Addis Ababa University School of Commerce

Department of Marketing Management

The Mediating Role of Customer Trust in the Relationship between Digital Banking Service Quality and Customer Satisfaction: The Case of Awash Bank, Addis Ababa

By: Chaltu Abiye Taye

Advisor: Getie Andualem, PhD (Associate Professor)

Addis Ababa, Ethiopia

June, 2026

Addis Ababa University

School of Commerce Marketing Management Department

The Mediating Role of Customer Trust in the Relationship between Digital Banking Service Quality and Customer Satisfaction: The Case of Awash Bank, Addis Ababa

A Thesis Submitted to School of Commerce in Partial Fulfillment of the Requirements for the Degree of Master of Science in Digital Marketing with a specialty in E-Commerce.

By

Chaltu Abiye Taye

Advisor: Getie Andualem, PhD (Associate Professor)

Addis Ababa, Ethiopia

June, 2026

© Chaltu Abiye Taye

Declaration

This is to declare that the thesis entitled "**The Mediating Role of Customer Trust in the Relationship between Digital Banking Service Quality and Customer Satisfaction: The Case of Awash Bank, Addis Ababa**", is a record of original work carried out by me except for quotations and citations, which have been duly acknowledged. I further declare that this thesis has not been previously or currently submitted to Addis Ababa University or any other institution for any degree or academic qualification.

Chaltu Abiye Taye _____ _____

Signature Date

Statement of Certificate

This is to certify that Chaltu Abiye is the author of the thesis titled: "**The Mediating Role of Customer Trust in the Relationship between Digital Banking Service Quality and Customer Satisfaction: The Case of Awash Bank, Addis Ababa**". This thesis is a part of the requirements for M. Sc Degree in Digital Marketing with a specialty in E-commerce at Addis Ababa University. I have checked and found the thesis to be original and it has neither been submitted to any degree requirements at Addis Ababa University nor any other institutions. With my endorsement, this thesis is submitted for evaluation.

Dr. Getie Andualem (PhD)		7/7/2026
Advisor	Signature	Date

Statement of Certification of Originality and Quality

This is to certify that the thesis prepared by Chaltu Abiye Taye, entitled: "**The Mediating Role of Customer Trust in the Relationship between Digital Banking Service Quality and Customer Satisfaction: The Case of Awash Bank, Addis Ababa**", and submitted in partial fulfillment of the requirements for the Degree of Master of Science in Digital Marketing with a specialty in E-commerce, complies with the regulations of the University and meets the accepted standards concerning originality and quality.

Signed by the Examining Committee

Advisor

Dr. Getie Andualem (PhD) Signature: _____ Date: 7/7/2026

Internal Examiner

Dr. Temesgen Belayneh (PhD) Signature: _____ Date: 4/7/2026

ExternalExaminer

Dr. Gashaw Tibebe (PhD) Signature: Dr. Gashaw Tibebe Date: 4/7/2026

Acknowledgements

Above all, I would like to thank Almighty God for his grace for me, my strength and success in everything. First, I am very thankful to my advisor, Dr. Getie Andualem (PhD) for the precious helps, suggestions, comments and strict supervision he gave to prepare this thesis. Next, I want to thank the faculty and staff at School of Commerce and Department of Digital Marketing and E-commerce for providing all the required facilities in order to accomplish my academic goals. Lastly, I would like to express my deepest gratitude towards all the participants of this research from Awash Bank for sharing their opinions regarding the usage of digital banking services. In addition, I owe my appreciation to my parents for their unwavering understanding and support.

Table of Contents

Declaration i

Statement of Certificate ii

Statement of Certification of Originality and Quality iii

Acknowledgements iv

List of Figures x

List of Table x

Abbreviations xi

Abstract xii

Chapter 1: Introduction 1

1.1. Introduction 1

1.2. Background of the study 1

1.3. Statement of the problem 3

1.4. Research Questions 4

1.4.1. Main Research Question 4

1.4.2. Specific Research Questions 5

1.5. Objectives of the Study 5

1.5.1. General Objective 5

1.5.2. Specific Objectives 5

1.6. Research Hypotheses 5

1.7. Definition of Terms 6

1.7.1. Conceptual Definitions 6

1.7.2. Operational Definitions 7

1.8. Significance of the study 7

1.9. Scope and Delimitations of the Study 8

1.9.1. Geographical Scope 8
1.9.2. Conceptual Scope 9
1.9.3. Methodological Scope....9
1.10. Organization of the Study....9
Chapter 2: Literature Review 10
2.1. Introduction 10
2.2. Theoretical Review 10
2.2.1. The E-SERVQUAL Model (E-S-QUAL Model)....10
2.2.2. Technology Acceptance Model (TAM)....11
2.2.3. Signal Theory 11
2.2.4. Commitment-Trust Theory....12
2.2.5. Expectation-Disconfirmation Theory (EDT)....12
2.3. Conceptual Review 13
2.3.1. Digital Banking Service Quality 13
2.3.2. Dimensions of Digital Banking Service....13
2.3.3. Customer Satisfaction 15
2.3.4. Customer Trust 16
2.4. Empirical Review....17
2.4.1. Efficiency in DBSQ and Its Effect on Customer Satisfaction....17
2.4.2. System Availability in DBSQ and Its Effect on Customer Satisfaction....17
2.4.3. Privacy in DBSQ and Its Effect on Customer Satisfaction....18
2.4.4. Responsiveness in DBSQ and Its Effect on Customer Satisfaction 19
2.4.5. Efficiency in DBSQ and Its Effect on Customer Trust....19
2.4.6. System availability in DBSQ and Its Effect on Customer Trust 20
2.4.7. Privacy in DBSQ and Its Effect on Customer Trust....20

2.4.8. Responsiveness in DBSQ and Its Effect on Customer Trust 21
2.4.9. Customer Trust in DBSQ and Its Effect on Customer Trust.....21
2.4.10. The Mediating Role of Customer Trust 21
2.5. Research Gap 23
2.6. Conceptual framework 23
Chapter 3: Research Methodology.....26
3.1. Introduction 26
3.2. Research design 26
3.3. Research Approach 26
3.4. Sampling Design.....27
3.4.1. Target Population.....27
3.4.2. Sampling Frame.....28
3.4.3. Sampling Technique 28
3.4.4. Sample Size 29
3.4.5. Sampling Procedure.....31
3.5. Sources of Data.....32
3.6. Data Collection Methodology 34
3.7. Data Collection Instrument.....35
3.7.1. Pilot Testing.....36
3.8. Data Analysis Method.....36
3.9. Validity and Reliability 39
3.9.1. Validity.....39
3.9.2. Reliability 39
3.10. Research Ethics 40
Chapter 4: Data Presentation, Analysis and Interpretation 41

4.1. Introduction 41
4.2. Response Rate 41
4.3. Demographic Information of Respondents 42
4.3.1. Gender Distribution 42
4.3.2. Age Distribution 43
4.3.3. Educational Level 43
4.3.4. Distribution By Branch 44
4.3.5. Frequency of Platform Use (Preferred Channel) 45
4.4. Descriptive Statistics of Variables 46
4.5. Measurement Model Assessment (PLS-SEM) 47
4.5.1. Reliability Analysis: Indicator Reliability 49
4.5.2. Reliability Analysis: Internal Consistency Reliability 50
4.5.3. Convergent Validity 51
4.5.4. Discriminant Validity 51
4.5.5. Measurement Model Assessment Summary 54
4.6. Structural Model Assessment 54
4.6.1. Multicollinearity Testing 55
4.6.2. Path Coefficients (Direct Effects) 56
4.6.3. Coefficient of Determination (R^2) 57
4.6.4. Effect Size (f^2) 59
4.6.5. Predictive Relevance (Q^2) 60
4.7. Mediation Analysis 61
4.7.1. Test of the Mediating Role of Customer Trust 61
4.7.2. Direct vs. Indirect Effects 62
4.7.3. Type of Mediation: Partial Mediation 63

4.8. Hypothesis Testing....63
4.9. Discussion of Findings....65
4.9.1. Effect of DBSQ Dimensions on Customer Satisfaction (H1)....65
4.9.2. Effect of DBSQ Dimensions on Customer Trust (H2)....66
4.9.3. Effect of Customer Trust on Customer Satisfaction (H3)....67
4.9.4. Mediating Role of Customer Trust (H4)....67
Chapter 5: Summary, Conclusions and Recommendations....69
5.1. Introduction....69
5.2. Summary of the Study....69
5.3. Conclusions....70
5.4. Recommendations....71
5.4.1. Practical Recommendations for Awash Bank....71
5.4.2. Policy Recommendations....73
5.4.3. Managerial Implications....73
5.5. Contributions of the Study....74
5.6. Limitation and Future Research Directions....76
References....78
Appendices....86

List of Figures

Figure 2.1: Conceptual framework of Variables 24
Figure 3.1: Proportional Allocation of Sample Size of Selected Awash Bank Branches. 31
Figure 4.1: Initial Model of PLS-SEM 48
Figure 4.2: Structural Model with Path Coefficients and t-Values.....55

List of Table

Table 2.1: Summary of Empirical Evidence on Digital Banking Service Quality, Trust and Satisfaction 22
Table 3.1 Variables Scale Selection for the Questionnaire 33
Table 4.1: Response Rate 42
Table 4.2: Gender Distribution of Repondents.....42
Table 4.3: Age Group of Respondents 43
Table 4.4: Educational Level.....43
Table 4.5: Distribution of Respondents by Branch.....44
Table 4.6: Most Frequently Used Digital Platform 45
Table 4.7: Descriptive Statistics for Research Variables 46
Table 4.8: Outer/Factor Loadings (λ) of all measurement Indicators model 49
Table 4.9: Internal consistency Reliability Results.....50
Table 4.10: Discriminant Validity (Fornell-Larcker criterion).....52
Table 4.11: Discriminant Validity (Heterotrait-Monotrait (HTMT) Ratio).....53
Table 4.12: Multicollinearity Test (VIF Values) 56
Table 4.13: Path Coefficients and Bootstrapping Results 57
Table 4.14: Coefficient of Determination (R^2) 58
Table 4.15: Summary of Effect Size (f2) Results 59
Table 4.16: Summary of Predictive Relevance (Q2Results).....60
Table 4.17: Summary of Mediation Analysis (Specific Indirect effects) 61
Table 4.18: Summary of All Hypothesis Testing Results 64

Abbreviations

AVE	Average Variance Extracted
CA	Cronbach's Alpha
CR	Composite Reliability
DBSQ	Digital Banking Service Quality
EDT	Expectation-Disconfirmation Theory
EFF	Efficiency
E-S-QUAL	Electronic Service Quality
H1	Hypothesis 1
HTMT	Heterotrait-Monotrait Ratio
ICT	Information and Communication Technology
MAE	Mean Absolute Error
MFA	Multi-Factor Authentication
NBE	National Bank of Ethiopia
OTP	One-Time Password
PLS-SEM	Partial Least Squares Structural Equation Modeling
PRI	Privacy
RES	Responsiveness
RMSE	Root Mean Square Error
SAT	Customer Satisfaction
SEM	Structural Equation Modeling
SmartPLS 4.0	Smart Partial Least Squares Version 4
SPSS	Statistical Package for the Social Sciences
SYS	System Availability
TAM	Technology Acceptance Model
TRU	Customer Trust
USSD	Unstructured Supplementary Service Data
VIF	Variance Inflation Factor

Abstract

This study examined the mediating role of customer trust in the relationship between digital banking service quality dimensions and customer satisfaction among active digital banking customers of Awash Bank in Addis Ababa, Ethiopia. Despite substantial investment in digital banking infrastructure, trust gaps created by fears of hacking and concerns over system reliability create a psychological barrier between technical service quality and customer satisfaction, motivating this investigation into customer trust as a mediating mechanism. A quantitative explanatory research design was adopted, and data were gathered from active digital banking users across four purposively selected Awash Bank branches through a purposive intercept sampling technique. Digital banking service quality was measured through four dimensions of the E-S-QUAL model: efficiency, system availability, privacy, and responsiveness. Data were analyzed using partial least squares structural equation modeling via SmartPLS software, alongside IBM SPSS Statistics for descriptive analysis. The structural model demonstrated strong explanatory power for both customer trust and customer satisfaction, with all proposed path relationships found to be statistically significant. Privacy emerged as the strongest predictor of customer trust, while responsiveness demonstrated the greatest direct influence on customer satisfaction. Customer trust was found to have a strong positive relationship with customer satisfaction. The mediation analysis confirmed that customer trust partially mediates the relationship between each digital banking service quality dimension and customer satisfaction, indicating that digital banking service quality influences satisfaction both directly through its technical elements and indirectly through the trust it builds among customers. The study concludes that technical service excellence alone is insufficient to achieve customer satisfaction in Ethiopia's digital banking context. Awash Bank should strengthen trust mechanisms, reinforce security measures, and enhance responsive support services to sustain customer loyalty and long-term satisfaction in its digital banking operations.

Keywords: *Digital Banking Service Quality, Customer Trust, Customer Satisfaction, E-S-QUAL, PLS-SEM, Partial Mediation, Awash Bank, Ethiopia.*

Chapter 1: Introduction

1.1. Introduction

This chapter presents the foundational framework of the study, which investigates how digital banking service quality affects customer satisfaction through customer trust as a mediating factor at Awash Bank in Addis Ababa. The research begins with its Background of the Study, which establishes its contextual foundation within Ethiopia's fast-changing digital financial sector. The Statement of the Problem section describes the particular customer confidence deficit, which currently exist at Awash Bank. And introduces the Research Questions, Objectives and Hypotheses that guide the entire research process. The study defines its Significance and Scope while providing Operational Definitions, which establish a clear path for research analysis.

1.2. Background of the study

The global banking sector has undergone a rapid shift from traditional physical branch banks to modern digital banks through digital platforms including mobile applications, internet banking, and automated payment systems driven by the accelerating development of information and communication technology (Gefen et al., 2003; Lama & Kayestha, 2025). Service quality in digital environments is defined by the gap between customer expectations and perceived service delivery (Parasuraman et al., 1988), and customers increasingly evaluate institutional loyalty through digital touchpoints such as system availability, ease of use, and security rather than physical branch interactions (Arora & Banerji, 2024; Parasuraman et al., 2005).

In the absence of face-to-face interaction, customer trust becomes a fundamental element of digital banking relationships. Trust acts as a psychological safety net that sustains customer confidence when technical failures or privacy concerns arise (Gefen et al., 2003; Awuondo, 2025). Customer satisfaction reflects an evaluation of the extent to which service performance has met or exceeded expectations (Oliver, 2014; Sirdeshmukh et al., 2002). Technical service quality alone is insufficient to achieve customer satisfaction and trust functions as the essential psychological mechanism bridging service performance perceptions and satisfaction outcomes.

Ethiopia's digital financial landscape has undergone significant transformation driven by regulatory reforms, telecommunications liberalization, and substantial investment in digital infrastructure (NBE, 2024). Recent studies confirm that digital banking service quality is positively associated with customer satisfaction in the Ethiopian banking context (Eyob Ketema

et al., 2020; Tesega Demeke, 2025). The Digital Ethiopia 2025 strategy has been successfully completed, preparing the way for Digital Ethiopia 2030, which aims to provide all citizens with access to secure and inclusive digital systems (Yesigat et al., 2025). Awash Bank has expanded its digital service channels to serve active digital banking customers across Addis Ababa and beyond (Awash Bank, 2025). However, despite these investments, the bank continues to face customer dissatisfaction stemming from system breakdowns, cybersecurity threats, and trust deficits in its digital banking services (Awash Bank, 2025; Ayinaddis et al., 2025). These challenges are compounded by structural telecommunications infrastructure constraints including Ethiopia's legacy of single-provider telecommunications dependency through Ethio Telecom and recurring power supply disruptions, which directly affect system availability perceptions and contribute to customer trust deficits that no individual bank's platform improvements can fully resolve (NBE, 2024).

Despite the rapid expansion of digital banking in Ethiopia, the existing research base remains largely restricted to examining direct relationships between digital service quality dimensions and customer satisfaction, without investigating the psychological mechanisms through which these relationships operate (Geressu, 2024; Kumilachew, 2023; Tesfaye, 2021). The current trend in global digital banking literature clearly demonstrates that customer trust functions as a critical mediating mechanism between service quality and satisfaction particularly in digital environments characterized by information asymmetry, security risks, and the absence of face-to-face interaction (Singhal et al., 2025; Wang et al., 2024; Morgan & Hunt, 1994). This gap is important to addressing because its practical consequence is significant: banks like Awash Bank continue investing heavily in technical service quality improvements while customers remain dissatisfied not because the technology is poor, but because the trust needed to convert technical quality into genuine satisfaction has not been adequately built or measured.

This gap has persisted for several reasons. First, Ethiopian banking research has traditionally adopted service quality frameworks from developed market contexts such as SERVQUAL without adapting them to the unique psychological dynamics of an emerging digital economy where customers simultaneously navigate infrastructure challenges, cybersecurity fears, and low institutional digital trust (Ayinaddis et al., 2025; NBE, 2024). Second, most local studies have employed simple regression or correlation-based methods that test only direct effects, without the

structural equation modeling capability needed to simultaneously model mediation pathways. Third, no prior study has specifically examined a private commercial bank in Ethiopia where the competitive pressure and digital innovation pace differ substantially from state-owned banks using a first-order, dimension-level PLS-SEM model that distinguishes the unique contributions of efficiency, system availability, privacy, and responsiveness individually.

This study addresses these gaps by employing PLS-SEM to test the mediating role of customer trust in the relationship between four E-S-QUAL service quality dimensions and customer satisfaction at Awash Bank in Addis Ababa. By generating dimension-specific evidence about which service quality attributes most powerfully build trust and drive satisfaction in an Ethiopian private banking context, this study contributes original empirical evidence to the trust-mediation literature and provides actionable strategic guidance for Awash Bank management and policymakers seeking to sustain digital financial inclusion and customer loyalty in Ethiopia's rapidly evolving digital economy.

1.3. Statement of the problem

Ethiopia's banking sector is experiencing a fast digital transformation, mainly by the National Bank of Ethiopia introducing progressive regulatory reforms and a national policy focus on cashless payment systems (National Bank of Ethiopia 2025). Awash Bank is one of the banks that have also heavily invested in developing digital capabilities to improve operational efficiency and to be able to offer more digital services (Awash Bank, 2025). However, despite these investments, the bank still facing problems and challenges in customer satisfaction and trust issues in its digital banking environment.

Customers appreciate the benefits offered by the digital banking services; however, the customer dissatisfaction with the digital banking processes failures in the systems and issues relating to cybersecurity (Gefen et al., 2003). Financial companies need not only invest in technology but also gain the trust of their customers when performing digital transactions (Khatoon et al., 2021; Nguyen et al., 2023). A critical paradox exists in enhanced digital service quality related to efficiency, reliability, confidentiality, and responsiveness does not automatically lead to increased customer satisfaction (Iffan et al., 2024; Parasuraman et al., 2005). (Sirdeshmukh et al., 2002), established that customer trust serves as the critical relational factor bridging technical service

equality and customer satisfaction, confirming that trust-building is essential for sustained customer relationships in digital banking environments.

In Ethiopia's changing digital environment, customers often face technical problems such as system downtime, network failures, and threats to security, which are typical issues in the digital economies of developing countries (Ayinaddis et al., 2025; Kassaye et al., 2025). Recent Ethiopian research works have shown that the aspects of digital banking service quality have a direct impact on customer satisfaction. Eyob Ketema et al., (2020) illustrated that the quality of mobile banking service had a direct impact on customer satisfaction at Bank of Abyssinia, while Tesega Demeke., (2025) showed that efficiency, reliability, and responsiveness were the key factors influencing customer satisfaction at Abyssinia Bank located in Addis Ababa. Similarly, Kumilachew (2023) proved that better digital service quality results in customer satisfaction at Commercial Bank of Ethiopia. These studies were only focused on a direct correlation between digital banking service quality and satisfaction, neglecting the mediating role of customer trust, which is a significant gap in the Ethiopian commercial banking scenario where trust issues are a major concern even after the banks have made considerable efforts to improve quality of service.

Further, other local studies examining the relationship between digital banking service quality and customer satisfaction (Ayele 2024; Geressu 2024; Tesfaye 2021) have also overlooked the psychological mechanism through which service quality perceptions translate into satisfaction outcomes. Despite invested in the use of modern digital technology, the fact that trust plays a critical mediating role in this digital usage of customers, which has been miss in the Ethiopian researchers, particularly for Awash Bank in Addis Ababa. Therefore, this study seeks to fill this research gap by examining the mediating role of customer trust in the relationship between digital banking service quality and customer satisfaction at Awash Bank in Addis Ababa.

1.4. Research Questions

For the purposes of this study, digital banking service quality dimensions refer to efficiency, system availability, privacy, and responsiveness, as operationalized through the E-S-QUAL framework (Parasuraman et al., 2005).

1.4.1. Main Research Question

To what extent does customer trust mediate the relationship between digital banking service quality dimensions and customer satisfaction among Awash Bank customers in Addis Ababa?

1.4.2. Specific Research Questions

1. What are the effects of digital banking service quality dimensions on customer satisfaction?
2. How do digital banking service quality dimensions affect customer trust?
3. How does customer trust affect customer satisfaction?
4. What is the indirect effect of digital banking service quality dimensions on customer satisfaction through customer trust as a mediating variable?

1.5. Objectives of the Study

1.5.1. General Objective

The primary goal of this research is to examine the mediating role of customer trust in the relationship between digital banking service quality and customer satisfaction in the case of Awash Bank customers in Addis Ababa.

1.5.2. Specific Objectives

1. To examine the effects of digital banking service quality dimensions on customer satisfaction among Awash Bank customers in Addis Ababa.
2. To examine the effects of digital banking service quality dimensions on customer trust among Awash Bank customers in Addis Ababa.
3. To examine the effect of customer trust on customer satisfaction among Awash Bank customers in Addis Ababa.
4. To determine the extent to which customer trust mediates the relationship between digital banking service quality dimensions and customer satisfaction among Awash Bank customers in Addis Ababa.

1.6. Research Hypotheses

The following research hypotheses have been formulated to address the research questions and achieve the objectives of this study. The digital banking service quality dimensions refers to efficiency, system availability, privacy, and responsiveness and in order to provide empirical testing, H1, H2, and H4 are each operationalized through these dimension-specific sub-hypotheses (H1a–H1d, H2a–H2d, and H4a–H4d respectively), which are to be modeled using First-Order PLS-SEM approach, as stated in Section 3.8 of this study.

H1: Digital banking service quality dimensions have a positive and significant effect on customer satisfaction among Awash Bank customers in Addis Ababa.

H2: Digital banking service quality dimensions have a positive and significant effect on customer trust among Awash Bank customers in Addis Ababa.

H3: Customer trust, as a mediating variable, has a positive and significant effect on customer satisfaction among Awash Bank customers in Addis Ababa.

H4: Customer trust positively and significantly mediates the relationship between digital banking service quality dimensions and customer satisfaction among Awash Bank customers in Addis Ababa.

1.7. Definition of Terms

1.7.1. Conceptual Definitions

Digital Banking Service Quality: It refers to the overall perception and evaluation by the customer of the extent of the quality and effectiveness of the service provided through digital channels, which include reliability and usability (Islam et al., 2023).

Customer Trust: This refers to a customer's psychological condition when they comprehend and accept the risk of being harmed if their trust in the bank's digital activities is misplaced, as they trust the bank to be a good and safe promoter of their interests (Mayer et al. 1995; Morgan & Hunt, 1994). Consumer trust in online banking is effectively the bundle of perceptions that a bank is reliable safe transparent and user friendly. Trust creation is very critical for increasing familiarity and confidence of users in online transactions of a financial nature (Sahu et al., 2024).

Customer Satisfaction: A collective cognitive and emotional response resulting from the comparison between expected and actual performance of digital banking services. (Kotler et al., 2022). Customers establish their satisfaction with digital banking services through their emotional evaluation of their experiences, which they base on their service delivery expectations and the actual service results (Gazi et al., 2024; Oliver, 2014).

Mediation: A causal process whereby Digital Banking Service Quality as an independent variable affects Customer Satisfaction as a dependent variable through its effect on Customer Trust as an intervening variable. The mediating role of Customer Trust explains the mechanism through which service quality establishes its relationship with customer satisfaction (Baron & Kenny, 1986; Hayes, 2022).

1.7.2. Operational Definitions

Digital Banking Service Quality: In this study, defined as a customer's perception of Awash Bank's potential of delivering digital services through four main measures: Efficiency (ease and speed of use), System Availability (technical stability and uptime), Privacy (data protection and security), and Responsiveness (speed of problem resolution); measured using an adapted E-S-QUAL framework (Parasuraman et al., 2005; Zeithaml et al., 2002) on a 5-point Likert scale ranging from Strongly Disagree to Strongly Agree.

Customer Trust: In this study, customer trust is operationalized from a relational and psychological perspective, drawing on two complementary theoretical foundations. First, Mayer et al., (1995) integrative trust model defines trust as the willingness to be vulnerable to another party based on positive expectations of ability, benevolence, and integrity providing the conceptual basis for the three trust dimensions measured: technical competence (ability), customer-centeredness (benevolence), and honesty (integrity). Second, the Commitment-Trust Theory (Morgan & Hunt, 1994) positions trust as the critical relational mechanism through which service quality perceptions are converted into lasting satisfaction outcomes, providing the theoretical justification for trust's role as the mediating variable in this study. Operationally, customer trust refers to the level of confidence that Awash Bank's digital banking customers have in the bank's digital platforms to function safely, reliably, and with integrity across all digital interactions.

Customer satisfaction: For this research, it refers to the overall emotional reaction of the customers that they get after using the digital services of Awash Bank and the extent to which their digital performance with speed, convenience, and service quality satisfies the customers (Oliver, 2014). It was measured through a 5-point Likert scale that measured overall satisfaction and the intention of continual digital service use.

1.8. Significance of the study

The implication of this study carries theoretical, practical, and policy related at different levels. Theoretically, this study adds to the existing literature on digital banking by pointing out that the psychological side of customer trust is key as well, besides technological improvements being why in the adoption and satisfaction of customers. It integrates the use of the E-S-QUAL system (Parasuraman et al. 2005) with the Technology Acceptance Model (Davis, 1989); the Commitment-Trust Theory (Morgan & Hunt, 1994), and Signal Theory (Spence, 1973) and customer trust are considered as the main psychological element that allows digital banking

service quality to be changed into customer satisfaction and loyalty (Islam et al., 2023; Zhou, 2020).

Practically, the findings remind Awash Bank top management how a continuous and systematic implementation of security, reliability, and transparency in digital banking is the essential features that customers highly value for satisfaction and will guide their strategic planning to upgrade digital service delivery. For Ethiopian commercial banks, the results provide the behavioral considerations in their marketing plans to enhancing their digital customers retention and engagement strategies. Additionally for digital platform developers, the research findings illustrate that they should focus on the usability, trustworthiness, and consumer-oriented design of financial solutions than developing technical features only.

From a policy perspective, the findings contribute to empirical evidence for the National Bank of Ethiopia's aim to have a cash-lite country by 2030 (National Bank of Ethiopia 2025). This study reveals that sustainable development of digital finance systems is contingent upon the creation of secure and trustworthy platforms where consumers' privacy is protected (NBE 2024; World Bank 2023). Additionally, this paper addresses a significant empirical gap in the literature by providing the basis for future research in digital finance transformation in the Horn of Africa.

1.9. Scope and Delimitations of the Study

1.9.1. Geographical Scope

This study focused geographically on Addis Ababa, Ethiopia. Four branches of Awash Bank in different economic areas of the city: Megenagna, Bole, Legehar, and Addis Ketema were selected purposively for representing of the population of active digital banking users in Addis Ababa. The data were collected from December 2025 to June 2026. Even though Addis Ababa is the center of finance and commerce in Ethiopia and accommodates the largest number of active digital banking customers in the country (NBE 2024), the results of this study should not be taken as statistically representative of all digital banking customers in Ethiopia. Because the study employed a non-probability purposive intercept sampling technique, which does not support statistical generalization beyond the sampled population (Saunders et al., 2023). However, the findings are understood as analytically generalizable, meaning the theoretical relationships identified between digital banking service quality, customer trust, and customer satisfaction may provide meaningful

insights for similar urban digital banking contexts, while recognizing that rural and semi-urban users, other commercial banks, and different regional contexts may yield different results.

1.9.2. Conceptual Scope

Conceptually, this study focused only on the impact of Digital Banking Service Quality on Customer Satisfaction with Customer Trust as a mediator in the relationship. Four dimensions of digital banking service quality, namely Efficiency (EFF), System Availability (SYS), Privacy (PRI), and Responsiveness (RES), were used as independent variables while Customer Trust as a mediating variable and Customer Satisfaction as a dependent variable.

1.9.3. Methodological Scope

This study used a quantitative research approach with an explanatory research design to investigate the causal relationships between variables. A non-probability purposive intercept sampling technique was used to select participants who were actively using Awash Bank's digital banking services at the time of data collection (Saunders et al., 2023). The data were analyzed through SmartPLS 4. 0 for PLS-SEM analysis and IBM SPSS Statistics Version 27 for descriptive analysis.

1.10. Organization of the Study

This research paper maintains its structure through five main chapters, which organize its content. The first chapter presents the study's background information along with the problem statement, research questions, research hypothesis, research objectives and research significance. The second chapter reviews relevant theoretical and empirical literature and discusses the conceptual framework. The research methodology framework of the study appears in chapter three which outlines the population and sampling technique and sampling procedure and data source and data collection tools and data analysis mechanisms used in the research. The fourth chapter presents data analysis and data presentation methods. The final chapter five ends with the summary of the whole study including the findings, conclusions, recommendations, limitations and directions for further studies.

Chapter 2: Literature Review

2.1. Introduction

This chapter reviews the theoretical, conceptual, and empirical foundations that support the relationship between the quality of digital banking services, customer trust, and customer satisfaction. The theoretical review draws on five complementary frameworks: the E-S-QUAL model for assessing digital service quality, the Technology Acceptance Model for understanding user adoption behavior, Signal Theory for explaining trust formation, the Commitment-Trust Theory for making trust the central mediating variable, and Expectation-Disconfirmation Theory for assessing satisfaction outcomes. The conceptual and empirical review then examines international and Ethiopian studies, identifying a trust-mediation gap in Ethiopia's private commercial banking sector. The chapter concludes with a conceptual framework illustrating the hypothesized relationships between digital banking service quality, customer trust, and customer satisfaction.

2.2. Theoretical Review

This research combines five different and relevant theoretical models to support a thorough understanding of how digital banking service quality, customer trust, and customer satisfaction are interrelated. These diverse theories jointly illustrate the technical, psychological, and behavioral aspects of customer experience within the digital banking services of Awash Bank in Addis Ababa.

2.2.1. The E-SERVQUAL Model (E-S-QUAL Model)

The E-S-QUAL, created by Parasuraman et al. (2005), is the main source of theoretical basis for assessing the quality of digital banking service. The conventional SERVQUAL model was designed to measure service quality dimensions based on human contact such as empathy and tangible aspects (Parasuraman et al., 1988); while, digital banking has about a need for an assessment system that is technically focused. The E-S-QUAL model describes the quality of electronic service as how well a website or a mobile app enable the delivery of services in an easy and effective manner (Parasuraman et al. 2005). This research makes use of the E-S-QUAL model by measuring the quality of digital banking through four aspects, which are highly related to the digital environment of Awash Bank. The efficiency is a substitute for the traditional reliability parameters and nowadays, customers judge their bank by how fast and easy to use their mobile app is rather than human reliability (Bala et al. 2021). System Availability measures the technical

functioning and accessibility of digital platforms. It is a very important factor in Ethiopia's infrastructure where system failures still occur frequently (NBE 2024). Privacy, as the digital counterpart of the traditional assurance, reflects the bank's ability to secure customer information and financial transactions (Ya'u Ibrahim & Mu'azu 2021). Responsiveness is the digital counterpart of empathy and it assesses how well the bank is able to assist users during technical problems, turning user frustration into a trust-building opportunity (Rohit et al. 2025). The researcher selected to employ the E-S-QUAL in this paper as it covers the technical aspects directly through which the customers of Awash Bank assess their digital banking experience and it also brings the measurement basis for testing the hypothesized relationships (Ahmad et al. 2024; Iffan et al. 2024).

2.2.2. Technology Acceptance Model (TAM)

TAM was proposed by Davis, (1989) as an influential model, based on PU (Perceived Usefulness) and PEOU (Perceived Ease of Use) as critical determinants that affect consumers' behavior upon adopting digital platforms. The role of TAM in this study is that of an additional lens that allows linking objective measures of digital service quality with subjective users' experience by explaining how the technical aspects of service quality like system availability and transaction time impact users' perception of their benefit like convenience, speed, and money freedom. In other words, this study uses TAM to reveal how Awash Bank's digital service quality dimensions (Efficiency and System Availability) that directly measure PU and PEOU; impact user's behavior in terms of trust and satisfaction with digital banking applications. If digital banking application is perceived as something easy to use (frictionless), people will find it useful and develop positive behavioral chain in terms of adoption and commitment to the service provided (Davis, 1989; Dogra A & Gupta, 2024). This assumption is confirmed by recent studies where it was shown that digital tools that are both beneficial and easy to use result in customers' high behavioral intention to be loyal to the service provider (Setiawan & Rahmawati 2025). Therefore, TAM provides the behavioral explanation for why technical service quality dimensions directly predict both Customer Trust and Customer Satisfaction in Awash Bank's digital banking context.

2.2.3. Signal Theory

Signal Theory, proposed by Spence, (1973) and applied to digital commerce by Boulding & Kirmani, (1993), explains how customers use observable signals to judge unobservable service quality in information-asymmetric environments. In digital banking, customers cannot physically assess a bank's security or reliability before engaging with the service to creating significant

information asymmetry (Chikri and Kassou 2024; Okello 2024). Signal Theory explains why Privacy emerged as the strongest predictor of Customer Trust in this study. Visible security mechanisms including biometric authentication, One-Time Password verification, and encrypted transaction protocols are function as high-quality institutional signals that allow customers to conclude trustworthiness and competence. When a bank provides strong and consistent digital signals, it reduces perceived risk and builds customer confidence (Wells et al., 2011). Therefore, signal theory identifies the precise psychological mechanism through which E-S-QUAL technical performance translates into Customer Trust and bridging the technical and psychological dimensions of the digital banking service experience.

2.2.4. Commitment-Trust Theory

The Commitment-Trust Theory, developed by Morgan & Hunt, (1994), explains the mechanics of customer retention by positioning trust as the central mediating mechanism in long-term relationship development. The theory argues that technical excellence alone is insufficient to secure lasting customer relationships and a high-quality digital experience must actively cultivate trust, which then functions as the engine for ongoing customer commitment and satisfaction. This theory directly informs the mediation framework of this study. Applied to Awash Bank's digital banking context, the theory predicts that digital banking service quality dimensions build institutional trust, which in turn drives customer satisfaction and loyalty. Even the most technically advanced digital banking platform struggles to retain its user base if it fails to provide a foundation of psychological security and institutional integrity (Saoula et al., 2024). Therefore, the commitment-trust theory provides the theoretical justification for positioning Customer Trust as the essential partial mediator between digital banking service quality and Customer Satisfaction.

2.2.5. Expectation-Disconfirmation Theory (EDT)

The Expectation-Disconfirmation Theory (EDT), established by Oliver, (1980), proposes that customer satisfaction results from a cognitive comparison between pre-service expectations and actual service performance. When actual performance meets or exceeds expectations, positive disconfirmation occurs, which producing satisfaction and behavioral loyalty. When performance falls below expectations, negative disconfirmation produces dissatisfaction and customer churn (Elkhani & Bakri 2023). EDT directly support the Customer Satisfaction construct in this study. The expectations of the Awash Bank clients in using the digital banking service platform have been created from previous experience, advice from colleagues, and promotions of the institution.

When Efficiency, System Availability, Privacy, and Responsiveness meet or exceed these expectations, positive disconfirmation produces satisfaction. Conversely, system outages, security concerns, and slow problem resolution create negative disconfirmation, which is explaining the persistent satisfaction challenges reported in Ethiopia's digital banking environment (Ayinaddis et al. 2025; NBE 2024). Therefore, EDT provides the theoretical foundation for understanding how technical service quality perceptions translate into the satisfaction outcome.

2.3. Conceptual Review

2.3.1. Digital Banking Service Quality

In traditional marketing of services, service quality is understood as a comprehensive assessment of the gap between what consumers expect and the real performance of the services (Parasuraman et al. 1988). When it comes to banking digitalization, a major conceptual change is required towards Electronic Service Quality (E-S-QUAL) as this term describes the degree to which a website or a mobile app enables the efficient and effective provision of financial products and services (Parasuraman et al. 2005).

The difference between digital and traditional banking goes beyond the level of human interaction. In face-to-face banking, service quality mostly depends on the interpersonal skills of employees. However, digital service quality is purely technical, system-driven, automated. It removes human interactions with user-interface experiences that are assessed only on system performance, security of the transactions, and design of the interface (Awuondo., 2025; Gefen et al., 2003). At Awash Bank, digital banking service quality can be interpreted as the extent to which customers judge the digital channels of the bank for delivering the services to them, e.g. the Mobile Application Awash Birr Pro, internet-banking portals, and USSD services. This evaluation is very important in Ethiopia's changing digital financial landscape, where customers are being shifted from traditional branch-based banking to technology-mediated services (Tesega Demeke, 2025).

2.3.2. Dimensions of Digital Banking Service

Digital banking service quality is a multidimensional concept, and various researchers have introduced different dimensional structures, reflecting the different research environments and platform types examined in their studies. Top and Ali (2021) and Jun and Palacios (2016) focused on efficiency, system availability, and privacy as the main dimensions, whereas Shankar et al.

(2020) further added customer support, interactivity, and content. Security and privacy are the common themes that keep arising among different researchers. For instance Ya'u and Mu'azu (2021), Arcand et al. (2017), Zhou et al. (2021), they have been considered as the key trust-building dimensions. Responsiveness and reliability are also very important elements in service-focused systems as De Leon et al. (2020) and Pratama and Marliyah (2024) have described. However, Mostafa (2020) and Owuamanam et al. (2022) highlighted aspects like ease of use, security, and fulfilment as the most important quality attributes when talking about mobile banking.

Despite this diversity of measurement approaches, four dimensions consistently emerge across the majority of digital banking service quality studies as the most empirically validated and contextually relevant: Efficiency, System Availability, Privacy, and Responsiveness. These four dimensions align closely with the E-S-QUAL framework (Parasuraman et al., 2005), the most widely adopted framework for measuring electronic service quality and they are most relevant to Awash Bank's digital banking context, where mobile application performance, system reliability, data security, and customer support represent the primary service touchpoints through which customers evaluate their digital banking experiences. Therefore, this study operationalizes digital banking service quality through these four dimensions as follows:

Efficiency: refers to the speed and ease, which customers' access and use digital banking services including transaction processing speed, interface intuitiveness, and navigation simplicity. High efficiency reduces customer effort and builds confidence in the platform's technical competence (Gautam & Sah, 2023; Parasuraman et al., 2005).

System Availability: refers to the technical reliability and consistent uptime of digital banking platforms. Consistent system accessibility is fundamental to customer confidence, as frequent outages cause immediate negative disconfirmation regardless of a bank's overall reputation (Bala et al. 2021; Lama and Kayestha 2025).

Privacy: it goes beyond merely protecting customers' financial data and covers the security of transactions and maintaining confidentiality. With digital financial fraud becoming increasingly sophisticated, privacy is the top factor in trust building in digital banking environments (Wang et al., 2024; Singhal et al., 2025).

Responsiveness: it is the execution of customers support quality and timeliness in case of a technical failure. Banks who fix the problem the last minute and in the best possible way, indirectly show the competence of the institution and commitment to customers which influence both trust and satisfaction (Gautam & Sah, 2023; Parasuraman et al., 2005).

2.3.3. Customer Satisfaction

Customer satisfaction is the degree to which a customer is happy or content after buying a product or service, from comparing what they expected before purchasing with what they actually experienced (Oliver 1980, 2014). The Expectation-Disconfirmation Theory (Oliver, 1980) views satisfaction as a relative cognitive outcome and not an absolute state. Positive disconfirmation will be when the performance meets or exceeds the expectations causing satisfaction while negative disconfirmation will cause dissatisfaction and potential brand switching (Elkhani & Bakri 2023).

Customer Satisfaction within this research is defined as the satisfaction level of the customers of Awash Bank in relation to their overall judging experience of how happy or unhappy they were after being involved with the digital banking services of Awash Bank. Satisfaction arises if aspects such as transaction time, availability of system, security of data, and customer service are capable of meeting or surpassing the users' expectations established at the beginning of the process. However, long system downtime, inadequate security, or failure to respond from the customer service side causes disconfirmation and less use of the platform.

In the Ethiopian digital banking context, empirical evidence continually shows that service quality dimensions have a major impact on customer satisfaction. Tesega Demeke (2025) discovered strong positive correlations between the quality of mobile banking services and customer satisfaction at Abyssinia Bank's Addis Ababa branch. Eyob Ketema et al. (2020) revealed that Ethiopian mobile banking customers measure their satisfaction through several factors, with the easiest to use and most reliable features being two major predictors. Essayas Taye Lemma & Chandrasekar, (2018) documented the existence of significant links between customer satisfaction and mobile banking security, privacy, and ease of use aspects in Addis Ababa. Mesay Sata Shanka, (2013) pointed out that among service quality dimensions, Mainly responsiveness and reliability, the two greatly influence customer satisfaction and loyalty in Ethiopian private banks.

2.3.4. Customer Trust

According to organizational studies, trust is described as the readiness of someone to be vulnerable to the action of another party, with the expectation that the latter will act responsibly in the interest of the former regardless of whether can control or monitor (Mayer et al., 1995). In digital transactions where transactions are carried out without direct personal contact, trust is transformed from interpersonal trust into institutional/systems-based trust, which comprises perceptions of reliability, security, competence, and integrity (Gefen et al., 2003).

In this study, customer trust is conceptualized in a relational and psychological perspective from two converging theoretical backgrounds. First, the integrated conceptualization of trust of Mayer et al. (1995), based on willingness to be vulnerable to another party on the basis of positive expectation about other party's ability, benevolence and integrity provides the initial grounding into three trust components for this study to measure: technical competence (ability), customers-centeredness (benevolence) and honesty (integrity). Secondly, the commitment-trust theory of Morgan & Hunt (1994) which highlights trust as the ultimate relational mechanism for transforming service quality into satisfaction, which provides the theoretical justification for trust in this paper as the key mediator but, not as an outcome.

Customer trust in digital banking encompasses three interrelated dimensions. Ability-based trust is developed to the extent that customers perceive that there exists the technical competence in Awash Bank's and they trust its digital banking services will perform successfully and efficiently in their intended purposes. Benevolence-based trust means customers' trust and belief that Awash Bank's motivation is good will towards its customers, will serve customer interest. Integrity-based trust encompasses the belief that the bank adheres to ethical principles, maintains transparency, and acts consistently with its commitments and promises (Mayer et al., 1995; Gefen et al., 2003).

This study understands Customer Trust as the philosophical mental attitude of the clients of Awash Bank who are so confident in the use of the bank's digital platforms that they feel they can rely on them entirely for their integrity security competence, and reliability. Customer Trust is the main connecting idea that changes service encounters into lasting customer relationships and also distinguishes it from other related concepts like customer satisfaction (an evaluative outcome) and service quality (a technical performance assessment) (Morgan & Hunt, 1994). Service quality

deals with what the bank is doing technically, satisfaction is how the customer evaluates that delivery, and trust is a psychological state in which the customer feels secure enough to keep their relationship commitment despite the presence of uncertainty and risk in the digital banking environment.

2.4. Empirical Review

2.4.1. Efficiency in DBSQ and Its Effect on Customer Satisfaction

The speed of a system and how easily customers can access and complete their digital banking transactions, supported by an interface that is not only intuitive but also easy to navigate, is a feature of efficiency that has been repeatedly recognized as something important leading to customer satisfaction in digital banking scenarios (Parasuraman et al. 2005; Gautam & Sah, 2023). Gautam and Sah (2023) found that in developing countries banks, operational efficiency is the biggest reason that influences the perception of quality of digital services and customer happiness. They also revealed that among the attributes of efficiency in digital banking, customers value most transaction speed and interface intuitiveness.

Rahmi et al. (2024) further demonstrated that the high efficiency not only enhances customer trust but also satisfaction in general and they identified efficiency as a very strong factor contributing to the perceived quality of digital service. In line with this, Eyob Ketema et al. (2020) discovered in the Ethiopian context that efficiency largely determined the satisfaction level of mobile banking customers of Bank of Abyssinia and customers emphasized on speedy transaction and user friendly interface as their main priorities. Tesega Demeke (2025) also supported the results through his study at Abyssinia Bank, that demonstrated the combination of system efficiency and easy-to-use interfaces led to a significant rise in customer satisfaction. Taken together, these results tell us that in Ethiopia where the development of digital infrastructure is at emerging stage and the internet connectivity is still inconsistent and largely efficient digital banking platforms have become important tools for satisfying and retaining customers.

2.4.2. System Availability in DBSQ and Its Effect on Customer Satisfaction

System availability refers to the technical reliability and consistent uptime of digital banking platforms and is a significant determinant of customer satisfaction. Consistent system access is particularly critical in the Ethiopian context, where service disruption leads to immediate customer dissatisfaction regardless of the quality of other service attributes (NBE, 2024; Tesfaye, 2021).

Simon Nahusenay Ejigu (2017) examined the quality of e-banking services in Ethiopian state-owned banks and found that reliability encompassing system availability had a significant positive association with customer satisfaction, noting that consistent access is fundamental to customer confidence. Lama and Kayestha (2025) further demonstrated that in infrastructure-challenged environments similar to Ethiopia, system availability functions as a hygiene factor its absence causes immediate dissatisfaction regardless of the quality of other service attributes. These findings collectively position system availability as the minimum operational standard required for sustained customer satisfaction in Ethiopia's digital banking sector.

In the Ethiopian context, system availability perceptions are shaped by structural telecommunications infrastructure constraints that are distinct from more developed digital banking markets. Until recently, Ethiopia operated under a single telecommunications provider Ethio Telecom, which maintained a monopoly over mobile network infrastructure with limited competitive incentive to expand coverage or improve reliability (NBE, 2024). The recent arrival of Safaricom Ethiopia in 2022 has introduced competitive pressure, but dual-provider infrastructure remains in a developmental phase. Additionally, frequent power supply disruptions cause digital banking session interruptions and transaction failures that customers often attribute to banking platform unreliability rather than electricity supply issues. These structural realities provide important contextual explanation for why system availability consistently emerges as the weakest-performing digital banking service quality dimension in Ethiopian studies consistent with the infrastructure challenges documented by Ayinaddis et al. (2025) and the National Bank of Ethiopia (2024).

2.4.3. Privacy in DBSQ and Its Effect on Customer Satisfaction

Privacy, covering data protection, security mechanisms, and confidentiality assurance, has been acknowledged as one of the major factors that impact customers' satisfaction when they use digital banking services. By assessing data across countries, Wang et al. (2024) proved that the ability of a bank to protect its customers sensitive data is why that brings about the sense of trust and satisfaction with banks among users of digital banking, while the issues of privacy greatly hinder the use of digital services. The research carried out by Hailu & Esa, (2025) in Ethiopia revealed that the concern over the security factor was such a strong variable leading to a decrease in digital banking adoption, Because of this showing very clearly that the issues of privacy have a great impact on the behavior of the customer in deciding whether or not to use digital banking services.

At the same time, Eyob Ketema et al. (2020) from their study that was done in Abyssinia Bank have pointed out that the issues related to security and privacy are among the main factors that characterize the level of satisfaction of mobile banking customers. Essayas Taye Lemma, (2018) has statistically shown that the level of customer satisfaction is greatly connected to the security and privacy factors of mobile banking in Addis Ababa. Through their study, Singhal et al. (2025) validated with SEM that privacy acts via a partial mediation path involving customer trust and users have to feel they are safe before they can be genuinely satisfied with the digital banking services.

2.4.4. Responsiveness in DBSQ and Its Effect on Customer Satisfaction

Responsiveness refers to assessing how quick and effective the customer support is when there are technical problems. It is a big part that affects customer satisfaction in digital banking. Gautam and Sah (2023) treated responsiveness as a chief factor of customer satisfaction and showed that banks delivering quick and effective solutions to technical problems get more satisfied customer ratings. Eyob Ketema et al. (2020) revealed that responsiveness had a positive effect on customer satisfaction of mobile banking at Abyssinia Bank. Simon Nahusenay Ejigu (2017) found that responsiveness was a significant positive factor that led to satisfaction in e-banking services of Ethiopian state-owned banks. Also, Mesay Sata Shanka (2013) noted that responsiveness had a major influence on service quality perceptions and customer satisfaction when it comes to Ethiopian private banks. These-discussed results demonstrate that responsive customer service is able to counterbalance the negative consequences of the technical failures and keep supporting customer trust in the digital banking platforms.

2.4.5. Efficiency in DBSQ and Its Effect on Customer Trust

Besides facilitating satisfaction, Efficiency also issues in strengthening customer trust in particular in digital banking. For example, Rahmi et al. (2024) highlighted that a highly efficient system indicates the competence of the institution and at the same time justifies the users' decisions to use digital banking technology and gradually leads to trust. Gautam and Sah (2023) independently found that platform user’s confidence and brand preference in developing countries are mostly influenced by the agility in operations and intuitive performance of a platform. In Ethiopia, where digital banking is still in its infancy stage, a well-performing platform will be a clear sign of institutional credibility as per Signal Theory (Spence, 1973), which in this case leads directly to building customer trust in Awash Bank's digital infrastructure.

2.4.6. System availability in DBSQ and Its Effect on Customer Trust

System availability is a primary mechanism through which customer trust in digital banking is built or undermined. A banking platform that is consistently accessible and reliable signals institutional competence and operational commitment to customers, whereas persistent service disruptions significantly erode trust, even when the bank is otherwise perceived positively (NBE, 2024; Tesfaye, 2021). Lama and Kayestha (2025) demonstrated that in infrastructure-challenged environments, system availability strongly predicts customer trust, as customers interpret technical stability as evidence of the bank's capability and dedication to service reliability. Mujinga (2020), in a study of the South African banking sector, found that system reliability is a fundamental element in building overall institutional trust and confirming that consistent platform access functions as a critical trust signal that transcends specific market contexts.

In Ethiopia's digital banking environment where service disruptions are frequently reported and system downtime remains a common customer concern consistent system availability has become a primary indicator of institutional trustworthiness. As noted in Section 2.4.2, these availability challenges are significantly shaped by Ethiopia's structural telecommunications infrastructure constraints, including the legacy of single-provider telecommunications dependency and recurring power supply disruptions. These structural factors mean that system availability perceptions in Ethiopia reflect not only individual bank platform performance but also broader infrastructure realities that are beyond any single institution's direct control a contextual distinction that future trust-mediation research in Ethiopia should explicitly account for.

2.4.7. Privacy in DBSQ and Its Effect on Customer Trust

Privacy is consistently the strongest factor in customer trust in digital banking, per various studies. Wang et al. (2024) highlighted that strong data protection policies are a base for digital banking trust and privacy tools be the main signals of institutional credibility in digital financial settings. Singhal et al. (2025) illustrated that privacy, through trust, works as a partial mediator and a user must first establish trust in the bank's data protecting capabilities to be satisfied. In Ethiopia, Hailu & Esa (2025,) noted that security issues have impacted 72.40% of customers at Commercial Bank of Ethiopia and reiterated the importance of privacy mechanisms being the most significant trust-building cues. This is in line with Signal Theory (Spence, 1973) that states visible security features, like biometric authentication and One-Time Passwords act as the signals of institutional competence that decrease perceived risk and foster trust.

2.4.8. Responsiveness in DBSQ and Its Effect on Customer Trust

Responsiveness does have a major impact on customer rust because it shows the company's reliability even in crises, Gautam and Sah (2023) found that when banks offer quick and effective problem resolution, customers trust them more. That is because customer support that is responsive is a positive signal that the bank cares about its customers. Lama and Kayestha (2025) showed that responsiveness is in particular a trust-building factor in emerging markets, where technical failures tend to happen more often. With Ethiopian digital banking, where customers are often faced with system problems, the speed and quality of how these issues are solved determine their level of trust; plus with the help of responsive support, the bank offers a proof of its operational skills and customer dedication (Simon Nahusenay Ejigu, 2017).

2.4.9. Customer Trust in DBSQ and Its Effect on Customer Trust

Customer trust is a widely recognized key factor that mediates the relationship between digital service quality and customer satisfaction. For example, Verma, (2024) showed that customers who trust digital banking systems not only get more satisfaction out of them but also become loyal and willing to refer the service and proving trust as an outcome of a relationship and a driver of satisfaction. Redda, (2023) also validated that trust is the psychological link that changes functional digital transactions into long-lasting customer satisfaction, in line with the Commitment-Trust Theory (Morgan & Hunt, 1994). Singhal et al. (2025) have shown that trust strengthens the effect of service quality on satisfaction and that it is a partial mediator between several dimensions of digital banking services. In Ethiopia, Essayas Taye Lemma (2018) reported that customers' trust in the security and reliability of the system had a great impact on their overall satisfaction with mobile banking, whereas Eyob Ketema et al. (2020) emphasized that gaining customer trust through reliable service is a must for continuous satisfaction. This studies together demonstrate that customer trust is not only an effect of good service experiences but a critical psychological factor that enhances the effect of technical service quality on customer satisfaction outcomes.

2.4.10. The Mediating Role of Customer Trust

Contemporary literature consistently finds that Customer Trust acts as a partial mediator between digital banking service quality and customer satisfaction. Muliyati & Jaya, (2025) pointed out that although the service quality directly influences satisfaction, a large portion of this impact is really through trust and confirming partial mediation. Singhal et al. (2025) and Wang et al. (2024)

illustrated that, trust mediates the digital service quality and satisfaction relationship in several digital banking contexts, and the mediation effect is mostly strong for Privacy and Responsiveness dimensions. Bashir et al. (2023) found that trust changes customers from transactional interactions to long-lasting service relationships and they have experimentally shown the mediating role of trust, which is distinct from the direct effects of service quality. For Ethiopia, Hailu & Esa, (2025) showed that trust-related issues are major to digital banking adoption whereas Essayas Taye Lemma, (2018) evidenced that elements of trust were implicitly mediating the technical quality and satisfaction relationship in mobile banking in Addis Ababa. Yet, no research work has formally examined Customer Trust as a mediating variable in the private commercial banking sector in Ethiopia, which is the gap that directly motivates to this research.

Table 2.1: Summary of Empirical Evidence on Digital Banking Service Quality, Trust and Satisfaction

Variables	**Effect on Customer Satisfaction**	**Effect on Customer Trust**	**Sample**
Efficiency	Significant positive	Positive signals competence	Gautam & Sah (2023); Eyob Ketema et al. (2020); Tesega Demeke (2025)
System Availability	Significant positive and hygiene factor	Critical reliability signal	Lama & Kayestha (2025); Simon Nahusenay Ejigu (2017); Tesfaye, (2021)
Privacy	Significant and mediated through trust	Strongest trust predictor	Wang et al. (2024); Singhal et al. (2025); Hailu & Esa, (2025)
Responsiveness	Significant positive	Trust-building in crisis	Gautam & Sah (2023); Mesay Sata Shanka (2012)
Customer Trust	Strong positive direct effect	_	Verma (2024); Redda (2023); Morgan & Hunt (1994)

Source: Compiled by Researcher from reviewed literatures

2.5. Research Gap

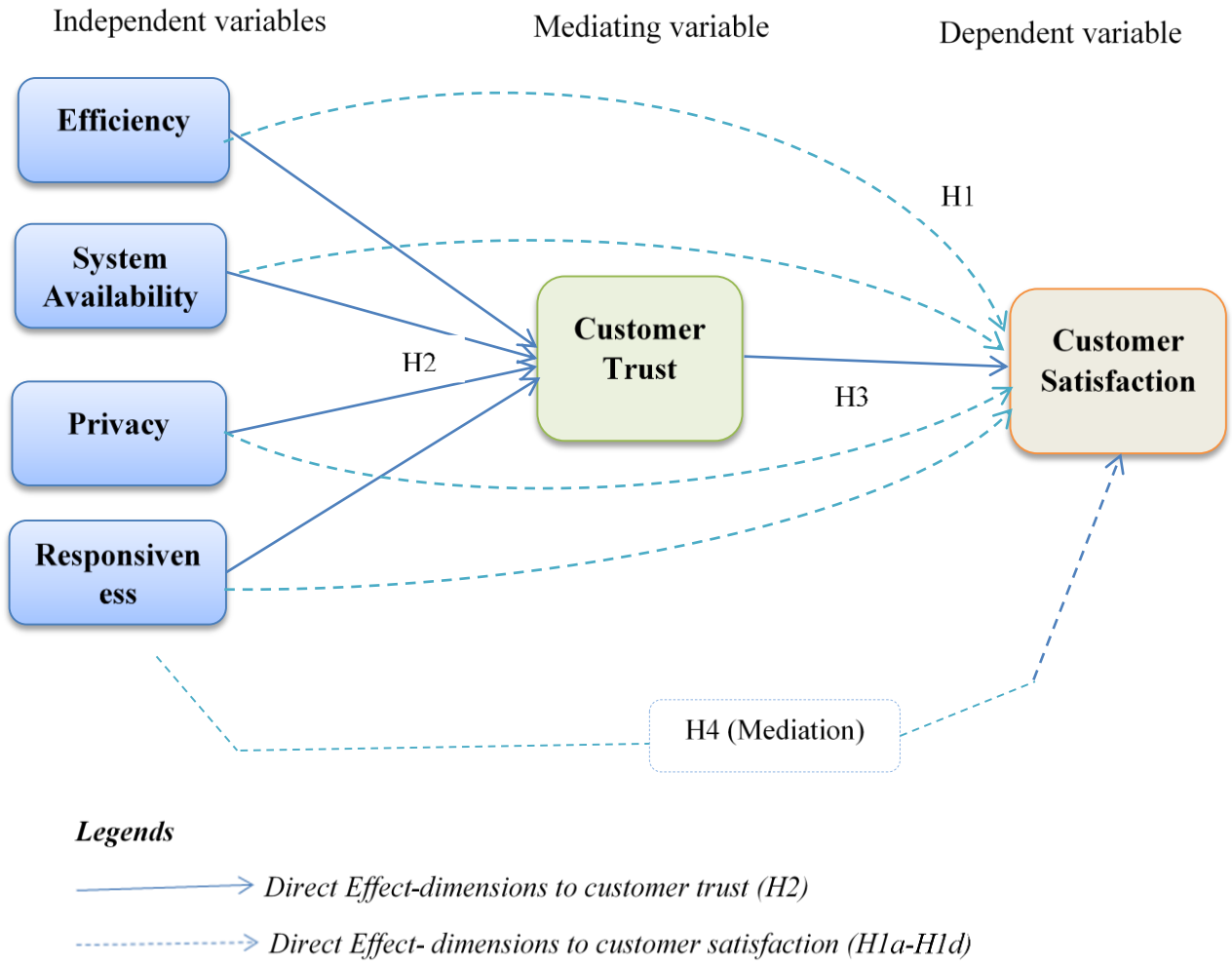
Previous digital banking research in Ethiopia has mainly focused on direct relationships between digital service quality and customer satisfaction, without examining the psychological mechanisms through which these relationships operate (Eyob Ketema et al., 2020; Tesega Demeke, 2025; Kumilachew, 2023; Geressu, 2024; Ayele, 2024). Although trust-related factors have been recognized as important contextual elements in Ethiopia's digital banking environment (Essayas Taye Lemma, 2018; Hailu & Esa, 2025), no study has formally examined customer trust as a mediating variable in the digital banking service quality and satisfaction relationship within Ethiopia's private commercial banking sector. This represents a significant gap, as global studies consistently demonstrate that customer trust is a critical psychological mechanism linking digital service quality to customer satisfaction (Singhal et al., 2025; Wang et al., 2024; Iffan et al., 2024).

The absence of trust-mediation research specifically at Awash Bank digital banking, which is one of Ethiopia's private bank, constitutes both a theoretical and empirical gap that this study addresses. By examining the mediating role of customer trust in the relationship between digital banking service quality dimensions and customer satisfaction, this study contributes original empirical evidence to the Ethiopian digital banking literature and offers evidence-based strategic guidance for bank management and policymakers.

2.6. Conceptual framework

The conceptual framework presented in Figure 2.1 illustrates the theorized relationships between digital banking service quality dimensions (efficiency, system availability, privacy, and responsiveness) customer trust, and customer satisfaction, synthesized from the theoretical and empirical literature reviewed in this chapter.

Figure 2.1: Conceptual framework of Variables



Source: Adapted from Morgan & Hunt, (1994); Parasuraman et al., (2005), modified by researcher

The framework follows a sequential logic, moving from technical inputs to psychological outcomes. The four digital banking service quality dimensions: efficiency, system availability, privacy, and responsiveness serve as the independent variables, representing the primary touchpoints through which customers interact with Awash Bank's digital banking platforms. Consistent with the E-S-QUAL framework (Parasuraman et al., 2005), these four dimensions are operationalized as separate first-order constructs in the empirical analysis each exerting both a direct effect on customer satisfaction (H1, operationalized as H1a–H1d) and an indirect effect through customer trust (H4, operationalized as H4a–H4d).

Customer trust serves as the mediating variable the essential psychological bridge between perceived digital banking service quality and customer satisfaction. In a digital banking environment characterized by the absence of face-to-face interaction, the framework proposes that service quality dimensions are positively associated with the formation of institutional trust (H2, operationalized as H2a–H2d), which is in turn positively associated with customer satisfaction (H3). This trust-mediated pathway reflects the Commitment-Trust Theory (Morgan & Hunt, 1994), which positions trust as the critical relational mechanism linking technical service performance to lasting satisfaction outcomes. The prominence of privacy as a trust-building signal is further explained by Signal Theory (Spence, 1973), which suggest that visible security mechanisms such as biometric authentication and data protection features function as institutional credibility signals in low-trust digital environments.

Customer satisfaction is the final dependent variable, representing users' overall evaluative response to their digital banking experiences at Awash Bank. The framework proposes a partial mediation model, whereby digital banking service quality influences customer satisfaction through both a direct technical pathway and indirect trust-mediated psychological pathway simultaneously and providing the structural basis for the hypotheses tested in Chapter Four.

Chapter 3: Research Methodology

3.1. Introduction

This chapter presents research methodology adopted to examine the mediating role of customer trust in the relationship between digital banking service quality dimensions and customer satisfaction among Awash Bank customers in Addis Ababa. The chapter covers methodological decisions made during all steps of the research process starting with; research design, research approach, study population, sampling frame, sampling design, sample size determination, data collection instrument, data collection procedure, data analysis technique and research ethics. The systematically documented research method to make research process more transparent to enhance the scientific rigor of the research (Creswell and Creswell 2023; Saunders et al. 2023). The study employed quantitative explanatory research design with structured questionnaire and prepared both in English and Amharic, distributed to active users of digital banking in four purposefully selected Awash Bank branches located in Addis Ababa. Data has been analyzed using SPSS version 27 for descriptive statistics and SmartPLS 4.0 for PLSSEM, which simultaneously testing measurement, structural and mediate models.

3.2. Research design

This study employed an explanatory research design to examine the digital banking service quality dimensions: efficiency, system availability, privacy and responsiveness significantly associated with customer trust and customer satisfaction and to assess the mediating role of customer trust in these relationships. An explanatory design was selected since the main goal of this research work is not merely to describe but also to make hypothesis testing with statistics to find out the cause-effect relations of variables to explain the digital banking customer behavior patterns observed (Saunders et al. 2023). The explanatory design will allow the researcher to determine if digital banking service quality dimensions can be used to predict the levels of customer trust and customer satisfaction, and also customer trust plays a role in the mediation of these relationships, which is support or reject the theoretical assumptions of the E-S-QUAL framework and the mediation model proposed (Creswell and Creswell 2023; Sekaran and Bougie 2020).

3.3. Research Approach

This study adopted a quantitative research approach with an explanatory research design supported by the literature. Quantitative method is the best option here because the study involves measuring the relationships between the variables very clearly defining: digital banking service quality

dimensions (Efficiency, System Availability, Privacy, and Responsiveness), customer trust, and customer satisfaction via numerical data collected through surveying with standardized questionnaires (Saunders et al. 2023). Through this approach, the researcher can test the hypotheses of causal and mediating relationships statistically by employing PLS-SEM while being able to compare the results systematically with earlier empirical studies of digital banking. In other words, standardized questionnaires increase the reliability and consistency of data, whereas a structured measurement of variables with a 5-point Likert scale helps to precisely quantify the respondents' perceptions (Sekaran & Bougie, 2020).

3.4. Sampling Design

3.4.1. Target Population

The target population for this study comprised active digital banking customers of Awash Bank residing in Addis Ababa. Only customers who had conducted at least one digital banking transaction through the Awash Birr Pro mobile application, internet banking, USSD, or Digital Wallet within the preceding 30 days were eligible to participate, ensuring that all respondents possessed current firsthand experience of the bank's digital service quality dimensions, including system uptime, responsiveness, privacy mechanisms, and transaction efficiency (Sekaran & Bougie, 2020). It is acknowledged that the 30-day active transaction criterion, while necessary to ensure respondent familiarity with current platform features, introduces a sampling constraint that excludes disengaged digital banking users. Customers who discontinued digital banking usage potentially due to trust failures, security incidents, or service quality dissatisfaction are not represented in this study's sample. This limitation is discussed further in Section 5.6 of this study.

The geographical focus on Addis Ababa was established because the capital city serves as Ethiopia's primary hub for digital financial services, hosting the highest concentration of active digital banking users and the most developed digital infrastructure in the country (NBE, 2024). Focusing on urban digital banking users enhanced the internal validity of the study by controlling for environmental factors such as rural telecommunications limitations and infrastructure variability, which would otherwise affect the measurement of Awash Bank's platform performance independently of actual digital service quality (Ayinaddis et al., 2025). Given the use of non-probability purposive intercept sampling, findings are not intended to be statistically generalized to the broader Ethiopian digital banking population. Rather, the study aims for analytical generalizability, where the theoretical relationships identified between digital banking service

quality, customer trust, and customer satisfaction may inform understanding of similar urban digital banking contexts in Ethiopia and comparable emerging markets.

3.4.2. Sampling Frame

A sampling frame refers to the formal registry of members within a target population from which a sample is systematically selected (Saunders et al., 2023). For this study, Awash Bank's internal branch records confirmed that the total number of active digital banking users across the four selected branches was 12,757 as of February 2025 (Awash Bank, 2025). This figure represents aggregate branch-level administrative data specifically, the total number of registered active digital banking users per branch and does not contain any individually identifiable customer information. This aggregate count was provided by Awash Bank branch management and used only for the purpose of proportional sample allocation across the four branches, as detailed in Section 3.4.4.

To ensure demographic and geographic representativeness, data were collected from four purposively selected Awash Bank branches representing distinct economic zones within Addis Ababa:

1. **Legehar Branch (Mexico Area):** This branch selected to represent the central business district demographic including civil servants, diplomats, and office professionals.
2. **Bole Branch (Bole Area):** This branch selected to represent corporate, high-income, and technologically advanced consumer segments.
3. **Addis Ketema Branch (Merkato Area):** This branch selected to represent high-volume retail merchants and middle-income commercial users from Addis Ababa's largest commercial district.
4. **Megenagna Branch (Megenagna Area):** This branch selected to represent a diverse mix of daily commuters and residential digital banking users from one of the city's primary transit centers.

By using multiple branches, we spread the risk of location bias and, at the same time, allow the data to capture the diversity of the urban digital banking user base of Awash Bank.

3.4.3. Sampling Technique

This study adopted a non-probability purposive intercept sampling technique. Since Awash Bank's institutional customer registries are confidential and inaccessible for random sampling, the

researcher physically intercepted active digital banking customers at the four selected branch locations during their regular banking activities, consistent with established intercept survey methodology (Saunders et al., 2023; Creswell & Creswell, 2023). A structured screening protocol was applied to ensure that only eligible respondents participated. Prospective participants were required to confirm that they had actively used at least one of Awash Bank's digital banking platforms: the Awash Birr Pro mobile application, internet banking, USSD, or Digital Wallet within the preceding 30 days. This purposive filtering ensured that all respondents possessed the recent firsthand experience necessary to provide valid assessments of digital banking service quality dimensions. To minimize selection bias, data collection was conducted across different times of day including morning peak hours and afternoon periods and different days of the week at all four branch locations. Participation was entirely voluntary, ensuring that respondents' answers genuinely reflected their perceptions of Awash Bank's digital service quality and institutional trust (Creswell & Creswell, 2023).

3.4.4. Sample Size

Given that the population of active digital banking users across the four selected branches is a known, finite figure of 12,757 (Section 3.4.2), Cochran's (1977) formula was applied to determine the minimum required sample size, a widely adopted procedure in quantitative survey research (Hair et al., 2022; Saunders et al., 2023). Cochran's infinite population formula was applied first, yielding a minimum required sample size of 385 respondents. This figure was then checked against the population to determine whether a Finite Population Correction (FPC) was necessary: 385 represents approximately 3% of the total population of 12,757, which falls well below the 5% threshold beyond which the FPC factor produces a meaningfully different result (Cochran, 1977; Saunders et al., 2023). When the sample-to-population ratio falls below 5%, the correction factor approaches 1.0, rendering its application statistically negligible (Hair et al., 2022; Sekaran & Bougie, 2020). For verification, applying the FPC formula to $n_0 = 385$ and $N = 12{,}757$ yields a corrected minimum of 374 respondents, a difference of only eleven cases and confirming that the uncorrected value of 385 was statistically appropriate and the more conservative of the two figures.

The following parameters were applied in the formula:

1. Z (Confidence Level): Z-score value of 1.96 for the 95% confidence level.
2. P (Estimated Proportion): A conservative maximum variability estimate value

of 0.50 which ensures the maximum sample size is determined (Cochran, 1977).

3. q (Complement of p): Determined as 1– p = 0.50.
4. e (Margin of Error): Acceptable level of margin of error set at ±5% (0.05).

The applied formula for sample size determination:

$$n = \frac{Z^2 * P * q}{e2}$$

$$n = \frac{(1.96)^2 * 0.5 * 0.5}{0.0025}$$

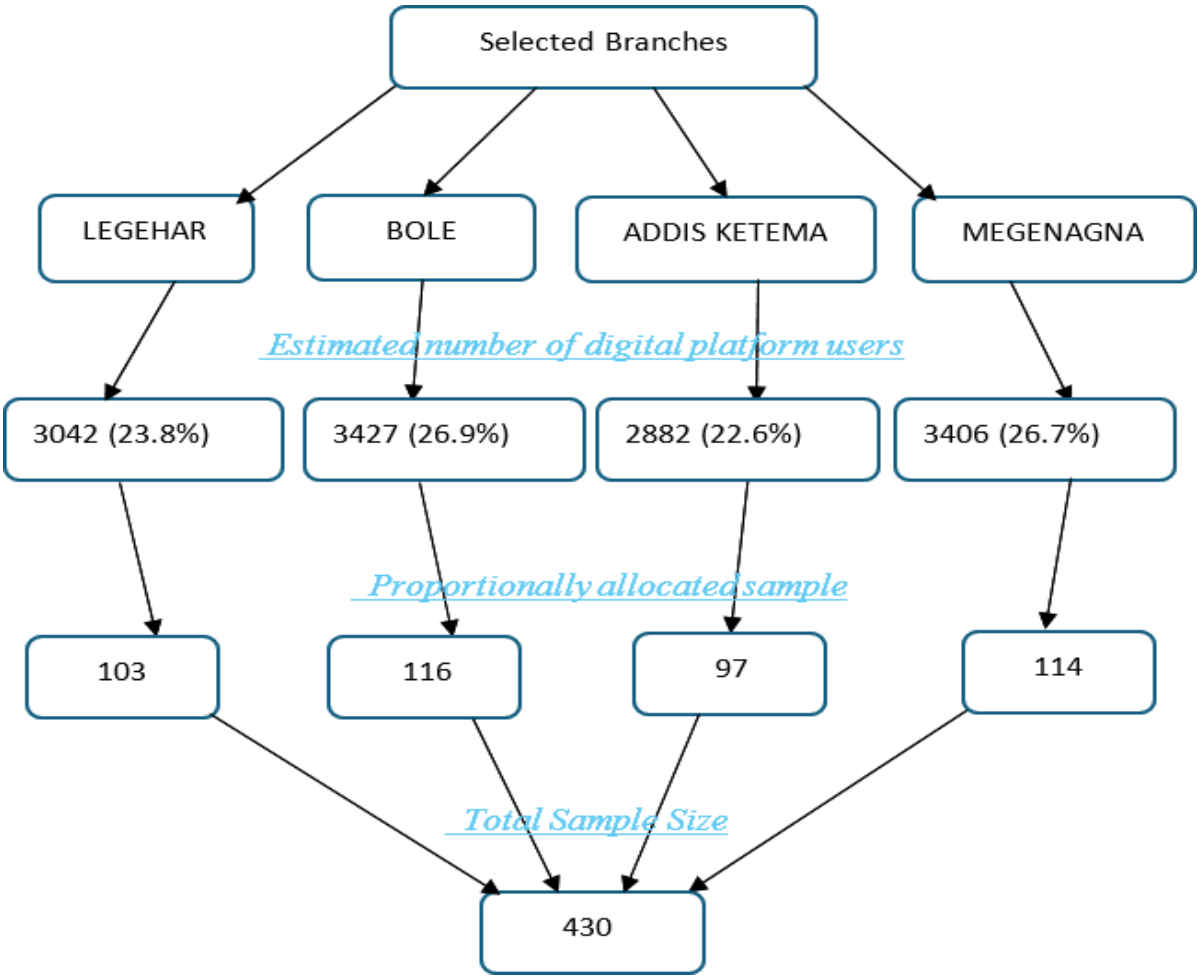
$$\underline{\underline{n = 384.16 = 385}}$$

Where:

- Z = Z-score for the confidence level 95%
- P = Estimated proportion
- q =1−*P*,
- e = Level of precision

Applying Cochran's (1977) formula yielded a minimum required sample size of 385 respondents. The target sample was increased to 430, representing a contingency buffer of approximately 10.5% above the minimum requirement, to account for potential data loss from incomplete responses, ineligible participants, and failed attention check items. This oversampling strategy maintained statistical power at the 95% confidence level while ensuring that the final usable sample after data screening met or exceeded the minimum requirement (Hair et al., 2022; Saunders et al., 2023). The target sample of 430 was distributed across the four branches using proportional allocation based on each branch's digital user population, as recorded in Awash Bank's Branch Digital User Records for February 2025 (Awash Bank, 2025), as detailed in Figure 3.1

Figure 3.1: Proportional Allocation of Sample Size of Selected Awash Bank Branches.



Source: Awash Bank (2025). Branch digital user records (Internal document). The branch digital user population data was obtained directly from Awash Bank branch management during the field authorization process and was used only for proportional sample allocation purposes.

3.4.5. Sampling Procedure

Sampling procedures were carried out in an organized five-step process in order to ensure accuracy of information gathering, institutional compliance, and participant validity.

1. **Pilot Testing and Validation**: Before conducting the primary study the questionnaire was administered to 40 individuals, about 10% of the minimum sample in order to test the instrument for understandability, validity and cultural sensitivity. For more information refer to section 3. 7. 1.
2. **Access and Field Authorization**: Besides obtaining a letter of university introduction, the researcher get formal approval from Awash Bank management to collect data in a manner

consistent with the banks and the research ethics standards. Branch managers and other authorized stakeholders gave the researcher complete permission to carry out intercept surveys at their branch locations.

3. **Respondent Screening**: Respondents who come to one of the four chosen branches were screened for the paper with purposive intercept method. A structured question of the eligibility confirmed whether a respondent was a digital banking user who has made at least one transaction through the mobile app, internet banking, USSD, or digital wallet within the last 30 days. Those not meeting the criterion were rejected.
4. **Data Collection**: Once a participant was eligible, he/she was given all information on the rights to anonymity, confidentiality, and the voluntary nature of participation before providing the informed consent form. The researcher was present throughout to clarify any doubts of respondents in an unbiased manner and to provide technical help if needed while keeping the process as free from the influence of the researcher as possible before and after participants answering.
5. **Temporal Distribution**: The four-week data collection took place at the time of deployment at all the four branches. To have a time-wise comprehensive representation of Awash Bank's active digital banking users, surveys administration during peak-time, such as mid-morning and lunch hours, as well as during off-peak time on different days of the week was performed.

3.5. Sources of Data

This research mainly depends on primary data as the high-level source of validation. To researchers, primary data is very important in ensuring the correctness and pertinence of their discoveries. Secondary data will probably be either out of date or mismatched to the context in which it is used. While primary data, which is collected directly through structured surveys from respondents, gives first-hand information that is not only more trustworthy but also better fits the research purposes (Saunders et al. 2023; Creswell & Creswell, 2023). Efficiency, System Availability, Privacy, Responsiveness, Customer Trust, and Customer Satisfaction were the selected variables because they represent the key and widely tested factors influencing digital banking service quality, trust building, and customer satisfaction in digital banking scenarios. Besides being supported by lots of studies both globally and in Ethiopia, these variables also highlight the crucial aspects of customer behavior with Awash Bank's digital banking operations

(Parasuraman et al. 2005; Gautam & Sah, 2023). Other variables were left out mainly because they were redundant with the dimensions picked for this research.

Besides, secondary data has been used to set up the whole system and the context of the research. Among such data sources are the annual reports of Awash Bank, regulatory publications from the National Bank of Ethiopia, and highly-regarded academic literature on digital banking service quality, trust, and satisfaction (Sekaran & Bougie, 2020).

Table 3.1 Variables Scale Selection for the Questionnaire

Variable	Code	Questionnaire Item	Source
Efficiency	EFF1	The digital platform processes my transactions quickly and without annoying delays	(Parasuraman et al., 2005); Gautam & Sah 2023)
	EFF2	I can easily complete my daily banking tasks using only a few clicks or taps	
	EFF3	The app or website are well-designed, making it simple to find the services I need.	
	EFF4	Using Awash Bank's digital services saves me significant time in completing my banking needs.	
	EFF5	Finding specific account information through the digital channels is straightforward.	
System Availability	SYS1	Awash Bank's digital banking services are accessible 24/7 whenever I need them.	(Parasuraman et al.,2005; Bala et al., 2021)
	SYS2	I rarely experience app crashes, freezing, or system outages while banking online.	
	SYS3	When the system is unavailable for maintenance, Awash Bank notifies me in advance.	
	SYS4	It doesn't matter which device or internet connection I am using, the service is just as good.	
	SYS5	My personal banking routine is never interrupted by unexpected technical failures.	
Privacy	PRI1	I am highly confident that Awash Bank protects my financial data from unauthorized access.	(Wang et al., 2024; Singhal et al., 2025); Ya'u Ibrahim and Mu'azu., 2021)
	PRI2	I feel completely safe conducting high-value or sensitive transactions through the app/digital platform.	
	PRI3	The Awash bank's security features, such as OTPs (One-Time Passwords) or biometrics login, make me feel secure.	
	PRI4	Awash Bank's privacy policies are clear and give me peace of mind.	
	PRI5	I trust that the bank will never share my personal information with outside parties without my permission.	
	RES1	When I encounter a technical issue, the bank resolves it in a fast and efficient manner.	

Responsiveness	RES2	The customer support team is easy to reach if I need help with my digital banking.	(Parasuraman et al. 2005; Gautam & Sah 2023)
	RES3	The answers I receive regarding my transaction problems are accurate and helpful	
	RES4	I feel that the bank takes immediate action to resolve digital banking issues I report.	
Customer Trust	TRU1	Awash Bank consistently acts in my best financial interest when providing digital services.	(Mayer et al. 1995; Morgan & Hunt 1994; Sultana & Hasan 2023),
	TRU2	I believe Awash Bank is fully committed to providing me with a safe and reliable digital banking experience.	
	TRU3	Awash Bank possesses the advanced technical expertise required to manage my digital transactions safely.	
	TRU4	I believe Awash Bank's digital banking services are handled with high integrity and honesty.	
	TRU5	I am often worried that the bank's digital platforms might fail to execute my transactions correctly. (This item is reverse-coded)	
Customer Satisfaction	SAT1	Overall, the digital services provided by Awash Bank perfectly match my expectations.	(Oliver 2014; Sultana & Hasan 2023)
	SAT2	I am satisfied with the quality and convenience of my digital banking experience.	
	SAT3	The digital platform provides everything I need to achieve my daily financial goals.	
	SAT4	Using Awash Bank's digital service is a user-friendly and stress-free experience for me.	
	SAT5	I would highly recommend Awash Bank's digital platforms to my friends and family.	

3.6. Data Collection Methodology

This study adopted a cross-sectional survey design. It is a method of collecting quantitative information from the target population only once at a specific point in time (Creswell & Creswell, 2023). This design suited the present the research because it enabled effective measurement of current Awash Bank customer perceptions of digital banking service quality, trust, and satisfaction across the four selected branches without requiring longitudinal follow-up. The cross-sectional approach ensured that findings reflected the operational reality of Awash Bank's digital banking environment at the time of data collection.

3.7. Data Collection Instrument

The primary data collection instrument was a structured bilingual questionnaire, developed based on validated scales from established academic literature. The instrument was initially designed in English and subsequently translated into Amharic through a rigorous back-translation procedure conducted by a language expert, to ensure linguistic and conceptual equivalence across both versions. Prior to administration, the instrument was reviewed by the research advisor to confirm content validity (Taherdoost, 2016).

The questionnaire comprised two sections. The first section collected demographic information including gender, age, educational level, and digital banking usage frequency and confirmed respondents' active digital banking status through the 30-day transaction criterion. The next section of the questionnaire covered six constructs that included a total of 29 major items: Efficiency (5 items), System Availability (5 items), Privacy (5 items), and Responsiveness (4 items) were adapted from the E-S-QUAL model (Parasuraman et al. 2005), while the Customer Trust (5 items) and Customer Satisfaction (5 items) measures were adapted from established measurement scales (Hair et al., 2022; Sultana & Hasan, 2023). All items were measured on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

To detect inattentive respondents and identify potential response bias such as straight-line answering, a negatively worded item (TRU5) was embedded within the customer trust scale (Meade & Craig, 2012; Oppenheimer et al., 2009). This item was presented to respondents without any special label, appearing as a regular survey item. During data screening in IBM SPSS Statistics Version 27, respondents to TRU5 was logically inconsistent with their overall pattern of responses to TRU1–TRU4 were flagged as potentially inattentive and excluded from the final dataset. Following data screening, TRU5 was reverse-scored in IBM SPSS Statistics Version 27 converting the original 5-point responses so that higher worry scores were recoded as lower trust scores yielding the reverse-scored item TRU5R, which was subsequently included in the SmartPLS 4.0 measurement model. This two-stage procedure first using TRU5 as an attention-check screening tool, then including the reverse-scored TRU5R as a measurement indicator is consistent with established survey quality control and scale construction practice (Meade & Craig, 2012; Hair et al., 2022), as detailed in Section 4.2.

Customer trust was operationalized through five items (TRU1–TRU5R) on a 5-point Likert scale, adapted from established scales (Mayer et al., 1995; Morgan & Hunt, 1994; Sultana & Hasan, 2023). Each item was designed to capture one of the three trust dimensions: TRU1 and TRU2 reflect benevolence-based trust, and provide the belief that the bank acts in the customer's best interest; TRU3 reflects ability-based trust, and provide technical competence in managing digital transactions safely; TRU4 reflects integrity-based trust, and provide honesty and transparency in service delivery; and TRU5R is the reverse-scored attention-check item, capturing perceived risk of transaction failure, which was included after reverse-scoring to maintain directional consistency with the remaining trust items (Meade & Craig, 2012). It is acknowledged that TRU5R captures perceived risk of system failure rather than a direct dimension of trust as such its lower outer loading is consistent with this conceptual distinction, as discussed in Section 4.5.2.

The validity and reliability of all constructs were confirmed through outer loadings, average variance extracted, composite reliability, and the HTMT ratio, with all values meeting recommended thresholds (Hair et al., 2022).

3.7.1. Pilot Testing

A pilot test was conducted with 40 participants. These 40 participants are 10% of the minimum required respondents in the main survey. During the pilot test, the reliability of the instrument was evaluated as well as the clarity and cultural appropriateness for both the English and Amharic versions. It was noted that all questions were clear and understandable for respondents with no concept loss when back-translated. The question with reverse-coded attention checking was effective with no respondents confused when completing the survey. All six constructs were analyzed for reliability using Cronbach's Alpha (α) with IBM SPSS Statistics. All constructs produced Cronbach's Alpha scores higher than the minimal required level of threshold 0.70 (Hair et al. 2022).

3.8. Data Analysis Method

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to test the hypotheses and SmartPLS 4.0 was used as the statistical analysis software (Ringle et al. 2022). PLS-SEM was selected over covariance-based SEM (CB-SEM) for three primary reasons: First, this method suits well the predictive research framework since it focuses on predicting and explaining the variance in endogenous constructs. Second, this method is relatively resistant to

data distributions that do not have a normal form. Finally, using this approach does not require strong assumptions concerning distribution when it comes to models with many constructs and mediators (Hair et al. 2022; Henseler et al. 2015). IBM SPSS Statistics Version 27 was employed for basic data management tasks such as data cleaning, missing value analysis, and descriptive statistical analysis.

The mediating role of customer trust was assessed using the specific indirect effects approach in PLS-SEM, executed through bootstrapping with 5,000 sub-samples in SmartPLS 4.0, following Hair et al. (2022). For each of the four digital banking service quality dimensions, a specific indirect effect was calculated as the product of two path coefficients: the path from the dimension to customer trust (a-path) multiplied by the path from customer trust to customer satisfaction (b-path). Statistical significance of each indirect effect was determined by whether the bootstrapped t-statistic exceeded 1.96 and the p-value fell below 0.05 under a two-tailed test. The simultaneous significance of both direct effects (dimension to satisfaction) and indirect effects (dimension to trust to satisfaction) for all four dimensions confirmed partial mediation, consistent with the criteria established by Hair et al. (2022).

The analytical process followed a sequential two-phase procedure recommended by Hair et al. (2022). The first phase assessed the measurement model; evaluating indicator reliability through outer loadings (λ), internal consistency reliability through Cronbach's Alpha and Composite Reliability, convergent validity through Average Variance Extracted (AVE), and discriminant validity through the Fornell-Larcker criterion and the HTMT ratio. The second phase assessed the structural model to examine the hypothesized relationships between constructs across five components: multicollinearity testing through Variance Inflation Factor (VIF) values; coefficient of determination (R^2) as a measure of the model's explanatory power for each endogenous construct; effect size (f^2) as a measure of each predictor's practical contribution; and predictive relevance (Q^2) assessed through the PLS predict procedure using 10-fold cross-validation with 10 repetitions (Hair et al., 2022).

While H1, H2, and H4 are conceptually stated at the level of digital banking service quality as a unified construct in Chapter One, the structural model tests these relationships at the level of each constituent dimensions: efficiency, system availability, privacy, and responsiveness, treated as

four separate first-order exogenous constructs. This approach is consistent with the E-S-QUAL framework (Parasuraman et al., 2005) and with PLS-SEM best practice for first-order reflective models (Hair et al., 2022), which recommends evaluating each dimension's distinct contribution rather than collapsing multiple conceptually distinct dimensions into a single aggregate score. Accordingly, H1 is tested through paths H1a–H1d, H2 through paths H2a–H2d, and H4 through indirect paths H4a–H4d, with results for all thirteen paths presented in Chapter Four.

Model Specification:

To test the research hypotheses, the structural model specified in two equations:

Equation 1: Customer Trust as mediating construct:

TRU = f (EFF, SYS, PRI, RES)

$TRU = \beta_{01} + \beta_1(EFF) + \beta_2(SYS) + \beta_3(PRI) + \beta_4(RES) + \varepsilon_1$

Equation2: Customer Satisfaction as final dependent construct:

SAT = f (EFF, SYS, PRI, RES, TRU)

$SAT = \beta_{02} + \beta_1(EFF) + \beta_2(SYS) + \beta_3(PRI) + \beta_4(RES) + \beta_5(TRU) + \varepsilon_2$

Where:

- SAT = Customer Satisfaction: final endogenous dependent variable
- TRU = Customer Trust: endogenous mediating variable
- EFF = Efficiency: predictor variable
- SYS = System Availability: predictor variable
- PRI = Privacy: predictor variable
- RES = Responsiveness: predictor variable
- f = denotes a functional relationship (each endogenous variable is a function of the predictor variables listed).
- β_{01}, β_{02}: constant (intercept)
- $\beta 1, \beta 2, \beta 3, \beta 4, \beta 5$ = Path Coefficients
- ε_1= error term for Equation 1 (unexplained variance in customer trust)
- ε_2 = error term for Equation 2 (unexplained variance in customer satisfaction)

3.9. Validity and Reliability

3.9.1. Validity

The research instrument questionnaire was validated using five approaches to be certain it is measuring what it is designed to measure (Sekaran & Bougie, 2020). Translation validity was developed through the back translation procedure, where native language experts translated the questionnaire from English to Amharic and confirmed conceptual and technical validity between the two instruments. Face validity was confirmed through the pilot study described in Section 3.7.1. Content validity was established by having the instrument reviewed by the research advisor prior to administration (Taherdoost, 2016).

Convergent validity was assessed at two levels. At the indicator level, outer loadings (λ) were examined values of 0.70 and above confirm acceptable indicator reliability, with items between 0.40 and 0.70 evaluated for retention based on whether their removal would improve AVE or composite reliability (Hair et al., 2022; Hulland, 1999). At the construct level, Average Variance Extracted (AVE) was calculated a value of 0.50 or above indicates that the construct explains more than half of its indicators' variance, confirming convergent validity (Fornell & Larcker, 1981; Hair et al., 2022).

Discriminant validity was assessed through two complementary criteria. The Fornell-Larcker criterion requires that the square root of each construct's AVE exceeds its correlations with all other constructs in the model (Fornell & Larcker, 1981). The Heterotrait-Monotrait (HTMT) ratio requires values below 0.90 for conceptually distinct constructs a more sensitive criterion than the Fornell-Larcker approach (Henseler et al., 2015; Hair et al., 2022). Results for both criteria are presented in Section 4.5.4.

3.9.2. Reliability

Reliability was checked using a systematic three step processes: first, pilot internal consistency of all six constructs was checked using Cronbach's Alpha in IBM SPSS Statistics Version 27 during the pilot test phase (Section 3.7.1) and all constructs met the minimum acceptable threshold of 0.70 (Hair et al. 2022; Nunnally 1978). Second, during data cleaning phase the survey items below the acceptable level of corrected item total correlation (0.30) was considered for removal to maintain the integrity of the measurement model. Third, final internal consistency reliability of all constructs was calculated again after full scale data collection and tested for both Cronbach's Alpha and Composite Reliability in SmartPLS 4.0. In both cases for calculating the reliability, acceptable

range would be 0.70 to 0.95 (Hair et al., 2022). This systematic three-stage process ensured reliable measurement across all constructs measured on a 5-point Likert scale, yielding dependable and replicable results (Saunders et al., 2023; Sekaran & Bougie, 2020).

3.10. Research Ethics

This research follows ethical guidelines to protect the rights and welfare of all research participants. The study upholds this dedication by following the principle which protects Awash Bank customers through their right to choose whether or not to participate in research after they receive complete information about the study (Creswell & Creswell, 2023). Full anonymity and confidentiality were maintained throughout no personally identifiable information was collected, and all responses were treated as aggregated data to prevent individual identification. With respect to institutional data, it is important to clarify that the only data obtained from Awash Bank was an aggregate count of active digital banking users per branch and administrative data containing no personally identifiable customer information. This data was obtained through formal institutional channels with written authorization from Awash Bank branch management and was used only for proportional sample allocation purposes. The study upholds academic transparency standards by safeguarding all research data which, researcher will handle as unaltered information. The researcher maintains scientific integrity of the research results through his complete prohibition of data manipulation, which establishes trust between research participants, Awash Bank and the academic community (Saunders et al. 2023).

Chapter 4: Data Presentation, Analysis and Interpretation

4.1. Introduction

This chapter presents the data analysis, presentation, and interpretation of the empirical results, which were obtained from 411 active digital banking customers of Awash Bank from four selected branches in Addis Ababa city: Megenagna, Bole, Legehar, and Addis Ketema. The respondents assessed their experiences with the main digital platforms of Awash Bank, including the Awash Birr Pro mobile app, internet banking, and USSD service. Descriptive statistical analysis and data screening were done by IBM SPSS Statistics Version 27 and Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0 was applied to evaluating the measures, modeling the structures, and analyzing mediation in aligning with the research objectives and testing the hypothesized relationships.

4.2. Response Rate

The minimum sample size required for this study was 385 respondents, based on a 95% confidence level and a ±5% margin of error. A contingency buffer of approximately 10.5% was added, increasing the target sample to 430 distributed proportionally across the four selected Awash Bank branches to account for potential non-response and incomplete submissions (Section 3.4.4).

All 430 distributed questionnaires were retrieved. Following data screening in IBM SPSS Statistics Version 27, 19 questionnaires were excluded from the final dataset for three reasons: incomplete responses (6 respondents); failure to meet the active digital banking user screening criterion specifically, not having conducted at least one digital transaction within the preceding 30 days (2 respondents); and failure on the reverse-coded attention check item TRU5R (11 respondents).

The reverse-coded attention check item was designed to identify inattentive respondents who answered without adequate care and its effectiveness as a screening tool was confirmed during pilot testing (Section 3.7.1), where no respondents were excluded on this basis in the pilot sample of 40. Respondents who failed the attention check item in the full-scale data collection were excluded consistent with established data quality procedures (Meade & Craig, 2012; Oppenheimer et al., 2009). Consequently, 411 questionnaires were retained for final analysis, yielding a usable response rate of 95.6%, as summarized in Table 4.1.

Table 4.1: Response Rate

Questionnaire Item	Frequency	Percentage
No. of questionnaires distributed	430	100%
No. of questionnaires returned	430	100%
No. of questionnaires rejected	19	4.4%
No. of valid questionnaires retained	411	95.6%

Source: Data from researcher survey analyzed using IBM SPSS Version 27, 2026.

4.3. Demographic Information of Respondents

This section deals with the demographics of the 411 valid respondents in order to help understand the users of the digital banking of Awash Bank in four sample branches in Addis Ababa.

4.3.1. Gender Distribution

Table 4.2: Gender Distribution of Repondents

Gender	Frequency	Percentage (%)
Female	145	35.3%
Male	266	64.7%
Total	411	100%

Source: Data from researcher survey analyzed using IBM SPSS Version 27, 2026.

Gender distribution data were collected through self-reported questionnaire items. As presented in Table 4.2, the sample comprised 64.7% male respondents and 35.3% female respondents. The higher representation of male respondents is consistent with digital banking adoption literature in Sub-Saharan Africa, where male users tend to dominate active digital banking usage (Alalwan et al., 2017). The meaningful representation of female respondents at 35.3% indicates that women constitute an important segment of Awash Bank's active digital banking user base in Addis Ababa. While gender was not examined as an analytical variable in this study, this demographic profile suggests that gender differences in digital banking service quality perceptions, trust formation, and satisfaction may warrant investigation in future research.

4.3.2. Age Distribution

Table 4.3: Age Group of Respondents

Age Group	Frequency	Percentage (%)
18-24 years	44	10.7%
25-34 years	177	43.1%
35-44 years	158	38.4%
45-54 years	23	5.6%
55 years and above	9	2.2%
Total	411	100%

Source: Data from researcher survey analyzed using IBM SPSS Version 27, 2026.

Age distribution data were collected through self-reported questionnaire items. As seen in Table 4.3, the largest proportion of respondents fell within the 25–34 age group (43.1%), followed by the 35–44 age group (38.4%). Together these two groups comprised 81.5% of the sample, indicating that the majority of active digital banking users in this study were working-age adults consistent with patterns of digital banking adoption among economically active urban populations (Alalwan et al., 2017). Younger respondents aged 18–24 represented 10.7% of the sample, while respondents aged 45 and above collectively comprised only 7.8%, reflecting the comparatively lower adoption of digital banking services among older age groups in developing digital economy contexts (Alalwan et al., 2017). While age was not examined as an analytical variable in this study, this demographic profile is consistent with the study's focus on active urban digital banking users in Addis Ababa.

4.3.3. Educational Level

Table 4.4: Educational Level

Education Level	Frequency	Percentage (%)
Primary school and below	2	0.5%
High School	33	8.0%
Diploma/TVET	49	11.9%
Bachelor’s Degree	234	56.9%
Master’s Degree	93	22.6%
Total	411	100.0%

Source: Data from researcher survey analyzed using IBM SPSS Version 27, 2026.

Educational level data were collected through self-reported questionnaire items in which respondents selected their highest completed level of education from the options provided. As presented in Table 4.4, the majority of respondents held a Bachelor's degree (56.9%), followed by Master's degree holders (22.6%) and Diploma/TVET holders (11.9%). The high educational attainment of the sample with 79.5% holding at least a Bachelor's degree is consistent with the demographic profile of active digital banking users in Addis Ababa's urban commercial banking context, where smartphone ownership, formal employment, and digital literacy tend to be more prevalent among educated populations (NBE, 2024). While this educational profile enhances the content validity of the study as highly educated respondents are likely better positioned to evaluate technical service quality dimensions such as system availability and privacy and acknowledged that the sample may not fully represent all Awash Bank digital banking users across Ethiopia, particularly less-educated users in rural or semi-urban contexts. This characteristic is noted as a sample limitation in section 5.6, where extending the study to more educationally and geographically diverse populations is recommended as a direction for future research.

4.3.4. Distribution by Branch

Table 4.5: Distribution of Respondents by Branch

Branch	Frequency	Percentage
Megenagna Branch	109	26.5%
Bole Branch	104	25.3%
Legehar Branch	102	24.8%
Addis Ketema Branch	96	23.4%
Total	411	100.0%

Source: Data from researcher survey analyzed using IBM SPSS Version 27, 2026.

Data were collected across four Awash Bank branches to ensure geographic representativeness across Addis Ababa's diverse socioeconomic zones, consistent with the proportional allocation strategy described in Section 3.4.2. As presented in Table 4.5, Megenagna Branch contributed the largest proportion of respondents (26.5%), followed by Bole Branch (25.3%), Legehar Branch (24.8%), and Addis Ketema Branch (23.4%). The near-equal distribution across all four branches, providing each representing a distinct economic zone within Addis Ababa and ensured that

findings were not dominated by any single branch location, thereby enhancing the representativeness of the sample within the study's defined geographical scope.

4.3.5. Frequency of Platform Use (Preferred Channel)

Table 4.6: Most Frequently Used Digital Platform

Digital Platform	Frequency	Percentage (%)
Mobile Banking App (Awash birr Pro)	359	87.3%
USSD (*901#)	37	9.0%
Digital Wallet (Awash Birr)	8	1.9%
Internet Banking (via Web Browser)	7	1.7%
Total	411	100.0%

Source: Data from researcher survey analyzed using IBM SPSS Version 27, 2026.

Note: Awash Birr Pro is a full-featured mobile banking application available exclusively to Awash Bank account holders. The Awash Birr Digital Wallet is a mobile money service accessible to both account holders and non-account holders. These are treated as separate and distinct channels in this study (Awash Bank, 2023).

As presented in Table 4.6, the Awash Birr Pro mobile banking application was the most frequently used digital channel, selected by 87.3% of respondents as their primary platform, confirming that mobile banking is the dominant mode of digital service access among Awash Bank customers in the study sample. USSD was the second most preferred channel at 9.0%, while Digital Wallet and Internet Banking recorded minimal representation at 1.9% and 1.7% respectively.

It is important to note that the platform usage data in Table 4.6 reflects each respondent's self-reported most frequently used digital channel not exclusive channel usage. The single-select question format required respondents to identify their primary platform, which means that customers who use multiple digital channels simultaneously are represented only by their dominant usage pattern. In practice, many digital banking customers employ multiple channels complementarily; for example, using the mobile banking application for routine transactions while relying on USSD during periods of internet connectivity disruption. Therefore, the actual multi-channel usage behavior of respondents may be more diverse than these figures suggest. This is a

recognized methodological limitation of the single-select format, and the platform distribution data are interpreted as indicative of channel preference rather than exclusive channel adoption.

Despite their low representation in this sample, Digital Wallet (n=8) and Internet Banking (n=8) users signal the presence of emerging market segments with potentially distinct service quality expectations. The very small number of respondents using these channels excluded reliable platform-specific analysis of service quality perceptions, trust formation, and satisfaction, which representing a clear gap for future channel-specific research as adoption of these platforms grows. Accordingly, this study assesses overall digital banking service quality perceptions without making platform-specific comparisons.

4.4. Descriptive Statistics of Variables

The descriptive statistics for the six key constructs for mean and standard deviation (SD), all items were measured on 5-point likert scale from Strongly disagree to Strongly agree. Following the equal interval scale approach (Sekaran & Bougie, 2020), mean scores were interpreted as Low (1.00 - 2.60), Medium (2.61 - 3.40) or High (3.41 – 5.00).

Table 4.7: Descriptive Statistics for Research Variables

Variables	N	Min	Max	Mean	Std. Deviation	Interpretation
Efficiency (EFF)	411	1.00	5.00	3.571	0.938	High
System Availability (SYS)	411	1.40	5.00	3.384	0.739	Moderate
Privacy (PRI)	411	1.00	5.00	3.865	0.728	High
Responsiveness (RES)	411	1.25	5.00	3.465	0.853	High
Customer Trust (TRU)	411	1.40	5.00	3.643	0.854	High
Customer Satisfaction (SAT)	411	1.00	5.00	3.614	0.832	High

Source: Data from researcher survey analyzed using IBM SPSS Version 27, 2026.

As presented in Table 4.7, privacy recorded the highest mean score among the four digital banking service quality dimensions (M=3.865, SD=0.728, High), suggesting that respondents perceived Awash Bank's data protection mechanisms such as one-time password (OTP) authentication and biometric security features as effective in securing their digital banking transactions (Parasuraman et al., 2005). Efficiency (M=3.571, SD=0.938, High) and responsiveness (M=3.465, SD=0.853, High) both fell within the High range, although the relatively higher standard deviation for efficiency indicates greater variability in respondents' experiences across the sample. System availability recorded the lowest mean score among the four dimensions (M=3.384, SD=0.739, Moderate), suggesting occasional inconsistencies in system accessibility and uptime, which is a challenge commonly reported in emerging digital banking markets (Parasuraman et al., 2005; Lama & Kayestha, 2025).

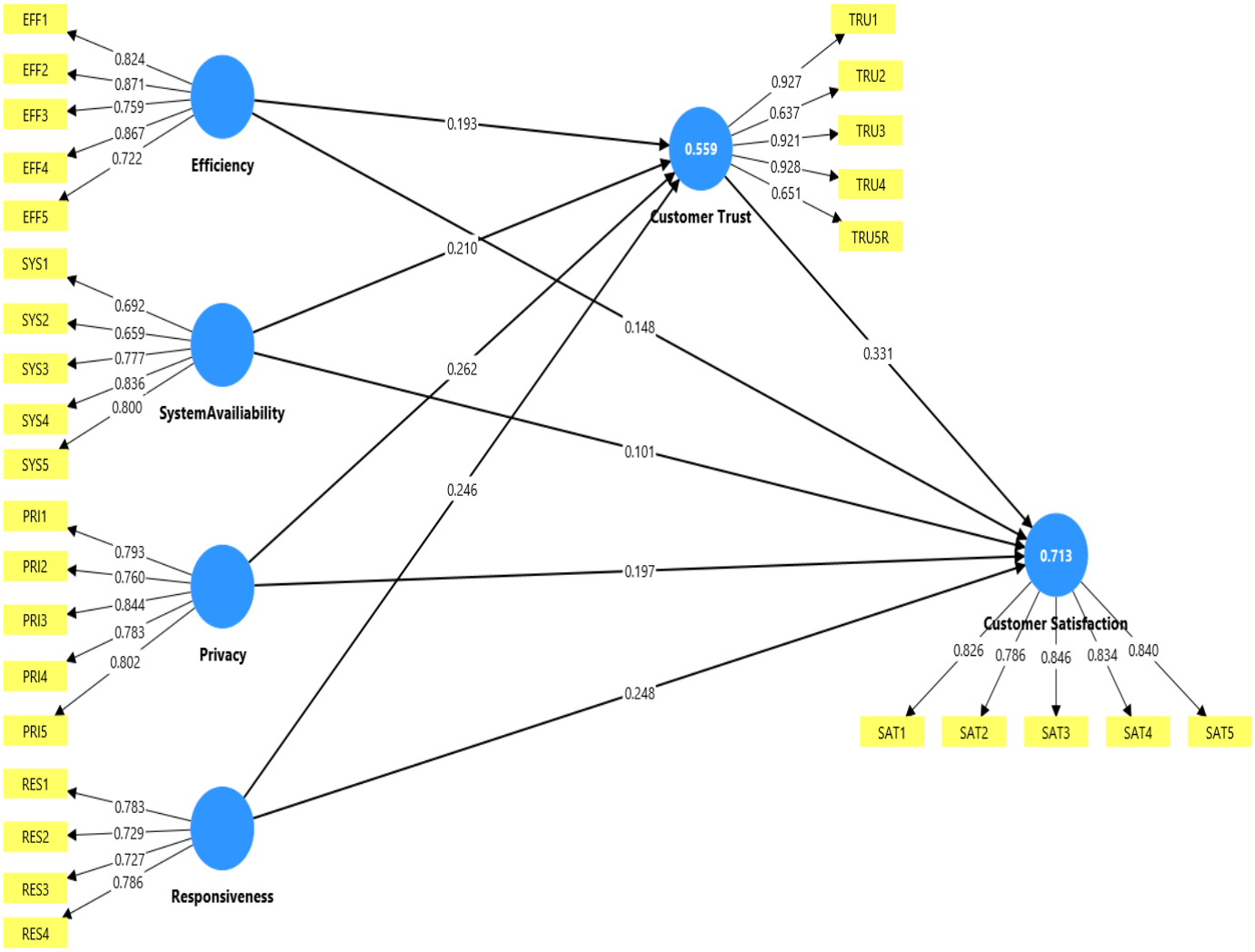
Customer trust recorded a mean score of (M=3.643, SD=0.854, High), indicating that respondents generally expressed confidence in Awash Bank's competence and integrity in digital banking, consistent with institutional trust literature in digital financial services (Gefen et al., 2003). Customer satisfaction recorded a comparable mean score of (M=3.614, SD=0.832, High), suggesting that respondents were generally satisfied with Awash Bank's digital banking services overall, while also indicating room for further improvement. The comparable mean scores of customer trust and customer satisfaction reflect their theoretically expected close relationship consistent with the study's framework positioning trust as the mediating mechanism between digital service quality and satisfaction.

4.5. Measurement Model Assessment (PLS-SEM)

Prior to structural model analysis and hypothesis testing, the measurement model was assessed to evaluate the reliability and validity of all latent construct measurements a necessary prerequisite for meaningful structural model results (Hair et al., 2022). The researcher specified a first-order reflective measurement model comprising six latent constructs: efficiency (EFF), system availability (SYS), privacy (PRI), responsiveness (RES), customer trust (TRU), and customer satisfaction (SAT), each measured through multiple observed indicators (Hair et al., 2022). The analysis was performed using SmartPLS 4.0 (Ringle et al., 2022), selected for its applicability to predictive modeling, complex construct structures, and non-normally distributed data (Hair et al., 2022).

Following the sequential two-phase procedure recommended by Hair et al. (2022), the measurement model assessment covered four stages in order: indicator reliability through outer loadings (λ); internal consistency reliability through Cronbach's Alpha and Composite Reliability; convergent validity through Average Variance Extracted (AVE); and discriminant validity through the Fornell-Larcker criterion and the HTMT ratio. Outer loadings of 0.70 and above are considered acceptable indicators of individual item reliability. Items with loadings between 0.40 and 0.70 may be retained when their removal does not improve the AVE or Composite Reliability of the respective construct, provided the loading exceeds the minimum acceptable threshold of 0.40 (Hair et al., 2022; Hulland, 1999). Figure 4.1 presents the initial PLS-SEM measurement model with all construct paths and indicator loadings.

Figure 4.1: Initial Model of PLS-SEM



4.5.1. Reliability Analysis: Indicator Reliability

The assessment of the measurement model begins with indicator reliability, which is the foundational step in PLS-SEM measurement model evaluation (Hair et al., 2022). Indicator reliability is assessed through outer loadings, which are equivalent to factor loadings (λ) in classical factor analysis and structural equation modeling terminology, representing the standardized relationship between each observed indicator and its corresponding latent construct. Outer loadings of 0.70 and above indicate that the indicator shares at least 49% of its variance with the construct, confirming acceptable indicator reliability (Hair et al., 2022). Items with loadings between 0.40 and 0.70 may be retained when their removal does not improve the construct's Average Variance Extracted or Composite Reliability (Hair et al., 2022; Hulland, 1999). Table 4.8 presents the factor loadings (λ) for all twenty-nine indicators across the six latent constructs.

Table 4.8: Outer/Factor Loadings (λ) of all measurement Indicators model

Construct	**Items**	**Factor Loading (λ)**	**Decision**
Efficiency	EFF1	0.824	Accepted
	EFF2	0.871	Accepted
	EFF3	0.759	Accepted
	EFF4	0.867	Accepted
	EFF5	0.722	Accepted
System availability	SYS1	0.692	Accepted
	SYS2	0.659	Accepted
	SYS3	0.777	Accepted
	SYS4	0.836	Accepted
	SYS5	0.800	Accepted
Privacy	PRI1	0.793	Accepted
	PRI2	0.760	Accepted
	PRI3	0.844	Accepted
	PRI4	0.783	Accepted
	PRI5	0.802	Accepted
Responsiveness	RES1	0.783	Accepted
	RES2	0.729	Accepted
	RES3	0.727	Accepted
	RES4	0.786	Accepted
Customer Trust	TRU1	0.927	Accepted
	TRU2	0.637	Accepted
	TRU3	0.921	Accepted
	TRU4	0.928	Accepted
	TRU5R	0.651	Accepted
Customer Satisfaction	SAT1	0.826	Accepted
	SAT2	0.786	Accepted

	SAT3	0.846	Accepted
	SAT4	0.834	Accepted
	SAT5	0.840	Accepted

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

As shown in Table 4.8, the majority of indicators recorded outer loadings above the 0.70 threshold, confirming good indicator reliability. Efficiency indicators ranged from λ=0.722 to λ=0.871; privacy indicators from λ=0.760 to λ=0.844; customer satisfaction indicators from λ=0.786 to λ=0.846; and responsiveness indicators from λ=0.727 to λ=0.786. Four indicators: SYS1 (λ=0.692), SYS2 (λ=0.659), TRU2 (λ=0.637), and TRU5R (λ=0.651) recorded loadings below 0.70 but were retained for three reasons: their removal did not improve the AVE or Composite Reliability of their respective constructs; all loadings substantially exceeded the minimum acceptable threshold of 0.40; and the AVE and Composite Reliability values of the affected constructs remained within acceptable levels, as confirmed in Table 4.9 (Hair et al., 2022; Hulland, 1999).

4.5.2. Reliability Analysis: Internal Consistency Reliability

To assess the internal consistency of all construct measurements, Cronbach's Alpha (α) and Composite Reliability (CR) were calculated for each latent construct. According to Hair et al., (2022), acceptable internal consistency reliability is attained with a value range from 0.70 to 0.95 in PLS-SEM analysis.

Table 4.9: Internal consistency Reliability Results

Constructs	**Cronbach's alpha**	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**	**Average variance extracted (AVE)**
Customer Satisfaction	0.884	0.885	0.915	0.683
Customer Trust	0.872	0.876	0.911	0.679
Efficiency	0.868	0.874	0.905	0.657
Privacy	0.858	0.880	0.897	0.635
Responsiveness	0.751	0.754	0.843	0.573
System Availability	0.814	0.840	0.868	0.571

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

As presented in Table 4.9, Cronbach's Alpha values ranged from 0.751 to 0.884, and Composite Reliability values ranged from 0.843 to 0.915 all within the acceptable range. Customer satisfaction recorded the highest Cronbach's Alpha (0.884) and Composite Reliability (0.915), followed by customer trust (α=0.872, CR=0.911) and efficiency (α=0.868, CR=0.905). Privacy, system availability, and responsiveness all met the minimum threshold, with Composite Reliability values of 0.897, 0.868, and 0.843 respectively. These results confirm that all six constructs demonstrated sufficient internal consistency reliability to proceed to structural model assessment.

4.5.3. Convergent Validity

Convergent validity is defined as the correlation between items that measure the same latent variable. Convergent validity can only be established when there is sufficient overlap (common variance) among the measures for the same construct (Fornell & Larcker, 1981). The degree to which convergent validity can be supported within the framework of PLS-SEM is evaluated by calculating the Average Variance Extracted (AVE). Convergent validity can be supported when an AVE score equal to or greater than 0.50 indicates that more than half of the variance is explained by the latent variable and it should explain more variance than the common variance explained by the latent variable for its indicators (Fornell and Larcker 1981; Hair et al. 2022).

As indicated in Table 4.8, AVE values for all six of the constructs were all greater than the minimal acceptable value of 0.50. All of the AVE values ranged between 0.571 for system availability and 0.683 for customer satisfaction. The retention of four indicators with loadings marginally below 0.70: SYS1 (0.692), SYS2 (0.659), TRU2 (0.637), and TRU5R (0.651) was justified because the AVE values of their respective constructs remained well above the 0.50 threshold even with these items retained, consistent with the criteria established by Hulland (1999) and Hair et al. (2022). Thus, the measurement model confirms convergent validity for all six constructs.

4.5.4. Discriminant Validity

Discriminant validity assesses whether each construct in the model is empirically distinct from all other constructs (Hair et al., 2022). The researcher evaluated discriminant validity using two complementary criteria: the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. The Fornell-Larcker criterion requires that the square root of each construct's AVE exceeds its highest correlation with any other construct in the model (Fornell & Larcker, 1981). The results of this assessment are presented in Table 4.10.ratio.

Table 4.10: Discriminant Validity (Fornell-Larcker criterion)

	Customer Satisfaction	Customer Trust	Efficiency	Privacy	Responsiveness	System Availability
Customer Satisfaction	**0.826**					
Customer Trust	0.755	**0.824**				
Efficiency	0.651	0.600	**0.811**			
Privacy	0.630	0.586	0.448	**0.797**		
Responsiveness	0.694	0.615	0.591	0.452	**0.757**	
System Availability	0.703	0.661	0.689	0.604	0.653	**0.756**

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

As presented in Table 4.10, the Fornell-Larcker criterion condition was satisfied for all six constructs. The square root of AVE values, shown on the diagonal, ranged from 0.756 (System Availability) to 0.826 (Customer Satisfaction), each exceeding all off-diagonal inter-construct correlations in their respective row and column. For example, Privacy recorded a square root of AVE of 0.797, which exceeded its highest correlation with any other construct, System Availability (0.604). Similarly, Customer Satisfaction recorded a diagonal value of 0.826, exceeding its highest inter-construct correlation with Customer Trust (0.755). These results confirm adequate discriminant validity for all six constructs according to the Fornell-Larcker criterion. However, consistent with Hair et al. (2022) and Henseler et al. (2015), the HTMT ratio was additionally employed as the primary discriminant validity criterion, as it has been shown to be more sensitive and reliable than the Fornell-Larcker criterion in detecting discriminant validity failures in PLS-SEM.

The Heterotrait-Monotrait ratio (HTMT) was adopted as the principal criterion for assessing discriminant validity, as it has been shown to be more sensitive to discriminant validity failures than the Fornell-Larcker criterion when using PLS-SEM (Henseler et al., 2015). Hair et al. (2022) state that discriminant validity is confirmed if the HTMT value is below 0.90, and that a more conservative threshold of 0.85 may be applied when constructs are conceptually very close to one another. The HTMT results for all construct pairs are presented in Table 4.11.

Table 4.11: Discriminant Validity (Heterotrait-Monotrait (HTMT) Ratio)

	Customer Satisfaction	Customer Trust	Efficiency	Privacy	Responsiveness	System Availability
Customer Satisfaction	-					
Customer Trust	**0.855**	-				
Efficiency	0.735	**0.687**	-			
Privacy	0.692	0.645	**0.488**	-		
Responsiveness	0.851	0.761	0.732	**0.530**	-	
System Availability	0.798	0.751	0.806	0.682	**0.829**	-

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

As Table 4.11 shows, all HTMT values were below the 0.90 threshold, ranging from 0.488 (Privacy–Efficiency) to 0.855 (Customer Trust–Customer Satisfaction), confirming discriminant validity across all six constructs. Two construct pairs, however, exceeded the more conservative 0.85 threshold: Customer Trust–Customer Satisfaction (0.855) and Responsiveness–Customer Satisfaction (0.851). Both remain well within the 0.90 threshold applied by Hair et al. (2022) as the standard confirmatory cutoff, and their elevation is theoretically understandable rather than indicative of a measurement problem.

The Trust and Satisfaction relationship is well established in digital banking service literature (Gefen et al., 2003; Morgan & Hunt, 1994); although the two constructs are closely related, they remain conceptually and empirically different; because, Trust reflects a customer's confidence in the bank's integrity and capability, while Satisfaction reflects an evaluation of the service experience itself (Oliver, 2014). Similarly, the Responsiveness and Satisfaction elevation is consistent with prior findings that speed of service is a direct antecedent of customer satisfaction (Parasuraman et al., 2005). All remaining construct pairs fell below the conservative 0.85 threshold, providing further support for clear discrimination among constructs. Taken together, these findings indicate that the six latent constructs in the measurement model were empirically distinct from one another, satisfying discriminant validity before structural model testing (Hair et al., 2022).

4.5.5. Measurement Model Assessment Summary

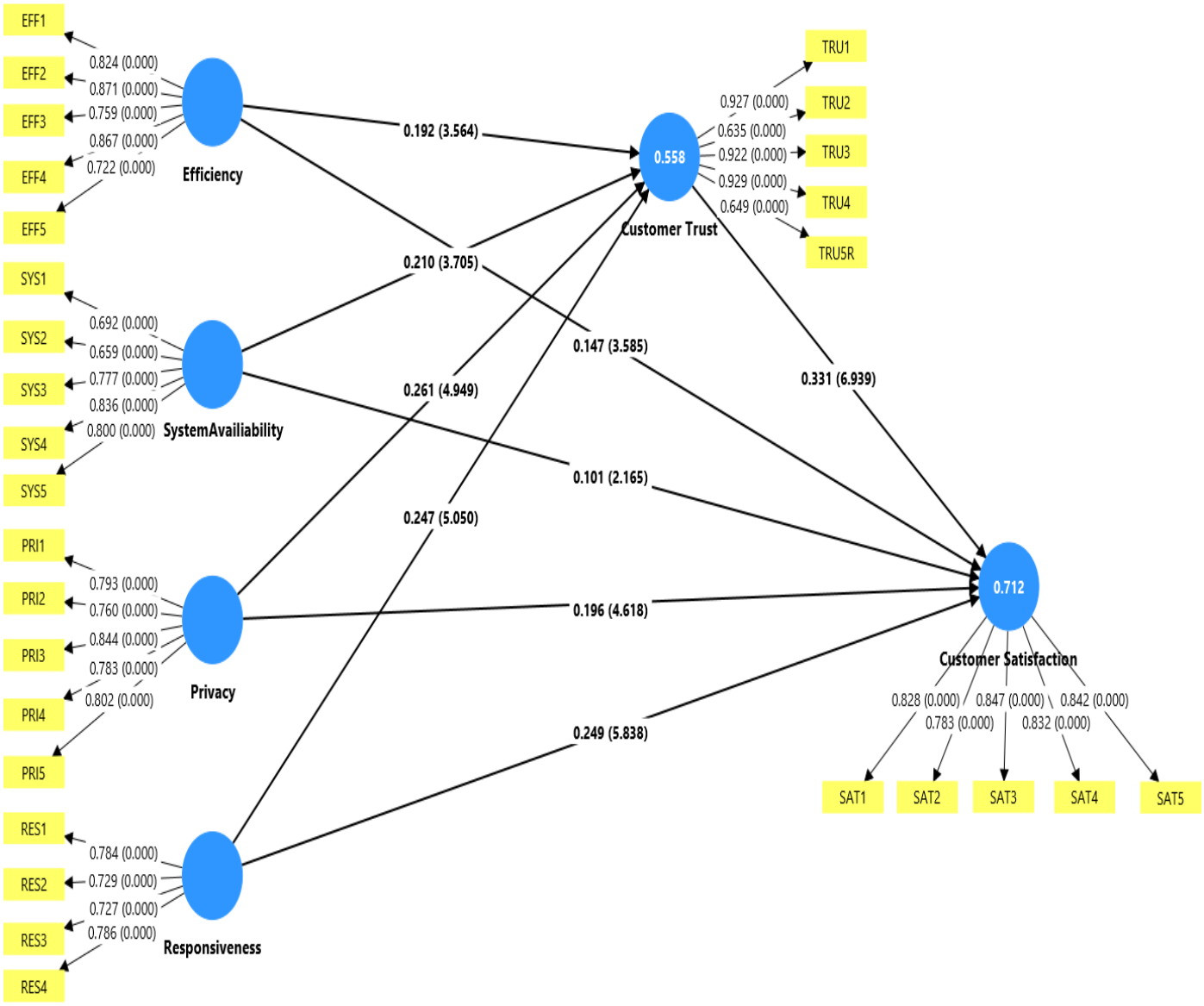
The measurement model assessment evaluated the reliability and validity of six latent constructs: Efficiency (EFF), System Availability (SYS), Privacy (PRI), Responsiveness (RES), Customer Trust (TRU), and Customer Satisfaction (SAT), following the four-step procedure recommended by Hair et al. (2022). First, indicator reliability was assessed through outer loadings /factor loadings (λ), with the majority of the twenty-nine indicators exceeding the 0.70 threshold; four indicators (SYS1, SYS2, TRU2, and TRU5R) recorded loadings between 0.40 and 0.70 and were retained, as their removal did not improve the Average Variance Extracted (AVE) or Composite Reliability of their respective constructs (Hair et al., 2022; Hulland, 1999). Second, internal consistency reliability was established, as Cronbach's Alpha values ranged from 0.751 to 0.884 and Composite Reliability values ranged from 0.843 to 0.915, all within the acceptable range of 0.70 to 0.95 (Hair et al., 2022).

Third, convergent validity was confirmed, as all AVE values exceeded the 0.50 threshold, ranging from 0.571 to 0.683 (Fornell & Larcker, 1981). Fourth, discriminant validity was established through the Fornell-Larcker criterion and the HTMT ratio, with all HTMT values falling below the 0.90 threshold (Hair et al., 2022; Henseler et al., 2015), the highest being 0.855 between Customer Trust and Customer Satisfaction, followed by 0.851 between Responsiveness and Customer Satisfaction, both within the 0.90 threshold applied. These results collectively confirm that the measurement model satisfies all reliability and validity requirements, establishing a solid foundation for structural model assessment and hypothesis testing.

4.6. Structural Model Assessment

Having confirmed that the measurement model satisfied all reliability and validity requirements, the structural model was assessed to examine the strength and significance of the hypothesized relationships between constructs and to evaluate the model's overall predictive capability (Hair et al., 2022). Statistical significance of path coefficients was determined using PLS-SEM bootstrapping with 5,000 subsamples, applying a two-tailed test at the 95% confidence level (critical t-value ≥ 1.96, $p < 0.05$), following the recommendation of Hair et al. (2022). The structural model assessment covered five components: multicollinearity testing, path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Figure 4.2 presents the structural model with the resulting path coefficients and bootstrapped t-values.

Figure 4.2: Structural Model with Path Coefficients and t-Values



4.6.1. Multicollinearity Testing

Multicollinearity was assessed Multicollinearity was assessed using the Variance Inflation Factor (VIF) and Tolerance values to ensure that predictor constructs were not excessively correlated, as high multicollinearity distorts path coefficient estimates (Hair et al., 2022). VIF values below 5.0 and Tolerance values above 0.20 indicate acceptable multicollinearity levels, with a more conservative VIF threshold of 3.3 and below recommended for inner model assessment; this stricter threshold was applied in this study (Hair et al., 2022). The VIF and Tolerance results are presented in Table 4.

Table 4.12: Multicollinearity Test (VIF Values)

Path	VIF	Tolerance (1/VIF)	Result
Customer Trust →Customer Satisfaction	2.263	0.442	Accepted
Efficiency →Customer Satisfaction	2.124	0.471	Accepted
Efficiency →Customer Trust	2.041	0.490	Accepted
Privacy →Customer Satisfaction	1.744	0.573	Accepted
Privacy →Customer Trust	1.590	0.629	Accepted
Responsiveness →Customer Satisfaction	2.017	0.496	Accepted
Responsiveness →Customer Trust	1.879	0.532	Accepted
System Availability →Customer Satisfaction	2.841	0.352	Accepted
System Availability →Customer Trust	2.741	0.365	Accepted

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

The results show that all VIF values ranged from 1.590 (Privacy to Customer Trust) to 2.841 (System Availability to Customer Satisfaction), and all Tolerance values ranged from 0.352 to 0.629, well within acceptable thresholds. No construct pair exceeded the conservative threshold of 3.3, confirming the absence of multicollinearity and ensuring that all path coefficient estimates are reliable and unbiased (Hair et al., 2022).

4.6.2. Path Coefficients (Direct Effects)

Path coefficients (β) indicate the strength and direction of the hypothesized relationships between latent constructs in the structural model. According to Hair et al. (2022), path coefficients with t-statistics exceeding the critical value of 1.96 and p-values below 0.05 are considered statistically significant under a two-tailed bootstrapping test with 5,000 subsamples. Nine direct paths were examined across three groups: the effects of the four digital service quality dimensions on customer trust, the effects of the same four dimensions (efficiency, system availability, privacy, and responsiveness) on customer satisfaction, and the effect of customer trust on customer satisfaction. The results are presented in Table 4.13.

Table 4.13: Path Coefficients and Bootstrapping Results

Path	β	Mean	STDEV	T Stat	P values	Results
Efficiency →Customer Satisfaction	0.147	0.145	0.041	3.585	0.000	Supported
System Availability → Customer Satisfaction	0.101	0.103	0.047	2.165	0.030	Supported
Privacy →Customer Satisfaction	0.196	0.197	0.042	4.618	0.000	Supported
Responsiveness →Customer Satisfaction	0.249	0.250	0.043	5.838	0.000	Supported
Efficiency →Customer Trust	0.192	0.192	0.054	3.564	0.000	Supported
System Availability → Customer Trust	0.210	0.210	0.057	3.705	0.000	Supported
Privacy →Customer Trust	0.261	0.262	0.053	4.949	0.000	Supported
Responsiveness →Customer Trust	0.247	0.246	0.049	5.050	0.000	Supported
Customer Trust →Customer Satisfaction	0.331	0.329	0.048	6.939	0.000	Supported

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

The results show that all path coefficients were positive and statistically significant, providing support for the research framework and confirming hypotheses. The effects of the digital service quality dimensions on customer trust ranged from β=0.192 (Efficiency, $p<0.001$) to β=0.261 (Privacy, $p<0.001$), while their effects on customer satisfaction ranged from β=0.101 (System Availability, p=0.030) to β=0.249 (Responsiveness, $p<0.001$). Customer Trust demonstrated a significant positive effect on Customer Satisfaction (β=0.331, t=6.939, $p<0.001$) and the strongest path coefficient in the model. Notably, System Availability recorded the lowest path coefficient to Customer Satisfaction (β=0.101, t=2.165, p=0.030), which, while statistically significant, suggests a comparatively weaker direct influence on satisfaction relative to other dimensions.

4.6.3. Coefficient of Determination (R^2)

The Coefficient of Determination (R^2) represents how much of the variance in each endogenous construct is explained by its predictors, and reflects the predictive power of the structural model.

According to Hair et al. (2022), R^2=0.75 indicates substantial, R^2=0.50 indicate moderate and R^2=0.25 indicate weak predictive accuracy.

Table 4.14: Coefficient of Determination (R^2)

Endogenous Construct	**R-square**	**R-square adjusted**
Customer Satisfaction	0.712	0.708
Customer Trust	0.558	0.554

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026. $R^2 \geq 0.75$ = Substantial, $R^2 \geq 0.50$ = Moderate, $R^2 \geq 0.25$ = Weak (Hair et al., 2022).

As illustrated in Table 4.14, the endogenous mediator is Customer Trust with R^2=0.558, showing that the four dimensions of digital service quality accounted for 55.8% variance of endogenous mediator, which means moderate predictive validity for endogenous mediator. According to existing research which also studies mediation with endogenous mediator in digital banking setting, the R^2 values for endogenous mediator range between 0.45 to 0.62 (Gefen et al., 2003; Alalwan et al., 2017), which means the findings are consistent with this studies. For the remaining 44.2%, we can say there are other factors that are responsible for the variance in trust, such as brand reputation, user familiarity with digital banking (Gefen et al., 2003).

The last endogenous dependent construct is Customer Satisfaction with R^2=0.712. For endogenous dependent variable Customer Satisfaction, we can see that the four digital banking service quality dimensions and endogenous mediator Customer Trust accounted for 71.2% of its variance, indicating that a considerable predictive validity was obtained. The value 0.712 passes the threshold of moderate standard (R^2>=0.5) and closes to substantial standard (R^2>=0.75) (Hair et al., 2022). The result strongly supported our argument that Customer Trust act as a key mediator through which the dimensions of digital service quality could influence Customer Satisfaction. This finding is similar to Tweneboah-Koduah & Farley (2016) that reported R^2 value 0.68 for Customer Satisfaction in the study of Ghanaian banking with Trust as endogenous mediating construct. And adjusted R values of Customer Trust (0.554) and Customer Satisfaction (0.708) are quite close to their values of R (0.558 and 0.712), showing that the problem of overfitting is likely not an issue and all predictor variables contributed significantly to the model (Hair et al., 2022).

4.6.4. Effect Size (f^2)

As stated before, the path coefficients are statistically significant; the value of f^2 represents the actual contribution of each predictor to R^2 of endogenous latent variables. According to Hair et al. (2022), effect size (f^2) of 0.02, 0.15 and 0.35 refer to small, medium and large effects respectively.

Table 4.15: Summary of Effect Size (f2) Results

Predictor Variable	**Target Variable**	**f^2 Value**
Customer Trust	Customer Satisfaction	0.168
Responsiveness	Customer Satisfaction	0.107
Privacy	Customer Satisfaction	0.076
Efficiency	Customer Satisfaction	0.035
System Availability	Customer Satisfaction	0.021
Privacy	Customer Trust	0.097
Responsiveness	Customer Trust	0.073
Efficiency	Customer Trust	0.041
System Availability	Customer Trust	0.036

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026. $f^2 \geq 0.02$ = Small, $f^2 \geq 0.15$ = Medium, $f^2 \geq 0.35$ = Large (Hair et al., 2022).

Customer Trust had the most influence over Customer Satisfaction (f^2=0.168, medium) indicating that it is indeed the crucial intermediary in the model. This finding is in consistent with commitment-trust theory (Morgan & Hunt, 1994) stating trust is the key mechanism through which digital banking service quality perceptions translate to sustained satisfaction. Among digital banking service quality dimension, Responsibility had the highest impact on Customer Satisfaction (f^2=0.107, small) followed by Privacy (f^2=0.076, small), Efficiency (f^2=0.035, small), and System Availability (f^2=0.021, small). While, the impact on Customer Trust, Privacy had highest contribution (f^2=0.097, small) followed by Responsiveness (f^2=0.073, small), System Availability (f^2=0.036, small), and Efficiency (f^2=0.041, small). All effects were found to be small for the digital banking service quality dimensions but the contribution to explaining the variation on both endogenous variables was substantial as shown by the moderate and large R^2 values in Section

4.6.3. Overall, Customer Trust had highest impact followed by other digital service quality dimensions on Customer Satisfaction. Digital service quality dimensions have individually smaller impact, but combined their effects on Customer Satisfaction and Customer Trust are significant.

4.6.5. Predictive Relevance (Q^2)

In addition to R^2 assessment, out-of-sample predictive relevance was evaluated using the PLSpredict procedure in SmartPLS 4.0, as recommended by Hair et al. (2022) for assessing the model predictive accuracy beyond the estimation sample. PLS predict employs a k-fold cross-validation approach in this study using 10 folds and 10 repetitions to generate Q^2predict values for each endogenous construct. Following Hair et al. (2022), Q^2predict values above zero indicate predictive relevance, with values above 0.25 indicating medium and values above 0.50 indicating large predictive relevance. Additionally, Root Mean Square Error (RMSE) and Mean Absolute Error (MAE) are reported as supplementary indicators of prediction error magnitude, where lower values indicate higher predictive accuracy (Hair et al., 2022).

Table 4.16: Summary of Predictive Relevance (Q2Results)

Endogenous Construct	**Q^2predict**	**RMSE**	**MAE**
Customer Trust	0.544	0.679	0.503
Customer Satisfaction	0.653	0.593	0.444

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026. Q^2predict > 0 = Small, > 0.25 = Medium, > 0.50 = Large predictive relevance (Hair et al., 2022).

The result shows both endogenous constructs achieved Q^2predict values exceeding the large predictive relevance threshold of 0.50. Customer Trust recorded Q^2predict=0.544 and Customer Satisfaction recorded Q^2predict=0.653, both demonstrating large out-of-sample predictive relevance. The relatively RMSE and MAE values Customer Trust (RMSE=0.679, MAE=0.503) and Customer Satisfaction (RMSE=0.593, MAE=0.444), further confirm the model's strong predictive accuracy. Notably, Customer Satisfaction achieved higher predictive relevance than Customer Trust, which is consistent with the higher R^2=0.712 reported in Section 4.6.3. Combined with the R^2 results, these findings confirm that the structural model possesses strong predictive accuracy and out-of-sample relevance for both endogenous constructs in the Awash Bank digital banking service context (Hair et al., 2022).

4.7. Mediation Analysis

The mediating role of Customer Trust was assessed using the specific indirect effects approach in PLS-SEM, executed through bootstrapping with 5,000 sub-samples in SmartPLS 4.0, following Hair et al. (2022). For each of the four digital banking service quality dimensions, a specific indirect effect was calculated as the product of two path coefficients: the path from the dimension to Customer Trust multiplied by the path from Customer Trust to Customer Satisfaction. Statistical significance of each indirect effect was determined by whether the bootstrapped t-statistic exceeded 1.96 and the p-value fell below 0.05 under a two-tailed test. The simultaneous significance of both the direct effects (dimension → satisfaction) and the indirect effects (dimension → trust → satisfaction) for all four dimensions confirmed partial mediation, consistent with the criteria established by Hair et al. (2022).

Table 4.17: Summary of Mediation Analysis (Specific Indirect effects)

Path	**Indirect Effect (β)**	**Direct Effect (β)**	**T statistics**	**P values**	**Mediation Type**
Efficiency → Customer Trust → Customer Satisfaction	0.064	0.147	3.001	0.003	Partial
Privacy →Customer Trust → Customer Satisfaction	0.086	0.196	4.069	0.000	Partial
Responsiveness →Customer Trust →Customer Satisfaction	0.082	0.249	4.413	0.000	Partial
System Availability →Customer Trust →Customer Satisfaction	0.069	0.101	3.168	0.002	Partial

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

4.7.1. Test of the Mediating Role of Customer Trust

The mediation analysis examined the role of Customer Trust as a mediator between the four digital banking service quality dimensions and Customer Satisfaction, directly addressing Research Question 4 and Hypothesis H4. Following Hair et al. (2022), mediation was tested using PLS-SEM bootstrapping with 5,000 sub-samples through specific indirect path significance testing. A path is considered significant when t-statistic exceeds 1.96 and p-value is below 0.05 (Hair et al., 2022).

As evident in Table 4.17, all four specific indirect effects were significant, thus Customer Trust mediates the relationship between each digital banking service quality dimension and customer satisfaction. Privacy had the largest indirect effect on Customer Satisfaction through Customer Trust (=0.086, t=4.069, p<0.001), which means customers who felt more protected in privacy led to higher levels of institutional trust, which led to higher satisfaction. Responsiveness was second (=0.082, t=4.413, p<0.001), meaning that perceived responsiveness to digital banking services has a positive influence on trust building and subsequently customer satisfaction. System availability was next with (=0.069, t=3.168, p=0.002) while efficiency had the lowest indirect effect (=0.064, t=3.001, p=0.003), but both are significant.

The simultaneous significance of both direct effects of digital banking service quality dimensions and indirect effects through Customer Trust confirms partial mediation for all four digital banking service quality dimensions, consistent with the criteria established by Hair et al. (2022). This means Customer Trust does not fully replace the direct influence of digital banking service quality dimensions on Customer Satisfaction rather, digital service quality influences satisfaction through two simultaneous pathways: a direct technical pathway and an indirect trust-mediated psychological pathway. These results provide full support for H4, confirming that Customer Trust positively and significantly mediates the relationship between digital banking service quality dimensions (Efficiency, System Availability, Privacy, and Responsiveness) and Customer Satisfaction among Awash Bank customers in Addis Ababa.

4.7.2. Direct vs. Indirect Effects

The direct effects of the digital banking service quality dimensions on Customer Satisfaction, as reported in Table 4.13, remained statistically significant even after accounting for the mediating role of Customer Trust; Efficiency (β=0.147), System Availability (β=0.101), Privacy (β=0.196), and Responsiveness (β=0.249). This implies that Efficiency of transactions, availability of the system, privacy of the system and responsiveness of services give users direct satisfaction irrespective of the level of customers institutional trust towards Awash Bank. With regard to indirect effect of dimensions of digital banking service quality on Customer Satisfaction: Efficiency (0.064), System Availability (0.069), Privacy (0.086), and Responsiveness (0.082) show that part of the impact of each dimension on Customer Satisfaction mediated by Customer Trust. Customers who had higher perceptions of quality perceived higher trust toward the bank's honesty and reliability, which led them to feel more satisfied with services of Awash Bank. This

shows that it is possible to improve customer satisfaction by increasing perceived institution trustworthiness alongside performance variables, consistent with (Morgan & Hunt, 1994; Gefen et al., 2003).

4.7.3. Type of Mediation: Partial Mediation

The presence of both the direct and indirect effects in the analysis was significant at 5% level (as both P values are less than 0.05) the conditions proposed by Hair et al. (2022) in terms of the existence of partial mediation. Customer Trust is identified as the mediator of digital service quality dimensions to customer satisfaction and these digital banking service quality dimensions also have a direct technical affect and mediated indirectly through customer trust (i.e., it depends on cumulative psychological trust) that users has developed on the digital banking service quality dimensions of Awash Bank's digital platforms.

This result is well in line with the Commitment-Trust Theory (Morgan & Hunt, 1994) which states that trust is the central mediator of service quality perceptions into satisfying outcomes, and it is similar with the similar finding regarding studies in African digital banking contexts where customer trust was also found to be a partial mediator of service quality and customer satisfaction (Mensah et al. 2020; Tweneboah-Koduah and Farley 2016). In sum, the results show that H4, is fully supported; i.e., Customer Trust positively and significantly mediates the effect of digital banking service quality dimensions on customer satisfaction for the customers of Awash Bank in Addis Ababa.

4.8. Hypothesis Testing

This section provides a consolidated summary of all hypothesis testing results based on the PLS-SEM structural model and mediation analysis presented in Sections 4.6 and 4.7. Statistical significance was determined using bootstrapping with 5,000 sub-samples, with path coefficients considered significant when t-statistics exceeded the critical value of 1.96 and p-values fell below 0.05 under a two-tailed test (Hair et al., 2022). Although H1, H2, and H4 were stated at the construct level in Chapter One, referring to digital banking service quality collectively and the PLS-SEM model operationalizes digital banking service quality through four distinct first-order dimensions: Efficiency (EFF), System Availability (SYS), Privacy (PRI), and Responsiveness (RES). Consistent with Hair et al. (2022) and Parasuraman et al. (2005), each dimension was treated as a separate exogenous construct with individual paths to both Customer Trust and

Customer Satisfaction. Accordingly, H1 is evaluated through four dimension-level paths (H1a–H1d), H2 through four dimension-level paths (H2a–H2d), and H4 through four specific indirect paths (H4a–H4d). This dimension-level approach provides more granular empirical evidence than a single aggregate test while remaining fully consistent with the conceptual intent of H1, H2, and H4 as stated in Chapter one.

Table 4.18: Summary of All Hypothesis Testing Results

Hypothesis	**path**	**Result (β)**	**T-Statistics**	**P-Value**	**Supported/ Not**
H1a	Efficiency →Customer Satisfaction	0.147	3.585	0.000	Supported
H1b	System Availability→ Customer Satisfaction	0.101	2.165	0.030	Supported
H1c	Privacy → Customer Satisfaction	0.196	4.618	0.000	Supported
H1d	Responsiveness → Customer Satisfaction	0.249	5.838	0.000	Supported
H2a	Efficiency →Customer Trust	0.192	3.564	0.000	Supported
H2b	System Availability→ Customer Trust	0.210	3.705	0.000	Supported
H2c	Privacy →Customer Trust	0.261	4.949	0.000	Supported
H2d	Responsiveness → Customer Trust	0.247	5.050	0.000	Supported
H3	Customer Trust→ Customer Satisfaction	0.331	6.939	0.000	Supported
H4a	Efficiency →Customer Trust →Customer Satisfaction	0.064	3.001	0.003	Supported
H4b	System Availability→ Customer Trust →Customer Satisfaction	0.069	3.168	0.002	Supported

H4c	Privacy →Customer Trust →Customer Satisfaction	0.086	4.069	0.000	Supported
H4d	Responsiveness →Customer Trust→ Customer Satisfaction	0.082	4.413	0.000	Supported

Source: Data from researcher survey analyzed using SmartPLS 4.0, 2026.

As presented in Table 4.18, all thirteen hypothesized paths were supported at the 5% significance level. While direct effect path coefficients are reported in detail in Table 4.13 and indirect effects in Table 4.17, Table 4.18 integrates both direct and indirect effects to provide a complete picture of all hypothesized relationships including mediation paths H4a–H4d.

4.9. Discussion of Findings

This section discusses the findings obtained in relation to the research objectives and hypotheses, and situates them within the empirical literature reviewed in Chapter Two. The results are interpreted within the Ethiopian digital banking context and compared against prior findings.

4.9.1. Effect of DBSQ Dimensions on Customer Satisfaction (H1)

All four digital banking service quality dimensions had a statistically significant direct impact on customer satisfaction, providing support for H1 (H1a to H1d). Among the dimensions, Responsiveness had the highest direct impact (β=0.249) on customer satisfaction, followed by Privacy (β=0.196), Efficiency (β=0.147), and System Availability (β=0.101). These results are in line with Bashir et al. (2023) and Gautam & Sah (2023), in the sense that digital banking service quality dimensions are dominant antecedents of customer satisfaction.

It is also notable that Responsiveness is the strongest predictor of customer satisfaction. Although Responsiveness recorded a high mean score (M=3.465) in the descriptive analysis, it produced the largest direct effect on customer satisfaction (β=0.249); this indicates that even a small improvement in digital service delivery time, problem resolution speed, and assistance quality can generate a disproportionately high degree of customer satisfaction among Awash Bank's digital users. This finding supports Parasuraman et al. (2005), who identified the importance of the Responsiveness dimension in generating higher customer satisfaction in electronic service contexts. By contrast, system availability recorded both the lowest mean score (M=3.384) and the weakest direct association with customer satisfaction (β=0.101) among the four dimensions,

indicating that improving system availability represents the most operationally critical priority for Awash Bank. Although the relationship remains statistically significant, the comparatively weak association suggests that system availability currently functions as a hygiene factor and its absence is associated with immediate dissatisfaction, but its presence alone does not meaningfully differentiate higher satisfaction levels among users (Lama & Kayestha, 2025).

This weak performance is not only attributable to Awash Bank's internal platform management. Ethiopia's digital banking sector operates within a broader infrastructure environment characterized by a legacy of single-provider telecommunications dependency and recurring power supply disruptions (NBE, 2024), both of which constrain system uptime in ways that lie substantially outside any individual bank's direct control. This structural context helps explain why system availability underperforms relative to the other three dimensions and suggests that meaningful improvement may depend as much on sector-wide infrastructure development as on Awash Bank's own technical investment.

4.9.2. Effect of DBSQ Dimensions on Customer Trust (H2)

All four digital banking service quality dimensions demonstrated significant positive associations with customer trust, supporting H2 (H2a to H2d). Privacy demonstrated the strongest association with customer trust (β=0.261), followed by Responsiveness (β=0.247), System Availability (β=0.210), and Efficiency (β=0.192). This pattern is consistent with the information-intensive and security-sensitive nature of digital banking services (Singhal et al., 2025), where customers appear to weigh privacy most heavily when forming trust judgments.

Privacy's strongest association with customer trust is theoretically grounded in Signal Theory (Spence, 1973), which posits that under conditions of information asymmetry, observable signals allow one party to infer unobservable qualities of another. In digital banking, visible privacy and data-protection mechanisms such as authentication protocols, encryption indicators, and data-handling disclosures, function as credibility signals through which customers assess the trustworthiness of the bank without direct knowledge of its internal security infrastructure. This signaling function is particularly consequential in low-trust digital environments, where customers cannot directly verify a provider's technical safeguards and must instead rely on visible cues to form trust judgments (Spence, 1973). Privacy also recorded the highest mean score among the four dimensions (M=3.865), suggesting that Awash Bank's existing security mechanisms are already

well-perceived by customers though continued strengthening of these mechanisms remains important for sustaining institutional trust. This is consistent with Wang et al. (2024), who found that data security mechanisms serve as a vital institutional trust signal in digital financial service environments, which is a signal that appears especially critical in Ethiopia's developing digital banking context, where cybersecurity awareness has grown substantially in recent years.

4.9.3. Effect of Customer Trust on Customer Satisfaction (H3)

Customer trust was positively and significantly associated with customer satisfaction (β=0.331), supporting H3, and representing the strongest association among all hypothesized direct relationships in the structural model. This is consistent with Singhal et al. (2025) and Redda (2023), who empirically established trust as one of the most dominant psychological antecedents of satisfaction in online financial services. The finding is theoretically grounded in the Commitment-Trust Theory (Morgan & Hunt, 1994), which positions trust as the key relational mechanism linking perceived service quality to lasting satisfaction outcomes.

In the Ethiopian context, customers may still high concerns about the trustworthiness of digital platforms and the security of their personal data. Accordingly, customer trust can be understood as the psychological mechanism through which technical service quality perceptions are translated into overall satisfaction and extending beyond the direct functional effects of service delivery. The high mean score for customer trust (M=3.643), combined with its strong path coefficient to customer satisfaction (β=0.331), indicates that trust-building initiatives at Awash Bank are likely to be associated with considerably higher customer satisfaction levels.

4.9.4. Mediating Role of Customer Trust (H4)

The mediation analysis confirmed that customer trust partially mediates the relationship between all four digital banking service quality dimensions and customer satisfaction, supporting H4 (H4a to H4d). The specific indirect effect of each dimension ranged from the smallest β=0.064 for efficiency to the largest β=0.086 for privacy, with all indirect effects statistically significant ($p<0.05$). This partial mediation indicates that customers experience satisfaction with digital banking through two concurrent pathways: a direct technical pathway reflecting immediate functional service experience, and an indirect psychological pathway mediated by trust, reflecting longer-term institution-based confidence.

This result is consistent with Singhal et al. (2025) and Wang et al. (2024), who similarly found that trust mediates the relationship between digital service quality and satisfaction in digital banking environments. Theoretically, this finding supports the Commitment-Trust Theory (Morgan & Hunt, 1994) and positions trust as a mechanism that amplifies, rather than replaces, the association between technical service quality and customer satisfaction.

The partial mediation result reflects the dual nature of satisfaction formation in Awash Bank's digital banking environment, whereby users experience immediate satisfaction from functional digital service quality while simultaneously building trust-based satisfaction through accumulated positive service interactions. This finding contributes original empirical evidence from Ethiopia's private commercial banking sector to the broader trust-mediation literature and provides the empirical foundation for the conclusions and recommendations presented in Chapter Five.

Chapter 5: Summary, Conclusions and Recommendations

5.1. Introduction

This chapter presents a summary of the study's findings, conclusions, and recommendations based on the empirical results presented in Chapter Four. The chapter begins with a summary of the research problem, objectives, methodology, and principal findings, followed by conclusions drawn from the hypothesis testing results. Recommendations are then provided for Awash Bank management, policymakers, and other stakeholders, grounded in the empirical evidence generated through the analysis. The chapter concludes with an acknowledgment of the study's limitations and directions for future research.

5.2. Summary of the Study

The objective of this research was to examine the mediating role of customer trust in the relationship between digital banking service quality dimensions and customer satisfaction among active digital banking users of Awash Bank in Addis Ababa. The study was motivated by the rapid evolution of digital banking services in Ethiopia and the persistent lack of customer trust in the country's emerging digital financial services environment. The four dimensions of digital banking service quality: efficiency, system availability, privacy, and responsiveness were examined as predictors of both customer trust and customer satisfaction, with customer trust investigated as the mediating variable. A quantitative explanatory research design was adopted, and data were collected from 411 usable responses obtained from active digital banking users across four selected Awash Bank branches: Megenagna, Bole, Legehar, and Addis Ketema. Data were analyzed using PLS-SEM via SmartPLS 4.0, with bootstrapping of 5,000 subsamples to assess statistical significance.

The empirical results showed that all four digital banking service quality dimensions: efficiency, system availability, privacy, and responsiveness had significant and positive direct associations with both customer trust and customer satisfaction. Privacy was the strongest predictor of customer trust (β=0.261), while responsiveness demonstrated the strongest direct association with customer satisfaction (β=0.249). Customer trust was positively and significantly associated with customer satisfaction (β=0.331), representing the strongest path in the structural model. The structural model explained a moderate to substantial proportion of variance in both customer trust (R^2=0.558) and customer satisfaction (R^2=0.712), indicating strong predictive accuracy. Mediation analysis

confirmed that customer trust partially mediated the relationship between each of the four digital banking service quality dimensions and customer satisfaction, with specific indirect effects ranging from β=0.064 (efficiency) to β=0.086 (privacy), all statistically significant. In total, thirteen hypothesized paths were supported at the 5% significance level.

5.3. Conclusions

This study examined the mediating role of customer trust in the relationship between digital banking service quality dimensions and customer satisfaction among active digital banking users of Awash Bank in Addis Ababa, Ethiopia. Using a quantitative explanatory design and PLS-SEM analysis, the empirical results, summarized in Section 5.2, addressed all four research questions and supported all four hypotheses formulated in Chapter One.

The finding that all four digital banking service quality dimensions significantly predict both trust and satisfaction (H1, H2) and Responsiveness was the strongest direct predictor of satisfaction, is consistent with digital service quality literature in developing digital economy contexts, where prompt problem resolution is particularly valued given infrastructure uncertainties (Gautam & Sah, 2023; Parasuraman et al., 2005). Privacy's position as the strongest predictor of trust is consistent with Signal Theory (Spence, 1973), which holds that visible security mechanisms function as institutional credibility signals in low-trust digital environments, underscoring the particular importance of data protection and security assurance in Ethiopia's emerging digital banking context, where cybersecurity concerns remain a significant barrier to digital adoption (Wang et al., 2024; NBE, 2024).

Customer trust's role as the strongest predictor of satisfaction (H3) is theoretically grounded in Commitment-Trust Theory (Morgan & Hunt, 1994), which positions trust as the relational mechanism linking service quality perceptions to lasting satisfaction outcomes. The confirmed partial mediation of trust across all four 7digital banking service quality dimensions (H4) indicates that digital banking service quality influences customer satisfaction through two concurrent pathways: a direct technical pathway reflecting immediate functional service experience, and an indirect, trust-mediated psychological pathway reflecting the institutional confidence customers accumulate through repeated positive interactions. This partial mediation finding contributes original empirical evidence from Ethiopia's private commercial banking sector to the broader trust-mediation literature.

In sum, this study demonstrates that technical service quality alone does not maximize customer satisfaction in Ethiopia's digital banking environment; customer trust operates as an additional psychological mechanism that strengthens the digital service quality and satisfaction relationship at the level of each individual dimension rather than in aggregate. For Awash Bank and Ethiopia's broader digital banking sector, these results indicate that sustainable customer satisfaction requires a dual focus: continued improvement of technical service quality alongside deliberate cultivation of trust through privacy protection, security assurance, and responsive customer support. System availability's comparatively weaker performance across both pathways reflects not only Awash Bank's platform performance but also broader telecommunications and energy infrastructure constraints in Ethiopia's digital banking environment, including single-provider telecommunications dependency and recurring power supply disruptions; structural factors outside any individual bank's control that constitute a systemic challenge for the sector as a whole, warranting attention from regulators, policymakers, and telecommunications providers alongside bank management.

5.4. Recommendations

5.4.1. Practical Recommendations for Awash Bank

Prioritize Privacy and Security as the Foundation of Customer Trust

Given that privacy emerged as the strongest predictor of customer trust, Awash Bank should ensure that data security is at the core of its trust-building strategy. Multi-factor authentication such as PIN combined with biometric verification (face recognition and fingerprint) and real-time fraud prevention mechanisms should be reinforced across all digital platforms. All security updates should be communicated transparently to customers through in-app notifications and digital education initiatives, as institutional trust is strongly associated with clear and informative communication about the safeguards in place (Morgan & Hunt, 1994). Grievance resolution mechanisms should be clearly communicated to assure customers that their data and transactions are secured at all times.

Enhance Responsiveness to Directly Drive Customer Satisfaction

Given that responsiveness demonstrated the strongest direct association with customer satisfaction, Awash Bank should prioritize the speed and quality of its customer support services. This includes offering in-app live chat support, reducing complaint response times, and implementing service recovery plans that proactively address system failures before dissatisfaction

develops. Customers should be informed of improvements made to platform robustness and responsiveness to reinforcing both satisfaction and trust simultaneously.

Improve System Availability and Technical Reliability

Although system availability demonstrated the weakest association with both customer trust and customer satisfaction among the four dimensions, its moderate mean score indicates a persistent operational gap that requires immediate management attention. Awash Bank should invest in enhancing its technical infrastructure including dual-server backup systems, scheduled maintenance updates, and real-time system monitoring, to reduce service disruptions. A USSD backup mechanism should be maintained to ensure critical banking access remains available in areas with limited internet connectivity. Minimum uptime standards should be defined and communicated transparently to customers, as sustained system reliability is a baseline requirement for building institutional trust in Ethiopia's developing digital banking environment.

Invest in User-Centered Digital Banking Experience

As Awash Birr Pro accounted for the highest platform usage in this study, continuous optimization of the mobile application should remain a strategic priority. The bank's plan should include full cross-platform compatibility, streamlined transaction processes, and improved error recovery mechanisms to enhance the overall digital banking experience. The representation of female respondents at 35.3% of the sample indicates that women constitute a meaningful portion of Awash Bank's active digital banking user base. While this study did not examine gender differences as an analytical variable, future research examining gender-specific service quality perceptions and trust formation would provide a more targeted basis for inclusive product development.

Develop Strategic Growth Plans for Digital Wallet and Internet Banking

Digital Wallet and Internet Banking registered minimal representation in this study's sample, yet these channels represent emerging market segments with potentially distinct service quality requirements and significant growth opportunities for Awash Bank. The Digital Wallet service offers a particularly important financial inclusion pathway to enabling mobile money access for customers who do not hold traditional bank accounts. Targeted onboarding strategies, streamlined registration processes, and competitive service structures are recommended to expand Digital Wallet adoption. In parallel, continued investment in internet banking infrastructure and usability would better serve the digitally advanced customer segment that is currently underserved by

existing web-based banking facilities. Transparent communication about security and reliability improvements across both channels would build confidence and support broader digital platform adoption.

5.4.2. Policy Recommendations

Strengthen Cybersecurity and Data Protection Regulations

The National Bank of Ethiopia should mandate cybersecurity and data protection regulations for all licensed digital financial service providers. Such regulations should require MFA (multi-factor authentication) standards, data encryption protocols, and regular system security audits thereby mitigating systemic vulnerabilities, strengthening customer data protection, and building public trust in Ethiopia's digital financial services sector in support of the nation's financial inclusion and Digital Ethiopia 2030 objectives (NBE, 2025).

Establish Service Reliability and Consumer Protection Standards

The National Bank of Ethiopia should define minimum operational availability standards for digital banking platforms and mandate the reporting of service failures by all financial service providers to improve systemic transparency and accountability. A formal digital customer rights framework, such as defining standards for customer data usage, transaction security, and dispute resolution should be established. Strengthened consumer protection frameworks are expected to support broader adoption of digital financial services, particularly among underserved populations including women, youth, and rural communities.

5.4.3. Managerial Implications

Adopt a Dual Strategy: Technical Excellence and Trust Building

The finding that customer trust partially mediates the relationship between digital banking service quality and customer satisfaction necessitates that management adopt a dual strategy, focusing simultaneously on technical improvements to service quality and on actively cultivating customer trust. Technical service improvements alone are insufficient; the psychological dimension of customer trust must be actively nurtured through security, transparency, consistency, and a genuine commitment to supporting customers in their digital banking experiences. Privacy and responsiveness were identified as the key factors for trust and satisfaction respectively making it prudent to invest substantially in cybersecurity measures and service recovery procedures.

The small mean score for system availability signals an area of operational improvement requiring immediate management attention, as system downtime and technical failures are associated with lower customer trust and satisfaction. The high penetration of Awash Birr Pro among respondents confirms that the mobile application should remain the bank's primary digital channel investment and a continuing strategic imperative. The study's demographic profile, including the meaningful representation of female users, suggests that platform accessibility and usability remain important considerations for the bank's digital service strategy, pending more detailed gender-specific research. Additionally, the emerging digital wallet market represents a strategic growth opportunity aligned with Ethiopia's national financial inclusion objectives.

5.5. Contributions of the Study

Theoretical Contributions

This study makes theoretical contributions across five frameworks. First, it extends the E-S-QUAL framework (Parasuraman et al., 2005) by empirically validating customer trust as a partial mediator between digital banking service quality dimensions and customer satisfaction in an emerging market context and addressing a gap where trust mediation has been insufficiently examined in Sub-Saharan African digital banking research. Second, it supports the Commitment-Trust Theory (Morgan & Hunt, 1994) by demonstrating its applicability in Ethiopia's digital banking environment and confirming that trust functions as the critical psychological mechanism through which service quality perceptions are converted into lasting satisfaction outcomes.

Third, it supports Signal Theory (Spence, 1973) by providing empirical evidence that privacy functions as the strongest institutional trust signal among Awash Bank users and confirming that visible security mechanisms reduce perceived risk and build institutional credibility in low-trust digital environments. Fourth, by providing an empirical support for the Technology Acceptance Model (Davis, 1989) it is found that Efficiency and System Availability combined with perceived usefulness and ease of use are significant predictors of Customer Trust and Customer Satisfaction.

Finally, it aligns with Expectation-Disconfirmation Theory (Oliver, 1980) by demonstrating that customer satisfaction among Awash Bank users reflects the extent to which digital banking service quality met or exceeded their expectations as evidenced by the strong explanatory power of the structural model for customer satisfaction ($R^2 = 0.712$).

Empirical Contributions

Empirically, this study provides original quantitative evidence from Ethiopia's digital banking sector a context that remains underrepresented in the global PLS-SEM digital banking literature. The study employs a first-order reflective PLS-SEM model in which all four E-S-QUAL dimensions: efficiency, system availability, privacy, and responsiveness are treated as separate exogenous constructs, each individually predicting both customer trust and customer satisfaction. This produces dimension-specific evidence about which service quality attribute matters most for trust versus satisfaction, a distinction no prior Ethiopian study has made.

The study validates a six-construct first-order reflective measurement model with acceptable reliability and validity among active digital banking users in Addis Ababa, providing a validated and replicable research instrument for future studies in similar emerging market contexts. The finding that responsiveness rather than privacy or efficiency as commonly reported in developed market studies is the strongest direct predictor of customer satisfaction contributes context-specific empirical evidence that service quality priorities differ across digital maturity levels. This divergence represents original empirical evidence from an underrepresented context and has important implications for how digital banking service quality frameworks are applied in emerging economies.

Practical Contributions

On a practical level, the study provides Awash Bank management with evidence-based strategic guidance demonstrating that trust-building strategies, particularly through enhanced privacy protection and responsive customer support, are equally critical as technological infrastructure investment in determining customer satisfaction. For the National Bank of Ethiopia, the findings provide empirical justification for developing mandatory cybersecurity regulations and consumer protection frameworks that address both the technical and psychological dimensions of digital financial service delivery supporting Ethiopia's Digital Ethiopia 2030 agenda and the national objective of a secure and inclusive digital economy (National Bank of Ethiopia, 2025). For platform developers and policymakers across the Horn of Africa, the study demonstrates that future digital financial applications must be designed around consumer confidence and usability not technical capacity alone if sustainable digital financial inclusion is to be achieved.

5.6. Limitation and Future Research Directions

Limitations

Although this study provides valuable insights into customer trust in Awash Bank's digital banking services, several limitations should be taken into consideration. First, data were collected from only four Awash Bank branches in Addis Ababa: Megenagna, Bole, Legehar, and Addis Ketema, which limits the generalizability of findings to other branches, other commercial banks, and customers in rural and semi-urban areas of Ethiopia where digital infrastructure, literacy levels, and service experiences differ substantially from the urban context studied. Second, internet banking and digital wallet users were very small in the sample, which prevented platform-specific analysis representing an important gap for future channel-specific investigation as these platforms grow in adoption. Third, a cross-sectional study design was used that only customer perception of digital services quality at a particular time was examined, and cannot establish a dynamic change of customers' trust and satisfaction over time as technology evolves and digital banking matures.

Fourth, data were collected through self-administered questionnaires based on respondent self-reports, which are subject to response bias, social desirability effects, and individual variation in interpreting digital service quality experiences. Fifth, only four digital banking service quality dimensions were examined: efficiency, system availability, privacy, and responsiveness, without accounting for other potentially influential factors such as perceived usefulness, digital literacy, perceived risk, service innovation, and network quality, which may also shape customer trust and satisfaction in Ethiopia's digital banking environment. Sixth, the active-user screening criterion, requiring at least one digital transaction in the preceding 30 days excluded disengaged digital banking users, who may represent the strongest evidence of trust failure and its consequences for satisfaction. This survivorship bias means the findings reflect a systematically more positive picture of service quality and trust than the full customer population would show.

Future Research Directions

There are several important directions for future research. First, comparative studies across multiple commercial banks both public and private would assess whether the mediating role of customer trust differs across different institutional structures, brand reputations, and regulatory frameworks within Ethiopia's banking sector. Second, expanding this study beyond Addis Ababa to rural and semi-urban areas would capture the diverse digital infrastructure realities and service

experience constraints that characterize Ethiopia's broader banking population to addressing the geographical limitation of the current study. Third, future researchers can adopt longitudinal research designs and measure customers' trust and satisfaction over a longer period of time while a bank is attempting to launch new digital tool, update its security features and new service innovations over time.

Fourth, future studies should expand the model to include additional determinants such as perceived usefulness, digital literacy, perceived risk, service innovation, and customer loyalty to building a more comprehensive framework of digital banking behavior in Ethiopia. Fifth, platform-specific studies targeting internet banking and digital wallet users separately would address the underrepresentation of these channels in the current sample and provide channel-specific insights into service quality perceptions and trust formation. Sixth, future studies should examine gender as a moderating variable in the digital banking service quality-trust-satisfaction relationship, to determine whether male and female users differ in their service quality perceptions, trust formation processes, and satisfaction drivers to providing an empirically grounded basis for gender-inclusive digital banking product design.

Finally, qualitative and mixed-methods studies would provide deeper insight into the psychological mechanisms through which trust is developed and service quality is perceived that structured questionnaires alone cannot fully reveal. In particular, the potential impact of emerging technologies such as artificial intelligence, biometric authentication, and fintech integration on customer trust and satisfaction represents a promising frontier for future research in Ethiopia's rapidly evolving digital banking industry.

References

Ahmad, Alfina Damayanti S., Mohammad Aldrin Akbar, and Ros Lina. 2024. 'Service Quality and Trust on Customer Satisfaction'. *Advances: Jurnal Ekonomi & Bisnis* 2(5):255–67. doi:10.60079/ajeb.v2i5.296.

Alalwan, Ali Abdallah, Yogesh K. Dwivedi, and Nripendra P. Rana. 2017. 'Factors Influencing Adoption of Mobile Banking by Jordanian Bank Customers: Extending UTAUT2 with Trust'. *International Journal of Information Management* 37(3):99–110. doi:10.1016/j.ijinfomgt.2017.01.002.

Arcand, Manon, Sandrine PromTep, Isabelle Brun, and Lova Rajaobelina. 2017. 'Mobile Banking Service Quality and Customer Relationships'. *International Journal of Bank Marketing* 35(7):1068–89. doi:10.1108/IJBM-10-2015-0150.

Arora, Preeti, and Rashi Banerji. 2024. 'The Impact of Digital Banking Service Quality on Customer Loyalty: An Interplay between Customer Experience and Customer Satisfaction'. *Asian Economic and Financial Review* 14(9):712–33. doi:10.55493/5002.v14i9.5199.

Awash Bank. 2023. *Annual Report 2022/23: Corporate Governance and Information Security*. Addis Ababa, Ethiopia.

Awash Bank. 2025. 'AB 30th Annual Report 2024/25 – Awash Bank'. https://awashbank.com/ab-30th-annual-report-2024-25/.

Awash Bank. 2025. *Branch Digital User Records (Internal Document)*.

Awash Bank Digital Product Catalogue – Awash Bank. n.d. Retrieved 6 Feb 2026. https://awashbank.com/product-catalog/.

Awuondo, Mutswenje, V. S. chieng Awuondo, B. A. 2025. 'DIGITAL BANKING GOVERNANCE AND FRAUD PREVALENCE IN TIER ONE BANKS IN MOMBASA COUNTY, KENYA'. 5(2).

Ayele, G. 2024. 'The Effect of Digital Banking Service on Customer Satisfaction: Evidence from Commercial Bank of Ethiopia'. Master's thesis, Addis Ababa University, Addis Ababa, Ethiopia.

Ayinaddis, Samuel Godadaw, Tilahun Getnet Mirete, and Birhane Wondmaneh Getahun. 2025. 'Evaluating the Factors Influencing Electronic Banking Adoption in Ethiopia: Analysis from Customer Perspective'. *Journal of Innovation and Entrepreneurship* 14(1):56. doi:10.1186/s13731-025-00485-w.

Bala, Tapas, Israt Jahan, Md. Al Amin, Mahmudul Haque Tanin, Md. Faridul Islam, Md. Mahbubar Rahman, and Tahira Khatun. 2021. 'Service Quality and Customer Satisfaction of Mobile Banking during COVID-19 Lockdown; Evidence from Rural Area of

Bangladesh'. *Open Journal of Business and Management* 09(05):2329–57. doi:10.4236/ojbm.2021.95126.

Baron, Reuben M., and David A. Kenny. 1986. 'The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations.' *Journal of Personality and Social Psychology* 51(6):1173–82. doi:10.1037/0022-3514.51.6.1173.

Bashir, Md Abdul, Mohammad Hossain Ali, Lai Mun Wai, Md. Ismail Hossain, and Md. Ismail Rahaman. 2023. 'Customers' Satisfaction of E-Banking in Bangladesh: Do Service Quality and Customers' Experiences Matter?' *Businesses (MDPI)* 3(3):444–61.

Boulding, William, and Amna Kirmani. 1993. 'A Consumer-Side Experimental Examination of Signaling Theory: Do Consumers Perceive Warranties as Signals of Quality?' *Journal of Consumer Research* 20(1):111. doi:10.1086/209337.

Chikri, Abdelghani, and Ismail Kassou. 2024. 'The Evolution of AI in Finance and Banking: Transforming Services and Security: A Paradox Perspective'. Pp. 15–32 in *In Artificial Intelligence in Finance and Banking Education,*. Emerald Publishing Limited.

Creswell, John W., and J. David Creswell. 2023. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sixth edition. Los Angeles: SAGE.

Cochran, William G. 1977. *Sampling Techniques*. 3. ed. Wiley Series in Probability and Mathematical Statistics. New York, NY: Wiley.

Davis, Fred D. 1989. 'Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology'. *MIS Quarterly* 13(3):319–40. doi:10.2307/249008.

De Leon, Myra V., Ringgold P. Atienza, and Daniel Susilo. 2020. 'Influence of Self-Service Technology (SST) Service Quality Dimensions as a Second-Order Factor on Perceived Value and Customer Satisfaction in a Mobile Banking Application' edited by L. T. Wright. *Cogent Business & Management* 7(1):1794241. doi:10.1080/23311975.2020.1794241.

Dogra A, A., and N. Gupta. 2024. 'Revisiting the Technology Acceptance Model in the Age of FinTech: A Global Perspective on User Adoption'. *International Journal of Bank Marketing* 42(2):215–38. doi:10.1108/IJBM-03-2023-0152.

Elkhani, Naeimeh, and Aryati Bakri. 2023. 'Review on "Expectancy Disconfirmation Theory" (EDT) Model in B2C E-Commerce'.

Essayas Taye Lemma. 2018. 'A Comparative Study On The Factors Influencing Customer Satisfaction On E-Banking In Trivandrum And Addis Ababa'. *INTERNATIONAL JOURNAL OF ENGINEERING DEVELOPMENT AND RESEARCH* 6(4):204–9.

Eyob Ketema, Yalemwork W/S, and Selassie W. 2020. '(PDF) The Impact of M-Banking Quality Service on Customer's Satisfaction during Covid-19 Lock down: The Case of Bank of

Abyssinia, Ethiopia'. *African Journal of Marketing Management 12(2):21-37*. doi:10.5897/AJMM2020.0651.

Fornell, Claes, and David F. Larcker. 1981. 'Evaluating Structural Equation Models with Unobservable Variables and Measurement Error'. *Journal of Marketing Research* 18(1):39. doi:10.2307/3151312.

Gautam, Dhruba Kumar, and Gunja Kumari Sah. 2023. 'Online Banking Service Practices and Its Impact on E-Customer Satisfaction and E-Customer Loyalty in Developing Country of South Asia-Nepal'. *Sage Open* 13(3):21582440231185580. doi:10.1177/21582440231185580.

Gazi, Md. Abu Issa, Abdullah Al Masud, Mohammad Bin Amin, Md. Alamgir Hossain, Abdul Rahman Bin S Senathirajah, and Masuk Abdullah. 2024. 'Evaluating Customer Satisfaction with the Quality of Online Banking Services after COVID-19: Developing Country Perspective'. *Cogent Business & Management* 11(1):2423057. doi:10.1080/23311975.2024.2423057.

Gefen, David, Elena Karahanna, and Detmar W. Straub. 2003. 'Trust and TAM in Online Shopping: An Integrated Model1'. *MIS Quarterly* 27(1):51–90. doi:10.2307/30036519.

Geressu, Habtemichael. 2024. 'The Effect of Digital Banking Service Quality on Customer Satisfaction in Selected Branches of Awash Bank in Addis Ababa City Administration'. Thesis, St. Mary's University.

Hailu, Dr Abenet Yohannes, and Hussen Jibril Esa. 2025. 'Factors Affecting Customer Intention to Use Digital Banking Services: A Case Study of the Commercial Bank of Ethiopia'. 24(02).

Hair, Joseph F., G. Tomas M. Hult, Christian M. Ringle, and Marko Sarstedt. 2022. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Third edition. Thousand Oaks: SAGE Publications, Incorporated.

Hayes, Andrew F. 2022. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. Third edition. Methodology in the Social Sciences. New York ; London: The Guilford Press.

Henseler, Jörg, Christian M. Ringle, and Marko Sarstedt. 2015. 'A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling'. *Journal of the Academy of Marketing Science* 43(1):115–35. doi:10.1007/s11747-014-0403-8.

Hulland, John. 1999. 'Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies'. *Strategic Management Journal* 20(2):195–204. doi:10.1002/(SICI)1097-0266(199902)20:2<195::AID-SMJ13>3.0.CO;2-7.

Iffan, Muhammad, M. Yani Syafei, and Nguyen Duy Cuong. 2024. 'The Mediating Roles of Customer Trust and Satisfaction in E-Service Quality and the Repurchase Intention

Relationship'. *Australasian Accounting, Business and Finance Journal* 18(5). doi:10.14453/aabfj.v18i5.07.

Jun, Minjoon, and Sergio Palacios. 2016. 'Examining the Key Dimensions of Mobile Banking Service Quality: An Exploratory Study'. *International Journal of Bank Marketing* 34(3):307–26. doi:10.1108/IJBM-01-2015-0015.

Kassaye, Abebe, Tigist Belachew, and Kiros Haftu. 2025. 'Determinants of Customers' Digital Banking Utilization a Pathway to Cash-Lite Economy: Evidence from Addis Ababa'. *Journal of Business and Economic Development* 10(2):81–93. doi:10.11648/j.jbed.20251002.14.

Khatoon, Zhengliang, X, and Hussain, H. 2021. 'The Mediating Effect of Customer Trust on the Relationship Between Electronic Service Quality and Customer Satisfaction in E-Banking'. *IEEE Access* 9. doi:10.1109/ACCESS.2021.3084698.

Kotler, Philip, Kevin Lane Keller, and Alexander Chernev. 2022. *Marketing Management*. Sixteenth edition. Hoboken, NJ: Pearson Education.

Kumilachew, Fikru. 2023. 'The Impact of Digital Banking Service Quality on Customers' Satisfaction: The Case of Selected Branches of Commercial Bank of Ethiopia in Addis Ababa'. Addis Ababa University.

Lama, Juna, and Mijala Kayestha. 2025. 'From Swipe to Stay: How Digital Banking Service Quality Drives Customer Retention through Customer Satisfaction'. *Interdisciplinary Journal of Innovation in Nepalese Academia* 4(1):135–63. doi:10.32674/5zshz137.

M. Anwarul Islam, K., Serajul Islam, Md. Mobarak Karim, Md. Shariful Haque, and Tania Sultana. 2023. 'Relationship between E-Service Quality Dimensions and Online Banking Customer Satisfaction'. *Banks and Bank Systems* 18(1):174–83. doi:10.21511/bbs.18(1).2023.15.

Mayer, Roger C., James H. Davis, and F. David Schoorman. 1995. 'An Integrative Model of Organizational Trust'. *The Academy of Management Review* 20(3):709. doi:10.2307/258792.

Meade, Adam W., and S. Bartholomew Craig. 2012. 'Identifying Careless Responses in Survey Data.' *Psychological Methods* 17(3):437–55. doi:10.1037/a0028085.

Mensah, Isaac Kofi, Guohua Zeng, and Chuanyong Luo. 2020. 'E-Government Services Adoption: An Extension of the Unified Model of Electronic Government Adoption'. *Sage Open* 10(2):2158244020933593. doi:10.1177/2158244020933593.

Mesay Sata Shanka. 2013. 'Bank Service Quality, Customer Satisfaction and Loyalty in Ethiopian Banking Sector'. *Journal of Business Administration and Management Sciences Research* 1:1–9.

Morgan, Robert M., and Shelby D. Hunt. 1994. 'The Commitment-Trust Theory of Relationship Marketing'. *Journal of Marketing* 58(3):20–38. doi:10.1177/002224299405800302.

Mostafa, Rania B. 2020. 'Mobile Banking Service Quality: A New Avenue for Customer Value Co-Creation'. *International Journal of Bank Marketing* 38(5):1107–32. doi:10.1108/IJBM-11-2019-0421.

Muliyati, Muliyati, and Rahmat Jaya. 2025. 'Customer Satisfaction as a Mediator of Service Quality and Perceived Value in Building Customer Trust'. *Jurnal Ilmiah Manajemen Kesatuan* 13(3):1871–80. doi:10.37641/jimkes.v13i3.3333.

National Bank of Ethiopia. 2025. *National Digital Payments Strategy 2026–2030 (NDPS 2.0): BRIDGE 2030*. Addis Ababa, Ethiopia: National Bank of Ethiopia (NBE). https://nbe.gov.et/ndps/.

NBE. 2024. *Annual Report 2023-2024*. Fiscal Year 2023/24. Addis Ababa: NBE. https://nbe.gov.et/annual_report/annual-report-2023-2024/.

Nguyen, H. T., Nguyen, H., Nguyen, N. D., and Phan, A. C. 2023. 'Determinants of Customer Satisfaction and Loyalty in Digital Banking: The Mediating Role of Trust'. *International Journal of Bank Marketing* 41(3):518–38. doi:10.1108/IJBM-06-2022-0245.

Nunnally, Jum C. 1978. *Psychometric Theory*. 2. ed. McGraw-Hill Series in Psychology. New York: McGraw-Hill.

Okello, N. G. 2024. 'Information Asymmetry and Usage of E-Banking Transactions Through Mobile Phones in Commercial Banks'. *Journal of Marketing and Consumer Research* 92. https://iiste.org/Journals/index.php/JMCR/article/view/62254.

Oliver, Richard L. 1980. 'A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions'. *Journal of Marketing Research* 17(4):460–69. doi:10.1177/002224378001700405.

Oliver, Richard L. 2014. *Satisfaction: A Behavioral Perspective on the Consumer*. 0 edn. Routledge.

Oppenheimer, Daniel M., Tom Meyvis, and Nicolas Davidenko. 2009. 'Instructional Manipulation Checks: Detecting Satisficing to Increase Statistical Power'. *Journal of Experimental Social Psychology* 45(4):867–72. doi:10.1016/j.jesp.2009.03.009.

Owuamanam, Jude N., Salfarina Abdullah, Yusmadi Yah Jusoh, and Noraini Che Pa. 2022. 'E-Service Quality Model for Assessing Customer Satisfaction of Mobile Banking Service'. Pp. 178–83 in *2022 Applied Informatics International Conference (AiIC)*. Serdang, Malaysia: IEEE.

Parasuraman, A., V. Zeithaml, and L. Berry. 1988. 'SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality.' *Journal of Retailing*.

https://www.semanticscholar.org/paper/SERVQUAL%3A-A-multiple-item-scale-for-measuring-of-Parasuraman-Zeithaml/d26a2423f00ca372b424a029ae22521299f00ede.

Parasuraman, A., Valarie A. Zeithaml, and Arvind Malhotra. 2005. 'E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality'. *Journal of Service Research* 7(3):213–33. doi:10.1177/1094670504271156.

Pratama, Muhammad Rifky, and Marliyah Marliyah. 2024. 'The Influence of Mobile Banking Service Quality on Customer Satisfaction'. *Journal of Management and Administration Provision* 4(2):170–78. doi:10.55885/jmap.v4i2.364.

Rahmi, R., B. Afriadi, and B. Setiawan. 2024. 'Examining Initial Trust in Adoption of Digital Banking Platform: A Personal Innovativeness and Security Perspective'. *Journal of System and Management Sciences* 14(1). doi:10.33168/JSMS.2024.0105.

Redda, E. .. H. 2023. 'E-Banking Quality and Customer Loyalty: The Mediating Role of Customer Satisfaction'. *Banks and Bank Systems* 18(2):177–88. doi:10.21511/bbs.18(2).2023.15.

Ringle, Christian M., Sven Wende, and Jan-Michael Becker. 2022. 'SmartPLS 4'.

Rohit, Kumar, Pooja Kumari, Nidhi Singh, and Hind Alofaysan. 2025. 'Smart Banking Chatbots and Consumer Engagement: The Role of Trust and Privacy in AI-Driven Banking'. *Journal of Strategic Marketing* 1–18. doi:10.1080/0965254X.2025.2481140.

Sahu, Premendra, Shailja Bakshi, Menka Sharma, Nikita Dholkia, Sindura Bhargav, Suresh Kumar Pattanayak, and Suchitra Rathi. 2024. 'The Role of Online Reviews and Trust in the Adoption of E-Commerce for Online Vestment Transactions'. *International Review of Management and Marketing* 14(5):10–17. doi:10.32479/irmm.16575.

Saoula, O., Shamim, A., and Ahmad, S. 2024. 'Evaluating Service Quality, Customer Satisfaction, and Perceived Trust in Digital Banks'. *Journal of Islamic Marketing* 15(4). doi:10.1108/JIMA-04-2022-0111.

Saunders, M. N. K., Philip Lewis, and Adrian Thornhill. 2023. *Research Methods for Business Students*. Ninth edition. Harlow, England ; New York: Pearson.

Sekaran, Uma, and Roger Bougie. 2020. *Research Methods for Business: A Skill-Building Approach*. Eighth edition. Hoboken, NJ: Wiley.

Setiawan, B., and D. Rahmawati. 2025. 'Digital Banking Maturity: Examining Behavioral Intentions and Long-Term Trust through the TAM Lens'. *Journal of Contemporary Accounting and Social Sciences* 11(1):45–62. doi:10.20885/jcasc.vol11.iss1.art4.

Shankar, Amit, Biplab Datta, Charles Jebarajakirthy, and Srabanti Mukherjee. 2020. 'Exploring Mobile Banking Service Quality: A Qualitative Approach'. *Services Marketing Quarterly* 41(2):182–204. doi:10.1080/15332969.2020.1742982.

Simon Nahusenay Ejigu. 2017. 'E-Banking Service Quality and Its Impact on Customer Satisfaction in State Owned Banks in East Gojjam Zone Ethiopia'. *Journal of Economics and Sustainable Development*. https://www.semanticscholar.org/paper/E-Banking-Service-Quality-and-Its-Impact-on-in-in-Ejigu/a76ddf13e0e52eaefb3f283b711b149b205ba512.

Sirdeshmukh, Deepak, Jagdip Singh, and Barry Sabol. 2002. 'Consumer Trust, Value, and Loyalty in Relational Exchanges'. *Journal of Marketing* 66(1):15–37. doi:10.1509/jmkg.66.1.15.18449.

Spence, Michael. 1973. 'Job Market Signaling'. *The Quarterly Journal of Economics* 87(3):355. doi:10.2307/1882010.

Sultana, R., and M. Hasan. 2023. 'Impact of Digital Banking Service Quality on Customer Satisfaction and Loyalty: The Mediating Role of Customer Trust'. https://link.springer.com/journal/41264 (search manually).

Taherdoost, Hamed. 2016. 'Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research'. *SSRN Electronic Journal*. doi:10.2139/ssrn.3205040.

Tesega Demeke. 2025. 'The Effect of Mobile Banking Service Quality on Customer Satisfaction (In Case of Abyssinia Bank Addis Ababa Branch)'. *International Journal of Economic Behavior and Organization* 13(4):129–37. doi:10.11648/j.ijebo.20251304.11.

Tesfaye, Melkamu. 2021. 'The Effect of Service Quality on Customer Satisfaction: The Case of Hibret Bank Four Selected Branches'. MBA Thesis, Addis Ababa University, Addis Ababa, Ethiopia.

Top, Cemil, and Bayad Jamal Ali. 2021. 'Customer Satisfaction in Online Meeting Platforms: Impact of Efficiency, Fulfillment, System Availability, and Privacy'. *Revista Amazonia Investiga* 10(38):70–81. doi:10.34069/AI/2021.38.02.7.

Tweneboah-Koduah, Ernest, and Augustine Yuty Duweh Farley. 2016. 'Relationship between Customer Satisfaction and Customer Loyalty in the Retail Banking Sector of Ghana'. *International Journal of Business and Management* 11(1):249–62. doi:10.5539/ijbm.v11n1p249.

Verma, Dr. Pooja. 2024. 'Deciphering the Role of System Trustworthiness in Shaping Customer Satisfaction, Continuance Intention, and Brand Loyalty in Digital Banking Ecosystems'. *International Journal of Bank Marketing (or Journal of Financial Services Marketing, Depending on Your Specific Regional Lit-Review Collection Index)* 42(2):215–34. doi:10.1108/IJBM-07-2023-0384.

Wang, Shuang, Muhammad Asif, Muhammad Farrukh Shahzad, and Muhammad Ashfaq. 2024. 'Data Privacy and Cybersecurity Challenges in the Digital Transformation of the Banking Sector'. *Computers & Security* 147:104051. doi:10.1016/j.cose.2024.104051.

Wells, John D., Joseph S. Valacich, and Traci J. Hess. 2011. 'What Signal Are You Sending? How Website Quality Influences Perceptions of Product Quality and Purchase Intentions1'. *MIS Quarterly* 35(2):373-A18. doi:10.2307/23044048.

World Bank. 2023. 'Ethiopia - Digital ID for Inclusion and Services Project'. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099112223132535848.

Ya'u Ibrahim, Maimunatu, and Umar Mu'azu. 2021. 'Security and Privacy Dimension as Predictor of Internet Banking E-Service Quality on Customer Trust'. Volume 6:879–91.

Yesigat, Habtamu, Gashaw T. Abate, and David J. Spielman. 2025. 'Outcome Assessment of the Digital Agriculture Ecosystem in Ethiopia'.

Zeithaml, V. A., A. Parasuraman, and A. Malhotra. 2002. 'Service Quality Delivery through Web Sites: A Critical Review of Extant Knowledge'. *Journal of the Academy of Marketing Science* 30(4):362–75. doi:10.1177/009207002236911.

Zhou, Qingji, Fong Jie Lim, Han Yu, Gaoqian Xu, Xiaoyu Ren, Dan Liu, Xiangxin Wang, Xinda Mai, and Hong Xu. 2021. 'A Study on Factors Affecting Service Quality and Loyalty Intention in Mobile Banking'. *Journal of Retailing and Consumer Services* 60:102424. doi:10.1016/j.jretconser.2020.102424.

Zhou, Tao. 2020. 'Examining the Effect of Information Quality and System Quality on Users' Trust in Mobile Banking'. *International Journal of Mobile Communications* 18(3):261–74. doi:10.1504/IJMC.2020.107094.

Appendices

I. Questionnaire: English Language

Addis Ababa University
School of Commerce

Dear Participant,

I am a Master's Degree student at Addis Ababa University school of commerce conducting a study titled: "**The Mediating Role of Customer Trust in the Relationship between Digital Banking Service Quality and Customer Satisfaction: The Case of Awash Bank**'' At the end of the day, the intention of this study is to assess how and in what way customers experience at the bank's digital banking services contribute toward customers satisfaction and trust. To this regard, your honest feedback and response are important. Remember that your participation is voluntary and all your response would be held confidential and will be used only for study purpose.

Thank you for your time. For any question or any suggestion please fell free to contact me through the under listed addresses: Email: ctaye3@gmail.com, ph.no: +251-910-306-911

Sincerely,

Chaltu Abiye

Section I: Participant Profiles

Please select your response that most accurately describes you.

Age Group: ☐ 18 – 24 ☐ 25 – 34 ☐ 35 – 44 ☐ 45-54 ☐ Above 55

Gender: ☐ Male ☐ Female

Educational level:

☐ Primary school and below ☐ High school ☐ Diploma/TVET
☐ Bachelor's Degree ☐ Master's Degree ☐ Ph.D. and above

Have you conducted at least one digital banking transaction in the last 30 days?

☐ Yes ☐ No

Please select the Awash Bank branch you are currently visiting.

☐ Legehar Branch ☐ Bole Branch
☐ Addis Ketema Branch ☐ Megenagna Branch

Which Awash Bank digital platform have you used most frequently over the past 30 days?

☐ Mobile Banking App (Awash birr Pro) ☐ Digital Wallet (Awash Birr)
☐ Internet Banking (via Web Browser) ☐ USSD (*901#)

Section II: Digital Banking Service Experience Evaluation

Please indicate your level of agreement with the following statements regarding your experience with Awash Bank's digital services. (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

Code	Variables and Statements	Scales				
	Digital Banking Service Quality	**1**	**2**	**3**	**4**	**5**
EFF 1	The digital platform processes my transactions quickly and without annoying delays					
EFF 2	I can easily complete my daily banking tasks using only a few clicks or taps					
EFF 3	The app or website are well-designed, making it simple to find the services I need.					
EFF 4	Using Awash Bank's digital services saves me significant time in completing my banking needs.					
EFF 5	Finding specific account information through the digital channels is straightforward.					
SYS 1	Awash Bank’s digital banking services are accessible 24/7 whenever I need them.					
SYS 2	I rarely experience app crashes, freezing, or system outages while banking online.					
SYS 3	When the system is unavailable for maintenance, Awash Bank notifies me in advance.					
SYS 4	The service runs smoothly no matter what device or internet connection I am using.					
SYS 5	My personal banking routine is never interrupted by unexpected technical failures.					
PRI 1	I am highly confident that Awash Bank protects my financial data from unauthorized access.					
PRI 2	I feel completely safe conducting high-value or sensitive transactions through the app/digital platform.					
PRI 3	The Awash bank's security features, such as OTPs (One-Time Passwords) or biometrics login, make me feel secure.					
PRI 4	Awash Bank's privacy policies are clear and give me peace of mind.					

PRI 5	I trust that the bank will never share my personal information with outside parties without my permission.					
RES 1	When I encounter a technical issue, the bank resolves it in a fast and efficient manner.					
RES 2	The customer support team is easy to reach if I need help with my digital banking.					
RES 3	The answers I receive regarding my transaction problems are accurate and helpful					
RES 4	I feel that the bank takes immediate action to resolve digital banking issues I report.					
	Customer Trust	**1**	**2**	**3**	**4**	**5**
TRU 1	Awash Bank consistently acts in my best financial interest when providing digital services.					
TRU 2	I believe Awash Bank is fully committed to providing me with a safe and reliable digital banking experience.					
TRU 3	Awash Bank possesses the advanced technical expertise required to manage my digital transactions safely.					
TRU 4	I believe Awash Bank's digital banking services are handled with high integrity and honesty.					
TRU 5	I am often worried that the bank's digital platforms might fail to execute my transactions correctly. (This item is reverse-coded)					
	Customer Satisfaction	**1**	**2**	**3**	**4**	**5**
SAT 1	Overall, the digital services provided by Awash Bank perfectly match my expectations.					
SAT 2	I am satisfied with the quality and convenience of my digital banking experience.					
SAT 3	The digital platform provides everything I need to achieve my daily financial goals.					
SAT 4	Using Awash Bank's digital service is a user-friendly and stress-free experience for me.					
SAT 5	I would highly recommend Awash Bank's digital platforms to my friends and family.					

II. Questionnaire: Amharic Language

የጥናት መጠይቆች

ውድ ተሳታፊ፣ በአሁኑ ወቅት በአዲስ አበባ ዩኒቨርሲቲ ንግድ ሥራ ኮሌጅ ለማስተርስ ዲግሪ ማሟያ የሚሆን ጥናት እያካሄድኩ እገኛለሁ። የጥናቱ ርዕስ *"የዲጂታል ባንክ አገልግሎት ጥራት በደንበኞች እርካታ ላይ ያለው ተጽዕኖ፡ የእምነትን አሸማጋይነት ሚና መገምገም (በአዋሽ ባንክ ላይ የተደረገ ጥናት)"* የሚል ነው።የዚህ ጥናት ዋና ዓላማ ከባንኩ የዲጂታል አገልግሎቶች ጋር ያለዎት ተሞክሮ በአጠቃላይ እርካታዎ እና እምነትዎ ላይ እንዴት ተጽዕኖ እንደሚያሳድር መረዳት ነው። ለዚህ ጥናት የእርስዎ ታማኝ እና ግልጽ ምላሽ እጅግ በጣም ጠቃሚ ነው። በዚህ ጥናት ላይ መሳተፍዎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ መሆኑን እና የሚሰጡት ማንኛውም ምላሽ በሚስጥር ተጠብቆ ለትምህርት ዓላማ ብቻ የሚውል መሆኑን እንድታውቁልኝ እወዳለሁ።

ጊዜዎን ሰውተው ስለተባበሩኝ ከልብ አመሰግናለሁ፣ ማንኛውም ጥያቄ ወይም አስተያየት ካለዎት በሚከተሉት አድራሻዎች ሊያገኙኝ ይችላሉ፡ **ኢሜይል:** ctaye3@gmail.com **ስልክ ቁጥር:** +251-910-306-911

ከማክበር ሰላምታ ጋር፣

ጫልቱ አብዬ

ክፍል አንድ፡ የተሳታፊዎች አጠቃላይ መረጃ: እባክዎ የእርስዎን ትክክለኛ ሁኔታ የሚገልጸውን አማራጭ ይምረጡ።

የእድሜ ክልል:

- ☐ 18 – 24
- ☐ 25 – 34
- ☐ 35 – 44
- ☐ 45 – 54
- ☐ ከ 55 በላይ

ጾታ:

☐ ወንድ ☐ ሴት

የትምህርት ደረጃ

☐ አንደኛ ደረጃ እና ከዚያ በታች

☐ ሁለተኛ ደረጃ

☐ ዲፕሎማ/የቴክኒክና ሙያ\

☐ የመጀመሪያ ዲግሪ

☐ የማስተርስ ዲግሪ

☐ ፒኤችዲ እና ከዚያ በላይ

ባለፉት 30 ቀናት ውስጥ ቢያንስ አንድ ዲጂታል የባንክ ግብይት አከናውነዋል?

☐ አዎ ☐ አይ

እባክዎ በአሁኑ ወቅት እየተገለገሉበት ያለውን የአዋሽ ባንክ ቅርንጫፍ ይምረጡ:

☐ ለገሃር ቅርንጫፍ

☐ ቦሌ ቅርንጫፍ

☐ አዲስ ከተማ ቅርንጫፍ

☐ መገናኛ ቅርንጫፍ

ከሚከተሉት የአዋሽ ባንክ የዲጂታል አገልግሎቶች ውስጥ በብዛት (በተደጋጋሚ) የሚጠቀሙት የትኛውን ነው?

☐ የሞባይል ባንኪንግ መተግበሪያ - አዋሽ ብር ፕሮ

☐ ዲጂታል ዋሌት - አዋሽ ብር

☐ የኢንተርኔት ባንኪንግ በድህረ ገጽ

☐ USSD (*901#)

ክፍል ሁለት፡ የዲጂታል ባንክ አገልግሎት ተሞክሮ ግምገማ

መመሪያ: እባክዎ ከአዋሽ ባንክ የዲጂታል አገልግሎቶች ተሞክሮዎ ጋር በተያያዘ ከዚህ በታች ለቀረቡት አረፍተ ነገሮች ያለዎትን የስምምነት ደረጃ ያመልክቱ። (1 = በጣም አልስማማም፣ 2 = አልስማማም፣ 3 = ገለልተኛ ነኝ፣ 4 = እስማማለሁ፣ 5 = በጣም እስማማለሁ)

ኮድ	ዓረፍተ ነገር	ደረጃ				
	የዲጂታል የባንክ አገልግሎት ጥራት	**1**	**2**	**3**	**4**	**5**
EFF 1	የዲጂታል አገልግሎቱ ምንም አይነት አሰልቺ መዘግየት ሳይኖር የባንክ ግብይቶቼን በፍጥነት ያከናውንልኛል።					
EFF 2	የዕለት ተዕለት የባንክ ስራዬን በጥቂቱ ጠቅ በማድረግ ብቻ በቀላሉ ማጠናቀቅ እችላለሁ።					
EFF 3	መተግበሪያ ወይም ድረ-ገጹ በጥሩ ሁኔታ የተነደፉ በመሆናቸው የምፈልገውን አገልግሎት በቀላሉ ለማግኘት ያስችሉኛል።					
EFF 4	የአዋሽ ባንክ ዲጂታል አገልግሎቶችን መጠቀም የባንክ ፍላጎቶቼን በማሟላት ከፍተኛ ጊዜ ይቆጥብልኛል.።					
EFF 5	በዲጂታል አማራጮች በኩል የተወሰኑ የሂሳብ መረጃዎችን መፈለግ ወይም ማግኘት ቀላል እና ግልጽ ነው።					
SYS 1	የአዋሽ ባንክ የዲጂታል ባንክ አገልግሎቶች በምፈልግበት ጊዜ ሁሉ (በቀን 24 ሰዓት፣ በሳምንት 7 ቀናት) ተደራሽ ናቸው።					
SYS 2	የኦላይን ባንክ አገልግሎት ስጠቀም የመተግበሪያ መቆራረጥ፣ መጨናነቅ ወይም የስርዓት መቋረጥ አጋጥሞኝ አያውቅም ወይም አልፎ አልፎ ነው የሚያጋጥመኝ።					
SYS 3	ስርዓቱ ለጥገና ሲቋረጥ **ባንኩ** አስቀድሞ ያሳውቀኛል።					
SYS 4	አገልግሎቱ ምንም ዓይነት መሳሪያ ወይም የኢንተርኔት ግንኙነት ብጠቀም ያለምንም ችግር ይሰራል።					
SYS 5	የግል የባንክ አገልግሎት አጠቃቀሜ ባልተጠበቁ የቴክኒክ ችግሮች ምክንያት ተቋርጦ አያውቅም።					
PRI 1	አዋሽ ባንክ የፋይናንስ መረጃዬን ያልተፈቀደለት አካል እንዳያገኘው በጥብቅ እንደሚጠብቅልኝ ከፍተኛ እምነት አለኝ።.					
PRI 2	በመተግበሪያው ወይም በዲጂታል ፕላትፎርሙ በኩል ከፍተኛ መጠን ያላቸውን ወይም ሚስጥራዊነት ያላቸውን ግብይቶች ሳከናውን ሙሉ ደህንነት ይሰማኛል።.					

PRI 3	የ አዋሽ ባንኩ የደህንነት መጠበቂያ መንገዶች፣ ለምሳሌ የአንድ ጊዜ የይለፍ ቃል ወይም የባዮሜትሪክ መግቢያ ደህንነት እንዲሰማኝ ያደርጋሉ።					
PRI 4	የአዋሽ ባንክ የግላዊነት መመሪያዎች ግልጽ ናቸው እንዲሁም የአእምሮ ሰላም ይሰጡኛል።					
PRI 5	ባንኩ ያለእኔ ፈቃድ የግል መረጃዬን ለሶስተኛ ወገን አሳልፎ እንደማይሰጥ አምናለሁ።					
RES 1	ቴክኒካዊ ችግር ሲያጋጥመኝ ባንኩ በፍጥነት እና በቀልጣፋ ሁኔታ ይፈታዋል።					
RES 2	በዲጂታል ባንክ አገልግሎቴ ላይ እገዛ ካስፈለገኝ የደንበኞች ድጋፍ ሰጪ ቡድንን በቀላሉ ማግኘት እችላለሁ።					
RES 3	ከግብይት ችግሮቼ ጋር በተያያዘ ከባንኩ የማገኛቸው ምላሾች ትክክለኛ እና ጠቃሚ ናቸው።					
RES 4	ባንኩ የምዘግባቸውን የዲጂታል ባንኪንግ ጉዳዮች ለመፍታት ለመፍታት ከልብ እንደሚጨነቅ ይሰማኛል።					
	የደንበኛ እምነት	**1**	**2**	**3**	**4**	**5**
TRU 1	አዋሽ ባንክ የዲጂታል አገልግሎቶችን ሲሰጥ ሁልጊዜም ለእኔ የፋይናንስ ጥቅም ቅድሚያ ይሰጣል።					
TRU 2	ዋሽ ባንክ ደህንነቱ የተጠበቀ እና አስተማማኝ ዲጂታል የባንክ ልምድ ለማቅረብ ሙሉ ቁርጠኝነት አለው ብዬ አምናለሁ።					
TRU 3	አዋሽ ባንክ የዲጂታል ግብይቶቼን በደህንነት ለማስተዳደር የሚያስፈልገው የላቀ ቴክኒካዊ ልምድ አለው።					
TRU 4	የአዋሽ ባንክ ዲጂታል የባንክ አገልግሎቶች በከፍተኛ ታማኝነት እና ሐቀኝነት እንደሚሰጡ አምናለሁ።					
TRU 5	የባንኩ የዲጂታል መተግበሪያዎች ግብይቶቼን በትክክል ላያከናውን ይችላል ብዬ ብዙ ጊዜ እጨነቃለሁ።(ይህ ዓረፍተ ነገር በተቃራኒ አቅጣጫ የተቀመጠ ነው)					
	የደንበኛ እርካታ	**1**	**2**	**3**	**4**	**5**
SAT 1	በአጠቃላይ፣ በአዋሽ ባንክ የሚሰጡት የዲጂታል አገልግሎቶች ከምጠብቀው አገልግሎት ጋር ሙሉ በሙሉ ይዛመዳሉ።					
SAT 2	ከዲጂታል ባንኪንግ ልምዴ ጥራት እና አመቺነት ረክቻለሁ።					

SAT 3	የዲጂታል መተግበሪያው የዕለት ተዕለት የፋይናንስ ግቦቼን ለማሳካት የሚያስፈልገኝን ሁሉ ያቀርብልኛል።					
SAT 4	የአዋሽ ባንክ የዲጂታል አገልግሎቶችን መጠቀም ለእኔ ለአጠቃቀም ቀላል እና ከጭንቀት ነፃ የሆነ ተሞክሮ ነው።					
SAT 5	የአዋሽ ባንክን የዲጂታል አገልግሎቶችን ለጓደኞቼ እና ለቤተሰቦቼ በከፍተኛ ሁኔታ እመክራለሁ።					