between 0 and 1. Values beyond 0.7 threshold indicate that the scale is reliable. If it is below 0.6, the reliability of the scale is low. (Karagöz, 2016).

Another value that is used to calculate the reliability of the scale for each dimension is the composite reliability value. The composite reliability value is calculated from the factor loads found in the confirmatory factor analysis. After CR values beyond 0.7 threshold or equals to 0.7 it can be said that there is composite reliability (Raykov, 1997).

Therefor from the table 4.7 composite reliability CR value had been calculate that AMOS output of factor load values calculated for each construct and the correlation values between constructs.

Table 4.9Composite reliability

Construct	CR
RC	0.896
SP	0.807
Reliability	0.808
Efficiency	0.797

Moderating role of Age, Gender, Income on Customer satisfactionon the DFS of commercial bank of Ethiopia in study of the area .

Stepwise multiple linear regression analysis results for moderating effect of demographic characteristics (age, gender, income) on CRM and satisfaction are presented in

As shown the above Regression Weights table the p- value > 0.05 of DemoF<---Efficiency, Reliability,RC and SP which mean that not significant relationship the demographic factor for the customer satisfaction of digital financial service.

As shown in the below table 4.8 the indicates that the moderating effect of age, gender, income and education level on customer satisfaction and DFS is statistically significant at β=2.97, P=0.00<0.05; β=.9, P= 0.000<0.05, β=.86,p=0.000<0.05 and β=.77,p=0.000<005 respectively. All the observed parameters which were measured the statically significant

The estimate of 0.03 is not significantly different from zero at any conventional significance level (p = 0.68)but indicator variable of efficiency and reliability in estimation .9,.86.77and .17,.16and .84 statistically significant respectively.

Table 4.10) Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
DemoF	<---	Efficiency	.03	.06	.42	.68	
DemoF	<---	Reliability	-.05	.36	-.15	.88	
DemoF	<---	RC	-.11	.47	-.24	.81	
DemoF	<---	SP	.13	.73	.17	.86	
EFC4	<---	Efficiency	1.00				
EFC3	<---	Efficiency	.90	.14	6.28	***	
EFC2	<---	Efficiency	.86	.13	6.39	***	
EFC1	<---	Efficiency	.77	.13	5.76	***	
R4	<---	Reliability	1.00				
R3	<---	Reliability	1.17	.10	12.15	***	
R2	<---	Reliability	1.16	.09	12.94	***	
R1	<---	Reliability	.84	.10	8.56	***	
SP4	<---	SP	1.00				
SP3	<---	SP	.82	.14	5.79	***	

			Estimate	S.E.	C.R.	P	Label
SP2	<---	SP	1.23	.16	7.75	***	
SP1	<---	SP	1.19	.16	7.35	***	
RC4	<---	RC	1.00				
RC3	<---	RC	1.40	.24	5.85	***	
RC2	<---	RC	1.26	.22	5.60	***	
RC1	<---	RC	1.31	.23	5.78	***	
Gender	<---	DemoF	1.00				
Age	<---	DemoF	1.39	3.20	.43	.66	
Income	<---	DemoF	8.21	10.04	.82	.41	
Edu	<---	DemoF	-1.71	3.09	-.55	.58	
CS1	<---	DemoF	-17.77	20.94	-.85	.40	
CS2	<---	DemoF	-18.62	21.93	-.85	.40	
CS3	<---	DemoF	-13.69	16.20	-.85	.40	
CS4	<---	DemoF	-7.22	8.91	-.81	.42	
CS1	<---	Efficiency	.60	.26	2.32	.02	
CS2	<---	Efficiency	1.01	.27	3.71	***	
CS3	<---	Efficiency	.43	.21	2.10	.04	
CS4	<---	Efficiency	.71	.16	4.47	***	

Sources: own compute on spss 2021

Direct effect

The direct effect is the effect of exposure on the outcome absent the mediator as shown in table 4.11 below the moderator factor of DemoF (Age, gender, income and edu) directly affected the variable RC,SP,Reliability and Effeciency by the amount of magnitude -11,.13,-.05 and .03 respectively.

From the table The direct (unmediated) effect of Reliability on CS2 is .00. That is, due to the direct (unmediated) effect of Reliability on CS2, when Reliability goes up by 1, CS2 goes up by 0. This is in addition to any indirect (mediated) effect that Reliability may have on CS2.The direct (unmediated) effect of DemoF on Income is 8.21. That is, due to the direct (unmediated)

effect of DemoF on Income, when DemoF goes up by 1, Income goes up by 8.21. This is in addition to any indirect (mediated) effect that DemoF may have on Income.The direct (unmediated) effect of Reliability on R1 is .84. That is, due to the direct (unmediated) effect of Reliability on R1, when Reliability goes up by 1, R1 goes up by 0.84. This is in addition to any indirect (mediated) effect that Reliability may have on R1.The direct (unmediated) effect of DemoF on CS4 is -7.22. That is, due to the direct (unmediated) effect of DemoF on CS4, when DemoF goes up by 1, CS4 goes down by 7.22. This is in addition to any indirect (mediated) effect that DemoF may have on CS4.The direct (unmediated) effect of DemoF on CS3 is -13.69. That is, due to the direct (unmediated) effect of DemoF on CS3, when DemoF goes up by 1, CS3 goes down by 13.69. This is in addition to any indirect (mediated) effect that DemoF may have on CS3.

Table 4.11 Direct Effects (Group number 1 - Default model)

	RC	SP	Reliability	Efficiency	DemoF
DemoF	-.11	.13	-.05	.03	.00
CS4				.71	-7.22
CS3				.43	-13.69
CS2				1.01	-18.62
CS1				.60	-17.77
Edu					-1.71
Income					8.21
Age					1.39
Gender					1.00
RC1	1.31				
RC2	1.26				
RC3	1.40				
RC4	1.00				
SP1		1.19			
SP2		1.23			
SP3		.82			

	RC	SP	Reliability	Efficiency	DemoF
SP4		1.00			
R1			.84		
R2			1.16		
R3			1.17		
R4			1.00		
EFC1				.77	
EFC2				.86	
EFC3				.90	
EFC4				1.00	

Sources: own compute on spss 2022

Indirect effect

The indirect pathway is the effect of exposure on the outcome that works through the mediator. An indirect effect is calculated by multiplying the paths that constitute the effect.

The magnitude of the indirect effect indicates the amount of mediation through the relevant mediator variables. - Mediation can be either complete or partial.

The moderator affected the customer satisfaction through indirectly, as shown in table 4.12 The standardized indirect (mediated) effect of RC on CS4 is .43. That is, due to the indirect (mediated) effect of RC on CS4, when RC goes up by 1 standard deviation, CS4 goes up by 0.43 standard deviations. This is in addition to any direct (unmediated) effect that RC may have on CS4.The standardized indirect (mediated) effect of SP on CS4 is -.57. That is, due to the indirect (mediated) effect of SP on CS4, when SP goes up by 1 standard deviation, CS4 goes down by 0.57 standard deviations. This is in addition to any direct (unmediated) effect that SP may have on CS4.The standardized indirect (mediated) effect of Reliability on CS4 is .28. That is, due to the indirect (mediated) effect of Reliability on CS4, when Reliability goes up by 1 standard deviation, CS4 goes up by 0.28 standard deviations. This is in addition to any direct (unmediated) effect that Reliability may have on CS4.The standardized indirect (mediated) effect of Efficiency on CS4 is -.14. That is, due to the indirect (mediated) effect of Efficiency on CS4, when Efficiency goes up by 1 standard deviation, CS4 goes down by 0.14 standard deviations. This is in addition to any direct (unmediated) effect that Efficiency may have on CS4.

The standardized indirect (mediated) effect of RC on Income is -.51. That is, due to the indirect (mediated) effect of RC on Income, when RC goes up by 1 standard deviation, Income goes down by 0.51 standard deviations. This is in addition to any direct (unmediated) effect that RC may have on Income. Therefore, customer satisfaction and demographic were affected by the five dimension of the independent variable indirectly.

Table 4.12 Standardized Indirect Effects (Group number 1 - Default model)

	RC	SP	Reliability	Efficiency	DemoF
DemoF	.00	.00	.00	.00	.00
CS4	.43	-.57	.28	-.14	.00
CS3	.88	-1.16	.58	-.28	.00
CS2	1.03	-1.35	.67	-.33	.00
CS1	1.02	-1.33	.66	-.32	.00
Edu	.14	-.18	.09	-.04	.00
Income	-.51	.67	-.33	.16	.00
Age	-.10	.13	-.06	.03	.00
Gender	-.17	.22	-.11	.05	.00
RC1	.00	.00	.00	.00	.00
RC2	.00	.00	.00	.00	.00
RC3	.00	.00	.00	.00	.00
RC4	.00	.00	.00	.00	.00
SP1	.00	.00	.00	.00	.00
SP2	.00	.00	.00	.00	.00
SP3	.00	.00	.00	.00	.00
SP4	.00	.00	.00	.00	.00
R1	.00	.00	.00	.00	.00
R2	.00	.00	.00	.00	.00
R3	.00	.00	.00	.00	.00
R4	.00	.00	.00	.00	.00

	RC	SP	Reliability	Efficiency	DemoF
EFC1	.00	.00	.00	.00	.00
EFC2	.00	.00	.00	.00	.00
EFC3	.00	.00	.00	.00	.00
EFC4	.00	.00	.00	.00	.00

Sources: own compute on spss 2022

Model Fit Summary

CMIN is the likelihood ratio chi-square test. This test shows the correspondence between the proposed model and the actual model and it is most commonly used fit indices. The fact that the CMIN / DF ratio is less than 3 and the chi-square value is insignificant indicates that the model's overall fit is within acceptable limits (Meydan&Şen, 2011). As shown the table 4.8 In this model CMIN / DF is equals to 1.78 which indicated that goodness of fit.Additionally, The CMIN (chi-square likelihood ratio) value appears to be significant when the P value is 0,000<0.01 which is the significant value indicated that the model is fit.

Table 4.8 model fit indices

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	86	422.93	238	.00	1.78
Saturated model	324	.00	0		
Independence model	48	1710.49	276	.00	6.20

Sources: own compute on spss 2022

CFI (Comparative Fit Index) is a fit index that compares the saturated model with the independent model. In the independent model, there is no relationship among the dimensions that form the research model. CFI values can range from 0 to 1, values above 0,90 and close to 1 show good fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003). CFI is in the group of fit indices based on independent models. As shown in the table 4.9 saturated model is equal to 1

Table 4.9 comparative fit indices

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.75	.71	.87	.85	.87
Saturated model	1.00		1.00		1.00
Independence model	.00	.00	.00	.00	.00

Sources: own compute on spss 2022

RMSEA is a measure of fit that compares the mean differences of each expected degree of freedom that can occur in the population with each other. This scale is adversely affected by sample size. A value of 0.05 or less for the RMSEA fit indices indicates good fit (Bayram, 2013). Values between 0.05 and 0.08 indicate acceptable fit (Byrne, 2010). Therefore, as shown in the table 4.10 the value of RMSEA.05 <.07 <.08 which indicate RMSEA fit indices indicates good fit of the model.

Table 4.10 RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.07	.06	.08	.00
Independence model	.18	.17	.19	.00

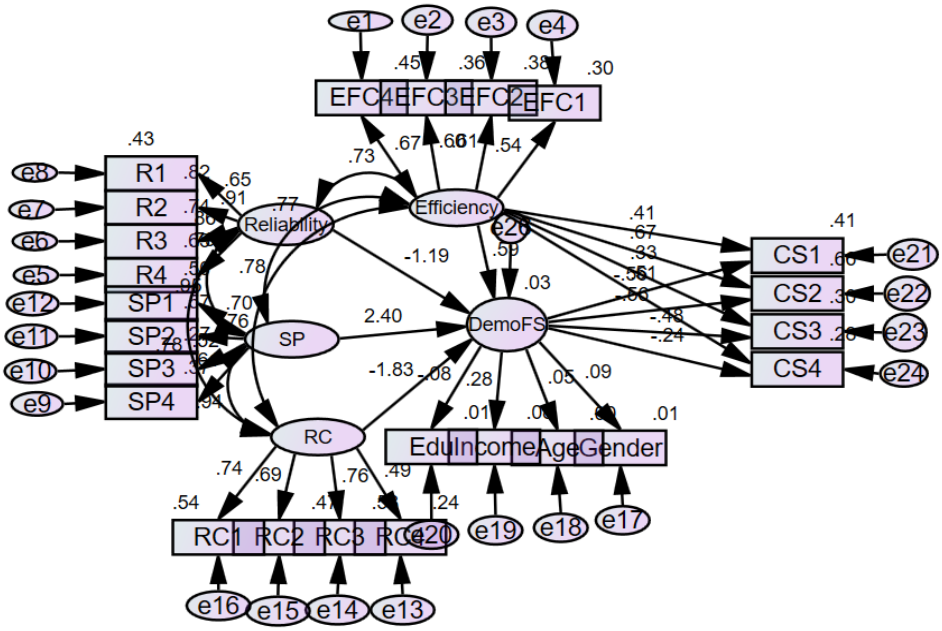
Baseline Comparisons

NFI values above .95 are good. RFI, IFI, TLI, and CFI values close to 1 indicate a very good fit.

Table 4.11 Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.95	.71	.87	.85	.87
Saturated model	1.00		1.00		1.00
Independence model	.00	.00	.00	.00	.00

Fig4.3 Conceptual frameworkof the SEM



Hypothesis testing

The discussion part of the analysis tried to answer both the very central objective of the study and the research questions that the study wants to test. The central objective of the study is to investigate the role of digital financial service on service quality.The moderating role of demographic factor In the customer satisfaction of digital financial system in the banking service

Here are the five dimension of the variable that affecting the DFS in the commercial bank of Ethiopia

1. There is a positive and significant effect of Efficiency on service quality of digital financial service

   As can be observed from regression Weights table efficiency on service quality of digital financial service have β estimate value of .15 and t-statics 6.27 with a p value of 0.*** found to be significant on service quality of digital financial service.
2. There is a positive and significant effect of Reliability on service quality of digital financial service

As can be observed from regression Weights Table Reliability on service quality of digital financial service have β estimate value of .10 and t-statics 12.14 with a p value of 0. *** found to be significant on service quality of digital financial service.

3. There is a positive and significant effect of Security and Privacy on service quality of digital financial service
4. As can be observed from regression Weights table Security and Privacy on service quality of digital financial service have β estimate value of .14 and t-statics 5.78 with a p value of 0.*** found to be significant on service quality of digital financial service.
5. There is a positive and significant effect of Responsiveness and Communication on service quality of digital financial service
6. As can be observed from regression Weights table Responsiveness and Communication on service quality of digital financial service have β estimate value of .24 and t-statics 5.88 with a p value of 0.*** found to be significant on service quality of digital financial service.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, RECOMMENDATION

This chapter deals with summary of the findings, conclusions and recommendations. The main purpose of the study was to evaluate the role of digital financial service on service quality: moderating role of demographic factors in commercial bank of Ethiopia. To achieve the objective of the study relevant literatures reviewed, quantitative data collected through questionnaires, and the data analyzed, interpreted and discussed using statistical package for social science. Based on the analysis, the following finding are obtained, conclusions drawn, and recommendations forwarded.

5.1Summary of Findings

- Based on the cumulative result of descriptive statistics, efficiency of Federal Ministry of Agriculture scored a mean of 3.01, and this shows that customers perception has moderately agreed.
- With regard to the cumulative result of descriptive statistics reliability of commercial bank of Ethiopia has scored a mean of 2.15, this shows that customers perception has disagreed.
- As per the cumulative result of descriptive statistics, security and privacy practice of commercial bank of Ethiopia has scored a mean of 2.49, and this shows that customers perception has disagreed agreed.
- According to the cumulative result of descriptive statistics, responsiveness and communication of commercial bank of Ethiopia has scored a mean of 2.79. This shows that customers perception has averagely agreed.
- Based on the cumulative result of descriptive statistics service quality of commercial bank of Ethiopia has scored a mean of 3.14. This shows that customers perception has moderately agreed.
- Regarding to the correlation between the digital financial service (efficiency, reliability, security and privacy, and responsiveness and communication) and customer satisfaction with ($.502^{**}$, P<0.01, $.352^{**}$, P<0.01, $.461^{**}$, P<0.01, and $.517^{**}$, P<0.01) respectively. This mean efficiency, reliability, security and privacy, and responsiveness and communication with

customer satisfaction. Hence, it is possible to conclude that the factors have linear relationship with customer satisfaction.

- The regression coefficients Beta value of .335 confirming that, 33.5% of the variation in customer satisfactionis explained/affected by efficiency. This means that all things being equal, when the other independent variables are held constant, customer satisfaction would increase by 33.5% as a result of efficiency.
- The regression coefficients Beta value of -.190 confirming that, -19% of the variation in customer satisfaction is explained/affected by reliability. This means that all things being equal, when the other independent variables are held constant, customer satisfactionwould decreases by -19%.
- The regression coefficients Beta value of 0.219 confirming that, 21.9% of the variation in customer satisfactionis explained/affected by security and privacy. This means that all things being equal, when the other independent variables are held constant, customer satisfactionwould decrease by 21.9%.
- The regression coefficients Beta value of 0.292 confirming that, 29.2% of the variation in customer satisfactionis explained/affected by responsiveness and communication. This means that all things being equal, when the other independent variables are held constant, customer satisfactionwould increase by 29.2%.
- The overall, results revealed that all independent variables accounted for 35% of the variance in customer satisfaction(R^2 = .350). Thus, 35% of the variation in service quality can be explained by the efficiency, reliability, security and privacy, and responsiveness and communication. Other unexplored factors that may limit customer satisfactionaccounts for about 65%.

5.2 Conclusion

- ✓ Looking into the findings of descriptive analysis from the responses of respondents in the study area was agreed by the four factors (efficiency, reliability, security and privacy, and responsiveness and communication). Therefore, most of respondents towards the efficiency and responsiveness and communication was moderately agreed. However, the rest of two variables such as reliability and security and privacy were disagreed. Therefore, the student researcher concludes that the digital financial service practice of commercial bank of Ethiopia is account as moderately good and weak respectively.
- ✓ The correlation analysis result shows that, all the four factors digital financial service are positively and significantly related with customer satisfaction. With regard to the correlation between the factors/dimensions and service quality. Hence, it is possible to conclude that digital financial service has a linear relationship with customer satisfaction(this implying that the more customers have good knowledge on the digital financial service, it will have more effect on customer satisfaction).
- ✓ Looking into the findings of regression Unstandardized coefficients, efficiency was found to have a positive and significant influence (33.5%, at $P<0.05$) on the customer satisfactionof CBE. Therefore, the increase of the value of efficiency factor of digital financial service has a positive and significant impact on the level of service quality at CBE. Therefore, the student researcher can conclude that efficiency has a positive and significant effect on customer satisfaction.
- ✓ Investigating the findings of regression Unstandardized coefficients, reliability was found to have a negative and insignificant influence (-19%, at $P>0.05$) on the customer satisfactionof CBE. Therefore, the decrease of the value of reliability factor of digital financial service has a negative and insignificant impact on the level of customer satisfactionat CBE. Therefore, the student researcher can conclude that reliability has a negative and insignificant effect on customer satisfaction.
- ✓ Examining the findings of regression Unstandardized coefficients, security and privacy was found to have a positive and insignificant influence (21.9%, at $P<0.05$) on the customer satisfactionof CBE. Therefore, the decrease of the value of security and privacy factor of digital financial service had a negative and insignificant impact on the level of customer

satisfactionat CBE. Therefore, the student researcher can conclude that security and privacy has a negative and insignificant effect on customer satisfaction.

- ✓ Taking a look at the findings of regression Unstandardized coefficients, responsiveness and communication was found to have a negative and significant influence (29.2%, at $P<0.05$) on the service quality of CBE. Therefore, the increase of the value of responsiveness and communication factor of digital financial service had a positive and significant impact on the service quality at CBE. Therefore, the student researcher can conclude that responsiveness and communication have a positive and significant effect on customer satisfaction.

5.3 Recommendation

The bank needs to look digitalization as significant resources, contribute on it that can convey exceptional experience to clients coming about in steadfast and life time customers prompting the accomplishment of authoritative objectives.

Customers need trust and simple to utilize advanced monetary, henceforth making apparent value, administration quality and different components recognized in the examination significant.

The bank ought to deliberately follow the experience of clients and screen their requirements and feelings through a devoted client experience division and embrace client driven business culture through advanced innovation.

The bank ought to recognize the impacts of advanced monetary assistance and use criticism of clients as an instrument to decide the experience holes and screen the experience of clients on persistent premise.

Customers ought to be reliably instructed regarding how to utilize innovative assistance productively as well as giving data through help work area, call focal point of the bank.

The bank ought to set up a plan of action that can meet the prerequisite with immense scope of administrations, and with low help charges.

Perceived dependability according to the overview has been the fundamental hindrance on the unwavering quality of advanced monetary assistance and as dependability is the base to get publics acknowledgment. As the assistance isn't accessible whenever and anyplace, clients question on its dependability. Additionally clients have little uncertainty on the flawlessness of the framework that it is liberated from blunder which involves a negative reception by business and people. As dependability is one of the base or key characteristic for the reception of advanced monetary help, the bank needs to accomplish more on these.

5.4 Further Research direction

Despite Ethiopia is the home of all kinds of financial institutions, the study is limited to the selected commercial banks of Ethiopia in the city of Addis Ababa. Hence, future study can be conducted by incorporating the different sectors of financial service giving industries such as insurance companies and microfinance including towns and the country sides of Ethiopia. Finally, since the study didn’t consider the perspectives of employees and employers, the effects of digital financial service can be studied from the perspectives of employees and employers in the future research.

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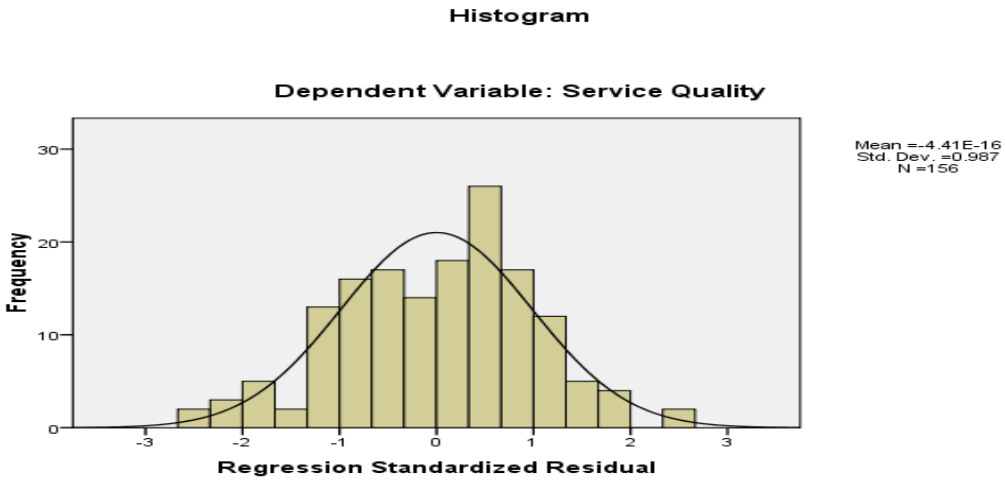
Appendixes

Appendix 1: Assumptions Testing Results

A. Normality Test

Error! Reference source not found. shows the frequency distribution of the standardized residuals compared to a normal distribution. As you can see, although there are some residuals (e.g., those occurring around 0) that are relatively far away from the curve, many of the residuals are fairly close. Moreover, the histograms are bell shaped which led to infer that the residual (disturbance or errors) are normally distributed for all models. Thus, no violations of the assumption normally distributed error term. Thus, from an examination of the information presented in all the four tests the researcher concludes that there are no significant data problems that would lead to say the assumptions of classical linear regression have been seriously violated. Furthermore, according to Field (2013) and Pallant (2010) the P-P plot (probability–probability plot) is another useful graph for testing normality. As a result, figure 4.1 shows the normal distribution of residuals around its mean of zero. Hence the normality assumption is fulfilled as required based on Figure 4.1. From this it is possible to conclude that the inferences that the researcher will made about the population parameter from the sample is valid.

Figure 0-1 Frequency Distribution of the Standardized Residuals



B. Multicollinearity Test

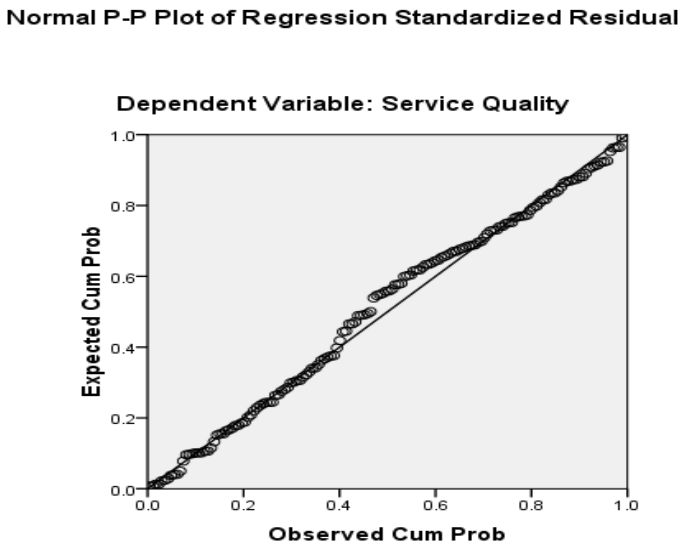
Multicollinearity is a problem that occurs with regression analysis when there is a high correlation of at least one independent variable with a combination of other independent variables. As it is shown on the Table , there is no multi-collinearity among independent variables. Because, tolerance amount for all variables is greater than 0.10 and VIF are also less than 10.

Variables	Tolerance	VIF
Efficiency	.595	1.681
Reliability	.332	3.013
Security and privacy	.267	3.739
Responsiveness & communication	.410	2.436

Source: SPSS result, 2021

C. Linearity testing assumption

Linearity refers to the degree to which the change in the dependent variable is related to the change in the independent variables. To determine whether the relationship between the dependent variables and the independent variables is linear; scatter plots of the regression residuals for each model through SPSS software had been used. The scatter plot of residuals (see



4.2 below) showed in that the points lie in a reasonably straight line from bottom left to top right. This is, therefore, showed that the assumption of linearity was not violated.

D. KMO and Bartlett's Test

The KMO measure of overall sampling adequacy assesses the degree to which indicators are valid or appropriate for factor analysis. A KMO value is between 0 (Factor analysis is likely to be inappropriate) and 1 (Factor analysis yield reliable factors). Kaiser (1974) recommended that the KMO value might be excellent, great, good, middling, and unacceptable (above 0.9, between 0.8 and 0.9, between 0.7 and 0.8, between 0.5, 0.7, and less 0.5, respectively). In this study, Table 4.5 showed that KMO was 0.918 (excellent) indicating that this data was suitable for conducting factor analysis or this sample was factorable. Moreover, Bartlett's test of Sphericity tests a null hypothesis; this supposed that the population correlation matrix was an identity matrix. This test depended on the assumption of normality that was proved above. Table 4.4 reported that Chi-Square was 2.031E3 with (df = 2765, $p<0.001$) which means that variables were related to one another. Therefore, the study was able to continue to complete the remaining steps of the factor analysis.

Table 4.4: KMO and Bartlett's Test

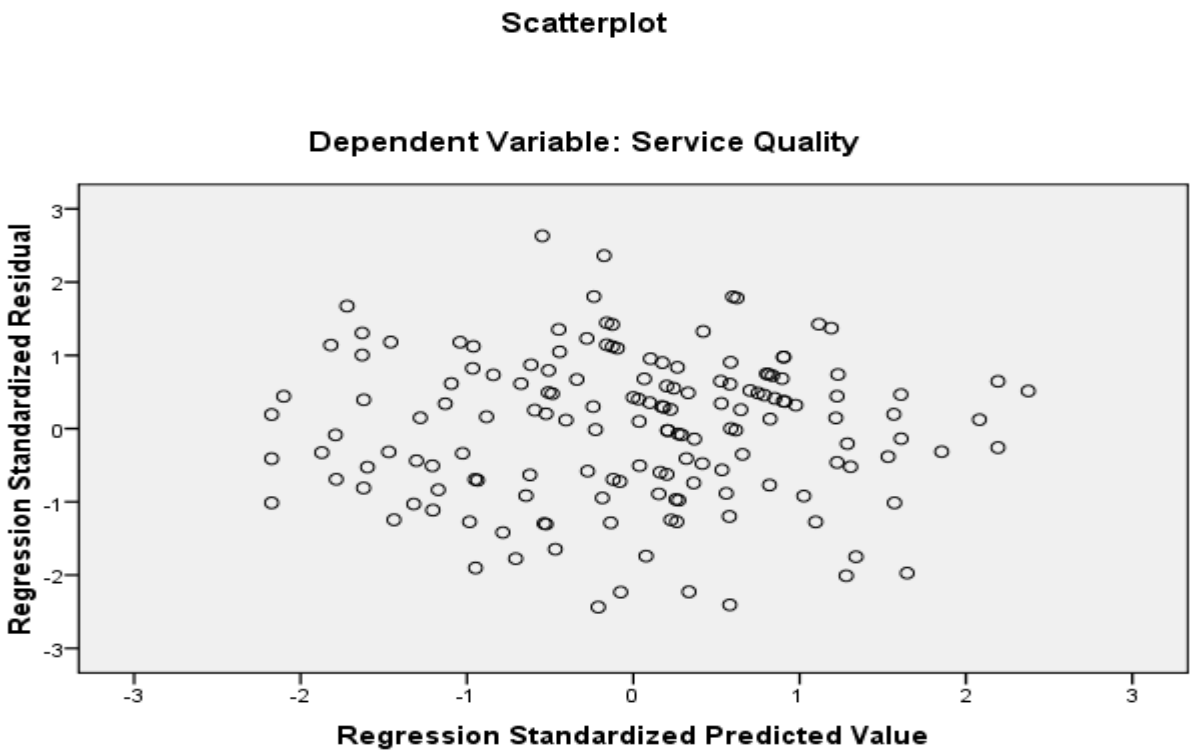
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.910
Bartlett's Test of Sphericity	Approx. Chi-Square	2.031E3
	df	276
	Sig.	.000

E. Homogeneity

Homoscedasticity is checked whether the residual is equally distributed, spread far apart or tend to bunch together at some random values or at other values. The data in homoscedasticity looks a shotgun blast rather than a cone or fan shape in which points are equally distributed above or below the X-axis to the left/right of zero on the y-axis. Figure 0-1 below shows the spread of residuals randomly distributed variance or homogeneity of variance which is constant across the linear model and as a result homoscedasticity is not violated.

Figure 0-2 Spread of Residuals Randomly Distributed Variance



Source: SPSS result, 2021

Regression Weights: (Group number 1 - Default model)							
			Estimate	S.E.	C.R.	P	Label
DemoFS	<---	Efficiency	-0.01	0.02	-0.39	0.7	par_19
DemoFS	<---	Reliability	-0.01	0.09	-0.13	0.9	par_20
DemoFS	<---	SP	0.03	0.19	0.17	0.86	par_21
DemoFS	<---	RC	-0.03	0.13	-0.24	0.81	par_22
SQS	<---	DemoFS	-42.31	75.77	-0.56	0.58	par_23
EFC4	<---	Efficiency	1				
EFC3	<---	Efficiency	0.92	0.15	6.27	***	par_1
EFC2	<---	Efficiency	0.86	0.14	6.28	***	par_2
EFC1	<---	Efficiency	0.78	0.14	5.72	***	par_3
R4	<---	Reliability	1				
R3	<---	Reliability	1.17	0.1	12.14	***	par_4
R2	<---	Reliability	1.16	0.09	12.91	***	par_5
R1	<---	Reliability	0.85	0.1	8.59	***	par_6
SP4	<---	SP	1				
SP3	<---	SP	0.82	0.14	5.78	***	par_7
SP2	<---	SP	1.23	0.16	7.74	***	par_8
SP1	<---	SP	1.19	0.16	7.33	***	par_9
RC4	<---	RC	1				
RC3	<---	RC	1.4	0.24	5.88	***	par_10
RC2	<---	RC	1.25	0.22	5.61	***	par_11
RC1	<---	RC	1.31	0.23	5.81	***	par_12
Gender	<---	DemoFS	1				
Age	<---	DemoFS	0.57	1.6	0.36	0.72	par_13
Income	<---	DemoFS	3.79	3.06	1.24	0.22	par_14
Edu	<---	DemoFS	-0.5	1.37	-0.36	0.72	par_15
SQ1	<---	SQS	1				
SQ2	<---	SQS	1.5	0.23	6.51	***	par_16
SQ3	<---	SQS	0.77	0.16	4.96	***	par_17
SQ4	<---	SQS	0.87	0.17	5.11	***	par_18

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
DemoFS	<---	Efficiency	-0.25
DemoFS	<---	Reliability	-0.35
DemoFS	<---	SP	0.81
DemoFS	<---	RC	-0.66
SQS	<---	DemoFS	-1.78
EFC4	<---	Efficiency	0.67
EFC3	<---	Efficiency	0.61
EFC2	<---	Efficiency	0.61
EFC1	<---	Efficiency	0.54
R4	<---	Reliability	0.79
R3	<---	Reliability	0.86
R2	<---	Reliability	0.9
R1	<---	Reliability	0.66
SP4	<---	SP	0.61
SP3	<---	SP	0.52
SP2	<---	SP	0.76
SP1	<---	SP	0.7
RC4	<---	RC	0.49
RC3	<---	RC	0.76
RC2	<---	RC	0.69
RC1	<---	RC	0.74
Gender	<---	DemoFS	0.07
Age	<---	DemoFS	0.02
Income	<---	DemoFS	0.1
Edu	<---	DemoFS	-0.02
SQ1	<---	SQS	0.58
SQ2	<---	SQS	0.84
SQ3	<---	SQS	0.5
SQ4	<---	SQS	0.52

Total Effects (Group number 1 - Default model)						
	RC	SP	Reliability	Efficiency	DemoFS	SQS
DemoFS	-0.03	0.03	-0.01	-0.01	0	0
SQS	1.32	-1.39	0.51	0.38	-42.31	0
SQ4	1.14	-1.21	0.44	0.33	-36.64	0.87
SQ3	1.02	-1.07	0.4	0.29	-32.65	0.77
SQ2	1.97	-2.09	0.77	0.56	-63.39	1.5
SQ1	1.32	-1.39	0.51	0.38	-42.31	1
Edu	0.02	-0.02	0.01	0	-0.5	0
Income	-0.12	0.12	-0.05	-0.03	3.79	0
Age	-0.02	0.02	-0.01	-0.01	0.57	0
Gender	-0.03	0.03	-0.01	-0.01	1	0
RC1	1.31	0	0	0	0	0
RC2	1.25	0	0	0	0	0
RC3	1.4	0	0	0	0	0
RC4	1	0	0	0	0	0
SP1	0	1.19	0	0	0	0
SP2	0	1.23	0	0	0	0
SP3	0	0.82	0	0	0	0
SP4	0	1	0	0	0	0
R1	0	0	0.85	0	0	0
R2	0	0	1.16	0	0	0
R3	0	0	1.17	0	0	0
R4	0	0	1	0	0	0
EFC1	0	0	0	0.78	0	0
EFC2	0	0	0	0.86	0	0
EFC3	0	0	0	0.92	0	0
EFC4	0	0	0	1	0	0

Direct Effects (Group number 1 - Default model)						
	RC	SP	Reliability	Efficiency	DemoFS	SQS
DemoFS	-0.03	0.03	-0.01	-0.01	0	0
SQS	0	0	0	0	-42.31	0
SQ4	0	0	0	0	0	0.87
SQ3	0	0	0	0	0	0.77
SQ2	0	0	0	0	0	1.5
SQ1	0	0	0	0	0	1
Edu	0	0	0	0	-0.5	0
Income	0	0	0	0	3.79	0
Age	0	0	0	0	0.57	0
Gender	0	0	0	0	1	0
RC1	1.31	0	0	0	0	0
RC2	1.25	0	0	0	0	0
RC3	1.4	0	0	0	0	0
RC4	1	0	0	0	0	0
SP1	0	1.19	0	0	0	0
SP2	0	1.23	0	0	0	0
SP3	0	0.82	0	0	0	0
SP4	0	1	0	0	0	0
R1	0	0	0.85	0	0	0
R2	0	0	1.16	0	0	0
R3	0	0	1.17	0	0	0
R4	0	0	1	0	0	0
EFC1	0	0	0	0.78	0	0
EFC2	0	0	0	0.86	0	0
EFC3	0	0	0	0.92	0	0
EFC4	0	0	0	1	0	0

Standardized Direct Effects (Group number 1 - Default model)						
	RC	SP	Reliability	Efficiency	DemoFS	SQS
DemoFS	-0.66	0.81	-0.35	-0.25	0	0
SQS	0	0	0	0	-1.78	0
SQ4	0	0	0	0	0	0.52
SQ3	0	0	0	0	0	0.5
SQ2	0	0	0	0	0	0.84
SQ1	0	0	0	0	0	0.58
Edu	0	0	0	0	-0.02	0
Income	0	0	0	0	0.1	0
Age	0	0	0	0	0.02	0
Gender	0	0	0	0	0.07	0
RC1	0.74	0	0	0	0	0
RC2	0.69	0	0	0	0	0
RC3	0.76	0	0	0	0	0
RC4	0.49	0	0	0	0	0
SP1	0	0.7	0	0	0	0
SP2	0	0.76	0	0	0	0
SP3	0	0.52	0	0	0	0
SP4	0	0.61	0	0	0	0
R1	0	0	0.66	0	0	0
R2	0	0	0.9	0	0	0
R3	0	0	0.86	0	0	0
R4	0	0	0.79	0	0	0
EFC1	0	0	0	0.54	0	0
EFC2	0	0	0	0.61	0	0
EFC3	0	0	0	0.61	0	0
EFC4	0	0	0	0.67	0	0

Model Fit Summary					
CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	59	431.62	241	0	1.79
Saturated model	300	0	0		
Independence model	24	1710.49	276	0	6.2
RMR, GFI					
Model	RMR	GFI	AGFI	PGFI	
Default model	0.13	0.81	0.77	0.65	
Saturated model	0	1			
Independence model	0.57	0.3	0.24	0.28	
Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	0.75	0.71	0.87	0.85	0.87
Saturated model	1		1		1
Independence model	0	0	0	0	0
Parsimony-Adjusted Measures					
Model	PRATIO	PNFI	PCFI		
Default model	0.87	0.65	0.76		
Saturated model	0	0	0		
Independence model	1	0	0		
NCP					
Model	NCP	LO 90	HI 90		
Default model	190.62	136.48	252.61		
Saturated model	0	0	0		
Independence model	1434.49	1307.73	1568.71		
FMIN					
Model	FMIN	F0	LO 90	HI 90	
Default model	2.78	1.23	0.88	1.63	

Saturated model	0	0	0	0	
Independence model	11.04	9.25	8.44	10.12	
RMSEA					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	0.07	0.06	0.08	0	
Independence model	0.18	0.17	0.19	0	
AIC					
Model	AIC	BCC	BIC	CAIC	
Default model	549.62	572.31	729.56	788.56	
Saturated model	600	715.38	1514.96	1814.96	
Independence model	1758.49	1767.72	1831.69	1855.69	
ECVI					
Model	ECVI	LO 90	HI 90	MECVI	
Default model	3.55	3.2	3.95	3.69	
Saturated model	3.87	3.87	3.87	4.62	
Independence model	11.35	10.53	12.21	11.4	
HOELTER					
Model	HOELTER	HOELTER			
	0.05	0.01			
Default model	100	106			
Independence model	29	31			
Execution time summary					
Minimization:	0.15				
Miscellaneous:	0.69				
Bootstrap:	0				
Total:	0.84				

ADDIS ABABA UNIVERSITY

School of Graduate Studies

Research Questionnaire

Dear Sir/Madam

This research questionnaire is prepared to collect data from the respondents and the research title is "The role of digital financial service on service quality; the moderating role of demographic factors." The quality of the result of this research will be based on the accuracy of the information you provided. Eventually, we promise you, the information you will provide us is going to be reported and communicated in aggregate and utmost care will be taken for its confidentiality. We would like to thank you for your cooperation and allowing us to take a few minutes of your valuable time.

NOTE:-

- No need of writing your name
- Your confidentiality maintained sincerely

Part I – Demographic Respondents Information

		Put √
1. Sex	A. Male	42=66
	B. Female	58=90
2. Age	A. $\leq$ 20	7=11
	B. Between 20 - 30	35=55
	C. Between 31 - 40	25=39
	D. Between 41 - 50	20=31
	E. $\geq$ 51	13=20
3. Income (Birr)	A. No income	6=9
	B. Less than 2000	22=34
	C. Between: 2001 – 4000	27=43
	D. Between: 4001 – 8000	23=36
	E. Between: 8001 – 15,000	13=20
	F. 15,000 and above	9=14
4.Level of education you achieved	A. $\leq$ 12 Grade	19=30
	B. Diploma or Certificate	26=41
	C. First Degree	39=61
	D. Master's Degree	13=20
	E. PhD degree	3=4

Part II: Survey of your experience towards digital financial service quality.

This survey deals with your experience about digital financial service quality and its overall effect on service quality on banking service. There is no right or wrong answers all we are interested in is a number that best show your level of agreement about the topic. Based on this please put a tick (√) in the boxes which mostly explain your attitudes.

Please fill the question by considering the level of agreement: - 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

Questions	**Source**	**Level of agreement**				
Efficiency		1	2	3	4	5
1. The use of Digital Banking services are time saving	Alawneh, Al-Refai, and Batiha, (2013).					
2. The service delivered through the Digital Banking services is quick	Asad, Mohajerani, and Nourseresh (2016).					
3. I can complete quickly any transaction through the Digital Banking service channels.	Asad et al. (2016).					
4. I found that Digital Banking services is easy to use	Alawneh et al. (2013).					
5. Digital Banking services are provided in various languages	Alawneh et al. (2013).					
6. Learning to operate the Digital Banking system is easy for Me and flexible enough to interact with.	Sikdar, Kumar, and Makkad (2015).					
Reliability						
7. I have high confidence in the Digital Banking services in the bank	Alawneh et al. (2013).					
8. Digital Banking service is reliable and dependable	Alawneh et al. (2013).					
9. I have always found Digital Banking service channels in working order	Toor et al. (2016).					
10. I prefer using Digital Banking services instead of visiting the branch for doing my transactions	Toor et al. (2016).					
Security and Privacy						
11. Digital Banking services do not allow others to access my accounts	Alawneh et al. (2013).					
12. Digital Banking service provides high protection for my banking transactions	Alawneh et al. (2013).					
13. Digital Banking service is secured and safe from any fraud or hacking	Alawneh et al. (2013).					
14. The security devices of the Digital Banking services protect the data that are sent by me.	Sikdar et al. (2015).					

15. Digital Banking services offers secure personal privacy and does not share my personal information with other sites.	Sikdar et al. (2015).					
Responsiveness and Communication						
16. Digital Banking services are available 24/7.	Alawneh et al. (2013).					
17. Digital Banking services respond immediately to clients' requests	Alawneh et al. (2013).					
18. Help is immediately available if there is any problem	Alawneh et al. (2013).					
19. Digital Banking services provide answers to your questions	Alawneh et al. (2013).					
20. Bank deals gently with customer complaints about electronic service	Alawneh et al. (2013).					
Satisfaction and Quality of Service						
21. I am satisfied with the transaction processing via Digital Banking services.	Sikdar et al. (2015).					
22. I think I made the correct decision to use the Digital Banking services.	Sikdar et al. (2015).					
23. My satisfaction with the Digital Banking service quality is high	Sikdar et al. (2015).					
24. Overall, Digital Banking services is better than my expectations	Toor et al. (2016).					