



**ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND
ECONOMICS MBA PROGRAM**

**THE EFFECT OF VIRTUAL BANKING SERVICE QUALITY ON CUSTOMER
SATISFACTION: THE CASE OF BANK OF ABYSSINIA**

*A Research thesis submitted to Addis Ababa University College of business
and economics in partial Fulfillment of requirement for award of the
degree of master of business administration in management*

By

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Addis Ababa, Ethiopia

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College of Business and Economics

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Administration*

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June, 2025

Addis Ababa

DECLARATION

I the undersigned hereby declare that this thesis entitled "the effect of virtual banking service quality on customer satisfaction "is my original work and I have carried out under the guidance of Dr.Salehu Anteneh. Furthermore this research has not been submitted for the award of any degree or any other qualification at any other universities.



Belete Haymanot
Addis Ababa University
June 2025

STATEMENT OF CERTIFICATION

This is to certify that Belete Haymanot has carried out his research work on the topic entitled, "The Effect of Virtual Banking Service Quality on Customer Satisfaction: The Case of Bank of Abyssinia" The work is suitable for submission for the award of the Degree of Master of Business Administration [MBA] at Addis Ababa University.



Salehu Anteneh (PhD)
(Advisor)
June, 2025

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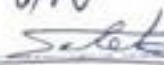
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Fulfillment of Requirements for Master of Arts degree in Business Administration

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Abstract

In the highly competitive service industry, the quality of service is a fundamental source of competitive advantage, playing a crucial role in differentiating offerings and enhancing customer value. This study investigates the impact of virtual banking service quality on customer satisfaction at the Bank of Abyssinia. The objective is to understand how specific dimensions of service quality functionality, enjoyment, privacy and security, convenience, design, assurance, and customization affect customer satisfaction in a digital banking context. Utilizing a quantitative research approach, the study employs Multiple Linear Regression (MLR) to analyze data collected from 384 active virtual banking users, achieving a high response rate of 90% with 345 completed surveys. Major findings reveal that functionality ($\beta = 0.160, p < 0.001$) and enjoyment ($\beta = 0.261, p < 0.001$) significantly enhance customer satisfaction. Convenience ($\beta = 0.127, p = 0.022$) and assurance ($\beta = 0.349, p < 0.001$) also positively influence satisfaction, while design ($\beta = -0.176, p = 0.001$) negatively affects customer perceptions. Unusually Privacy and security issues has not showed significant impact on customer ($\beta = 0.012, p = 0.790$). In conclusion, the study emphasizes the need for the Bank of Abyssinia to improve its digital services by enhancing functionality and user experience. Future research should explore customer satisfaction across different demographic segments and investigate the impact of emerging technologies, such as artificial intelligence and machine learning, on customer experiences in banking.

Keywords: *Virtual banking, service quality, customer satisfaction, econometric model, Multiple Linear Regression, sample size, response rate, Bank of Abyssinia.*

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1. INTRODUCTION

1.1 Background of the study

Customer satisfaction is an applied term that determines on how products and services supplied by a company meet or surpass customer expectation. Cronin (2000) conceptualized customer satisfaction to be an evaluation of an emotion, reflecting the degree to which the customer believes the service provider evokes positive feelings. Customer satisfaction reflects the degree to which a consumer believes that the possession or use of a service evokes positive feelings.

Cronin's (2000) various models and theories that have been developed to this end (Oliver, 1980), indicate that customer satisfaction is related to the size and direction of disconfirmation, which is Defined as the difference between the post-purchase and post-usage evaluation of the performance of the product and the expectations held prior to the purchase (Sharma, 2004).

Banks that excel in quality service and digitalization can have a distinct marketing edge since improved levels of service quality are related to higher revenues due to increased sales volumes, expanded market share and higher customer retention (Bennett, 1988)

Service quality is the customers overall perceived assessment of service performance. It is an elusive construct due to the unique characteristics of services, and it is hard to measure without measuring the dimensions that affect the quality of the service (Parasuraman.et al., 1988). Service quality and customer satisfaction are broadly accepted as the basics in the sales activities. Those elements help companies to move forward and retaining the intended customers. According to (Shemwell.et al., 1998), in today's competitive world the most important key for effectiveness lies in the ideas of exercising quality service in turn with high customer retention.

The use of technology by humans is growing, which is followed by the development of the systems that become technological media in presenting data and conveying information to other parties. This can emanate from the introduction of self-service technology (SST) which includes technological interfaces that allow consumers to complete their service requests with little or no

assistance from employees as a result SST improves efficiency speed and user friendliness, it has been highly used in today's business world (Petrikat & Chan, 2022).

Advances in information technology have transformed the way organizations interact with customers leading to improved service quality increased customer satisfaction and the development of stronger customer relationships The use of IT tools and system provides organizations with a new opportunity to understand customer needs deliver personalized services, and create a seamless customer experience (Talebi & Bardsiri, 2023). Interactive teller machine (ITM) has become an increasingly popular method for providing a banking services in recent years. ITMs are automated banking service that uses video conferencing technology to allow customers to communicate with remote teller or customer service representative.

Bank of Abyssinia announced the first virtual banking in Ethiopia in November 2020. This enables the bank to significantly increase accessibility and extend availability of 24/7 banking services through centrally located tellers. Customers can use ITM to complete a range of banking tasks from deposits to withdrawals, transfers and more. The use of ITMs has been found to improve customer satisfaction and reduce wait times but their effectiveness in providing quality customer service has yet to be determined. This study was sought to examine the impact of ITM service quality on customer satisfaction and how it can be improved.

1.2 Background of the organization

Bank of Abyssinia is one of the private owned commercial banks in Ethiopia established on February 15, 1996. The bank have started its operation with an authorized capita; of 50 million and 17.8 million of paid-up capital with totals of 131 shareholders and 32 staffs. The banks logo is commonly called the Adeyabeba. The description of the logo icon consists of a diamond shaped six petals yellow colored flower (endemic) called "adeyabeba", surrounded by a square with black color in the background. The flower: the logo is taken from an endemic six petals flower, locally known as "adeyabeba.

The Bank of Abyssinia aims to become the leading commercial bank in East Africa by 2030 by delivering exceptional financial services through a skilled and motivated workforce, utilizing state-of-the-art technology, and prioritizing customer satisfaction, integrity, teamwork, collaboration, and community care as core values.

Currently, the Bank of Abyssinia operates 928 branches across the country, serving over 13 million customers. It employs a modernized T-24 financial service system, complemented by 1,429 ATMs, 32 virtual banking centers, and more than 2,033 POS terminals strategically placed for customer convenience. The bank has achieved significant capital growth, increasing from ETB 50 million to over ETB 20.4 billion.

Utilizing advanced banking technology, the bank offers outstanding domestic, international, and specialized banking services to its valued customers. It is also committed to supporting the country's economic and service sectors through an expanding network of branches while fulfilling its corporate social responsibility. The bank has proudly introduced a new self-service machine that allows customers to access branch banking services through friendly virtual tellers from any ITM location.

1.3. Statement of the problem

In the service industry, quality serves as a crucial source of competitive advantage. Service quality differentiates and adds value to service offerings while helping to attain strategic competitive edges. In today's business landscape, customer satisfaction is vital and is fundamental to a company's survival amidst intense competition. Consumers now face a broad array of products and services and have developed higher standards for the quality they expect. As a result, customers are more likely to choose products and services that align with their expectations and desires. Customer satisfaction fosters revenue and profit growth through repeat purchases, new product acquisitions, and recommendations from satisfied customers.

In response to these changes and diverse customer demands, various customer service technologies have emerged. The use of information and communication technologies (ICT) has transformed business operations, creating opportunities for new product and service delivery. Moreover, ICT supports management processes such as collaboration, control, and planning. In the banking sector, ICT enhances customer bases, reduces transaction costs, improves response quality and timeliness, and facilitates advertising, branding, self-service, service customization, customer communication, and relationship management (Nimako, 2013).

While the internet began as a communication tool, it has evolved into a vital commercial asset. E-banking—encompassing Internet banking, ATMs, ITMs, and mobile banking—is increasingly

prevalent, leaving banks with limited opportunities to differentiate themselves through enhanced customer service and improved consumer experiences.

The banking industry is evolving due to customer demand and technological advancements. E-banking has become the primary means of customer interaction, prompting changes in financial markets. Globally, banks are striving to reduce costs while increasing profit margins to maintain competitiveness. The internet holds strategic significance for businesses focused on e-marketplaces (Hysni Terziu, 2020). A study conducted in Indian banks by Kaseke, Charira, and Muzondo (2012) identified key factors contributing to customer satisfaction, including convenience, availability of service points, affordable banking services, instant updates from banks, and confidentiality.

Customer satisfaction and service quality are critical ideas for academic researchers investigating Consumer assessments as well as practitioners seeking competitive advantages and customer Loyalty. For factors such as growing deregulation and competition, many sectors are focusing more on customer happiness and service quality (Ghasemi, kazemi and Esfahani, 2012).

Research on virtual banking services in Ethiopia remains limited due to the recent introduction of this technology in domestic banks. Among these banks, Bank of Abyssinia is the sole provider of such technology to customers, prompting the researcher to explore this topic further.

1.4. Research Questions

This study evaluates the impact of virtual banking service quality on BoA customers' happiness and attempts to answer the following queries:

- a) How much does functionality impact BoA's Virtual Banking users' satisfaction?
- b) What effect does enjoyment have on client satisfaction with BoA's virtual banking?
- c) How does security/privacy affects BoA's Virtual Banking user's satisfaction?
- d) How much does assurance affect BoA's Virtual Banking customer's satisfaction?
- e) How does convenience affect consumers' opinions about the caliber of BoA's virtual banking and how satisfied they are with it?
- f) How does customization affect BoA's Virtual Banking users?
- g) How do clients feel about the way BoA's virtual banking is designed?

1.5. Objective of the Study

1.5.1. General Objective

The study's main objective is to assess the effect of quality of virtual banking services on BoA customer satisfaction.

1.5.2. Specific Objective

The researcher was focus on the following specific objectives while assessing the effect of virtual banking service quality on customer satisfaction of BoA;

- a) To determine the extent to which functionality features influence customer satisfaction in BoA's Virtual Banking.
- b) To assess the impact of enjoyment on customer satisfaction in BoA's Virtual Banking.
- c) To analyze the relationship between security/privacy features and customer satisfaction in BoA's Virtual Banking.
- d) To assess assurance impact on customer satisfaction of BoA's Virtual Banking?
- e) To assess the impact of convenience features on customer satisfaction in BoA's Virtual Banking.
- f) To analyze the relationship between customization features and customer satisfaction in BoA's Virtual Banking.
- g) To assess the impact of design features on customer satisfaction in BoA's virtual Banking.

1.6. Significance of the study

The study's conclusions and suggestions help the appropriate stakeholders carry out the required remedial measures and improve goods and services in the future. It was also help Bank of Abyssinia's management refocus their attention on this crucial task in order to develop happy clients. Additionally, this study is important for the researcher as well as other academics since it offers insightful information on research techniques and acts as a guide for further research on the subject.

1.7. Scope of the study

The research was concerned with the impact of virtual banking service quality on customer satisfaction specifically at Bank of Abyssinia (BoA). The researcher conducted the study was just on BoA and not on other banks because BoA was the early and only provider. The research was mainly focused on to analyzing the business of BoA customers that have tried out virtual banking services. Besides, the researcher also applied SSTQUAL model to determine the impact virtual banking service has on customers, since the model is a known way to measure service quality and supported to study the seven important areas of BoA's virtual banking service. Those are a product's functionality, enjoyment, security and privacy, assurance, design, convenience, and abilities to be customized. This model permitted the researchers to understand the topic in detail, what makes customers happy with the virtual banking solutions at BoA.

1.8. Limitation of the Study

A number of obstacles could impede this investigation's progress and prevent the research from being completed as planned. One major obstacle is the confidentiality of some company data, which restricts the amount of information available for the study. Second, because virtual banking services were only recently introduced in Ethiopia by Bank of Abyssinia as the only provider, there is a dearth of previous research on the subject, which results in a lack of sources, making it difficult to conduct a thorough analysis.

1.9. Organization of the study

There are five chapters in the research: The study's background, issue statement, research questions, general and particular objectives, as well as the paper's scope, significance, limitations, and structure, all are covered in Chapter One. The literature review was the main topic of Chapter 2. The methodology and research design was covered in Chapter 3. The findings and debates was presented in Chapter Four. Chapter Five conclude with a summary of the results, conclusions, and suggestions.

2. REVIEW OF RELATED LITERATURES

2.1. SERVICE

Analysts have confronted challenges in characterizing a benefit since of its heterogeneous nature Edvardsson et al 2005 Lovelock Patterson 2015 Customarily promoting researchers have separated between administrations and unmistakable merchandise Lovelock Patterson 2015 This qualification is most clearly seen in four key contrasts intangibility heterogeneity and perishability Lovelock Gummesson 2004 Lovelock Patterson 2015.

Administrations can incorporate unmistakable components such as cars buildings and dinners that will be vital for conveying the benefit In any case intangible aspects like the competence and demeanors of benefit personnel or online interactions often give the foremost esteem in benefit execution Lovelock Patterson 2015 In spite of the challenges in characterizing and conveying administrations they play a vital part in trade victory and client fulfillment High-quality benefit can cultivate client dependability positive evaluations and expanded income whereas destitute benefit can result in negative audits misfortune of clients and harm to notoriety Thus in today's competitive scene companies must center on giving remarkable benefit to hold and draw in clients.

Another noteworthy qualification between products and administrations is that people regularly play a basic part Role part within the benefit encounter (Lovelock Patterson 2015) For occurrence the states of mind of both clients and staff amid a angling trip can significantly impact the result of the involvement Clients are more likely to have positive encounters on the off chance that they appreciate their intelligent with staff Moreover clients act as cocreators of the esteem of the administrations they get This point of view which sees clients as cocreators of esteem has picked up footing in later a long time Vargo Lusch 2004 2008 Lusch Vargo 2006 and contrasts with the conventional promoting see known as goods dominant rationale GDL where the center was essentially on creating merchandise and clients were seen as inactive beneficiaries (Lovelock Patterson ,2015).

2.2 Quality

The Swedish Academics dictionary (SAOB 2019) characterizes quality as enormity that depicts how well one or more properties of a marvel item or benefit meet a require In any case a widespread definition of the concept remains tricky (Reeves Bednar 1994) Quality shifts over businesses as well as among scholastics and professionals in both fabricating and administrations (Wicks Roethlein,2009) One reason for the contrasting definitions of quality may be credited to its characteristics Since numerous of its components are regularly intangible different definitions of quality can be pertinent in several settings

2.3. Service quality

Benefit quality (SQ) could be a challenging concept to define Be that as it may it is regularly utilized to assess how well a benefit meets client desires (Ghobadian, et .al ,1994) Clients evaluate the quality of a benefit by comparing their desires of what they ought to get with their discernments of what the benefit supplier really conveyed In other words as Parasuraman depicts in past considers on benefit quality SQ emerges from a comparison between what clients accept a company ought to give and the company's genuine benefit execution

2.4. Self-service technology (SST) service quality

Lin and Hsieh (2011) created the SSTQUAL scale which points to degree benefit quality by centering on the intelligent between self-service innovation (SST) and buyers in terms of seen SST quality The SSTQUAL approach is broadly connected in measuring SST quality in retail and managing an account divisions (Radomir and Nistor 2012 Orel and Kara 2014) Various thinks about within the writing have investigated the concept of benefit quality related to SST over different businesses and nations Numerous assessments have been conducted to assess the quality of SST administrations Outstandingly SSTQUAL offers a few similitudes with other scales as numerous measurements in past scales closely take after those in SSTQUAL Be that as it may it is vital to note that these other scales regularly center on eservices (Lin and Hsieh, 2011) are donors to this examination Thus SSTQUAL has been broadly utilized as a foundational demonstrate for investigating other sorts of SSTs such as self-service kiosks in

grocery stores Orel Kara 2014 and SSTs within the keeping money division Radomir Nistor 2012.

Customer satisfaction is directly affected by service quality, according to various research's (Akbar & Parvez, 2009; Brady & Cronin, 2001; Sureshchandar et al., 2003). Recent studies also convey that customer happiness and the quality of self-service technology (SST) are interrelated. Customer satisfaction and service quality in online shopping were found to be strongly correlated by Wolfenbarger and Gilly (2003); this relationship is also seen in online consumer electronics (Wu, 2011). In the e-commerce industry, the same results have been recorded (Ribbink et al., 2004).

Saving time and money, promptly attending to specific demands, and avoiding staff contacts are important elements that contribute to SST satisfaction (Meuter et al., 2000). Additionally, their investigation shows that problems like broken systems, unavailable SSTs, technical difficulties, and general SST failures are major causes of customer discontent.

The seven characteristics that define customer expectations of service quality in self-service technology (SST) are as follows:

- **Functionality:** This characteristic reflects the functional attributes of SST, specifically:
 - **Reliable:** Refers to the ability to provide consistent and dependable services.
 - **Responsive:** Indicates the SST device's ability to react to user commands.
 - **Simple and easy to use:** This device is shaped to be user-friendly and requires a lower effort.
 - **Quick response to requests:** Services on SST devices can be performed timely.
- **Enjoyment:** indicates the happiness and engagement reported by users while using SST devices.
- **Security and privacy:** This part helps the user's sense of safety and assurance. The features provided by SST devices should instill a sense of security and comfort in users while utilizing them.

- **Design:** This covers the overall aesthetic appeal of SST, including the impressive of its shape and layout, which helps to develop an inviting experience for users.
- **Assurance:** implies confidence in SST devices based on their reputation and ability to provide users with a sense of security. This dimension is vital in the service industry, especially when consumers have confusion about the company's capacity due to expected risks.
- **Convenience:** This dimension describes the accessibility of SST services, as well as the ease and comfort associated with using them.
- **Customization:** This dimension allows for SST devices to be tailored to meet the specific needs and preferences of consumers, focusing on understanding and addressing customer demands rather than merely the system's features.

2.5. The Dissonance Theory

The Dissonance Theory of satisfaction states that a person who expects purchase of a high value product but faces a low value product will also find a difference consequently create dissonance (Cardozzo, 1965). Disconfirmed expectations create a state of imbalance or psychological discomfort (Yi, 1990). As with all theory, this (and indeed all other conflict-related theory) must be undertaken with extreme caution, however, at its core; the existence of conflict creates the pressure to find resolution to that alterations, whether that is through altering the perceived divergence. Thus, consumers are thought to visually misshape performance that goes against their expectations and real performance, purchasers may experience mental strain and try to alleviate it by altering their perception of the product (Yi, 1990). Cardozzo point out that purchasers might raise their measure of merchandise whilst the funding in the product is substantial.

This theory emphasizes the psychological processes that customers experience when their expectations of virtual banking services do not align with their actual experiences. By comprehending and addressing these dynamics, banks can enhance service quality, boost customer satisfaction, and cultivate loyalty. This understanding is vital for formulating effective strategies in the competitive realm of virtual banking.

2.6. The Expectancy Disconfirmation Paradigm

These theories states that, customers base their purchases on their pre-existing expectations for performance. This expectation used as a measurement by which the good or service is rated. Results are compared to these expectations following the use of the product or service. Confirmation happens if the outcomes match the expectations. The gap between expectations and results is known as disconfirmation. The positive or negative values between expectations and perceptions might ensure whether a customer is satisfied or dissatisfied.

Specifically, a positive disconfirmation will happen when service performance is over the initial expectations, leading to satisfaction. On the other hand, confirmation takes place when service performance meets expectations, which also results in satisfaction. On the other hand, negative disconfirmation occurs when service performance does not fit the customer's expectations, which brings in discontent. Since Howard and Sheth (1967) defined satisfaction as a function of the alignment between expectations and observed reality, this distinction has been present in the literature on contentment for a considerable amount of time. Because it emphasizes the need of controlling consumer expectations and perceptions, the Expectancy Disconfirmation Paradigm is especially significant for the quality of virtual banking services. Virtual banks may increase client satisfaction, encourage loyalty, and strengthen their position in the market by aiming to go above and beyond expectations and filling in any gaps in service quality.

2.7. The Value Percept Theory

According to Westbrook and Reilly (1983), relative norms, rather than expectations, are more likely to influence client happiness or dissatisfaction, suggesting that the expectation-disconfirmation paradigm may not be the best model for explaining client satisfaction. They suggested an alternative to the expectation-disconfirmation paradigm: the Value-Percept Difference thesis, first put forth by Locke in 1967. According to Westbrook and Reilly, who critique the predictive expectations employed in the conventional disconfirmation model, what consumers truly want or value in a product may differ from what is expected of it.

2.8. The Equity Theory

The Equity Proposition states that when customers believe their input-output ratio is fair, they become satisfied (Swan & Oliver, 1989). Depending on the idea of the input-output ratio, which is vital to happiness, equity models were comes from the Equity Theory (Adams, 1963) (Oliver & Swan, 1989). According to this theory, if parties believe that the ratio of their inputs to outcomes is fair, they will feel that they are being treated fairly and will be satisfied (Oliver & DeSarbo, 1988). The cost incurred, the advantages gained, the time and effort used in the transaction, and prior experiences with comparable exchanges are some of the variables that may influence an individual's impression of fair treatment (Woodruff et al., 1983). This implies that there are many ways in which relative advantage can appear.

To understand how customers perceive fairness in the quality of virtual banking services requires a know-how of the Equity Theory. Virtual banks can increase customer happiness, cultivate loyalty, and obtain a competitive edge in the market by assuring a balanced exchange between client inputs and service outputs.

2.9. Service Quality and Customer Satisfaction

Customer satisfaction is principally how happy the users are with the services handed and can be determined through checks and conditions to understand their requirements and make adaptations where applicable (Machirori et al., 2011). Enterprises, government bodies, service companies, and nonprofit associations all have one thing in common that's the main focus to satisfy the customers (Broetzmann, 1995).

Customer satisfaction is studied and batted regularly in literature antecedents (Chidambaram, 2012). There's no mistrustfulness that client satisfaction and service quality are appreciatively related constructs (Baker et al., 2000).The considerations extend from physical tocerebral and normative aspects (Javadin et al., 2012).

Again, several studies verified that service quality is a determinant of customer satisfaction anyhow whether they were accretive or sale acquainted (Cronin et al., 1992). The two disagreement generalities are the ultimate pretensions of service providers (Awan et al., 2011).

Nonetheless, it's important to note that client satisfaction is an important wider conception not just grounded on specific confines (Wilson et al., 2008).

Service quality is an evaluation over a long period hence is an antecedent element of customer satisfaction (Ree, 2010). Both developing and developed husbandry are affected by liberalization and globalization and the pressure of satisfaction are forcing associations to acclimatize fleetly to maintain competitive advantage (Forsythe, 2012).

To gain and cover request share in the long run, Businesses must have strategies to insure client satisfaction (Tsoukatos, 2006). Inquiries have shown that client dissatisfaction and negative judgements had led to several destructive goods on profit (Munusamy, 2006). Some argued that satisfaction is the end product of perception (Karatepe et al., 2005).

Service quality is generally appertained to the affair of service delivery system, which is linked to consumer satisfaction, perception, and opinions that are formed grounded on colorful contributing factors and references. The interest on this issue has grown considerably over the last decade. It has come a veritably popular field for academic and scholarly exploration (Zeithmal, 2000).

In some cases, the stylish service sweats can be blamed because of the client's bad mood, according to direct service providers similar as waitresses. It's honored that the practice in impacting client may be affected by their cerebral and physical conditions. Thus, the degree of distinction between the normative prospects of guests and the comprehensions at the state of time may alter (Parasuraman et al., 1994).

There are multitudinous measures and delineations of service quality without a single agreement (Eshghi et al., 2008). Service quality is a complex construct that incorporates multiple attributes which may change fleetly and dramatically, which will also grease precise dimension (Karatepe, 2013). Consumers witness and perceive quality during the process whilst providers attain and define them. The total delivery process is also estimated, especially with those that's constantly

repeated, and will gradationally maintain long- term client relations if performed directly. When designing the process, a crucial element which is quality will impact the volume of demand for the specific product or client profile.

The impact of quality service on fiscal pointers and profit should not be underrate. Quality-grounded strategy is sustainable and excellent; must be viewed as a strategic force as it can significantly increase request share, drive growth, and pose a hedge to those that seek to replicate. Studies have shown the quality of service is a critical success point for marketable and retail banks to win over one another (Kheng et al., 2005). As they daily perform face- to- face commerce with guests, banks must maintain a professional terrain at all times. Bankers are trained to admit the relationship between the two variables of service quality and client satisfaction in order to develop a competitive edge by diving both palpable and impalpable aspects. In turn, the banks' profit will increase in the long run (Parasuraman et al., 1988).

To be more specific, in order to have an effective marketing strategy, these enterprises need to understand the minds of their target guests when choosing a service provider. For case, the name, trustability, character, physical installations and other criteria. However, the donation process will be much more effective and simpler to manage (Toelle, 2006), if marketers can truly understand the assessment attributes. In moment's world, one viral videotape clip of poor service quality can absolutely destroy the business character. Word of mouth can spread at an extremely fast pace and the quantum of client loss would be inviting (Ananth et al., 2011). There are businesses who accidentally made a slight mistake in their front- line service delivery, leading to the public's boycott and ruin.

2.10. Conceptual framework

The Self-Service Technology Service Quality Scale was developed to close a measuring gap in service quality. At the time of its founding in 2011, research was primarily restricted to specific areas, such as online retail and purchasing. According to Considine and Cormican (2016), there were no tools available to evaluate the caliber of technology-based services across several industries. Understanding this limitation, Lin and Hsieh set out to create a new metric that could assess the quality of self-service technologies in a broader variety of scenarios. Their objective was to provide a useful instrument for evaluating self-service technology's quality across a

variety of applications. By developing this scale, they want to advance the field of service quality research and give practitioners a thorough instrument.

There were no instruments available to assess the quality of technology-based services across multiple industries (Considine and Cormican, 2016). Aware of this constraint, Lin and Hsieh set out to develop a new metric that could evaluate self-service technology quality across a wider range of situations. Their goal was to offer a practical tool for assessing the quality of self-service technology in a range of applications. They aimed to improve the field of service quality research and provide practitioners with a comprehensive tool by creating this scale.

SELF SERVICE TECHNOLOGY
SERVICE QUALITY

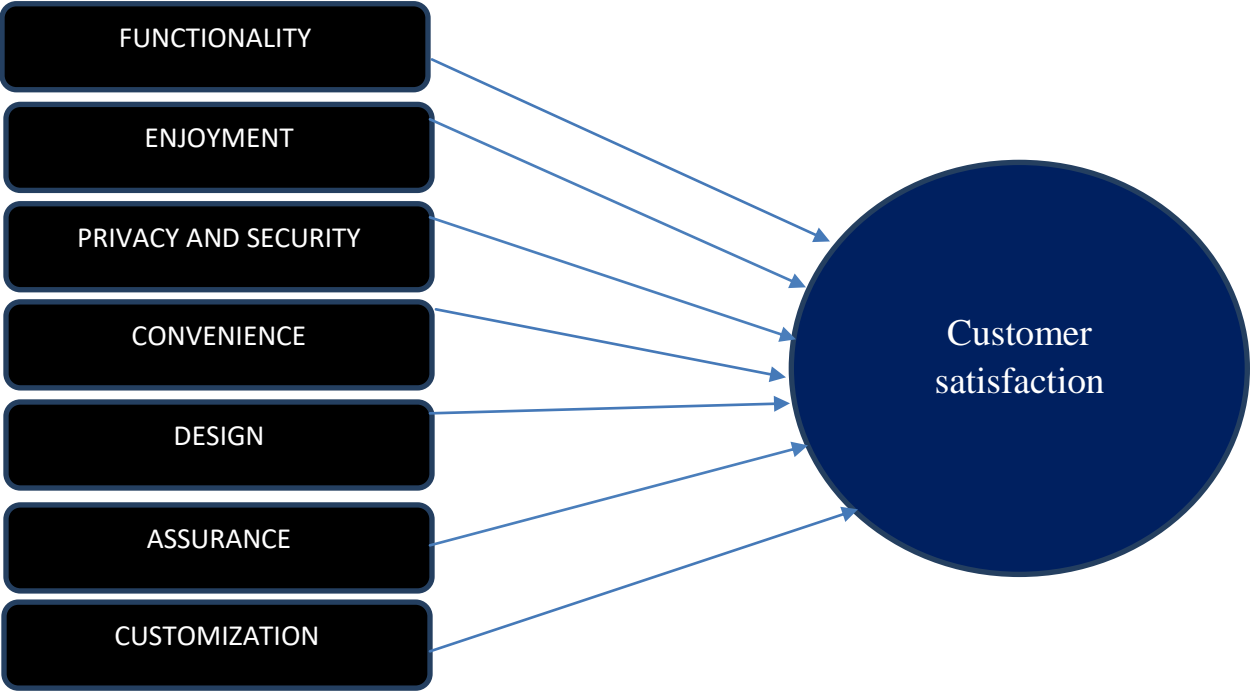


Figure 1: Conceptual framework

Source: self-service technology service quality model of technology (Lin and Hsien ,2011)

2.11. Research Hypothesis

- a) **Hypothesis 1:** There is a positive and significant relationship between products Functionality and Customer Satisfaction.
- b) **Hypothesis 2:** There is a positive and significant relationship between clients Enjoyment experience and Customer Satisfaction.
- c) **Hypothesis 3:** There is a positive and significant relationship between Privacy and Security issues for customers and Customer Satisfaction.
- d) **Hypothesis 4:** There is a positive and significant relationship between service Convenience and Customer Satisfaction.
- e) **Hypothesis 5:** There is a positive and significant relationship between product and services Design and Customer Satisfaction.
- f) **Hypothesis 6:** There is a positive and significant relationship between product Assurance and Customer Satisfaction.
- g) **Hypothesis 7:** There is a positive and significant relationship between service Customization and Customer Satisfaction.

3. RESEARCH METHODOLOGY

This chapter presents the practical methods used in order to answer the research questions and fulfill the purpose of the research.

3.1. Research Approach

Quantitative research approach was used in this study to assess the effect of virtual banking service quality on customer satisfaction. Quantitative research is a means for testing objective theories by examining the Relationship between variables (Creswell, 2009).

3.2. Research Design

The descriptive analysis have been applied in the win this study. The research is descriptive in nature, with the purpose of characterizing the degree of customer satisfaction and service quality in BoA's Virtual Banking and thereby providing a comprehensive grasp of the reality of customer satisfaction and service quality in BoA's Virtual Banking.

3.3. Population and Sampling Technique

3.3.1. Target Population

A population is an entire group of individuals who have certain traits in common. Finding a research population and then observing a sample drawn from it are common procedures in descriptive studies. Research populations may be identified by geographic location, age, gender, and other definitions of characteristics and variables like occupation, religion, and ethnic group. Chaudhury, Banerjee, and others. 2007) Active users of BOA virtual banking are part of the study's target population.

3.3.2 Sampling Size

Determining sampling is the process of choosing a number of research units from a particular study population. It is strongly advised to acquire a representative sample for the intended investigation. The Danial sample size formula was applied because the customer population was either unknown or infinite (Danial 1999). Therefore, the following formula can be used to determine the sample size for customers (the total population).

$$n = \frac{z^2 (p) (q)}{e^2}$$

Where:

n- Sample size

z- Statistic for a level of confidence (for a level of confidence of 95%, which is conventional value is 1.96).

p- Estimated proportion of incidence (success rate = 0.5)

q- (1 –p) or assumed failure rate (0.5)

e- Proportion of sampling error or error margin in a given situation (5%)

Thus, the sample size of the intended study with 95% confidence level, probability of 50%

Occurrence, probability of 50% failure and 5% marginal error, was obtained as:

$$n = \frac{z^2 (p) (q)}{e^2} = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} = 384.16 \text{ which is } 384$$

3.4. Sampling Technique

The study employs the convenience sampling technique to select questionnaire respondents; this sampling method was selected because it is difficult to find customers who would make a random selection.

3.5. Types of Data Collected

Primary data was used to collect data for the study. Data that is gathered straight from the source, without consulting any pre-existing sources, is referred to as primary data. Usually gathered for a particular study, it can also be made publicly available for use in other studies.

3.6. Methods of Data Collection

In this study, questionnaires are the main instrument used to collect data. In order to gather primary data, 384 BOAs virtual banking users in Addis Ababa were given questionnaires.

3.7. Data Analysis Methods

The results of the collected data were arranged, assessed, and interpreted, and they were prepared for decision-making through the use of multiple regression analysis. To further analyze the data, tables, percentages, and graphs have been employed. Organized and interpreted in this way to suggest a course of action based on the findings that have been identified and provided. Using administered questionnaires, the data collected in the field was entered and coded in the Statistical Package for Social Science (SPSS). In order to analyze field data (questionnaire), frequencies, percent, means, and reliability were mainly computed using SPSS. The existing literature were reviewed in order to determine the questionnaire's content validity.

3.7.1. Econometric Model

3.7.1.1. Study Model: Multiple Linear Regression Model

The study uses a multiple linear regression model to investigate the connections between the dependent variable of customer satisfaction and a number of independent variables, including product functionality, enjoyment experience, privacy and security concerns, service convenience, product and service design, product assurance, and service customization. This model is especially well-suited for this study for a number of reasons: **Complex Relationships:** A number of factors affect customer satisfaction, and multiple linear regression enables the simultaneous examination of these variables, offering a comprehensive understanding of how each influences overall satisfaction. **Quantitative Analysis:** By quantifying the relationships, the model makes it possible to test the hypotheses statistically. A quantitative study's results are more meaningful and it is simpler to determine why customers are satisfied or dissatisfied. It is easy to interpret the findings from a multiple linear regression study and tell which variables influence customer satisfaction the most and in what way.

Model Specifications The general form of the multiple linear regression model can be expressed mathematically as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + e$$

Where:

- (Y) = Customer Satisfaction (dependent variable)
- (X1) = Product Functionality
- (X2) = Clients' Enjoyment Experience
- (X3) = Privacy and Security Issues
- (X4) = Service Convenience
- (X5) = Product and Services Design
- (X6) = Product Assurance
- (X7) = Service Customization
- (beta0) = Y-intercept (constant term)
- ($\beta_0, \beta_1, \dots, \beta_7$) = Coefficients of the independent variables (indicating the strength and direction of the relationship)
- e = Error term

3.8. Ethical Considerations

In order to pertain the integrity of the research process, ethical considerations were given the first attention in the study. Respondents were aware of the purpose and importance of the study before participation, and their voluntary involvement was acquired. They were informed that if they felt not discomfort at any time without facing any consequences or having to give an explanation. The survey was conducted excluding any personally identifiable information in order to preserve anonymity. Participants were given the assurance that their answers would be kept secretly, creating a secure setting for candid criticism. The researcher ascertained the respondents' rights to confidentiality, information about the research, and the guarantee that their opinions would not be misrepresented or result in incorrect conclusions. Building trust and exercising open participation in the study were the goals of this dedication to ethical standards.

3.8.1. Validity

The process of evaluation involves determining how sensitive the research tools are (Saunders et al. 2009). Face validity, along with content validity, was added during the questionnaire's design to validate it.

The questionnaire looked at various reasons people choose digital banking and reviewed all questions to ensure they captured the quality and impact on customer’s satisfaction.

The researcher determined that the questionnaire addressed the key areas by using face validity. To ensure that the findings were strong and reliable, the researchers made certain that the list of questions was significant and also both clear and understandable.

3.8.2. Reliability Test Results

TABLE: 1: RELIABILITY TEST RESULTS

Variables	Number of Items	Cronbach's Alpha Coefficient
Functionality	5	0.917
Enjoyment	5	0.916
Privacy and Security	5	0.916
Convenience	5	0.913
Design	5	0.912
Assurance	5	0.912
Customization	5	0.916
Customer Satisfaction	5	0.915
Total	40	0.924

Source: (survey SPSS version 27 output, 2025)

The reliability test results presented in Table above indicates a strong internal consistency across the various dimensions of virtual banking service quality measured in the study. Each variable assessed such as Functionality, Enjoyment, Privacy and Security, Convenience, Design, Assurance, Customization, and Customer Satisfaction exhibits a Cronbach's Alpha coefficient exceeding the commonly accepted threshold of 0.70. This suggests that the items within each construct effectively measure the same underlying concepts related to virtual banking services.

The overall Cronbach's Alpha for the total of 40 items is 0.924, indicating excellent reliability. This high value aligns with established guidelines, where a Cronbach's Alpha above 0.9 is considered excellent. Each individual construct also demonstrates strong reliability, with

coefficients ranging from 0.912 to 0.917. For example, Functionality has a reliability coefficient of 0.917, while Enjoyment and Privacy and Security both show coefficients of 0.916. The remaining constructs, including Convenience (0.913), Design (0.912), Assurance (0.912), Customization (0.916), and Customer Satisfaction (0.915), further reinforce the reliability of the measurement instrument.

4. DATA PRESENTATION AND ANALYSIS

4.1. Response rate

TABLE: 2: RESPONSE RATE

Target Sample	Response Collected	% Age Share
384	345	90%

Source: Own survey result, (2025)

Based on the survey, of the 384 participants selected, 345 were involved to participate in giving feedback, meaning more than 90% did. Because the survey received a high number of responses, it is evident that the audience took notice of it. When a greater number of people take part in the study, it leads to better outcomes and a stronger study. By this, we can understand how significant the survey issue is to customers which help us to know how satisfied they are with BOA’s virtual banking system.

4.2. Demographic Characteristics of Respondents

TABLE: 3: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Variable	Category	Frequency	Percentage
Gender	Female	171	49.60%
	Male	174	50.40%
	Total	345	100%
Age	18-24	56	16.20%
	25-34	162	47.00%
	35-54	95	27.50%
	45-54	32	9.30%
	Total	345	100%
	Education	High school or below	14
Diploma		42	12.20%
Bachelor Degree		175	50.70%
Master’s Degree		89	25.80%
Doctoral Degree		25	7.20%
Total		345	100%
Income	<5,000	15	4.30%
	5,000-10,000	56	16.20%
	10,001-15,000	69	20.00%
	15,001-20,000	137	39.70%
	>20,000	68	19.70%
	Total	345	100%

Source: The study survey result (2025)

4.2.1. Gender Distribution

The gender proportion indicates that 49.6% of those surveyed are women and 50.4% are men. This data is crucial because financial services in Ethiopia have usually been dominated by men. As both genders use the bank's virtual services equally, it is likely that customers will be highly satisfied, loyal and willing to stay with the bank (World Bank, 2020).

4.2.2. Age Distribution

The poll results suggest that 47% of those involved customers were people between the ages of 25 and 34. People in this age group are familiar with technology and a growing number of them rely on online banking services (KPMG, 2021).

The presence of 16.2% of respondents aged 18-24 further emphasizes the significance of targeting younger demographics in marketing strategies for virtual banking services

4.2.3. Education Levels

Most of the respondents, accounting for (50.7%) of the total, have a Bachelor's degree, while 25.8% have a Master's degree. Since respondents are well-educated, it is likely that the customer group is aware of service quality and cares more about how it impacts satisfaction, as emphasized in many studies (Amin et al., 2013).

4.2.4. Income Levels

A significant portion of respondents 39.7% stated that they earn between 15,001-20,000, while only 20% earn between 10,001- 15,000. It suggests that more customers want access to good features and services from their banking company.

Understanding the income levels of customers is vital for banks to tailor their services and products effectively, ensuring they meet the needs of their clientele (National Bank of Ethiopia, 2022).

4.3. Summary Statistics -Descriptive Analysis

TABLE: 4: SUMMARY STATISTICS -DESCRIPTIVE ANALYSIS

	N	Mean	Std. Deviation
Functionality	345	3.7229	0.80693
Enjoyment	345	3.8278	0.79733
Privacy and security	345	3.8574	0.83140
Convenience	345	3.9032	0.72722
Design	345	3.8255	0.80119
Assurance	345	3.7791	0.82914
Customization	345	3.8991	0.77236
Customer Satisfaction	345	3.8794	0.72758
Valid N (listwise)	345		

Source: The study survey result (2025)

The summary statistics reveal that customers of the Bank of Abyssinia generally view the virtual banking services positively, with mean scores above 3.5 across all dimensions assessed. Notably, convenience scored the highest at 3.90, indicating that users find the platform easy to access and navigate. Enjoyment and privacy/security also received high ratings, reflecting a strong user experience and a sense of safety in transactions. However, the slightly lower mean score for functionality (3.72) suggests that while the service is functional, there may be specific areas for enhancement. This indicates that while customers are satisfied, there are opportunities for the bank to improve its offerings further.

These findings have important ramifications for the Bank of Abyssinia as it looks to improve client loyalty and satisfaction. High convenience and enjoyment ratings imply that the bank has effectively established a user-friendly atmosphere, which is essential for keeping a younger, tech-savvy customer base. Nonetheless, the wide range of scores, especially in functionality and assurance, suggests that some clients might still be worried. Improving customer satisfaction and service quality perceptions may result from addressing these issues. The bank can improve its competitive position in the quickly changing Ethiopian banking market by emphasizing functionality and bolstering security measures.

4.4. Regression Analysis - Test for Assumptions

4.4.1. Test for linearity

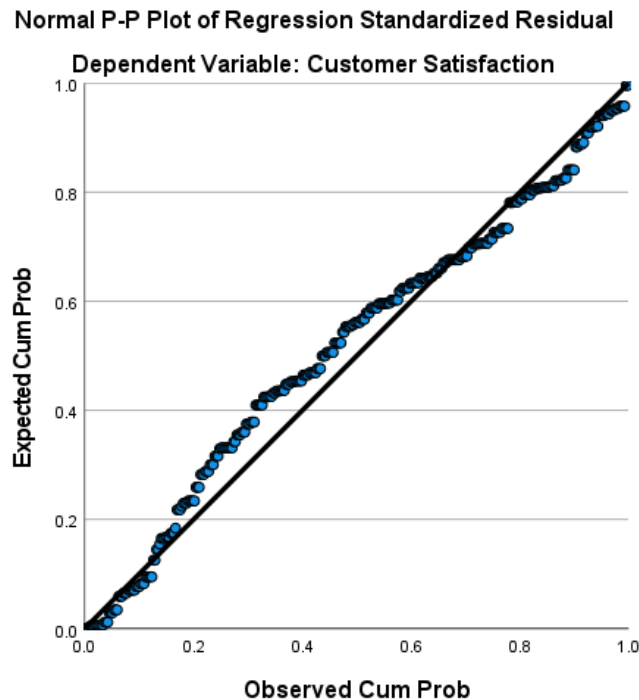


FIGURE: 1: TEST FOR LINEARITY

Source: SPSS Version 27(2025), n=345

This study seems to satisfy the linearity assumption, a crucial prerequisite for linear regression analysis. A linear relationship between the independent and dependent variables is indicated by the scatterplot of the residuals against the predicted values, which displays a random scatter of points around the horizontal line at 0. Furthermore, since the residuals' distribution closely resembles a normal distribution, the assumption of normality appears to be met. The scatterplot's consistent point distribution suggests that the homoscedasticity assumption—which states that the variance of the residuals must be constant across all levels of the independent variables is also satisfied.

4.4.2. Normality Test: Kurtosis and skewness

The variables' skewness and kurtosis values offer crucial information about the distributional features that may affect the model's performance. From -0.351 for customization to -0.726 for design, all variables show negative skewness. This implies that most responses lean toward the higher end of the spectrum, suggesting that respondents are generally satisfied. After fitting the regression model, it is crucial to evaluate the residuals' normality because a large amount of predictor skewness may result in skewed residuals, which could violate the regression assumptions. The majority of variables show negative kurtosis values, which indicate platykurtic distributions. Functionality and Convenience, for example, have values of -0.635 and -0.430, respectively, indicating a flatter distribution with fewer extreme values. Notably, the slightly positive kurtosis in Privacy and Security (0.383) and Design (0.485) indicates some peakedness, which may indicate a higher probability of outliers in these variables. Collectively, these results suggest that even though the distributions are generally suitable for linear regression, it is important to look for outliers because they may have an excessive impact on the regression model, particularly for variables with higher kurtosis. It is advised to fit the multiple linear regression model, check the residuals' normality, and use scatterplots of the residuals against the predicted values to evaluate the linearity of the relationships.

TABLE 5: SKEWNESS AND KURTOSIS ANALYSIS

Skewness and Kurtosis Analysis					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Functionality	345	-0.434	0.131	-0.635	0.262
Enjoyment	345	-0.422	0.131	-0.437	0.262
Privacy and security	345	-0.678	0.131	0.383	0.262
Convenience	345	-0.430	0.131	-0.289	0.262
Design	345	-0.726	0.131	0.485	0.262
Assurance	345	-0.547	0.131	0.356	0.262
Customization	345	-0.351	0.131	-0.283	0.262
Customer Satisfaction	345	-0.410	0.131	-0.148	0.262
Valid N (list wise)	345				

Source: SPSS Version 27(2025), n=345

4.4.3. Multicollinearity Test

TABLE: 6: MULTICOLLINEARITY TEST

Coefficients^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	Functionality	0.449	2.225
	Enjoyment	0.484	2.067
	Privacy and Security	0.435	2.298
	Convenience	0.371	2.692
	Design	0.333	3.006
	Assurance	0.395	2.529
	Customization	0.399	2.506
a. Dependent Variable: Customer Satisfaction			

Source: SPSS Version 27(2025), n=345

Tabachnick and Fidell (2013) state that when the residuals' variance remains constant throughout the range of expected values, the homoscedasticity assumption is satisfied. There is no discernible multicollinearity among the predictors in the current analysis, as indicated by the Variance Inflation Factor (VIF) values for each independent variable being significantly below the generally accepted cutoff of 5 or 10 (Hair et al. (2010). Multicollinearity is not a significant concern for the model predicting customer satisfaction, according to the regression analysis's collinearity statistics. Each independent variable appears to have a respectable amount of unique variance, as indicated by the tolerance values, which range from 0.333 for Design to 0.484 for Enjoyment. All of these values are above the generally recognized threshold of 0.3. Accordingly, the variables are not highly collinear, as evidenced by the Variance Inflation Factor (VIF) values, which range from 2.067 for Enjoyment to 3.006 for Design. These values are significantly below the critical threshold of 10. This implies that there are moderate relationships between the independent variables, making it possible to estimate each one's impact on customer satisfaction. These findings suggest that the regression model satisfies the conditions for testing under the assumptions of multiple linear regression, especially with regard to multicollinearity. A clearer insight is made possible by the regression coefficients' increased reliability due to the lack of significant multicollinearity.

4.4.4. Correlations Analysis-Pearson Correlation

TABLE: 7: CORRELATIONS ANALYSIS-PEARSON CORRELATION

Correlations									
Control Variables			Functionality	Enjoyment	Privacy and security	Convenience	Design	Assurance	Customization
CS	Functionality	Correlation	1.000	.354	.465	.354	.551	.237	.260
		Significance (1-tailed)	.	.000	.000	.000	.000	.000	.000
		df	0	342	342	342	342	342	342
	Enjoyment	Correlation	.354	1.000	.353	.281	.483	.242	.254
		Significance (1-tailed)	.000	.	.000	.000	.000	.000	.000
		df	342	0	342	342	342	342	342
	Privacy and security	Correlation	.465	.353	1.000	.440	.559	.369	.301
		Significance (1-tailed)	.000	.000	.	.000	.000	.000	.000
		df	342	342	0	342	342	342	342
	Convenience	Correlation	.354	.281	.440	1.000	.464	.392	.524
		Significance (1-tailed)	.000	.000	.000	.	.000	.000	.000
		df	342	342	342	0	342	342	342
	Design	Correlation	.551	.483	.559	.464	1.000	.481	.288
		Significance (1-tailed)	.000	.000	.000	.000	.	.000	.000
		df	342	342	342	342	0	342	342

	Assurance	Correlation	.237	.242	.369	.392	.481	1.000	.420
		Significance (1-tailed)	.000	.000	.000	.000	.000	.	.000
		df	342	342	342	342	342	0	342
	Customization	Correlation	.260	.254	.301	.524	.288	.420	1.000
		Significance (1-tailed)	.000	.000	.000	.000	.000	.000	.
		df	342	342	342	342	342	342	0

Source: SPSS Version 27(2025), n=345

The Pearson correlation analysis sheds important light on the connections between the variables in this customer satisfaction study. Customer satisfaction and the independent variables are associated to differing degrees, according to the correlation coefficients. The strongest positive correlation between Design and Customer Satisfaction ($r = 0.551$, $p < 0.001$) is noteworthy. Privacy and Security ($r = 0.465$, $p < 0.001$) and Enjoyment ($r = 0.354$, $p < 0.001$) follow. According to these results, improvements in these areas are probably going to have a favorable impact on overall customer satisfaction. Customization and assurance, on the other hand, show weaker correlations ($r=0.260$ and $r = 0.237$, respectively), suggesting that although they are associated with customer satisfaction, their influence is not as great as that of other variables. All correlations have significance levels below the 0.001 cutoff, suggesting that the relationships are statistically significant. These variables' suitability for additional regression analysis is supported by their strong correlation structure, which shows significant relationships that can be investigated to accurately predict customer satisfaction. We can confidently use multiple linear regression to examine the distinct contributions of these variables while accounting for potential confounders because of the strength and significance of these correlations. The results highlight how crucial it is to concentrate on Design, Privacy.

4.4.5. Test of Model Fitness

TABLE: 8: TEST OF MODEL FITNESS

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.786 ^a	0.618	0.610	0.45419	1.889
a. Predictors: (Constant), Customization, Design, Enjoyment, Privacy and security, Functionality, Assurance, Convenience					
b. Dependent Variable: Customer Satisfaction					

Source: SPSS Version 27(2025), n=345

With R value of 0.786 the model summary shows a strong correlation between the predictors and customer satisfaction. This implies a strong positive correlation, which means that customer satisfaction tends to rise in tandem with the independent variables (customization, design, enjoyment, privacy and security, functionality, assurance, and convenience). These predictors can account for roughly 61.8% of the variance in customer satisfaction, which is a significant percentage, according to the R sq\ Value of 0.618. The number of predictors in the model is taken into account by the Adjusted R sq\ Value of 0.610, which confirms that the model is still robust even after accounting for the number of variables. A good model fit is indicated by the standard error of the estimate (0.45419), which shows that the model's predictions are reasonably close to the actual values. Notable is the Durbin-Watson statistic of 1.889, which evaluates whether autocorrelation exists in the regression analysis's residuals. There is no autocorrelation when the value is near 2, positive autocorrelation is suggested by values much below 2, and negative autocorrelation is indicated by values above 2. The validity of the regression model is supported in this instance by the Durbin-Watson value of 1.889. It indicates that there is no discernible autocorrelation in the residuals. This result is significant because it suggests that the residuals are independent, which is a fundamental premise.

4.4.6. Model Summary

TABLE: 9: MODEL SUMMARY

Model Summary ^b					
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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.786 ^a	0.618	0.610	0.45419
a. Predictors: (Constant), Customization, Design, Enjoyment, Privacy and security, Functionality, Assurance, Convenience				
b. Dependent Variable: Customer Satisfaction				

Source: SPSS Version 27(2025), n=345

The model summary provides a comprehensive overview of the relationship between the predictors and the dependent variable, Customer Satisfaction. The R value of 0.78 indicates a strong positive correlation, indicating that as the independent variables (Customization, Design, Enjoyment, Privacy and Security, Functionality, Assurance, and Convenience) increase, Customer Satisfaction also tends to increase. This strong correlation is further supported by the R Square value of 0.62, which indicates that approximately 62% of the variance in Customer Satisfaction can be explained by the model's predictors. This level of explanatory power is significant, suggesting that the model is effective in capturing the factors that influence customer satisfaction (Hair et al., 2019).

The Adjusted R Square value of 0.610 is particularly important as it accounts for the number of predictors in the model, providing a more accurate measure of the model's explanatory power when considering the complexity of the model. The standard error of the estimate, which is 0.45, indicates the average distance that the observed values fall from the regression line. A lower standard error suggests that the model's predictions are relatively close to the actual values, reinforcing the model's validity. Overall, these statistics indicate that the model is well-fitted and

capable of providing reliable insights into the factors affecting customer satisfaction (Field, 2018).

4.5. Regression Analysis of Determinants

TABLE: 10 :REGRESSION ANALYSIS OF DETERMINANTS

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error			
1	(Constant)	0.672	0.150		4.492	0.000
	Functionality	0.160	0.045	0.178	3.541	0.000
	Enjoyment	0.261	0.044	0.286	5.908	0.000
	Privacy and security	0.012	0.045	0.014	0.266	0.790
	Convenience	0.127	0.055	0.127	2.306	0.022
	Design	-0.176	0.053	-0.193	-3.313	0.001
	Assurance	0.349	0.047	0.398	7.440	0.000
	Customization	0.108	0.050	0.114	2.144	0.033

a. Dependent Variable: Customer Satisfaction

Source: SPSS Version 27(2025), n=345

4.6. Result and Discussion

Hypothesis 1: There is a positive and significant relationship between products functionality and Customer Satisfaction.

Many studies in Ethiopia show that customer satisfaction with virtual banking depends on their experience with it. Dires (2021) concluded that easy-to-use digital services are essential for customers in banking, hence banks need to take action. According to him, providing reliable, flexible and responsive support is what ensures satisfaction among customers of Ethiopian banks. Because of advancements in technology, customers in Ethiopian banks are now experiencing enhanced services. It was found that the convenience of internet banking plays an important role in determining someone's satisfaction with it. Asale (2022) discovered that, just

as with other industries, when customers are satisfied with a bank and stay loyal, their service should evolve digitally for a stronger link between customer satisfaction and loyalty.

As shown by the tests, effective functionality brings joy to customers. It means that a 1 unit increase in functionality brings about a 0.160 change in the number of satisfied customers. The relationship is considered meaningful only when T equals 3.541.

Hypothesis 2: There is a positive and significant relationship between clients' Enjoyment experience and Customer Satisfaction.

The quality of virtual banking services has a high impact on Customer satisfaction, according to several Ethiopian studies. According to Dires (2021), customer satisfaction is significantly impacted by the functionality of digital banking services, highlighting the need for banks to improve their products in order to satisfy consumers. In support of this, Abate (2025) investigated a number of aspects of service quality in Ethiopian banks and came to the conclusion that responsiveness, functionality, and dependability are crucial factors in determining customer satisfaction. Additionally, Olkaba and Tamene (2019) talked about how Ethiopian bank customers are now more satisfied with banking services thanks to technological advancements, especially in terms of functionality. In their study of Ethiopian consumers' opinions of online banking services, Azeze (2023) emphasized the importance of functionality in determining overall satisfaction. Additionally, Asale (2022) pointed out that customer satisfaction and loyalty are directly correlated with the functionality of e-banking services, indicating that banks ought to give priority to enhancing their digital platforms. Customers' enjoyment has been found to have a significant impact on customer satisfaction in addition to functionality. The findings for Hypothesis 2 show that customer satisfaction and clients' enjoyment experiences are positively and significantly correlated. For example, the unstandardized coefficient (B) for enjoyment was 0.261.

Hypothesis 3: There is a positive and significant relationship between Privacy and Security issues for customers and Customer Satisfaction.

In examining the role of privacy and security in influencing customer satisfaction, the results indicate a lack of significant impact. The unstandardized coefficient (B) for privacy and security was reported at 0.012, suggesting that variations in privacy and security have a minimal effect on customer satisfaction. The T value was 0.266, indicating a weak relationship, as T values below 2 typically suggest no significant correlation in social sciences. The significance level (p-value) was noted at 0.790, which is well above the conventional threshold of 0.05.

Customers in Ethiopian banks believe that satisfaction does not depend much on having strong privacy and security. Many experts have found that privacy and security issues play a key role in customer satisfaction in the Ethiopian banking sector. Using their findings, Tadesse and Bakala (2021) concluded that privacy and security did not greatly affect customer satisfaction with the bank's automated teller machine system at commercial bank of Ethiopia. In support of these, Embiale (2020) found that security did not significantly affect customers' satisfaction with using ATMs. Tewodros and Debela(2022)concluded from their study that privacy and security do little to influence the satisfaction of banking customers. In addition Habte and Mesfin (2021) said, security in electronic banking with Dashen Bank does not seem to make customers happier.

Finally, Fekadu (2023) assessed the relationship between service quality and customer satisfaction across various commercial banks in Ethiopia, revealing that privacy and security concerns had a negligible effect on customer satisfaction. These findings finally suggest that, despite the importance of privacy and security, they may not be counted as major factors influencing overall customer satisfaction in the Ethiopian banking sector.

Hypothesis 4: There is a positive and significant relationship between service Convenience and Customer Satisfaction

The analysis of Hypothesis 4 reveals a positive and significant relationship between service convenience and customer satisfaction. The unstandardized coefficient (B) for convenience was reported at 0.127, indicating that for every unit increase in service convenience, customer satisfaction increases by 0.127 units. The T value of 2.306 signifies a strong relationship, as T values above 2 typically indicate statistical significance in social sciences. Furthermore, the significance level (p-value) was 0.022, which falls below the conventional threshold of 0.05.

This leads to the acceptance of the hypothesis, confirming that service convenience positively influences customer satisfaction.

Many studies from Ethiopia suggest that good service makes customers more satisfied. As an illustration, Dires (2021) points out that having quick digital services is highly valued by bank customers in Ethiopia. Just like Azeze (2023) points out that convenient banking improves the happiness and satisfaction of their customers. According to Abate (2025) study showed that customers become more devoted and content when banks deliver better services. They think that clients are happier using online banking because it makes things simpler for them. Wrap-up point: Asale reports that in Ethiopia, the experience of using e-banking affects customers' levels of satisfaction.

Furthermore, Olkaba and Tamene (2019) explored how the convenience of online banking platforms affects customer experiences, reinforcing the positive relationship with satisfaction. Lastly, Asale (2022) indicated that convenience in e-banking services plays a vital role in shaping overall customer satisfaction in Ethiopia.

***Hypothesis 5:** There is a significant relationship between product and services Design and Customer Satisfaction.*

The analysis of Hypothesis 5 reveals a negative relationship between product and service design and customer satisfaction. The unstandardized coefficient (B) for design was reported at (-0.18), indicating that for every unit increase in the quality of product and service design, customer satisfaction decreases by (0.18) units. The T value of (-3.3) signifies a strong relationship, as T values less than -2 typically indicate statistical significance in social sciences. Furthermore, the significance level (p-value) was (0.001), which is well below the conventional threshold of 0.05.

Various studies in Ethiopia indicate that developing new products and services may fail to meet the level of satisfaction customers are expecting. To be clear, Tadesse and Bakala (2021) stated that the design of an ATM is not strongly linked to how satisfied customers are with the service. Similarly Embiale (2020) suggests that accessibility of services to customers matters more than the design of ATMs.

Moreover Tewodros and Debela (2022) found that how banks in Ethiopia design their products and services has a limited effect on making people satisfied with the services. For this reason, improving the dependability and responsiveness of their service is more important for banks, including Bank of Abyssinia, than enhancing its design. Likely to these Habte and Mesfin (2021) found that the design features had little effect on customers' satisfaction with electronic banking. Overall, Fekadu (2023) observed that how products and services are designed does not greatly impact customer satisfaction, so banks should work to improve their functions before worrying about how they look. For the Bank of Abyssinia, these findings suggest that while product and service design is important, it may not be the most critical factor influencing customer satisfaction.

The conclusions suggest that customer satisfaction at the Bank of Abyssinia is influenced by things other than just good products and services. The bank could give additional funds to enhance its services, provide superior service and ensure everything is clear and easy to reach, as this may increase customer satisfaction and make them want to stay on as customers. The bank should consider reallocating resources towards improving service reliability, enhancing customer support, and ensuring that services are user-friendly and accessible, as these factors may have a more significant impact on customer satisfaction and loyalty.

Hypothesis 6: There is a positive and significant relationship between product Assurance and Customer Satisfaction

The analysis of Hypothesis 6 indicates a positive and significant relationship between product assurance and customer satisfaction. The unstandardized coefficient (B) for assurance was reported at 0.349, suggesting that for every unit increase in product assurance, customer satisfaction increases by 0.349 units. The T value of 7.440 signifies a strong relationship, as T values greater than 2 typically indicate statistical significance in social sciences. Furthermore, the significance level (p-value) was 0.000, which is well below the conventional threshold of 0.05. Consequently, this leads to the acceptance of the hypothesis, confirming that product assurance positively influences customer satisfaction.

Various studies in Ethiopian literature confirm that ensuring quality is key to satisfying customers. As explained by Dires (2021), whenever there is a high degree of trust, Ethiopian users are more satisfied with their banking. Moreover, Azeze(2023) contends that powerful

product assurance plays a role in raising customer satisfaction and loyalty in banks. In addition, Abate (2025) credited product assurance with satisfying customers and encouraging satisfaction in banks in Ethiopia. Moreover, Olkaba and Tamene (2019) examined the positive relation between reliable online banking services and how satisfied customers feel. Lastly, Asale (2022) suggested that having solid assurance processes plays an important role in customer satisfaction with e-banking services.

Hypothesis 7: There is a positive and significant relationship between service Customization and Customer Satisfaction.

The analysis of Hypothesis 7 indicates a positive and significant relationship between service customization and customer satisfaction. The unstandardized coefficient (B) for customization was reported at 0.108, suggesting that for every unit increase in service customization, customer satisfaction increases by 0.108 units. The T value of 2.144 signifies a strong relationship, as T values greater than 2 typically indicate statistical significance in social sciences. Furthermore, the significance level (p-value) was 0.033, which is below the conventional threshold of 0.05. Consequently, this leads to the acceptance of the hypothesis, confirming that service customization positively influences customer satisfaction.

Several studies included in Ethiopian literature indicate that serving customers in ways that fit their needs leads to higher satisfaction. Dires (2021) mentions that tailored banking improves how happy and loyal Ethiopian clients are with their banks. In a similar study, Azeze(2023) found that when banking products are customized well, customers feel more satisfied with the service. He also found that offering customized banking options is necessary to meet customers' expectations and enhance their satisfaction in Ethiopia. In addition, Olkaba and Tamene (2019) examined how online banking services that are tailored to individual needs benefit customers and

increase their satisfaction. Asale (2022) also noted that how a bank customizes its services greatly influences how satisfied customers feel when using e-banking.

4.7. Hypothesis Testing Results-Summary

TABLE: 11: HYPOTHESIS TESTING RESULTS-SUMMARY

<i>Hypothesis</i>	<i>Decision</i>	<i>Results</i>
<i>(H1): There is a positive and significant relationship between products functionality and customer satisfaction.</i>	Accepted	$\beta = 0.160$, $t = 3.541$, $p < 0.05$
<i>(H2): There is a positive and significant relationship between clients' enjoyment experience and customer satisfaction.</i>	Accepted	$\beta = 0.261$, $t = 5.908$, $p < 0.05$
<i>(H3): There is a positive and significant relationship between privacy and security issues for customers and customer satisfaction.</i>	Rejected	$\beta = 0.012$, $t = 0.266$, $p > 0.05$
<i>(H4): There is a positive and significant relationship between service convenience and customer satisfaction.</i>	Accepted	$\beta = 0.127$, $t = 2.306$, $p < 0.05$
<i>(H5): There is a negative relationship between product and services design and customer satisfaction.</i>	Accepted	$\beta = -0.176$, $t = -3.313$, $p < 0.05$
<i>(H6): There is a positive and significant relationship between product assurance and customer satisfaction.</i>	Accepted	$\beta = 0.349$, $t = 7.440$, $p < 0.05$
<i>(H7): There is a positive and significant relationship between service customization and customer satisfaction.</i>	Accepted	$\beta = 0.108$, $t = 2.144$, $p < 0.05$

Source: SPSS Version 27 and Own Construct (2025)

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of major findings

- Achieved a 90% response rate with 345 out of 384 participants providing feedback, enhancing the reliability and validity of findings.
- Gender Distribution: Nearly balanced, with 49.6% female and 50.4% male respondents, indicating wide appeal of virtual services.
- Age Distribution: Predominance of younger customers (47% aged 25-34) suggests a tech-savvy demographic favoring digital banking.
- Education Levels: Majority (50.7%) hold a Bachelor's degree, indicating a well-informed customer base that demands high service quality.
- Income Levels: 39.7% earn between 15,001-20,000, reflecting a relatively affluent clientele with higher expectations for services.
- Mean scores for service quality dimensions ranged from 3.7229 to 3.9032, with an overall customer satisfaction score of 3.8794, indicating positive perceptions but variability in satisfaction.
- There is a linear relationship between the independent and dependent variables. Additionally, the normality and homoscedasticity assumption was satisfied.
- All variables exhibited negative skewness, indicating that responses were concentrated toward the higher end of the satisfaction scale, with skewness values ranging from -0.351 (Customization) to -0.726 (Design).

- Most variables displayed negative kurtosis, indicating platykurtic distributions, suggesting flatter distributions with fewer extreme values. Notably, Privacy and Security and Design had slightly positive kurtosis, indicating a potential for outliers. These findings suggest that while distributions are generally favorable for linear regression, outliers should be monitored, particularly for variables with higher kurtosis.
- The multicollinearity analysis indicated that the assumptions were satisfied, as all Variance Inflation Factor (VIF) values were below the critical threshold of 5 or 10. Tolerance values ranged from 0.333 (Design) to 0.484 (Enjoyment), indicating that each independent variable has a reasonable amount of unique variance. The VIF values ranged from 2.067 (Enjoyment) to 3.006 (Design), suggesting moderate relationships among the independent variables. This absence of significant multicollinearity enhances the reliability of the regression coefficients, allowing for clearer interpretations of their individual effects on Customer Satisfaction.
- The Adjusted R Square value of 0.610 further supports the model's robustness. The standard error of the estimate, calculated at 0.45419, suggests that the model's predictions are relatively close to the actual values, reflecting a good fit for the data.
- Moreover, the Durbin-Watson statistic of 1.889 which is close to 2 implies no autocorrelation.
- **Hypothesis 1:** Positive relationship between Functionality and Customer Satisfaction. Result: Supported (B = 0.160, $p < 0.001$). Enhanced functionality correlates with increased customer satisfaction.
- **Hypothesis 2:** Positive relationship between Enjoyment and Customer Satisfaction. Result: Supported (B = 0.261, $p < 0.001$). Greater enjoyment experience leads to higher customer satisfaction.
- **Hypothesis 3:** Relationship between Privacy and Security and Customer Satisfaction. Result: Not supported (B = 0.012, $p = 0.790$). Minimal impact on customer satisfaction.
- **Hypothesis 4:** Positive relationship between Convenience and Customer Satisfaction. Result: Supported (B = 0.127, $p = 0.022$). Increased convenience positively influences satisfaction.

- **Hypothesis 5:** Relationship between Design and Customer Satisfaction. Result: Supported ($B = -0.176$, $p=0.001$) which means simply Poor design negatively impacts customer satisfaction.
- **Hypothesis 6:** Positive relationship between Assurance and Customer Satisfaction. Result: Supported ($B = 0.349$, $p < 0.001$). Higher assurance levels enhance customer satisfaction.
- **Hypothesis 7:** Positive relationship between Customization and Customer Satisfaction. Result: Supported ($B = 0.108$, $p = 0.033$). Effective customization positively influences satisfaction.

5.2. Conclusion

The study's findings demonstrate how important those many facets of service quality are to improving customer satisfaction in Ethiopia's banking sector. Customer satisfaction and product functionality have a positive and significant association, as seen by the analysis's unstandardized coefficient of 0.160 and p-value of 0.000, which indicates that improvements in functionality are directly associated to increased customer satisfaction.

The positive association between customer satisfaction and service convenience—which has a coefficient of 0.127 and a p-value of 0.022—highlights the importance of having quick access to banking services.

The finding conveyed that product assurance and service customization had positive correlations with customer satisfaction (coefficients of 0.349 and 0.108, respectively).

Furthermore the study showed that lack of significant impact from privacy and security issues suggests that customers may prioritize other factors over these concerns in their overall satisfaction with banking services.

However, the study discovered a negative relationship between customer satisfaction and product and service design, with a p-value of 0.001 and a coefficient of -0.176 this may due to random chance or natural variability in data and can be adjusted through conducting replicating studies or

conducting meta-analysis can help to establish whether observed effects are consistent across different samples or contexts

5.3 Recommendation

Based on the study's findings, experts develop ideas that could improve how satisfied customers are with the sector. Anyone who chooses to access a bank online should find it easy to use. Since everything is straightforward on the platform and many services are available, online shops meet the expectations of every buyer. The software updates regularly because of users' feedback. If user experience is important, banking apps or websites will have a nice design and fun functions for users. If a business uses data, it can serve customers in ways that fit their needs. When using a company is simple, customers usually feel happier. Banks ought to work towards making their platform-based activities more efficient and accessible to everyone. If the service is accessible at any moment, people will greatly appreciate it. Using a good design approach leads to easy-to-use services that are well designed. Most of the issues that usability testing highlights concerning the product are uncovered by gathering feedback from focus groups.

Having a product that is dependable and reliable matters most to most customers in terms of their satisfaction. Setting out the process for answering questions on product assurance increases trust between customers and agents. Data analytics make it possible for banks to notice their clients' habits and offer services that are suited for them.

5.4 Future Research

More needs to be investigated about customer satisfaction in Ethiopian banking and a new framework should be built. Experts pay more attention to comparing the satisfaction of consumers grouped by age, income and gender. Banks with knowledge of demographics can best satisfy their customers from every group. Looking at the impact of culture on a company can benefit us by informing us that people's opinions about services often depend on their culture.

Future research might want to study trust and the link a service has to emotions, since they can impact customers' happiness. Studies have revealed that these factors affect how loyal clients become and their level of satisfaction with the service banks provide. Professionals are studying if and how online reviews and social platforms influence people's opinions. If digital interaction effects are known, improving what is offered to clients becomes smoother. It is essential for

further studies to investigate how what a customer feels and how much they trust a business can play a role in their happiness. This affects the way customers view the services provided by their bank.

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Appendix

ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS & ECONOMICS MBA PROGRAM

Questionnaire to be filled by BoA`s Virtual Banking user

Kindly respondent, I want to thank you from the bottom of my heart for your time, honesty, promptness, and willingness.

Objective

The purpose of this questionnaire is to conduct research on how the quality of Bank of Abyssinia`s virtual banking services affects customer satisfaction. This study focuses on providing exceptional customer service in order to increase efficiency, customer satisfaction, and customer retention for the bank. Your answers to this questionnaire will serve as the main source of data for a thesis I'm working on to meet a portion of the requirements for a master's of business administration in management. Your participation is therefore valued as a significant contributor to the caliber of the research findings. I sincerely ask that you answer all of the questionnaire's questions. Your careful and sincere response is extremely valuable and will only be used for academic research. Your information will be handled with the highest secrecy.

Respectfully

Belete Haymanot Alemneh

Tel: +251 947081515

Section 1: Demographics

1. What is your age?

- a) 18-24
- b) 25-34
- c) 35-44
- d) 45-54
- e) 55 or older

2. What is your gender?

- a) Male
- b) Female

3. What is your highest level of education?

- a) high school or less
- b) Diploma
- c) Bachelor's degree
- d) Master's degree
- e) Doctoral degree

4. What is your Monthly income?

- a) Below 5000
- b) 5000-10000
- c) 10000-15000
- d) 15000-20000
- e) Beyond 20000

S/n	Factors	(1) Strongly disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strong ly agree
Section 2: Functionality (5 questions)						
1	The BoA`s Virtual Banking is easy to use.					
2	The BoA`s Virtual Banking allows me to complete my Banking transactions quickly.					
3	The BoA`s Virtual Banking provides me with accurate information.					
4	The BoA`s Virtual Banking provides me with all the functions I need.					
5	The BoA`s Virtual Banking is consistent in its performance.					
Section 3: Enjoyment (5 questions)						
1	I enjoy using the BoA`s Virtual Banking.					
2	The BoA`s Virtual Banking makes my Banking experience more enjoyable.					
3	The BoA`s Virtual Banking is visually appealing.					
4	The BoA`s Virtual Banking is fun to interact with.					
5	The BoA`s Virtual Banking provides a positive emotional experience.					
Section 4: Security/Privacy (5 questions)						
1	The BoA`s Virtual Banking is secure.					
2	The BoA`s Virtual Banking protects my personal information.					
3	The BoA`s Virtual Banking provides me with a sense of privacy.					
4	The BoA`s Virtual Banking is safe to use.					

5	The BoA`s Virtual Banking provides me with a secure connection.					
Section 5: Assurance (5 questions)						
1	The BoA`s Virtual Banking provides me with confidence in my Banking transactions.					
2	The BoA`s Virtual Banking instills trust in the Banking system.					
3	The BoA`s Virtual Banking provides me with a sense of security.					
4	The BoA`s Virtual Banking makes me feel confident in my Banking decisions.					
5	The BoA`s Virtual Banking provides me with a sense of control.					
Section 6: Design (5 questions)						
1	The BoA`s Virtual Banking is visually appealing.					
2	The BoA`s Virtual Banking is user-friendly.					
3	The BoA`s Virtual Banking has a simple design.					
4	The BoA`s Virtual Banking has an intuitive interface.					
5	The BoA`s Virtual Banking is aesthetically pleasing.					
Section 7: Convenience (5 questions)						
1	The BoA`s Virtual Banking is convenient to use.					
2	The BoA`s Virtual Banking saves me time.					
3	The BoA`s Virtual Banking is accessible.					
4	The BoA`s Virtual Banking is available when I need it.					
5	The BoA`s Virtual Banking is easy to find.					
Section 8: Customization (5 questions)						

1	The BoA`s Virtual Banking allows me to customize my experience.					
2	The BoA`s Virtual Banking provides me with personalized options.					
3	The BoA`s Virtual Banking allows me to choose my preferences.					
4	The BoA`s Virtual Banking allows me to save my preferences.					
5	The BoA`s Virtual Banking remembers my preferences.					

Section 9: Overall Satisfaction

The quality of Bank of Abyssinia's virtual banking service satisfies me.					
I would recommend Bank of Abyssinia's virtual banking service to a friend or family member.					
I use Bank of Abyssinia's virtual banking service frequently.					
I am likely to continue using Bank of Abyssinia's virtual banking service in the future.					
The importance of Bank of Abyssinia's virtual Banking service is high when I choose a bank or financial institution.					

Source: Adapted from Aregahagn,2020