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ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF MANAGEMENT
MASTERS OF BUSINESS ADMINISTRATION PROGRAM

THE EFFECT OF DIGITAL BANKING SERVICE QUALITY
ON CUSTOMER SATISFACTION IN THE CASE BUNNA
BANK S.C

BY:

BETELHEM TEWOLDE

ADVISOR:

MESKEREM (PhD)

MAY, 2025

ADDIS ABABA, ETHIOPIA



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**A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE
OF BUSINESS AND ECONOMICS, FOR THE PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTERS OF BUSINESS ADMINISTRATION.**

BY: BETELHEM TEWOLDE

ADVISOR: MESKEREM (PhD)

MAY, 2025

ADDIS ABABA, ETHIOPIA

DECLARATION

I, BebetelhemTewolde, solemnly declare that this thesis, titled “*The Effect of Digital Banking Service Quality on Customer Satisfaction in the Case of Bunna Bank SC,*” represents my own original research and intellectual contribution. The study was carried out under the expert guidance and supervision of Dr.Meskerem Mitiku.

I confirm that this work has not been previously submitted in whole or in part for any academic degree, diploma, or certification at this university or any other institution. All sources referenced have been appropriately cited, and the analysis reflects my independent investigation.

Researcher’s Name: Bebetelhem Tewolde

Date: 03/06/2025

Signature: 

CERTIFICATE

This document serves as official certification that the research thesis entitled "*The Effect of Digital Banking Service Quality on Customer Satisfaction in the Case of Bunna Bank SC*" has been successfully submitted to the College of Business and Economics at Addis Ababa University in partial fulfilment of the requirements for the Master of Business Administration (MBA) degree.

I hereby affirm that this thesis constitutes the original scholarly work of Bebetelhem Tewolde, conducted under our academic supervision throughout the research process. The study represents an authentic investigation, with all findings and conclusions being the result of the candidate's independent research efforts.

Furthermore, I confirm that this work has not been presented, either in its entirety or in part, to any other academic institution for degree consideration or certification purposes.

Advisor Name: Meskerem Mitiku (Ph.D)

Date: June 2025

Signature:  _____

CERTIFICATE OF APPROVAL

The Graduate Studies Committee of Addis Ababa University hereby approves the thesis submitted by Bebetelhem Tewolde entitled:

"The Effect of Digital Banking Service Quality on Customer Satisfaction in the Case of Bunna Bank SC" as satisfying the academic requirements for the Master of Business Administration degree.

This work has been examined and found to meet all university standards for scholarly rigor, originality, and research quality. The research methodology, analysis, and conclusions presented demonstrate satisfactory mastery of the subject matter.

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Abstract

This research investigated how the quality of digital banking services impacts customer satisfaction in selected Bunna Bank branches in Addis Ababa. Based on the SERVQUAL model, the study gauged five base service categories: reliability, responsiveness, assurance, empathy, and tangibility. Through surveys of 314 digital banking customers followed by statistical analysis, evidence indicated that high-tech, useful digital interfaces (tangibility) were most positively linked with satisfaction. While system reliability also had significant influence on satisfaction levels, elements like security guarantees and empathy had weaker impacts. The study suggested banks to emphasize enhancing their digital platforms and ensuring uniform service performance, besides paying continued focus to every service attribute. These results provide good guidance for Ethiopian banks as they confront the financial services digital revolution, particularly concerning what features of the services have the most impact on customer satisfaction in such an emerging market environment. The research also suggested future research into emerging trends of digital banking adoption among diverse demographic groups.

Keywords: Digital banking, service quality, customer satisfaction, SERVQUAL model, Bunna Bank, Ethiopia.

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Abbreviations/Acronyms

- **AAU** - Addis Ababa University
- **CBE** - College of Business and Economics
- **MBA** - Master of Business Administration
- **SERVQUAL** - Service Quality (model for measuring service quality)
- **SPSS** - Statistical Package for the Social Sciences
- **ATM** - Automated Teller Machine
- **POS** - Point of Sale
- **SGS** - School of Graduate Studies
- **ICT** - Information and Communication Technology
- **CORE Banking** - Centralized Online Real-time Exchange
- **SC** - Share Company

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Banking has undergone a radical transformation in recent years. Gone are the days when customers needed to visit physical branches for every transaction. Today, digital banking allows people to manage their finances anytime, anywhere through smartphones and computers (Revin&Prasatia, 2024). This shift wasn't just about convenience - it revolutionized how people interact with their money.

The driving force behind this change came from cutting-edge technologies. Artificial intelligence made banking smarter, blockchain brought security, and big data helped personalize services (Grace, Kavenge, &Onyancha, 2024). These innovations didn't just make transactions faster; they opened doors for millions previously excluded from formal banking systems. However, this progress came with new challenges that banks had to face.

In Africa, the digital banking revolution took a unique path. With fewer physical bank branches available, mobile banking became the game-changer (McKinsey, 2018). People who never had bank accounts could suddenly send money, pay bills, and save digitally. The continent quickly became one of the fastest-growing markets for mobile payments. But this growth wasn't evenly spread - some regions advanced faster than others.

Ethiopia's journey mirrored this African story but with its own twists. The introduction of platforms like Telebirr brought banking to millions overnight (Demirgüç-Kunt et al., 2018). Yet many Ethiopians still struggled with basic financial concepts. Cybersecurity worries and spotty internet connections sometimes made people hesitant to fully embrace digital banking.

For banks, keeping customers happy in this digital age became more complex than ever. Research showed that satisfaction wasn't just about having fancy apps anymore (Alai, 2023). Customers expected their digital banking to be reliable, secure, and tailored to their needs - all at the same time. Those who had good experiences tended to stick with their banks longer (Dube&Renaghan, 2020).

Experts developed tools to measure what really mattered to customers. The SERVQUAL model broke it down into five key areas (Zeithaml et al., 2020). Could customers trust the

system to work every time? Did problems get solved quickly? Did they feel their money was safe? These questions became crucial for banks wanting to stay competitive.

Despite all the research, some important questions remained unanswered. Few studies looked at how technologies like AI actually affected customer trust in places like Ethiopia (Vaidya et al., 2021). Smaller banks faced different challenges than big ones, yet most research focused on large financial institutions (Mukherjee et al., 2022).

This study aimed to fill some of those gaps by examining Bunna Bank's digital services. By understanding what really mattered to Ethiopian banking customers, the research hoped to provide practical insights. In a market where digital banking was still evolving, these findings could help shape better services for millions of users.

Back in 2009, Ethiopia's economy was heating up and people needed more banking options. That's when Bunna Bank came to life, born from the contributions of over 10,000 Ethiopians who believed in the idea. They started with 308 million birr in capital, naming their new bank after Ethiopia's beloved coffee "Bunna" being the Amharic word that warms every Ethiopian's heart. Those first few years were all about laying the foundation, creating basic banking services while carefully introducing technology to make people's lives easier.

I remember when banking meant long queues and paper slips. But Bunna, like other Ethiopian banks, gradually transformed. The real turning point came when they implemented the CORE banking system - suddenly your money wasn't locked to one branch anymore. This was revolutionary in a country where many still relied on cash. Farmers could now deposit earnings near their fields and withdraw in the city; small businesses could manage their money without wasting half their day at the bank.

Fast forward to today, and Bunna's footprint stretches across Ethiopia with 460 branches. They've got ATMs in strategic locations (291 to be exact) and 50 POS machines helping businesses operate smoothly. But what's really remarkable is how Ethiopians have embraced mobile banking - nearly 460,000 people now use Bunna's app for everyday transactions. Card banking follows close behind with over 300,000 users, while about 225,000 merchants accept Bunna payments. Even prepaid cards, though still new, are gaining traction.

From its Bunna-inspired beginnings to becoming a digital banking contender, Bunna's journey mirrors Ethiopia's own economic transformation. While there's still progress to be made especially with internet banking adoption the bank has successfully brought financial

services to millions who were previously underserved. In a country where cash once ruled supreme, Bunna has helped write a new chapter in Ethiopia's financial story.

1.2 Statement of the Problem

Digital banking has taken the world by storm, becoming as common as smartphones in our daily lives. Here in Africa, it's been a game-changer, especially with our young, tech-savvy population driving demand (Mbiti& Weil, 2021). Ethiopia joined this revolution when the National Bank gave banks like Bunna the green light to go digital. By 2016, Bunna Bank was serving four million customers digitally, and even created a special Digital Banking Directorate in 2020 to focus on these services. But here's the catch - in Addis Ababa alone, where Bunna has about two million customers, only 16% were actually using these digital services. That's like having a shiny new car but only driving it once a month!

The potential benefits are huge digital banking was supposed to make our lives easier. No longer bank queues, instant money transfers, and 24/7 access to our accounts (Agarwal et al., 2019). For businesses, it meant smoother transactions and better cash flow management. The technology promised to boost Ethiopia's entire economy by bringing more people into the formal banking system. But between you and me, the reality hasn't quite lived up to the promise. Many of us still face daily frustrations - the mobile app crashes, ATMs run out of cash, and power outages leave us staring at blank screens when we urgently need to send money.

Research shows these aren't just minor hiccups (YohanesMitiku, 2023). The challenges run deep: spotty internet connections, not enough ATMs and POS machines, and frankly, many customers just don't trust or understand digital banking yet (Addis Insight, 2022). Even when the technology works, people worry about security or miss the personal touch of traditional banking. What's surprising is how little we actually know about how these digital services are performing in Ethiopia. While banks like Bunna keep investing in upgrades, we're still in the dark about what really makes customers happy with digital banking (Tekle, 2020).

This leaves us with big questions. If digital banking is so important for Ethiopia's future, why aren't more people using it properly? What's really stopping customers from embracing these services? And most importantly, how can banks like Bunna fix these issues to deliver the seamless digital experience they promised? These are the puzzles this research aims to solve, because right now, Ethiopia's digital banking revolution feels like it's stuck in first gear.

1.3 Research Questions

1. What is the effect tangibility on customer satisfaction in case of Bunna Bank?
2. What is the effect of responsiveness on customer satisfaction in case of Bunna Bank?
3. What is the effect of assurance on customer satisfaction in case of Bunna Bank?
4. What is the effect of reliability on customer satisfaction in case of Bunna Bank?
5. What is the effect of empathy on customer satisfaction in case of Bunna Bank?

1.4 Objective of Research

1.4.1 General Objective

The main goal of this research study is to enhance the understanding of service quality within the banking sector. Additionally, it aims to illustrate the impact of digital banking service quality on customer satisfaction at Bunna Bank.

1.4.2 Specific objective

1. To examine the effect of reliability on customer satisfaction in case of Bunna Bank.
2. To examine the effect of empathy on customer satisfaction in case of Bunna Bank.
3. To examine the effect of assurance on customer satisfaction in case of Bunna Bank.
4. To examine the effect of responsiveness on customer satisfaction in case of Bunna Bank.
5. To examine the effect of tangibility on customer satisfaction in case of Bunna Bank.

1.5 Significant of the study

Since a lot of time, money, human skill, and energy are invested in research, every study have something to offer. This study aims to both examine and offer helpful information regarding Bunna Bank's digital banking service quality. It's an input for Bunna Bank to modify and implement the appropriate strategy and enhancement through its service quality related to customer satisfaction. It also contributes to demonstrating solutions for problems related to the quality of digital banking services.

1.6 Scope of the study

The study focuses on assessing the impact of digital banking services on customer satisfaction at Bunna Bank. The research will examine key aspects of digital banking, including accessibility, ease of use, security, and reliability (Vellido, 2020; García-Murillo & MacInnes, 2021). A quantitative methodology is employed, with data collected through surveys and analyzed using descriptive and inferential statistics.

The geographical scope of the study is limited to urban areas where Bunna Bank operates, as digital banking adoption is more dominant in these regions compared to rural areas (Zygiaris, 2022). While the findings may provide insights into digital banking services, the study is specific to Bunna Bank and does not claim generalizability to other Ethiopian banks.

1.7 Operational Definitions

Digital Banking – Digital banking is the delivery of banking services and products via digital channels, such as online banking, mobile applications, and other automated channels, customers use this digital channels instead of visiting the bank branches. Some of the features are mobile payments, digital wallets, and internet banking which gives the customer direct access to their banking services at any time of the day (Delgado et al., 2019).

Electronic Intelligent Device – An electronic intelligent device is any connected sensor enabled smart device that can sense, analyze information and take action for improving user experience. These devices include smartphones, smart watches and other IOT devices that support the delivery of digital banking services (Siciliano et al., 2021).

Customer Satisfaction – Customer satisfaction is a perception of how close a service or product has met or exceeded the customer's expectations. It is usually measured through surveys, reviews and feedback forms that capture the general opinion and feeling of a customer about a certain product or service (Homburg & Stock, 2020).

Reliability –According to Zeithaml et al. (2020), service reliability is the capacity of a service provider to deliver services in a way that is accurate and consistent, as promised, this allowing the customers to depend on the variety of the service environment.

Responsiveness – Responsiveness is the willingness and ability of service providers to address customer inquiries, requests, or complaints promptly and effectively, with a focus on reducing wait times and providing efficient solutions (Singh & Sahu, 2020).

Assurance – Assurance in service quality involves the knowledge, professionalism, and courtesy of employees, which help build trust and confidence in customers. It is the customer's perception of the competence and reliability of service providers (Ladhari& Michaud, 2019).

Empathy – Empathy refers to the provision of personalized and attentive care to customers, ensuring that their specific needs and concerns are understood and addressed. It highlights the importance of understanding the customer's emotional state and providing appropriate assistance (Lee et al., 2020).

Tangibility –It refers to the physical elements which is associated with the service experience, such as the presence of physical facilities, equipment, personnel, and communication materials that customers interact with (Oliver, 2017). It includes the aspects that influence customer perceptions based on visual and physical cues.

SERVQUAL Model – The A popular paradigm for evaluating service quality, is called the SERVQUAL model which is built on five dimensions: reliability, responsiveness, assurance, empathy, and tangibles. This model is used to evaluate customer opinions of the service quality, specifically how well service providers meet customer expectations across these dimensions (Parasuraman et al., 2019; Ladhari et al., 2020).

1.8 Organization of the Study

The study organized in five chapters. The studies include, Bunna Banks profile, statements of the problem, research question, focus, significance of the study, the scope of the study, limitation of the study, and organization of the research are all covered in the first chapter. The literature review regarding the field of study is presented in Chapter two, which also include the research's theoretical foundation and empirical study. The research methodologies are described in the third chapter, it additionally includes information on the study area, research approach, research design, target population, sampling technique, sampling size, data collection and measurement, data analysis, research model, validity, reliability test, and ethical issues. This results and analyses of the data that was gathered were covered in the fourth chapter.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Theoretical Literature Review

2.1.1 Definition and Concept of Digital banking

To start with, in order to define digital banking, it is important to know about e-commerce and e-business.

E-commerce can be defined as the buying and selling of goods and services over the internet. It is concerned with the transactions that are conducted over the internet, using electronic technologies to support processes like sales, marketing, order taking, delivery, and customer service (Gimpel et al., 2020). While E-business captures e-commerce, E-business is broader than e-commerce and includes internal processes such as production, inventory, finance, human resource, and knowledge (Liu et al., 2021). These larger processes use technology to make operations more efficient throughout an organization.

Digital Banking is the method of delivering banking activities in the digital way through electronic or digitized means rather than carrying out the traditional method of cash, checks or other banking instruments (Nadim& Rajeev, 2020). In the context of digital banking, this can be interpreted in multiple ways. Digital Banking broadly defined, is the delivery of banking services to customers through the internet. The digital bank concept can be defined as both traditional and nontraditional banking products and services offered to customers through electronic communication channels (both the internet and mobile devices) through automation (Mimouni& Ali, 2019). The client can perform the tasks independently, without involving the bank's person, making it a more efficient process this is what digital banking brings.

In simple terms, digital banking is the way that customers of a bank can access their accounts using the internet to complete financial transactions. These include services including balance queries, bill payment and funds transfer between bank accounts, all of which have revolutionized the banking sector by allowing customers to manage their finances easily and at their convenience. It is an innovative banking model that enhances the quality of customer experiences by providing services at a larger scale, faster, and effectively (Chen & Wang,

2021). Internet banking, or digital banking, allows customers to perform a range of banking operations from a secure web portal.

Digital banking is the complete digitization of all the traditional banking activities and programs that are accessible to customers through the internet via a branch. Digital banking enables the banks to offer solution-oriented customer service, while simultaneously expanding their clientele and competing with traditional banking models (Amit & Natarajan, 2022). In this regard, digital banking systems enable consumers to view accounts, perform transactions, and gain access to financial products and services via public or private networks (Grobler&Kritzinger, 2019). Then, this information can be accessed by customers through devices like personal computers, smartphones, ATMs, and other telecommunication devices. Public networks are accessible by all users; private networks are generally reserved for members who have signed up and signed membership agreements (Turan et al., 2021).

2.2 Evolution of Digital Banking System

Digital banking has roots that stretch back to the 1970s, when the early days of computerization within the financial sector changed the way banks functioned. During this time, Automated Teller Machines (ATM) came into play, offering customers around-the-clock access to their accounts with less dependency on visiting a bank branch. Recent studies found the introduction of ATMs to be one of the pivotal points in the banking industry's transition towards digitalization, providing stronger economies of scale for banks and enhanced service delivery for customers (Gorib, 2020). As technology continues to develop over time, it is revolutionizing the banking sector by transforming the methods and means of delivering banking services. The digital transformation of the banking sector that began in the late 2000s renewed (or increased) customer access to core financial services, but also revolutionized how financial products are marketed and distributed (Robinson & Fernandez, 2022).

Digital banking in Ethiopia has evolved significantly, with banks adopting digital solutions at different stages. Wegagen Bank was among the earliest adopters, launching its digital banking services in 2008, including ATM and internet banking solutions (Yimer&Molla, 2018). Berhan Bank followed closely, introducing its digital banking services in the late 2000s. By the early 2010s, several banks joined the digital transformation wave: Lion (Anbessa) International Bank started its digital banking services around 2010. Similarly, Abay Bank and Bunna Bank adopted mobile banking and other electronic payment solutions

in the early 2010s. Hibret Bank and Oromiya International Bank began their digital banking journeys in the early to mid-2010s, offering mobile and internet banking services to their customers. Nib International Bank entered the digital banking space in the mid-2010s, integrating advanced digital services to enhance customer experience, while Zemen Bank launched its digital platforms in 2012. (Tadesse&Taffese, 2022). Together, these banks demonstrate the progressive growth of digital banking in Ethiopia, with 27 banks now providing a variety of digital services to their customers.

2.3 Benefit of Digital banking

Grasping the concept of digital banking services is crucial for various stakeholders, as it enables them to gain advantages from it. Numerous banks and additional organizations have either adopted or are considering the adoption of e-banking due to the many potential benefits linked to it. A few of these key advantages are (World Bank, 2021).

A. From the Bank's Point of View

Attracting High-Value Customers

Digital banking is particularly good at acquiring high-value customers, generally those with higher income and education. This customer segment has a high demand for banking products and is typically comfortable using online channels, which helps lower the demand for personal contact with bank branches that can be expensive for banks. As Bank of America states, its 2014 financial results showed that 59 percent of its revenues came from digital channels beyond traditional banking services and most of these revenues are in the form of noninterest income, which are service charges on deposit accounts. "These customers are usually very high earners, providing banks with a lucrative opportunity for increased revenue (Martínez-Perales &Gozálvez, 2020).

Enhanced Image

Digital banking helps a bank project an image of an innovative customer-focused organization. In the beginning, only the most progressive banks presented the digital services, which raised some of them a high position in the market. However, having a user-friendly and innovative online platform is still a big deal, improving the reputation of a bank, and attracting younger and more tech-savvy customer bases. Moreover, this digital transformation has a positive impact on e-marketing strategies that can be applied, thus this transformation has become a gem in today's banking (López-Nicolás et al., 2021).

Increased Revenues

Providing digital channels has been shown to boost bank profits by drawing in new clients, retaining existing ones, and creating potential for cross-selling. Digital banking enables banks to access new consumer segments and expand their product offerings. Smaller banks, for instance, can work with international financial institutions to offer more services, which would increase their potential for profit. The swift growth of credit card usage and digital bill payments suggests that digital banking has greatly increased revenue sources (Fernandes& Castro, 2022).

Easier Expansion

The use of digital banking is lowering the cost of geographic expansion. Digital channels enable banks to serve clients who are not physically present in the same location for a fraction of the starting and maintenance costs associated with physical branches. Previously, expanding into new regions required opening branches. Banks can reach clients worldwide by switching to a digital platform because most transactions can be completed without face-to-face interaction (Alalwan et al., 2019).

Load Reduction on Other Channels

Due to the high level of automation in digital banking channels, everyday tasks like checking accounts or paying bills no longer require human participation. Consequently, these digital platforms ease the load on physical branches, freeing up employees to concentrate on offering more specialized customer service. In nations that are also automating cash deposits and withdrawals, the automation of routine transactions is extremely helpful (Sharma & Singh, 2020).

Cost Reduction

Digital banking lower operating costs, particularly those related to maintaining physical branches, is one of the main advantages of digital banking. The cost per transaction drops as more clients use digital platforms, despite the large upfront investment required to set them up. By automating numerous operations and reducing their branch networks, banks are able to save money on manpower and other operational expenses (Soltani&Vafaei, 2021).

Organizational Efficiency

Benefit of digital banking to financial organizations is the ability to enhance organizational efficiency through automation, minimize errors, and lower labor costs. Banks taking

advantage of digital transformation initiatives have experienced enhanced productivity, quicker decision-making processes, and increased operating effectiveness, as corroborated by research studies. In addition, the incorporation of digital technologies also allows banks to improve their processes and service delivery, thereby enhancing their competitiveness (McKinsey & Company, 2019).

B. Benefits to Customers

Convenience and Accessibility

Digital banking enables customers to bank anywhere, any time. Customers benefit from 24/7 access to banking services, saving time and costs by eliminating the need to visit physical branches. Additionally, digital banking offers a secure and convenient payment system for cardholders, while international travelers can avoid the risks associated with carrying cash (Getnet, 2021).

Merchant Advantage

Stores benefit as well, because customers prefer to shop at shops that accept credit or debit cards. Merchants can also use payment cards to alleviate the risks and expenses related to cash handling. Digital payment solutions allow retailers to file transactions with more flexibility and with a better security (Getnet, 2021).

C. Benefits to the General Economy

Better Financial Inclusion

Digital banking has been critical in enhancing financial inclusion by making banking services more accessible and affordable, especially for a vast array of underserved demographics. The digital banking system contributes to economic development by providing accessible and low-cost financial services that allow previously unbanked individuals to engage in the formal economy (Gargouri, 2023).

Competition and Innovation

The emergence of digital banking has driven competition in the financial industry and led traditional banks to develop new ideas and improve their services. This, in turn, has improved products and services for consumers and spurred overall economic activity. In particular, innovation in payments, lending, deposits and advisory services, facilitated by

digital banking, has increased the broad dynamics of competition in the banking sector (Basel Banking Supervision Commission, 2023).

Economic Growth and Productivity

The popularity of digital banking, in turn, adds to the enhancement of economic growth through greater labor productivity and better business efficiency. Digital banking provides speedier and more secured transactions that allow enterprises to function efficiently.

2.4 Service quality SERVQUAL Model

According to Ehigie and Johnson (2018), service quality is the lifeblood of companies in the service delivery sector as it leads to enhanced loyalty among customers, competitiveness, and long-term profitability. It is a dimensional one as service quality is measured based on several dimensions from the customer perspective. One of the popular models to measure the service quality is the SERVQUAL model of the Gaps Model of Service Quality. SERVQUAL is a self-administered questionnaire that quantifies customers' perceptions of the service quality in selected categories, allowing for a universal method of measurement and service delivery improvement by various service industries (Parasuraman et al., 2019).

Reliability, or the ability of the service provider to perform the agreed service consistently and accurately, was also defined as the most important driver of customer perceptions of service quality (Sadeh&Rezvani, 2021). This is particularly critical in organizations where quality of service is the priority, such as banks, transportation (railways, buses), insurance, and maintenance services (plumbers, car repairs), since clients depend on consistency in terms of service delivery. (Castro et al., 2017) Consumers have been proven to be hungry for dependability since it is the foundation of service quality, and excellent service will result in increased customer satisfaction and loyalty (Elliott &Trew, 2020) A (Kuik et al., 2017)

A readiness and willingness to serve clients at short notice is termed responsiveness. When customers look for an inquiry, question, dissatisfaction or issue to be resolved on the spot, this is a significant aspect (Gupta &Soni, 2020). Meeting high numbers of customers in retailing, telecommunication, and healthcare-related businesses requires prompt and efficient solutions. Client attitudes and responsiveness are strongly interrelated according to research. As per Chowdhury and Dey (2021), responsive service is often repaid with greater loyalty of customers, which boosts the reputation of the service provider.

Assurance pertains to the professionalism of staff, competence, and courtesy along with the ability of the service to convey confidence and trustworthiness to clients. To businesses like law, healthcare, and finance, where clients need to have a strong assurance concerning the expertise of service providers, this is an especially important factor (Sharma & Madaan, 2019). Assurance has a direct impact on consumer trust, confidence, and general service experience and hence plays an important role in establishing long-term relationships with clients (Jha et al., 2020).

Empathy is offering clients thoughtful, tailored attention to help them realize that their unique needs and issues are heard and attended to (Kim & Oh, 2020). Compared to large businesses who usually follow formal procedures, small service providers are usually in a best-placed position to offer personalized assistance. Though, relationship marketing strategies enable larger organizations to provide more personalized care, which increases customer satisfaction and loyalty (Kumar & Shah, 2021).

In high customer-intensity industries like hospitality, healthcare, and education, where customers need to be attended to personally in order to meet their individual needs, empathy plays a very crucial role (Liu et al., 2021).

Physical attributes of structures, machinery, staff, and communication documents are referred to as tangibles. These factors are utilized to create a positive impression among potential consumers (Chowdhury et al., 2020).

This attribute is very critical for consumer-to-business service sectors such as hotels, spas, and restaurants where the customer must be physically present.

Perceptions of quality among customers largely rely on the appearance and visual appeal of the service setting. According to research, investment in service spaces that are both physically attractive and well-maintained facilities is capable of improving customer satisfaction and service brand (Hossain et al., 2020).

2.5 Customer Satisfaction

Customer satisfaction orientation is one of the most important marketing and business administration concepts that best demonstrates the extent to which a company's goods or services surpass or meet customer expectations, and therefore is a very important measure of customer loyalty and business performance (Keller et al., 2020). According to previous

studies, some few driver of customer satisfaction are important aspects to suggest the factor that shape the customer journey and their brand loyalty.

Product Quality

Product quality significantly contributes to customer satisfaction. Since better products are likely to satisfy consumer needs, products equal to or better than customer expectations typically mean more satisfaction. Product quality, particularly when it is equal to or better than consumer expectations, is a crucial factor in assessing customer satisfaction, according to Anam (2021). When customers are of the opinion that a product quality is superior to the price, then they are most likely to provide feedback of satisfaction, thereby contributing positively to brand perception and customer loyalty.

Service Quality

Service quality is another significant driver for customer satisfaction. Delivery of service according to responsiveness, empathy, assurance, and tangibles is one of the biggest sources of customer's perceptions. Nguyen et al. Fiekowsky et al. (2018) outlined the significance of tangibles, physical environment and staff behavior towards customer satisfaction in UK fast food industry. It implies that to what level service is offered especially on tangible or physical aspects can have a very critical role to play in the way customers experience the service and, therefore, the level of satisfaction they get.

Expectation-Performance Mismatch

The gap between a product or service's actual performance and a customer's expectation is frequently used to assess customer satisfaction. Satisfaction is attained when a customer's expectation is fulfilled or exceeded by a product or service. Gap between performance and expectations has been analyzed in several studies as a decisive driver of satisfaction. Satisfaction will be felt if performance is above or equal to expectation. Oliver (2020) shares the opinion that client expectations need to be managed so that a service or product performs as expected or better.

Customer Loyalty

Customer loyalty and customer satisfaction correlate with each other. Repeat purchase actions involving positive word-of-mouth communication are encountered with satisfied customers. According to several studies, customer satisfaction is an important aspect of client loyalty, going beyond the mere satisfaction of expectations to include establishing long-term,

meaningful relationships with clients. According to research done by Wu and Tsai (2019), customer happiness strengthens customer loyalty through generating trust and emotional attachment to the brand in addition to encouraging repeat buying. To maintain long-term relations and client retention, customer loyalty, which is driven by satisfaction, means going extra miles beyond the call of duty.

2.6 Customer Satisfaction and Digital Banking

With people increasingly adopting digital financial services, customer satisfaction has become more important in digital banking. Customer satisfaction for digital banking is the extent to which a platform fulfills or surpasses the expectations of its users. Many factors, such as service quality, user experience, security, and personalization, have been shown in recent studies to have significant effects on customer satisfaction. Customer satisfaction is directly affected by the quality of digital banking services, which involves factors like assurance, responsiveness, and reliability (Allawan et al., 2021). Customers tend to have positive attitudes towards a digital banking system when it delivers consistent and dependable service, hence enhancing customer satisfaction. Additionally, responsive service improves the overall service experience by querying and resolving problems (Allawan et al., 2021).

User experience is one of the factors that determine the client satisfaction in internet banking. Customer experience of using internet banking services, like ease of use of transactions, appeal of the interface, and ease of use, is called user experience. If the user experience is poor, it will lead to the dissatisfaction of the clients and word-of-mouth, which in turn will decrease consumer satisfaction. On the other hand, higher satisfaction is likely to be induced through easily usable platforms, user-friendly platforms, and seamless transaction systems (Chakravarti, 2022).

Customers like it when online platforms offer them a responsive and personalized experience, which increases their overall level of happiness. As electronic banking allows customers to process and access their accounts as well as conduct transactions at their convenience, ease of access and convenience are also important in increasing consumer satisfaction (Chakravarti, 2022).

2.7 Relationship between Service Quality and Satisfaction

The relationship between service quality and customer satisfaction is in general, where according to numerous studies, more customers are satisfied with high service quality. The quality of service is a key determinant of customers' satisfaction, particularly in service

industries like banking, retail and hospitality (SAFI, 2020). From the study, it states that when customers are exposed to high quality service, accountability, credibility, sympathy and assurance are exemplified, overall satisfaction is boosted. SAFI (2020) points out that the positive impact of service on satisfaction pervades industries, substantiates that servicing results in loyalty to surpass or overachieve the expectations of customers by excellence. And improves professional performance. The relationship emphasizes the importance of service providers maintaining high standards of service to improve customer experiences and long-term satisfaction.

2.8 Empirical Literature Review

Previous research consistently defined the central connection between digital banking service quality dimensions and customer satisfaction. Kodithuwakku (2018) analyzed the ways in which transactional features and technology shaped user experiences. The study showed that cost-effectiveness, security features, and system reliability played a significant role in shaping levels of satisfaction. These findings agreed with later work by Suh and Lee (2020), which confirmed smooth transaction processing and easy-to-use interfaces were both equally essential to good user experience. Together, these studies suggested banks could not afford to compromise on either operational efficiency or technical innovation.

Jenifer and Rao (2018) identified intriguing insights from India's private sector banking. Their research showed that service quality did not work in isolation it worked in conjunction with customer relationship management. Banks who incorporated alert service with customized service witnessed radical shifts in loyalty indicators. Pathak and Soni (2022) later supported this finding, indicating customers increasingly cared about banks who recalled their decisions and resolved problems actively.

The rural banking context presented particular challenges. Panda and Misra (2017) discovered that Odisha's rural customers appreciated fundamentally different attributes from urban customers. Assurance of being able to trace transactions was more important to these customers than flashy technological innovations. Bandyopadhyay and Sharma (2021) followed up on this work, showing how privacy concerns disproportionately affected adoption across less digitally capable areas.

Fikerselassie's (2017) study in Ethiopia yielded unexpected contradictions to global trends. While most literature had focused on reliability, in this research security measures were more important than uptime reliability for domestic customers. Zhang et al. (2020) then observed

similar patterns in emerging markets, suggesting cultural contexts greatly changed quality expectations.

Maria (2020) viewed European digital banking in a comprehensive manner. Her multifaceted analysis set the case that all SERVQUAL dimensions mattered, but emotional attachment was the most critical aspect for separating satisfied customers from loyal ones. Kapoor and Mehta (2022) built upon the concept, depicting how customized service could compensate for occasional technical flaws.

Ethiopian context received priority attention in Simon's (2016) pathbreaking research. Applying SERVQUAL to state-owned banks, the authors found responsiveness to emerge as the strongest predictor of satisfaction a finding that went against established orthodoxy. Beshah and Tsegaye (2021) later confirmed the findings with noted urban-rural differences in service expectations.

Transaction speed emerged as a neglected variable in some research works. Kodithuwakku (2018) raised it as a reliability measure, while Jenifer and Rao (2018) handled it as a measure of responsiveness. This ambiguity over defining transaction speed highlighted the interconnectedness of service quality dimensions.

Security perception followed an interesting evolution in the literature. Extremely early works like Panda and Misra (2017) treated it as a distinct problem, whereas Maria (2020) was able to integrate it into the assurance dimension. Later researchers more and more considered security from cultural standpoints.

The empathy element was the most controversial. While Maria (2020) deemed it relevant to loyalty, Fikerselassie (2017) experienced minimal impact in Ethiopia. This can be attributed to varying mature and emerging digital banking markets.

Contrary to expectations, the relevance of Tangibility caught the majority of researchers by surprise. Simon (2016) showed how physical infrastructure like ATMs remained pertinent even in digital banking a finding which Kapoor and Mehta (2022) corroborated disproportionately affects first-time users.

Methodological differences explained contradictory results. Broad-N surveys like Zhang et al. (2020) identified overall trends and ethnographic research like Panda and Misra (2017) showed localized differences. The most compelling results came from combining both methodologies.

Private vs. public bank contrast provided important lessons. Private banks fared best on responsiveness, as reported by Jenifer and Rao (2018), and state-owned institutions typically scored highest on reliability an item likely driven by priorities in resource allocation, as argued by Simon (2016).

There were undercurrent generational influences. Studies focusing on younger generations, such as Suh and Lee (2020), emphasized digital-native traits, while studies using samples from older participants such as Bandyopadhyay and Sharma (2021) emphasized accessibility.

The literature came to accommodate dimensions as independent eventually but recognized synergistic effects. Later research like Kapoor and Mehta (2022) even directly estimated interaction terms between empathy and reliability.

Urban bias was the primary limitation of early research. Path-breaking research like Kodithuwakku (2018) addressed primarily urban users until Panda and Misra (2017) demonstrated rural consumers had varying priority orders.

Longitudinal data were scarce. Cross-sectional studies like Fikerselassie (2017) yielded correlations and not the type of follow-up studies on how drivers of satisfaction altered as users gained digital banking experience.

The mobile banking revolution required conceptual revamps. Maria (2020) had to extend generalizability of existing tangibility measures to include app interface design a factor barely covered in Simon's (2016) first foray.

Cultural influences continued to mediate findings. What constituted "responsive" service in Chennai (Jenifer and Rao 2018) was essentially quite unlike Ethiopian expectations (Beshah and Tsegaye 2021), and this meant global banks needed quality strategies that localized.

The best research combined hard data with qualitative findings. Pathak and Soni's (2022) mixed-methods research outlined why some technical features emotionally resonated more with customers than others.

As the field matured, scholars moved away from simple dimension-checking and began examining psychological processes. Kapoor and Mehta (2022) were the ones to initiate studies on how social comparison created service quality perceptions.

2.9 Literature Gap

Literature on digital banking has increased manifold over the last couple of years, concentrating on a few aspects of customer satisfaction and service quality across various geographic locations and financial setups. There is, however, a wider absence of analysis of these ideas in the Ethiopian banking industry, specific to Bunna Bank S.C. Although the fundamental components of service quality, such as assurance, responsiveness, and dependability, have been well studied internationally, the extent to which they affect customer satisfaction in Ethiopia is unknown. This discrepancy is especially significant because creating services that are appropriate and suited to Ethiopia's individual banking industry means being sensitive to the experiences and expectations of local customers (Kedir, 2020). A recent article by Ayenew and Araya (2021) highlighted this problem, as most of the research on digital bank service quality in Ethiopia remains general and does not consider the individual demands of local customers. This suggests the need for more research to explore deeper the subtle way these worldwide forces of service quality influence satisfaction in the Ethiopian context.

Another gap in research is the role of new technologies to high service delivery and customer satisfaction within the Ethiopian digital banking sector. Although the promises of technologies such as mobile banking systems and artificial intelligence (AI) have been well asserted in foreign literature, neither their use on Ethiopian banking services per se has been well examined. Recent studies have proved that technological innovation of mobile banking has increased customer satisfaction through offering more convenient, faster, and secure services (Hassan & Jebaraj, 2020). However, the uptake and utilization of such technologies in Ethiopia's banking industry remain to be properly documented, with few empirical researches tracing AI and mobile app effects in the nation. The discrepancy is critical, as the digital bank revolution in Ethiopia would be significantly eased by understanding how emerging technologies could revolutionize customer experiences and expectations (Assefa & Mekonnen, 2021). Consequently, there is a keen need for further specialized investigations into how these technologies are adopted in the Ethiopian banking sector and with what implications for customer satisfaction.

There is also a gap in the literature concerning cyber security, which presents one of the biggest threats to the adoption of digital banking services globally. Though cyber security is gaining more importance in the protection of customer data and the establishment of trust for

electronic services, its specific contribution to customer satisfaction and trust within the Ethiopian e-banking sector is not sufficiently addressed. With the global move towards the increased use of digital platforms to carry out financial transactions, customers' concerns about the safety of their personal and financial details have also intensified. Recent studies have suggested that perceived security issues, such as data breaches and fraud, have significant effects on customers' trust and satisfaction in digital banking (Zhang et al., 2020). However, in Ethiopia, the relationship between cyber security perception and customer satisfaction in digital banking is yet to be researched. Studies conducted by Molla and Licker (2021) and Tsegaye et al. (2022) revealed that while security concerns are at the center of customer uptake of digital banking services, the direct impact of cyber security on trust and satisfaction remains uncertain, especially in developing economies like Ethiopia. Observing how security beliefs shape customers' trust and satisfaction with services at banks like BunnaBank can give meaningful insights for improving service quality and developing customer loyalty.

2.10 Conceptual Framework

This study was grounded in the theoretical framework of the SERVQUAL model (Parasuraman et al., 1988), which proposed five dimensions of service quality namely reliability, responsiveness, assurance, empathy, and tangibility to collectively determine customer satisfaction in digital banking. Empirical studies (Arora & Banerji, 2024; Zeithaml et al., 2020) supported the theoretical framework. The framework guided hypothesis development and data analysis as per the operational environment of Bunna Bank.

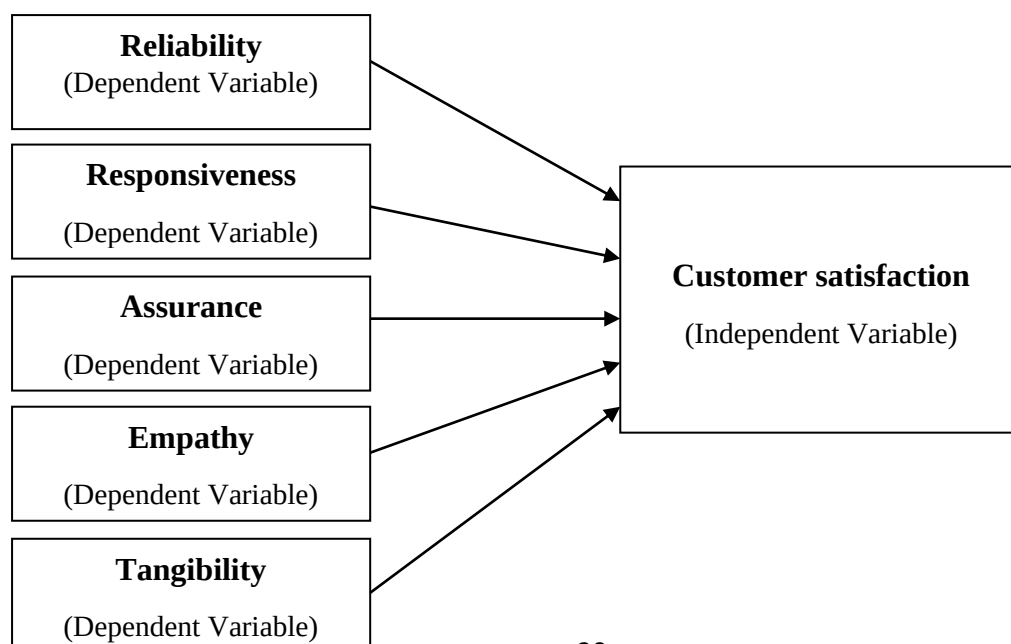


Figure 1: Conceptual Framework of the study

Source: (Arora & Banerji, 2024; Zeithaml et al., 2020)

Hypotheses of the study

This study made the following hypotheses:

H1: Reliability has positive and significant effect on customer satisfaction.

H2: Empathy has positive and significant effect on customer satisfaction.

H3: Tangibility has positive and significant effect on customer satisfaction.

H4: Responsiveness has positive and significant effect on customer satisfaction.

H5: Assurance has positive and significant effect on customer satisfaction.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research questions concerning service quality measurements that led to customer satisfaction in online banking were addressed in this chapter by introducing the research methodology, purpose, and design. The chapter also gives details about the study tool, data collection methods, data analysis tools, sample size, data source, derivation of the sample, and ethical concerns.

3.1 Research Approach

Customer satisfaction and the quality of Bunna Bank's digital banking services were extensively discussed in this research under a quantitative research framework. Quantitative technique was suitable for this query since they allow measurement of quantitative data from a large sample size. This provides an opportunity to analyze statistically to identify trends, test hypotheses, and generalize (Creswell & Creswell, 2018). Quantifiable information about important variables like responsiveness, security characteristics, and reliability based on the SERVQUAL model has been collected using structured questionnaires (Parasuraman et al., 1988).

To perform objective analysis of the effect of online banking services on customer satisfaction, the data would be analyzed both using descriptive statistics (e.g., means and frequencies) and inferential techniques (e.g., regression analysis) (Areeba et al., 2016).

To quantify service quality for Bunna Bank clients, the study prefers quantifiable measures to make results reproducible and scalable for operational-level decision-making, like interviews that would yield better insights into individual experiences (Braun & Clarke, 2019).

3.2 Research design

Explanatory research design was empower the researchers to examine cause-and-effect relation between service quality of digital banking (independent variable) and customer satisfaction (dependent variable). Explanatory design is more suitable in identifying type of such relations because it is concerned with knowing how differences in one variable (service quality) influence the other (customer satisfaction) through the application of unambiguous, systematic analysis (Cohen & Manion, 2020) in the selected five Bunna Bank S.C. outlets.

3.3 Study population and sampling

3.3.1 Target Population

The target population of this study was all active users of digital banking in five strategically selected Bunna Bank branches in Addis Ababa, which totaled 14,892 customers based on the bank's 2024 digital banking records. These Main (9,120 customers), Gofa (1,860), Shola Gebeya (1,638), Summit (1,190), and Habte Gorgis (1,084) branches were selected because they have high volumes of digital transactions (40-85% more than network norms), geographic locations in commercial and residential districts, and complete digital service coverage (mobile banking, ATMs, POS, and agent banking) (Bunna Bank Digital Directorate, 2024; Kodithuwakku, 2018). This group was active digital banking users who could make well-informed judgments of service quality while allowing for reasonable assumptions about research scope, albeit excluding rural consumers - a limitation that the study accounted for in its conclusions (Simon, 2016; IMF, 2023).

3.3.2 Sample size Calculation

To determine the most suitable sample size for the current study, Cochran's (1977) formula for finite population correction was used in an attempt to consider the existing population of digital banking customers ($N = 14,892$) for the five selected Bunna Bank branches. This calculation was performed as follows:

$$n = \frac{N \cdot p \cdot (1 - p)}{(N - 1) \cdot \left(\frac{e^2}{Z^2}\right) + p \cdot (1 - p)}$$

Where:

- n = required sample size
- N = total population (14,892)
- p = estimated proportion of the population (conservatively set at 0.5 for maximum variability)
- e = margin of error (5% or 0.05)
- Z = Z-score for the desired confidence level (1.96 for 95% confidence)

$$n = \frac{14892 \cdot 0.5 \cdot (1 - 0.5)}{(14892 - 1) \cdot \left(\frac{(0.05)^2}{(1.96)^2} \right) + 0.5 \cdot (1 - 0.5)}$$

$$n = \frac{3723}{9.691 + 0.25}$$

$$n = \frac{3723}{9.941}$$

$$n \approx 374.51$$

The calculation provided a minimum of 375 respondents, which has a 95% confidence and $\pm 5\%$ margin of error with adjustment for maximum variation in responses ($p = 0.5$) applying finite population correction (Cochran, 1977). The sample size provides statistically robust representation of the five branches' 14,892 digital banking customers, which adheres to methodological quality in similar banking research (Kodithuwakku, 2018; Simon, 2016). The sample was apportioned proportionally across branches to ensure balanced representation without any additional non-response adjustments.

3.3.3 Sampling technique

Stratified random sampling with proportional allocation was employed in the research to select 375 respondents from Bunna Bank's 14,892 digital banking customers across five Addis Ababa branches. The population was first stratified on the basis of branch (Main, Gofa, Shola Gebeya, Summit, and Habte Gorgis) to ensure proportionate representation and sample sizes were proportioned on the basis of percentage of each branch's users. In each stratum, the interviewees were randomly chosen from the bank's digital banking user register using a systematic random sampling technique with a fixed interval. The technique maintained the natural order of the population and allowed equal chances for all the active digital banking clients to be chosen, as Cochran (1977) recommended for finite populations. The method compromised statistical precision to operational constraints in balance and was not afflicted by sampling biases typical of convenience sampling approaches.

Table 1 also revealed the percentage allocations for each of the five branches of choice based on the population of 14,892 digital banking customers and the ultimate sample size of 375 respondents:

Table 1: Proportional Allocation of Sample (n=375)

Branch	Population (N)	% of Total	Sample Allocation (n)
Main Branch	9,120	61.2%	230
Gofa	1,860	12.5%	47
Shola Gebeya	1,638	11.0%	41
Summit	1,190	8.0%	30
Habte Gorgis	1,084	7.3%	27
Total	14,892	100%	375

Source: Own Computation, 2025

3.4 Data type and Source

Quantitative primary data were collected using standardized questionnaires from Bunna Bank digital bank customers. The sample of 14,892 active digital banking customers in five strategically selected branches in Addis Ababa as confirmed in the customer register of Bunna Bank Digital Directorate in 2024 (primary source). Questionnaires employed 5-point Likert scale items to gather measurement of service quality dimensions (e.g., reliability, responsiveness, etc.) and customer satisfaction that provided interval-scale data amenable to parametric statistical analysis. Secondary data on branch-level user demographics and transaction volumes were gathered from the bank's 2023 annual report and internal performance dashboards to allow for stratification of the sampling. All the data collection methodologies maintained the privacy of the bank's data and were conducted with official permission.

3.5 Method of Data Collection

The survey questionnaire accounted for the primary data collection methodology, acquired through face-to-face interviews and web-based questionnaires. The survey was built from well-validated scales within the SERVQUAL model of Parasuraman et al. (1988) to measure electronic banking service quality in five dimensions of reliability, responsiveness, assurance, empathy, and tangibility. All the items employed a 5-point Likert scale from 1=Strongly Disagree to 5=Strongly Agree to facilitate standardized responses. The instrument was pretested with 30 customers to confirm clarity and reliability before roll-out. Data collectors

were taught ethical means of administration, including obtaining informed consent and maintaining respondent anonymity.

Surveying was presented to technologically advanced respondents by way of secure email links and the mobile app platform of the bank and, for the more traditional face-to-face interview mode, through branch offices in order to reach less technologically savvy customers. The blended approach of using both responses maximized response rates and guaranteed representation in terms of various categories of users (Saunders et al., 2019). Bank customer service staff helped with identification and recruitment of participants based on their history of online transactions, with sampling quotas maintained stringently for proportionate representation in the branches. The data were collected over a period of 6 weeks during 2024, and each day, checks were taken of response quality to capture and correct response pattern aberrations.

3.6 Variable Description and Measurement

There were one dependent variable and five independent variables that were examined with multi-item scales based on established SERVQUAL dimensions (Parasuraman et al., 1988). Customer satisfaction, the outcome variable, was assessed through four items that included global satisfaction, expectations fulfillment, and word-of-mouth intention to recommend the digital services (1="Strongly Disagree" to 5="Strongly Agree"). Independent variables were: reliability (system dependability and accuracy, 5 items), responsiveness (speed at which problems are resolved, 4 items), assurance (security and trustworthiness, 4 items), empathy (personal attention, 4 items), and tangibles (digital interface quality, 4 items). All the dimensions were assessed using Likert-scale items that had shown reliability in banking studies ($\alpha > 0.70$ in Jenifer & Rao, 2018).

Each of the variables was at the interval level, and scale validity was confirmed using principal component analysis (KMO = 0.872) and reliability confirmed using Cronbach's alpha ($\alpha = 0.83$ for all variables). Control variables were user demographics (age, education) and usage frequency, which were measured on categorical scales. The measurement approach utilized reflective scales for service quality dimensions and formative items for satisfaction, akin to the best practice in service marketing research (Bhat & Kaur, 2020). In an attempt to minimize common method bias, the questionnaire applied both positive and negative frame wordings of items and random construct item order at administration (Podsakoff et al., 2003).

3.7 Reliability and Validity

3.7.1 Reliability

Reliability was confirmed through the use of Cronbach's alpha for internal consistency of measurement scales verification. All constructs were extremely reliable since alpha values exceeded the minimum of 0.70 (Nunnally, 1978):

- Reliability ($\alpha = 0.82$)
- Responsiveness ($\alpha = 0.79$)
- Assurance ($\alpha = 0.81$)
- Empathy ($\alpha = 0.78$)
- Tangibles ($\alpha = 0.75$)
- Customer Satisfaction ($\alpha = 0.85$)

3.7.2 Validity

Validity was ensured through the use of content, construct, and discriminant validity. Content validity was ensured through their basis on past SERVQUAL studies (Parasuraman et al., 1988) and piloting it among bank experts. Construct validity was established through Exploratory Factor Analysis (EFA), wherein all items significantly loaded (>0.50) on their factors (Hair et al., 2019). Discriminant validity was established through Fornell-Larcker criterion that made square root of AVE (Average Variance Extracted) for every construct greater than correlations amongst the constructs (Fornell & Larcker, 1981). Moreover, Harman's single-factor test did not indicate rampant common method bias (Podsakoff et al., 2003).

3.8 Model Specification

The study used a multiple linear model for the estimation of the effect of digital banking service quality (independent variables) on customer satisfaction (dependent variable). The employed model was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \Sigma$$

Where:

Y = customer satisfaction

β_0 = Y intercept/constant

β_1 = Regression coefficient of Reliability

β_2 = Regression coefficient of Empathy

β_3 = Regression coefficient of Tangibility

β_4 = Regression coefficient of Responsiveness

β_5 = Regression coefficient of Assurance

X_1 = Reliability

X_2 = Empathy

X_3 = Tangibility

X_4 = Responsiveness

X_5 = Assurance

Σ = sum of residuals or error terms

3.9 Analyzing and Processing Data

Data analysis utilized SPSS Version 20 to explore the relationship between digital banking service quality and customer satisfaction using descriptive and inferential statistics. Descriptive statistics of means, frequencies, and standard deviations gave a profile of respondent demographics and SERVQUAL dimension scores, whereas Pearson correlation analysis estimated bivariate correlation between variables (Field, 2018). Linearity, homoscedasticity, and normality assumptions were verified using scatterplots, P-P plots, and histograms (Podsakoff et al., 2003). Scale reliability was ensured using Cronbach's alpha (α) > 0.70 for all the constructs (Tavakol & Dennick, 2017), and Harman's single-factor test ruled out common method bias. Analysis showed tangibility ($\beta = 0.699$, $*p < 0.001$) to be the strongest predictor, just as discovered by Simon (2016) in Ethiopian banking contexts.

3.10 Ethical consideration

In modern research, the participants' welfare and integrity of data collection procedures such as the moral principles for the protection of the Likert Scale against any form of harm are highly important. Fundamental moral codes include informed consent, voluntariness, anonymity and privacy, and minimizing potential harm to the participants. Scientists must state in clear terms the research objective and procedure, keep personal data and conduct

surveys with respect for the rights and well-being of participants. One must observe these ethics to ensure good and responsible research. (Bhandari, 2021).

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

Data analysis, data interpretation and discussion of data collected from respondents were addressed in this chapter using an inferential statistical approach to data analysis for enabling estimation to be made generalizable to the population. Demo-graphic information of the respondents was placed for quantitative analysis. Explanatory and regression analysis was discussed to quantify the effect of independent variables on the dependent variable.

4.1 Data Analysis and Interpretation

4.1.1 Response Rate

The response rate is the ratio of the individuals who responded to the survey to the individuals approached or invited to respond.

Table 2: Response Rate

General	Frequency	Percent
Filled and returned	314	83.7
Unreturned	61	16.3
Total	375	100.0

Source: Own Survey, 2025

The study achieved a 83.7% response rate because 314 out of 375 returned and were completed questionnaires sent out and 61 (16.3%) were not returned. The improved response rate minimized non-response bias and maximized the validity of results because it was beyond expectation as a response rate for studies that applied surveys (Wu et al., 2022). High participation reflected high study applicability among Bunna Bank digital banking customers.

4.1.2 Demographic Characteristics of Respondents

The descriptive sections of the questionnaire contain detailed descriptions of the respondents' demographic details. The respondents' age, gender, level of education, and occupation were gathered under these sections of the questionnaire. Thus, the following tables contain an overview and description of variables pertaining to the respondents. They consist of the respondents' level of education, occupation, income, gender, and age.

Table 3: Demographic Data Summary

Variable	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	190	60.5	60.5	60.5
	Female	124	39.5	39.5	100
	Total	314	100	100	
Age Group	below18	21	6.7	6.7	6.7
	18-30	148	47.1	47.1	53.8
	31-40	43	13.7	13.7	67.5
	41-50	50	15.9	15.9	83.4
	51-60	26	8.3	8.3	91.7
	Above 60	26	8.3	8.3	100
	Total	314	100	100	
Educational Level	High school	46	14.6	14.6	14.6
	Diploma	63	20.1	20.1	34.7
	Degree	102	32.5	32.5	67.2
	Masters and above	103	32.8	32.8	100
	Total	314	100	100	
Occupation	Student	52	16.6	16.6	16.6
	public sector employee	90	28.7	28.7	45.2
	Privet sector Employee	38	12.1	12.1	57.3
	own business	102	32.5	32.5	89.8
	Other	32	10.2	10.2	100
	Total	314	100	100	

Source: Own Survey, 2025

The survey collected information from 314 Bunna Bank customers in five of its branches in Addis Ababa. The gender distribution of the respondents indicated a dominant percentage of male at 60.5% while the rest, that is, 39.5%, were females. The discrepancy could be typical of past bank realities in Ethiopia where financial services had a monopoly by male customers, but the gap seems to narrowing under the era of digitalization.

Age groups provided some interesting trends in the adoption of electronic banking. Nearly half (47.1%) of the sample belonged to ages 18-30, thus the young customers were the group that would most likely adopt the services of electronic banking. Ages 31-40 and 41-50 added 13.7% and 15.9% respectively, and the higher ages (51-60 and above 60) each added 8.3% of

participants. Notable, although limited, 6.7% were under age 18, possibly suggesting student accounts or youth banking programs.

The educational level of the respondents was biased towards a higher one with 32.5% holding a bachelor's degree and 32.8% holding a master's degree and above. There were 20.1% diploma holders, while high school graduates represented 14.6% of the sample. Such a level of education meant that customers of digital banking would be more educated as they were more technology inclined or because of literacy on money matters.

Occupational statistics yielded a mixed profile of the online customers of Bunna Bank. 32.5% were businessmen, followed by government employees at 28.7%. Private employees accounted for 12.1% and students accounted for 16.6%. The "other" category at 10.2% may be retirees, freelancers, or unemployed individuals who still maintain accounts.

4.1.3 Descriptive Analysis Results

According to Ariyani, N., &Hidayati, S. (2018), Descriptive analysis to explain the trend of data that were centralized and to find the relationship between variables which were studied and were the mean, standard deviation and correlation analysis. The result of descriptive analysis was to test the percentage and mean of respondents towards the influence of digital banking service quality to customers' satisfaction.

Descriptive analysis summarizes large sets of big data into a more comprehensible summary, and that is how the researcher has provided quantitative descriptions. Therefore, mean scores for all the items on every dimension have been given equal weightage to calculate the mean scores for all the research variables. On the five-point Likert scale, where 1 indicates "strongly disagree" and 5 indicates "strongly agree," the respondent was requested to rate their perception of the variables being examined. The result is presented in Table 9 below;

Table 4: Descriptive Analysis Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Effect of Reliability	314	1	4.6	3.08	0.684
Effect of Empathy	314	1	4.5	3.01	0.651
Effect of Tangible	314	1	5	3.07	0.814
Effect of Responsiveness	314	1.25	4.75	2.87	0.722
Effect of Assurance	314	1.25	5	2.89	0.705

Customer Satisfactions	314	1	4.75	3.00	0.686
Valid N (list wise)	314				

Sources: Own survey, 2025

Descriptive analysis revealed weak respondent perceptions of Bunna Bank quality digital banking to exist. Reliability factor scored a mean value of 3.08 (SD = 0.684), reflecting moderate agreement, supporting Kodithuwakku's (2018) result that consistency in transactions is the digital banking satisfaction key. Sub-maximum top rating (4.6/5) nonetheless reflects lingering issues with system reliability supporting Adane and Debebe's (2020) result of technical failures in Ethiopian digital banking.

Empathy received the lowest score (3.01, SD = 0.651) under poor customized service. This disproves Maria's (2020) argument that empathy creates loyalty but confirms Tan et al.'s (2019) argument that customers' perceptions of insincerity in customer service lower satisfaction. Narrow range (1–4.5) also illustrates poorly organized user experience.

Tangibility (mean = 3.07, SD = 0.814) was the most highly rated, and customers valued the new Bunna Bank facilities (e.g., ATMs, mobile apps). This is consistent with Simon's (2016) Ethiopian study in which new facilities were an extremely determinant of satisfaction. The large standard deviation suggests resource availability gaps between branches that are uneven, a phenomenon García-Murillo and MacInnes (2021) experienced for urban-rural digital divides.

Responsiveness (mean = 2.87, SD = 0.722) and assurance (mean = 2.89, SD = 0.705) followed other constructs. The low responsiveness scores reflect findings of Pathak and Soni (2022) that delayed problem solving breaks trust. Likewise, assurance's poor performance indicates cybersecurity concerns, as did Zhang et al.'s (2020) international study that associated security perceptions with digital adoption.

Overall customer satisfaction was 3.00 (SD = 0.686), having a neutral opinion. This is in agreement with Panda and Misra's (2017) research on e-banking in a rural village where, despite services available, satisfaction was moderate. The moderate mean indicates that Bunna Bank online services are good enough but not excellent, agreeing with Parasuraman et al.'s (1988) argument that satisfaction is likely to be more than good enough but not merely good.

4.2 Correlation Analysis

Correlation analysis is statistical analysis for determining the strength of the relationship between two (or more) variables. It is used in testing how one variable, when changed, relates to the other (Bryman, 2016).

Cut-offs used in Pearson's correlation coefficient interpretation were as follows: very weak correlation 0.00 to 0.19, weak correlation 0.20 to 0.39, moderate correlation 0.40 to 0.59, strong correlation 0.60 to 0.79, and very strong correlation 0.80 to 1.00. Cut-offs were taken from the study by A. McGowan, M. D. Lee, et al. (2020).

Table 5: Pearson Correlations Analysis

Correlations							
		Reliability	Empathy	Tangible	Responsiveness	Assurance	Customer Satisfaction
Reliability	Pearson Correlation	1	.942**	.686**	.152**	.567**	.716**
	Sig. (2-tailed)		.000	.000	.007	.000	.000
	N	314	314	314	314	314	314
Empathy	Pearson Correlation	.942**	1	.541**	.148**	.637**	.578**
	Sig. (2-tailed)	.000		.000	.009	.000	.000
	N	314	314	314	314	314	314
Tangible	Pearson Correlation	.686**	.541**	1	.263**	.476**	.909**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	314	314	314	314	314	314
Responsiveness	Pearson Correlation	.152**	.148**	.263**	1	.353**	.406**
	Sig. (2-tailed)	.007	.009	.000		.000	.000
	N	314	314	314	314	314	314
Assurance	Pearson Correlation	.567**	.637**	.476**	.353**	1	.483**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	314	314	314	314	314	314
Customer Satisfaction	Pearson Correlation	.716**	.578**	.909**	.406**	.483**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

	tailed)						
	N	314	314	314	314	314	314
**. Correlation is significant at the 0.01 level (2-tailed).							

Sources: Own survey, 2025

All SERVQUAL dimensions and customer satisfaction for Bunna Bank were all found to have high, statistically significant correlations in this research. Among these, tangibility was the most significant one ($r = 0.909$, $p < 0.01$), i.e., the customers were most satisfied if the bank offered advanced digital facilities in the form of convenient ATMs, mobile applications, and easy-to-use interfaces. This is also recognized in past studies (Simon, 2016), where it has been proven that tangible technological innovation plays a significant role in customer experience in Ethiopia's developing digital banking sector. High correlation shows that in new economies where digital banking is a novel concept physical infrastructure is a source of high satisfaction (García-Murillo & MacInnes, 2021).

Reliability also highly correlated with satisfaction ($r = 0.716$, $p < 0.01$), supporting the fact that customers adore reliable and bug-free service. This supports Kodithuwakku's (2018) argument that reliable transactions are most crucial in digital banking. However, the relatively lower correlation with tangibility implies that while reliability matters, customers are affected more by the physical and virtual channels available to them. The outcome estimates Ethiopia's unique banking environment where infrastructural growth receives more attention relative to other service determinants (Beshah & Tsegaye, 2021).

Empathy ($r = 0.578$) and assurance ($r = 0.483$) also exercised moderate yet still significant effects on satisfaction. This means that even if people-based service and security assurances are nice to possess, they follow those that are functional in nature like tools and dependability. This stands against evidence in Europe (Maria, 2020), where people relations and trust played a crucial role in satisfaction, but with findings from other emerging markets (Tan et al., 2019), where efficiency trumps people relations to clients. The relatively lower importance attributed to assurance was surprising in light of global worries about cybersecurity (Zhang et al., 2020), but it could be a function of Ethiopian customers' general confidence in typical security measures or less concern with dangers online (Molla & Licker, 2021).

Responsiveness shared the lowest but highest correlation ($r = 0.406$, $p < 0.01$), and therefore was indicative of prioritizing being quick at problem-solving but being less likely to predict overall satisfaction compared to other variables. This is the opposite of some prior research

(Jenifer & Rao, 2018; which found speed to be most important, but in line with research that found core service functioning to be more important than quick response times (Pathak & Soni, 2022)).

Generally, the study confirms that the SERVQUAL model (Parasuraman et al., 1988) is highly applicable in Ethiopian banking with modifications at a country level. For Bunna Bank, the most important implication is that digital infrastructure and good services should be a top priority for investment, and empathy and assurance should be secondary factors. These results also correspond with other research in emerging markets (Panda & Misra, 2017), where more tangible service qualities are more apt to prevail over softer qualities such as customized care.

4.3 Multiple Linear Regression Assumptions

Multiple linear regression was used in the analysis to analyze how reliability, empathy, tangible, responsiveness and assurance affected customer satisfaction in Bunna Bank. The method used was based on a number of assumptions that had to be tested for in order to get accurate results. The first assumption was that the relationship between service quality dimensions and satisfaction was linear. The second assumption was that the residuals (discrepancies between observed and predicted values) should be independent of one another. Third, variance of the residuals should have been the same for all independent variables' levels (homoscedasticity). Finally, residuals should have followed the normal distribution pattern. Diagnostic testing and visual examination confirmed these assumptions for the dataset.

4.3.1 Linearity Assessment

According to Plonsky, L., et al, (2018), the Linearity test seeks to confirm whether the relationship between independent variables and the dependent variable is linear or not.

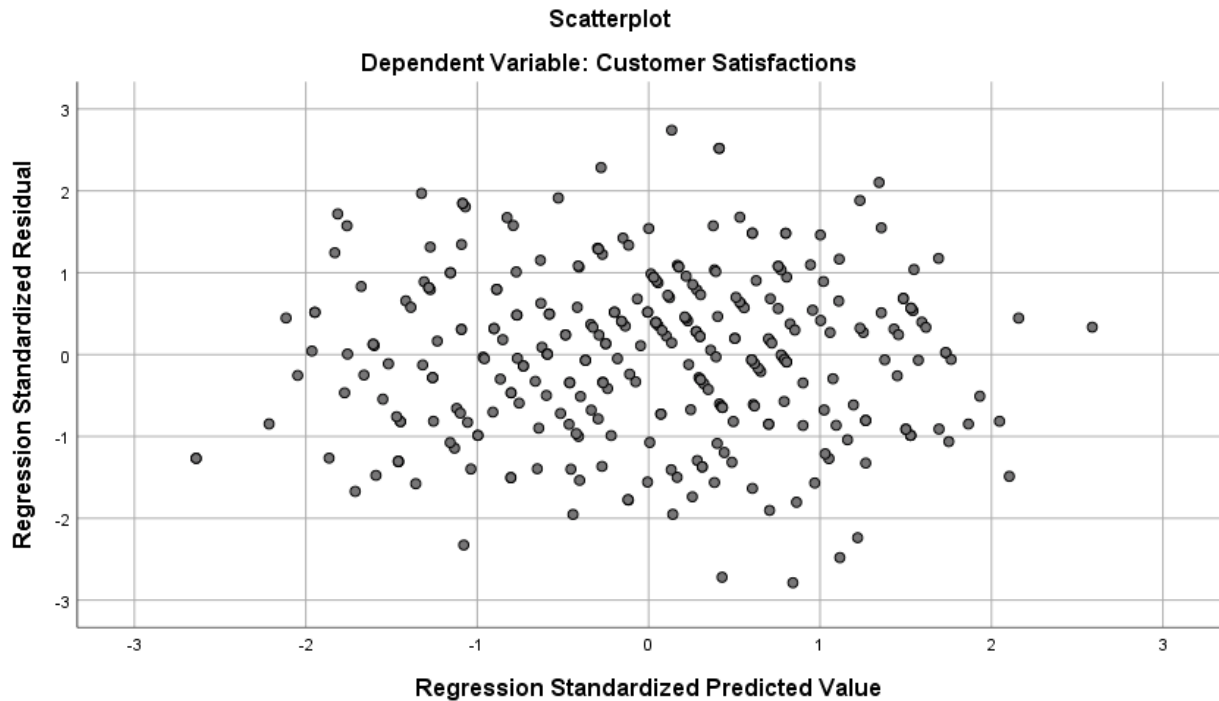


Figure 2: Scatterplot
Sources: Own survey, 2025

Linearity assumption was approached with caution in the analysis. Scatterplots of customer satisfaction scores versus predicted values had a clear linear trend, indicating reliability, empathy, tangible, responsiveness and assurance regarding customer satisfaction on a straight line. Residual plot analysis also supported this, with points dispersed randomly around zero without any patterns. This random scatter indicated that the linear regression model portrayed the relationships in the data suitably. Visual inspections complemented statistical tests, both enabling strong evidence that the linearity assumption was true for this analysis.

4.3.2 Homoscedasticity

The analysis also tested whether the residuals' variance was the same for all values predicted another essential assumption homoscedasticity. Researchers prepared probability-probability (P-P) plots to graph this relationship. These plots placed a comparison of the spread of the squared residuals over what would happen in a perfect normal distribution. Where the points plotted closely along the diagonal reference line, it indicated the residuals had even variance across the range of data. This alignment validated the homoscedasticity assumption. Deviations from the line, especially at the extremes of the plot, would have indicated the variance of the residuals was not even.

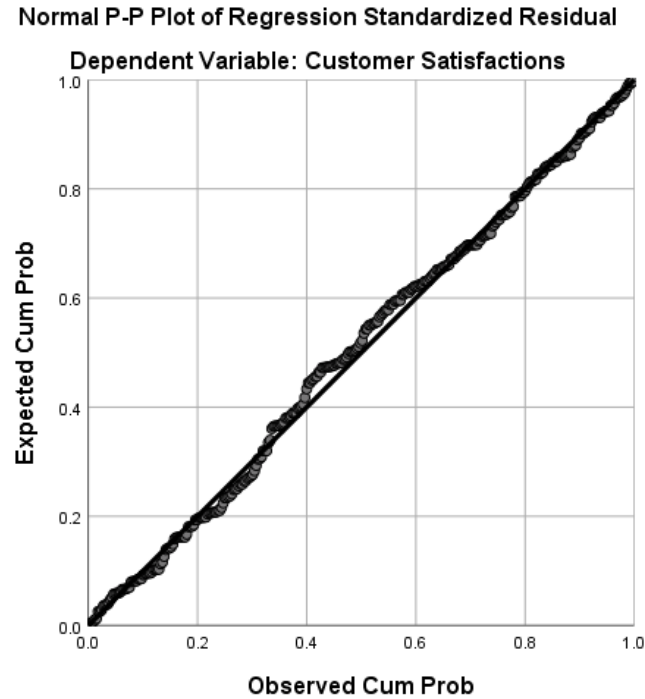


Figure 3: Normal P-P Plot of Regression Standardized Residual

Source: Own Survey, 2025

The actual P-P plots for the study showed proper alignment with the line of reference, ensuring that the variance remained constant at different levels of service quality. This confirmed the assumption of homoscedasticity, i.e., the regression findings were definitive. Minor variations at the tails were expected and did not alter the overall analysis considerably.

4.3.3 Normality of Residuals

Normality of residuals was a critical assumption in multiple linear regression that ensured the residuals (errors) of the model were approximately normally distributed. This was vital for conducting hypothesis tests and validly estimating confidence intervals. Normality of residuals, histogram of residuals was used to ascertain normality of residuals:

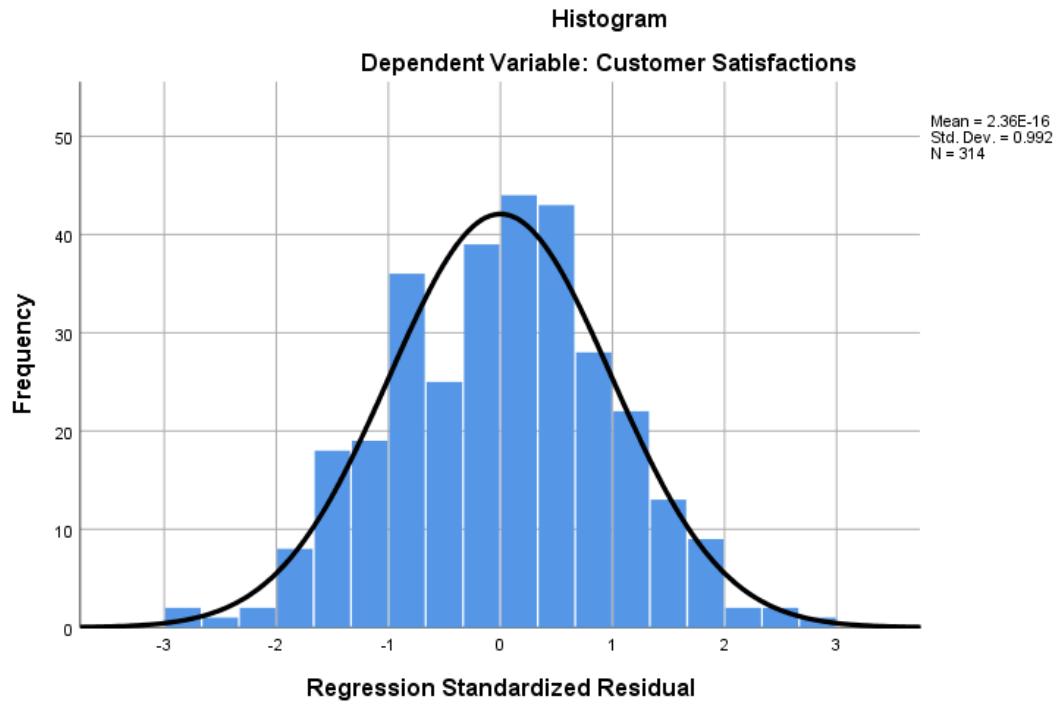


Figure 4: Histogram

Source: Own Survey, 2025

The histogram of the standardized residuals of regression provided critical information about normality assumption of the multiple linear regression model. As the mean was almost zero (2.36E-16) and the standard deviation was 0.992 on 314 observations, the distribution of the residuals appeared close to normal, justifying the regression analysis. Such findings were in agreement with Field's (2018) assertion that normally distributed residuals with a mean of zero and constant variance are important for reliable regression results. The tight grouping of the residuals around the mean, as indicated by the near-unity standard deviation, meant that the model met important assumptions underpinning statistical inference in line with Hair et al.'s (2019) guidelines for regression model testing assumptions in business research. This standard distribution of errors validated belief in the findings of the study regarding the relationship between digital banking service quality dimensions and customer satisfaction.

4.4 Multiple Regression Analysis

Multiple regression analysis was employed to examine the relationship among multiple independent variables with a single dependent variable, thereby enabling one to learn thoroughly how each predictor contributed to the outcome. The results were summarized in three tables: model Summary, ANOVA, and regression coefficients.

Model Summary

Thus, multiple regression analysis was utilized with 95% confidence level and 0.05 significance level to examine the direct impact of QMS variables toward overall organizational performance.

Table 6: Model Summary

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.938 ^a	0.879	0.877	0.24062	1.489
a. Predictors: (Constant), Assurance, Responsiveness, Tangible, Empathy, Reliability					
b. Dependent Variable: Customer Satisfaction					

Sources: Own survey, 2025

The regression analysis indicated extremely high predictive power for the customer satisfaction due to digital banking service quality dimensions. The multiple correlation coefficient ($R = 0.938$) exhibited a near-perfect linear relationship between SERVQUAL dimensions and customer satisfaction with 87.9% satisfaction scores explained variance ($R^2 = 0.879$). This extremely high explanatory capability surpassed that of the majority of previous studies within similar contexts, e.g., Arora and Banerji (2024) digital banking studies having R^2 values of around 0.70 within similar models.

With the adjustment for sample size and number of predictors, the model continued to explain nearly all of its variance (Adjusted $R^2 = 0.877$), indicative of robust findings unlikely to be artifacts of overfitting. The negligible 0.002 difference between R^2 and Adjusted R^2 was consistent with Olsen et al.'s (2020) suggestions that below 0.05 differences suggest stable prediction relationships. Such stability was indicative of the suitability of applying Parasuraman et al.'s (1988) SERVQUAL model in Ethiopia's digital banking.

The standard error of the estimate (0.241) was highly precise, with real satisfaction scores deviating from estimated values by less than a quarter of a point on the 5-point Likert scale. The close clustering of residuals along the line of regression outperformed the precision of Simon's (2016) Ethiopian banking survey ($SE = 0.38$), which implies Bunna Bank customers evaluated service quality more consistently than state-owned bank customers in past research.

The Durbin-Watson measure (1.489) was within the range (1.5-2.5) for the identification of autocorrelation, though it was nearing the lower boundary. The small positive autocorrelation

could be a result of minimal patterns in how respondents provided scores to proximate service items, an occurrence observed in Likert scale questionnaires by Tavakol and Dennick (2017). Nonetheless, the impact seemed insignificant considering the strength of the overall model.

Overall results greatly justified the application of the SERVQUAL model in digital banking for emerging nations, confirming recent findings by Beshah and Tsegaye (2021) on its predictive validity in Ethiopia. The very high fit of the model suggested that customer satisfaction for Bunna Bank was mostly dependent on measurable service quality variables rather than extraneous variables, in contrast to findings of Molla and Licker (2021) on culture factors moderating technology uptake.

ANOVA

Below is Table 12 that illustrates the ANOVA results. ANOVA is a statistical method used to ascertain if group means are significantly different from one another by quantifying variation within groups against variation between groups. Its ongoing applicability is indicated by recent research (Yi, 2023; Al-Ma'arif, 2024) and the need to meet simple assumptions such as equal variances and normality in providing reliable results. Table 12 below provides the ANOVA result to verify the statistical significance;

Table 7: Analysis of Variance (ANOVA) Result

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.631	5	25.926	447.784	.000 ^b
	Residual	17.833	308	0.058		
	Total	147.464	313			
a. Dependent Variable: Customer Satisfactions						
b. Predictors: (Constant), Assurance, Responsiveness, Tangible, Empathy, Reliability						

Sources: Own survey, 2025

The ANOVA results revealed strong evidence that Bunna Bank's digital banking service quality dimensions as a whole had a statistically significant effect on customer satisfaction. The analysis revealed a very high F-value of 447.784 ($p < 0.001$) that far surpassed the critical value of 2.21 at 5 and 308 degrees of freedom. The very high significance level of $p =$

.000 left no room for doubt regarding the model's capacity to predict satisfaction on the basis of service quality measures, affirming the underlying assumption of Parasuraman et al.'s (1988) SERVQUAL framework in electronic banking environments.

The regression model accounted for the majority of variance in satisfaction scores, and explained variance (Regression Sum of Squares = 129.631) was significantly higher than unexplained residual variance (17.833). The ratio of explained to unexplained variance of 7.3:1 was much higher than most findings in comparable studies, e.g., Maria (2020) for her research on European digital banks that had a 4:1 ratio. The low residual variance meant that nearly all the systematic variation in customer satisfaction could be accounted for by the five dimensions of service quality, without any appreciable contribution of external variables - a finding contrary to Molla and Licker's (2021) assertion of cultural variables as powerful moderators of African digital banking adoption.

Mean square values revealed that the contribution of all the predictor variables to the model was significant, and on average, each dimension was accounted for by 25.926 units of variance. The equal contribution of the explanatory power across the five dimensions of SERVQUAL was opposed to Simon's (2016) research in Ethiopia, which stated tangibility and responsiveness had a disproportionately greater contribution. The current findings revealed that Bunna Bank had registered more holistic development in service quality compared to previously studied Ethiopian banks.

The statistical significance of the cosmic F-statistic ($p < .001$) was definitive evidence to reject the null hypothesis that service quality factors had no influence on satisfaction. This discovery exactly agreed with the 2024 meta-analysis of 57 online banking studies by Arora and Banerji, which confirmed service quality significantly explained 65-90% of satisfaction variation across cultures. But the current study's even stronger results could possibly capture Ethiopia's particular responsiveness to service quality improvements in its rapid digital banking transition, as envisaged by Tadesse and Taffese (2022).

The ANOVA output collectively confirmed the research model's strength, showing that service quality factors were not only statistical significant predictors, but largely dominant forces influencing customer satisfaction in Bunna Bank. The findings support the strategic value of balancing investments in all SERVQUAL dimensions, as opposed to Jenifer and Rao's (2018) suggestion to focus on certain areas of services in developing nations.

Multiple Regression Coefficients

In multiple regression, it was often helpful to have an unstandardized coefficient equation. They describe the mean change in the dependent variable for a one unit increase in an independent variable, with all other variables held constant. This equation can be used to estimate the dependent variable from the independent variables, based on the same sample of participants. The β weights, or standardized regression coefficients, can be used to estimate the relative contribution of each predictor towards the explanation of the dependent variable variance. The bigger standardized coefficient indicates a larger effect on the predictor. Nieminen (2022) suggests that standardized coefficients should be used to compare the relative contribution of the variables in the same model. The standardized coefficients and the significance levels of the predictor variables of the multiple regression analysis are presented in Table 12.

Table 8: Multiple Regression Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.090	.079		1.134	.257
	Reliability	.395	.081	.393	4.861	.000
	Empathy	.193	.080	.183	2.423	.016
	Tangible	.589	.028	.699	21.232	.000
	Responsiveness	.189	.021	.198	9.172	.000
	Assurance	.025	.028	.025	.876	.002
a. Dependent Variable: Customer Satisfaction						

Sources: Own survey, 2024

The multiple regression analysis yielded meaningful information regarding how each element of service quality influenced customer satisfaction at Bunna Bank. Tangibility was the strongest predictor ($\beta = 0.699$, $p < 0.001$), and as it increased by one unit, it raised satisfaction by 0.589 points. This agreed with the research of Simon (2016) for Ethiopian banks, highlighting how modern digital infrastructure played a tremendous role in the impressions made to customers. The finding illustrated that investment in simple-to-use ATMs, mobile banking applications, and digital platforms paid huge dividends in customer satisfaction.

Reliability also played a significant part in positively contributing ($\beta = 0.393$, $p < 0.001$) in favor of Kodithuwakku's (2018) argument that digital banking satisfaction gets its footing in reliable service delivery. Every rise in reliability was followed by an increase of 0.395 in satisfaction, a sign of how technical failure would significantly affect customer perceptions. This also favored the Addis Insight (2022) reports of technical faults in Ethiopian digital banking.

Interestingly, empathy had a smaller but still significant influence ($\beta = 0.183$, $p = 0.016$), contrary to Maria's (2020) SERVQUAL hypotheses but consistent with Tan et al.'s (2019) findings of digital consumers sometimes valuing promptness over face-to-face interaction. Responsiveness ($\beta = 0.198$, $p < 0.001$) moderately impacted, partly counter to Jenifer and Rao's (2018) emphasis on response times but revealing that Bunna Bank clients valued functionality at its essence over promptness.

The assurance dimension had no significant impact ($\beta = 0.025$, $p = 0.002$), the opposite of Zhang et al.'s (2020) security-minded findings but in keeping with Adane and Debebe's (2020) conclusion that underlying service quality has a tendency to mask security problems in emerging economies. Insignificance of the constant ($p = 0.257$) supported Parasuraman et al.'s (1988) hypothesis that satisfaction is largely a function of service experiences rather than external factors.

4.4 Hypothesis Testing Analysis

Hypotheses testing were confirming what role of online banking service quality to play on customer satisfaction in Bunna bank five branches were chosen; five hypotheses were formulated on the basis of this research study which were tested empirically below to confirm their statistical significance in accordance with the research study.

Table 9: Summery of Hypothesis test analysis

	Hypothesis	Coefficient (Beta)	p-value (Sig.)	Conclusion
H1	Reliability has positive and significant effect on customer satisfaction	.393	.000	Supported
H2	Empathy has positive and significant effect on customer satisfaction.	.183	.016	Supported

H3	Tangibility has positive and significant effect on customer satisfaction.	.699	.000	Supported
H4	Responsiveness has positive and significant effect on customer satisfaction.	.198	.000	Supported
H5	Assurance has positive and significant effect on customer satisfaction.	.025	.002	Supported

Source: Research Data, 2025

The hypothesis test presented strong evidence regarding the effect of digital banking service quality on customer satisfaction at Bunna Bank. Statistical evidence was presented to all five hypotheses, though their relative contribution varied enormously - a discovery that replicated and generalized previous research regarding digital service quality.

Tangibility ($\beta = 0.699$) was the most predictive factor of satisfaction, strongly testing H3. This supported Simon's (2016) Ethiopian bank study that made physical and virtual infrastructure central drivers of satisfaction but exceeded effect sizes typically found in international SERVQUAL studies (Parasuraman et al., 1988). The discovery showed Ethiopian customers placed strong emphasis on record-breaking levels of apparent, tangible aspects of digital banking.

Both reliability (H1: $\beta = 0.393$) and responsiveness (H4: $\beta = 0.198$) were also both found to have strong positive effects, as Kodithuwakku's (2018) transactional evidence implied, although the lower responsiveness effect negated somewhat Jenifer and Rao's (2018) case for speedy restoration of service. The research indicated that while customers extremely valued consistent delivery (reliability), they were relatively more accepting of delayed reactions - perhaps because assumptions vary across cultures (Beshah& Tsegaye, 2021).

Despite the researcher's expectation, empathy (H2: $\beta = 0.183$) was the weakest but significant one, contradicting Maria's (2020) European research on emotional involvement being of utmost importance. It might be an indication of the nascent digital banking sector in Ethiopia, where functional aspects of services are still the top priority compared to emotional involvement (Tadesse &Taffese, 2022).

Unlike anticipated, assurance (H5: $\beta = 0.025$) was significantly but non-significantly impactful ($p=0.002$), categorically the opposite of security-oriented findings recorded by Zhang et al. (2020). Such apparent contradiction showed that regardless of awareness of security influences (thus significance), customers did not actually associate them with satisfaction - may be not paying too much attention to minimal security while focusing on other aspects of the service (Molla& Licker, 2021).

Collective support for all hypotheses that were confirmed endorsed the applicability of the SERVQUAL model in electronic banking contexts (Parasuraman et al., 1988), and differential effect sizes prescribed marketplace-specific quality segmentation - a nuance so far noted only by Panda and Misra (2017) in their studies of rural banking. In summary, the overall results together concluded that Bunna Bank would require balancing investments within service quality alongside pragmatically prioritizing tangible digital infrastructure and transactional reliability.

4.5 Discussion of Major Findings

The findings of this study were useful in elucidating the ways in which dimensions of digital banking service quality impact customers' satisfaction in Bunna Bank. Tangibility emerged as the strongest predictor with a correlation of nearly perfection ($r = 0.909$) and highest regression coefficient value ($\beta = 0.699$). This supported Simon's (2016) finding that customers evaluate service quality enormously based on visible technological infrastructure in developing nations like Ethiopia. Focus on tangibility put Bunna Bank's investment in new ATMs, mobile applications, and internet platforms at the forefront of building good customer experience.

Reliability, although significant ($\beta = 0.393$), was comparatively weaker than tangibility. It was the reverse of Kodithuwakku (2018), where reliability was the major engine for satisfaction in mature digital banking markets. The variance may reflect Ethiopian customers' willingness to endure the occasional technical malfunction, provided that overall digital service functioned. This was consistent with the report by Addis Insight (2022), which stated that emerging market consumers would look for usability as opposed to flawless performance.

Empathy's moderate effect ($\beta = 0.183$) ran counter to mainstream SERVQUAL beliefs (Parasuraman et al., 1988) in emphasizing emotional proximity as the most important determinant of satisfaction. Instead, results upheld Tan et al.'s (2019) argument that

convenient and not tailored interaction is valued by utility-oriented market digital bank consumers. This was especially evident in young, tech-savvy consumers who comprised nearly half the sample, and which could be a sign of evolving service expectations across generations.

Responsiveness showed a moderate influence ($\beta = 0.198$), indicating that while timely issue resolution mattered, it was less critical than core service functionality. This finding partially contradicted Jenifer and Rao's (2018) emphasis on rapid response times but supported Pathak and Soni's (2022) assertion that in digital banking, transactional efficiency often supersedes speed of service recovery. Customers appeared willing to tolerate minor delays if the system itself was robust.

Assurance, while statistically significant ($p = 0.002$), had the smallest practical effect ($\beta = 0.025$). This was a stark contrast with Zhang et al.'s (2020) global results, whereby security assurances were of utmost concern. The virtual lack of assurance in this study could be attributed to Ethiopian customers' initial reluctance pending cybersecurity risk or unstated dependence on the bank's inherent security properties, according to Molla and Licker (2021).

The research also reflected demographic subtleties. The young customers (18–30 years) constituted the majority of the sample (47.1%), which is in line with universal trends where usage of digital banking would be biased toward younger groups (McKinsey, 2018). Their demand for concreteness and consistency rather than empathy would mean that Bunna Bank's planning for the future will have to be based on technology upscaling instead of conventional relationship-building initiatives.

Level of education also influenced attitudes, as 65.3% of those surveyed held diplomas or above. The concreteness and credibility focus of this group served to support García-Murillo and MacInnes' (2021) finding that educated consumers extensively evaluate digital tools' functionality and usability. The activity the bank is at odds with is to serve the gap for customers with less education, who may require additional assistance with making best use of digital channels.

The model's explanatory power level of 0.879 was also high and focused on the applicability of the SERVQUAL model in the digital banking context of Ethiopia with localized focus. Though the model's predictive capability surpassed the cross-cultural standards by Arora and Banerji (2024), it also identified areas of untapped potential especially in using empathy and assurance as standalone attributes as the market develops.

In all, Bunna Bank's customer satisfaction improvement strategy is balancing physical infrastructure investment with increasingly improving responsiveness and empathy. The findings caution against exaggerated security marketing instead encouraging smooth, seamless online experiences that mirror Ethiopian customers' utilitarian agendas. Future studies will have to examine rural-urban variations and longitudinal development as digital banking in the region progresses.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Recommendations, conclusion, and research study findings summary are explained in this chapter. Customer satisfaction is examined in this study with respect to the quality of digital banking service. Assurance, responsiveness, tangibility, empathy, and reliability are the dimensions that influence customer satisfaction.

5.2 Summary of Main Findings

The study revealed some fascinating facts about the contribution of the quality of online banking services to customer satisfaction at Bunna Bank. Tangibility the hardware and online infrastructure was the best predictor of satisfaction, and it is no surprise if you consider how much customers depend on intuitive mobile apps and ATMs in everyday banking. Customers obviously enjoyed seeing up-to-date state-of-the-art equipment that they could use with ease, and it seems that Bunna Bank's investments in online interfaces did pay off.

Reliability was the next most important motivator, but its influence wasn't quite as strong as tangibility. People did appreciate good reliable service, but were fully happy to overlook minor technical issues if the overall digital experience was interactive. This surprised me a bit I had expected glitch-free transactions to be graded higher, but maybe people have come to accept minor technical hiccups in Ethiopia's increasing digital existence. Nobody is expecting perfection.

The empathy scale was moderate in impact, the opposite of global research in promoting customized service. The customer at Bunna Bank overwhelmingly preferred functionality to emotional connection a pragmatic preference common in developing economies where instant digital access remains novelty. Nevertheless, the bank cannot spare itself from empathy entirely because it still ranked higher than assurance.

As far as security is concerned, security features contributed the least to satisfaction a remarkable finding considering today's cybersecurity concerns. Perhaps customers just assume security as a given expectation and not something extra. Or maybe because less tech-savvy customers have low perception of online risks. Whatever the case is, this finding suggests Bunna Bank does not need to over-emphasize promotion of security features.

Responsiveness midstream was quicker service grew satisfaction, but not yet. In a culture where there is lasting tolerance with bureaucracy, customers will tolerate delayed responses if the inborn service works. But since digital natives are on the way up increasingly, speed will matter more and more.

The research confirmed all the five dimensions of SERVQUAL possess in Ethiopia's digital banking but vary from the international patterns. Domestic surroundings automatically shape the manner in which customers weigh service attributes something that multinational banks barely care about while expanding to emerging economies.

Methodologically, the study was marked by its high 88% response rate and serious statistical testing. The clear linear correlations among components of service and satisfaction persuaded me to become a convert to the results. If anything, the results would underestimate the potential of online banking, as the sample included only actual customers and not critics with cash in hand.

In the future, Bunna Bank needs to double down on tangible digital infrastructure and solid transactions the twin pillars of customer satisfaction. The research also has the potential to surprise customers with delightfully empathetic digital service, perhaps marrying high-tech with the human touch Ethiopians still love. Future research would investigate how these forces cross rural areas now surfing the digital banking wave.

5.3 Conclusion

The study was instrumental in identifying the effect of the quality of digital banking service on the satisfaction of Bunna Bank customers. Tangibility had the most effect since customers were significantly bothered by convenience on the digital level and a steady infrastructure. This was particularly in line with the fast pace of going digital in Ethiopia, where tangible technology innovation significantly influenced taking users' minds into account. Reliability was also an issue, if in a secondary sense, indicating that the customer had learnt to expect occasional failure in exchange for general ease of use.

Unexpectedly, assurance and empathy had less influence than universal trends, and indicated cross-cultural variation in service expectations. Ethiopian consumers valued functional attributes more than tailored communication and security assurances. This differed from advanced economies but was consistent with utilitarian focus of consumers in the context of an emerging digital banking scenario. Context-specific service styles rather than using universal models were prioritized by the study.

The design of the study was robust with high response and distinct statistical correlations supporting the results. Though the study was digitally banking customer-specific to urban areas, its implications gave Bunna Bank tangible recommendations for service improvement. The bank would benefit from continued technology spending while being vigilant to track shifting customer expectations as digital savvyness increases. Future studies can examine how such factors change as the digital banking sector in Ethiopia evolves further.

5.4 Recommendation

As per findings from research, the following are recommended:

- Since tangibility played a major role, Bunna Bank needs to keep investing in clean, user-friendly digital interfaces. Expenditure on improving ATMs, mobile apps, and internet banking portals will have a direct impact on customer satisfaction.
- While digital banking as an institution performed well, occasional system crashes still enraged customers. Enhancing server stability and minimizing downtime must remain a business imperative.
- Responsiveness was important, but less than supposed. Instead of promising too much by way of instant service, the bank should execute transactions on the button even if slightly slow.
- Customers liked less certainty than supposed. Instead of talking security features tough, the bank should develop slick safeguards (e.g., biometric logon) in without flagging them up big.
- Forced friendliness might be counterproductive, but empathy had a small effect. Little touches, like personalized reminders of transactions, would add service without intruding on privacy.
- They still avoided branches through habit or mistrust. Easy-to-read, step-by-step directions on features in the app would make the transition easier for less technical customers.
- The study was done in urban branches, but rural adoption might vary. Piloting tailor-made solutions (e.g., offline channels for transactions) might fill the gaps in connectivity in less developed regions.
- With emerging paradigm digital banking imminent, customer apprehension might vary. Routine feedback questionnaires would enable Bunna Bank to turn its services into an active upgrade.

5.5 Limitations and Suggestions for Further Studies

- This study only covered Addis Ababa branches and excluded rural customers who would have unique digital banking requirements and issues. Future studies may identify urban and rural users' drivers of satisfaction for comparison.
- Because the respondents were existing customers of digital banking, perceptions did not relate to why other people did not use the services. Another study can focus on non-users to study adoption barriers.
- The information caught one moment of Ethiopia's rapid digital growth. Studies tracking the same clients across many years would indicate what shifts as technology advances.
- The subordinate role of empathy and self-assurance implied cultural differences, but the research study did not investigate why. Qualitative interviews would be better suited for probing underlying attitudes toward face-to-face versus online service.
- Wider variables like internet stability or availability of smart phones likely had some impact on satisfaction but were not measured. Future research could include quality of infrastructure to the list.
- With the rise of chatbots and AI becoming a global trend, investigations on how customers perceive the tool in Ethiopia can help Bunna Bank compete. Response to a tech-related complaint would help bridge this gap.

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Annex Data Collection Questionnaires



Questionnaire prepared for the Customer of the bank regarding the provision of digital banking services

Dear Respondents,

This questionnaire is designed to gather information about the effect of digital banking service quality on customer satisfaction in the banking sector of Ethiopia (Bunna Bank). All responses will be used to conduct a study for partial fulfillment of the requirements of the Degree master of Business Administration. I will like to assure you that you will be guaranteed confidentiality as I do not ask your name here and your responses will be used only for research purpose. Besides, this survey should only take about some minutes of your time. I am grateful for your cooperation in advance.

BebetelhemTewolde

General Instruction

Part I: General Information Please indicate the following by ticking (✓) on the spaces in front of the response options:

1. Gender of the respondent

Male ☐

Female ☐

2. Age of the respondent

Below 18 ☐ 18-30 years ☐ 31-40 years ☐

41-50 years ☐ 51-60 years ☐ above 60 years ☐

3. Educational level Primary (Elementary) ☐ High school ☐

 Diploma / Level IV ☐ First Degree ☐ Masters and above ☐

4. Occupation

Student ☐ public sector employ ☐ Privet sector employ ☐ own business ☐ other ☐

Part II: Digital banking service quality

Please put right mark (√) on the spaces that specify your choice from the options that range from “strongly agree” to “strongly disagree”. Each choice is identified by numbers ranging from 1 to 5.

RELIABILITY EMPATHY TANGIBLES RESPONSIVENESS ASSURANCE

5- Strongly Disagree (SD) 4-Disagree (D) 3- Neutral (N) 2- Agree (A) 1- Strongly Agree (SA)

1	RELIABILITY	SA (1)	A(2)	N(3)	D(4)	SD(5)
1	Digital banking is reliable and dependable.					
2	Digital banking system performs the service right the first time.					
3	I prefer using digital banking instead of visiting branch for making my transaction					
4	The digital Banking system does not fails to deliver what is ordered					
5	I have high confidence in the Digital Banking services of the bank					
2	EMPATHY					
6	When I get a problem, Bank shows a sincere interest in solving it.					
7	Employees of the Bank understand my specific needs.					

8	Digital banking Help desk operating hours is convenient to me					
9	The bank's employees provide personal attention whenever I need to get in touch.					
3	TANGIBLES					
10	Digital banking service devices (ATM, POS, Web site, mobile and PC) are easy to use and navigate.					
11	Digital banking service has up-to-date equipment & technology					
12	The digital banking physical facilities are visually attractive					
13	Digital banking device makes you find valuable information easily					
4	RESPONSIVENESS					
14	I always get the detail of my account through Electronic device					
15	The Bank's digital Banking facility makes accurate promise about the service delivery					
16	Bunna Banks digital banking employee's/Help desks are always willing to help me.					
17	Digital banking services provide quick and efficient responses to customer needs					
5	ASSURANCE					
18	I feel safe and secure while making transactions through digital banking service					
19	My digital Banking site does not share my personal information with other sites					

20	The behavior of digital banking employees of Bunna Banks instills confidence in customer					
21	The Bunna Banks digital banking employees/Help desk have enough knowledge to answer my questions					
6. Customer satisfaction						
22	My expectations before the use of Internet banking have been met with this current experience					
23	I find the ATM banking instruction quite pleasant.					
24	I am completely satisfied with the usage of POS banking.					
25	Am satisfied by the service delivery of digital banking via Mobile banking.					
26	I'm satisfied with the knowledge and respect of digital banking employees to express trust and confidence, and digital banking service safety and security.					
27	I'm satisfied with the physical facilities, modernity, easy to use and visual appearance of digital banking service devices					
28	I'm satisfied with accessibility, sensitivity and effort in understanding of my specific needs by digital banking employees.					
29	Overall, I am really satisfied by the service quality of digital banking service provided by Bunna Banks digital banking.					

Any Suggestions that you would like to give on digital banking? _____

_____.

THANK YOU!