



**EFFECT OF DIGITAL BANKING SERVICE QUALITY ON  
CUSTOMER SATISFACTION: A CASE OF COMMERCIAL  
BANK OF ETHIOPIA, HAWASSA CITY**

**MBA THESIS**

**BY:**

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**MARCH, 2024  
HAWASSA, ETHIOPIA**

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CUSTOMER SATISFACTION: A CASE OF COMMERCIAL  
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**BY: MITIKU DASSA**

**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE  
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DEGREE IN MASTER OF MARKETING MANAGEMENT**

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**MARCH, 2024  
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## DECLARATION

I, **Mitiku Dassa**, the under signed, declare that this thesis entitled: “**Effect of Digital Banking Service Quality on Customer Satisfaction: A Case of Commercial Bank of Ethiopia, Hawassa City**” is my original work. I have undertaken the research work independently with the guidance and support of the research advisors. This study has not been submitted for any degree or diploma program in this or any other institutions and that all sources of materials used for the thesis has been duly acknowledged.

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## **ADVISOR’S APPROVAL SHEET**

This is to certify that the thesis entitled: “**Effect of Digital Banking Service Quality on Customer Satisfaction: A Case of Commercial Bank of Ethiopia, Hawassa City**” submitted in partial fulfillment of the requirements for the degree of Masters of Marketing Management of the graduate Studies, Hawassa University and is a record of original research carried out by **Mitiku Dassa**, under our supervision, and no part of the thesis has been submitted for any other degree or diploma. The assistance and help received during the course of this investigation have been duly acknowledged. Therefore, we recommend it to be accepted as fulfilling the thesis requirements.

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**HAWASSA UNIVERSITY**  
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**EXAMINERS' APPROVAL SHEET**

We, the undersigned, members of the Board of Examiners of the final open defense by **Mitiku Dassa** have read and evaluated his/her thesis entitled “**Effect of Digital Banking Service Quality on Customer Satisfaction: A Case of Commercial Bank of Ethiopia, Hawassa City**” and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirements for the degree of Master of Business Administration Degree (MBA) in Marketing Management.

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**Stamp of SGS** **Date** \_\_\_\_\_

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## **ABBREVIATIONS AND ACRONYMS**

ANOVA	Analysis of Variance
ATMs	Automated Teller Machines
BoFED	Bureau of Finance and Economic Development
CBE	Commercial Bank of Ethiopia
EFT	Electronic Funds Transfer
HCAFEDD	Hawassa City Administration Finance and Economic Development Department
ICT	Information communication Technology
MSEs	Medium-Sized Enterprises
PB	Perceived Benefit
PBC	Perceived Behavioral Control
PC	Personal Computer
POS	Point of Sale
PR	Perceived Risk
PS	Perceived Security
SPSS	Statistical Package for Social Science
TAM	Technology Acceptance Model
TOE	Technology Organization Environment
TPB	Theory of Planned Behavior
VIF	Variance Inflation Factor

## ABSTRACT

*This study aims to investigate the effect of digital banking service quality on customer satisfaction, with a specific focus on the Commercial Bank of Ethiopia in Hawassa City. Employing a descriptive and explanatory research design, the research follows both qualitative and quantitative research approaches. Multi-stage sampling techniques were employed to select the study area keeping in different steps to reach out 369 respondents which were determined by using sample size determination formula. Both secondary and primary data sources were collected through content analysis, taking short notes, interviews, questionnaires and visual aids. The analysis involves the use of various statistical measures, including frequency, percentage, mean, standard deviation, correlation, and multiple linear regression. The findings reveal that customer satisfaction is influenced by key factors such as easiness, convenience, security, customization, assurance, and comprehensiveness, with easiness emerging as the primary driver in digital banking. The study emphasizes the crucial role of digital banking products, highlighting their clear instructions, user-friendly transactions, and simple language. Convenience, facilitated by 24/7 availability, enables flexible financial management for customers. Security, rooted in the confidentiality of PIN codes, fosters trust in the bank. Additionally, the study suggests that the bank should align with digital banking functionalities, prioritize convenience, enhance security, and focus on timely customization to instill confidence in customers. Employee involvement is encouraged through the provision of positive declarations, contributing to the overall objective of delivering comprehensive services that effectively meet diverse customer needs.*

**Keywords:** Comprehensiveness, Convenience, Customer satisfaction, Service quality, Digital banking.

# CHAPTER ONE

## 1. INTRODUCTION

This chapter focuses mainly to address the study's background, statements of the problem, objectives of the study, significance of the study, scope of the study, limitation of the study, and organization of the study.

### 1.1. Background of the Study

Digital banking is used for the new era banking structure. The term can ordinarily be referred to as online banking, and it is a product of Personal Computer (PC) banking, which uses the internet as the delivery channel. This implies that electronic banking requires the use of computer systems connected to the internet. This method enables customers to carry out banking transactions such as transfer of funds, payment of bills, viewing and checking account balances, payment of mortgages & purchase of financial instruments and certificates of deposits (Elisha, 2010).

The significance of the digital banking service application has emerged as a foundational consideration for banks, serving as an essential requirement for their competitive standing both at local and global levels within the banking sector. As a result, financial institutions are driven to allocate increased resources toward information technology investment, aiming to attain optimal yields and captivate a substantial clientele base (Husni & Noor, 2011).

The rapid advancement of global information infrastructure, encompassing information technology and computer networks such as the Internet and telecommunication systems, has paved the way for the widespread development of electronic commerce on a global scale (Shah & Clarke, 2009). The heightened competition within the financial services market has exerted pressure to explore and implement alternative delivery channels, notably digital banking. This encompasses a range of services, including Automated Teller Machines (ATMs), mobile and online banking, electronic funds transfers, direct bill payments, and credit cards (Shaikh, 2014).

Banking service in Ethiopia has traditionally been established on the branch-banking model; banks were giving services only using their branches, and a person who has an account in one branch was unable to access banking services even within a different branch of the same bank. The unprecedented technological developments in general and the birth of the internet, in particular, have changed the way banking services had been delivering for years. Therefore, a bank's success is measured against its innovation to deliver innovative products and services to its customers. Nowadays, Ethiopian banks are forced to adopt & introduce technologies in performing their day to day activities, and Digital banking is one of the innovative services which enable the banks to provide banking products and services through electronic channels (Equbamariam, 2018).

In Ethiopia, banking faces numerous challenges to fully adopt and adapt Digital banking applications and seize the opportunities presented by ICT applications in general. As noted by different scholars such as Gardachew (2010), Ayana (2014), and Wondwossen and Tadesse (2005), some of the Challenges for Digital banking applications in Ethiopia are low level of internet penetration and poorly developed telecom infrastructure, lack of a suitable legal and regulatory framework for e-commerce and e-payment, high rates of illiteracy, high cost of Internet, lack of awareness creation on the benefits of new technologies and cyber security issues.

To improve Digital banking practice in developing countries, a better understanding of the challenges and practices of Digital banking is critical. By gaining an in-depth understanding of the challenges and conditions that influence developing countries' ability to adapt and realize its benefits fully, strategic implications can be generated for the researchers and practitioners regarding promoting Digital banking's growth in the developing countries (Zhao et al., 2012). As Ethiopia's digital banking service has been in operation for a short period, the financial sector has not been studied to any great extent, from providing digital banking service (Equbamariam, 2018). In light of the above concepts, this study will investigate the effect of digital banking service quality on customer satisfaction at commercial bank of Ethiopia: A case of Hawassa city Selected Branches.

## **1.2. Statement of the Problem**

Digital banking stands as a transformative catalyst reshaping the landscape of the banking industry, propelling it towards heightened competitiveness and operational efficiency while simultaneously presenting a dual prospect of opportunity and challenge in delivering unparalleled convenience, efficacy, and effectiveness to its clientele. At the heart of this evolution lies the paramount driver of convenience, epitomized by the seamless accessibility of digital banking services round the clock, enabling customers to conduct transactions with utmost time efficiency and geographical flexibility, transcending borders to cater to the needs of a global clientele. Moreover, the efficiency inherent in digital banking mechanisms serves to curtail superfluous transactional expenditures, with virtual banks particularly excelling in drastically reducing operational costs to a bare minimum, as elucidated by Alam (2010). Thus, digital banking emerges not only as a facilitator of enhanced customer experience but also as a harbinger of economic prudence, streamlining operations while catering to the evolving demands of a digitally connected world.

However, despite the remarkable potential of digital banking to revolutionize financial services, its widespread adoption in developing countries is impeded by significant disparities in Information and Communication Technology (ICT) infrastructure compared to more developed nations. In these contexts, including Ethiopia, where internet penetration rates remain low and ICT infrastructure is underdeveloped; the full scope of digital banking services has yet to permeate society. The limited access to the internet poses a formidable barrier to the widespread adoption of digital banking, as many individuals lack the necessary connectivity to engage with online banking platforms effectively.

Moreover, the lack of awareness and familiarity with digital banking services further hampers its uptake among the populace. Despite the myriad benefits and opportunities that digital banking could afford the Ethiopian banking industry, including enhanced accessibility, reduced transactional costs, and expanded financial inclusion, its potential remains largely untapped due to these infrastructural and awareness-related challenges.

As highlighted by Meron (2016), there exists a notable gap between the potential of digital banking services and their actual utilization in Ethiopia, underscoring the need for concerted efforts to address these barriers and promote greater awareness and accessibility of digital financial services among the population. Ayana (2012) and Balcha (2012) underscore the continued underdevelopment of the Ethiopian banking system when juxtaposed with global standards, particularly in key areas such as electronic payment systems, internet banking, mobile banking, and online shopping capabilities. In comparison to other developing nations, Ethiopia's banking industry remains at a nascent stage, grappling with significant challenges in embracing modern digital banking methods. Despite the widespread recognition of the benefits associated with digital banking technologies such as Automated Teller Machines (ATMs), debit cards, credit cards, internet banking, mobile banking, and others, the adoption and implementation of these tools by commercial banks in Ethiopia have been hindered by various obstacles.

These challenges encompass a spectrum of factors, including limited ICT infrastructure, regulatory constraints, security concerns, and a lack of consumer awareness and trust in digital financial services. As a consequence, the Ethiopian banking sector faces an uphill battle in modernizing its operations and catering to the evolving needs of its clientele amidst a rapidly digitizing global economy. Efforts to overcome these hurdles and foster the integration of modern digital banking methods are imperative to unlock the transformative potential of digital finance and propel Ethiopia towards greater financial inclusion and economic growth.

Even though the digital banking service has been in operation for the last 14 years, the number of researches conducted on digital banking challenges is limited in Ethiopia. Few studies were conducting by applying general service quality dimension that are reliability, assurance, empathy, tangibility and responsiveness. However, variables which are directly related to digital banking such as easiness, security, customization, support service, convenience, comprehensiveness and assurance were not considered. Hence, this study's primary purpose is to investigate the effect of digital banking service quality on customer satisfaction: A case of Hawassa city Selected Branches.

### **1.3. Research Questions**

1. What are the level of customer satisfaction towards the service and digital banking service quality dimensions?
2. What are the relationship between digital banking service quality dimensions and customer satisfaction?
3. What are the effect of digital banking service quality dimensions and customer satisfaction?

### **1.4. Research Objectives**

#### **1.4.1. General objective**

The general objective the study is to examine the effect of digital banking service quality on customer satisfaction: A case of Hawassa city Selected Branches.

#### **1.4.2. Specific objectives**

- ❖ To assess the digital banking service quality dimensions and customer satisfaction level.
- ❖ To analyze the relationship between digital banking service quality dimensions and customer satisfaction.
- ❖ To examine the effect of digital banking service quality dimensions on customer satisfaction.

### **1.5. Significance of the Study**

The objective of this study will lead to the expansion of new technologies through digital banking. The results of this study will have potential advantages to financial institutions, primarily banks to understand the opportunities related with the practice of digital-banking in providing service to their customers and it used to know the effect of digital banking on customer satisfaction. In addition, this study expected to help other researchers to conduct further study on this area because this type of technology is very important to all financial and non-financial institutions for rapid development of the country.

## **1.6. Scope of the Study**

Conceptually, the study focuses on investigating the effect of digital banking service quality on customer satisfaction. The independent variables included in the study are Easiness, Assurance, Security, Comprehensiveness, Customization, Convenience, and Support service. The study mainly focuses on digital banking services/channels of the bank such as ATM, Mobile Banking, Internet Banking, Point of Sale (POS), and CBE Birr. Geographically, the study was conducted in Hawassa city commercial bank of Ethiopia Branches. Methodologically, the study employed quantitative research approach to deal with the data analysis.

## **1.7. Limitation of the Study**

Several limitations were faced during conducting this study. First, misunderstanding of some respondents about the purpose of this study. In addition, some of them were busy and have little time to respond to interview questions. However, to overcome the potential bias of the finding of this study, respondents were asked by different types of questions and accompanied with explanations to get real information.

## **1.8. Organization of the Thesis**

The study was organized into five chapters. The first chapter includes the background of the study, statement of the problem, research questions, research objectives, significance of the study, the scope of the study, limitation of the study, and organization of the thesis. Chapter two concerned with the previous literature on the topic. Definition of terms, essential theorists, and researchers also is mentioned with an overview of the key models and concepts they have developed or researched. Empirical researches in similar subject matter also are assessed in this sub-topic. Chapter three includes research approach, research design, population and sample, data sources and types, data collection procedures, ethical consideration and data analysis, validity, and reliability. Likewise, chapter four includes visual representation of the data in the form of tables. Chapter five includes a summary, conclusion, and recommendations.

## **CHAPTER TWO**

### **2. REVIEW OF RELATED LITERATURE**

#### **2.1. Introduction**

This chapter concerns to review related literature's (Conceptual literature, theoretical literature and empirical literature) in the area of digital banking service quality and customer satisfaction.

#### **2.2. Conceptual Literature**

##### **2.2.1. Digital Banking**

Digital banking is a form of technological banking service where funds are transferred through an exchange of electronic signal between financial institutions, rather than exchange of cash, checks, or other instruments (Meaza, 2013).As the researcher states that Digital banking, also known as Electronic Funds Transfer (EFT), is simply the use of electronic service to transfer funds directly from one account to another.

Jennifer (2018) states that any neighborhood bank offers a variety of services, including access to our personal and business account information, advice on investments, funds withdrawals from either a live or automated teller, and funds transfers completed over the Internet. Computers support all of these functions and services, and it takes different types of computers to make it all happen seamlessly.

##### **2.2.2. Benefit of Digital Banking for Customers**

The benefit of Digital banking is not limited to banks but also to their customers. Customers can enjoy a variety of services, especially services which are not provided by traditional bank branches.one of the greatest benefits that Digital banking is not expensive or even free for customers to utilize services. Digital banking can bring about convenience and accessibility, which will have positive effects on customer satisfaction and loyalty (Pham 2010). Digital banking offers numerous benefits to customers, facilitating convenient management of banking transactions and enhancing privacy in interactions with the bank.

Firstly, it provides unparalleled convenience by allowing customers to conduct banking activities round the clock, eliminating the need to visit physical branches and endure long queues. This flexibility affords individuals more time for personal pursuits. Secondly, digital banking offers mobility, enabling transactions from anywhere with an internet connection. Additionally, it often entails reduced or nonexistent fees compared to traditional banking due to lower operational costs. Furthermore, it promotes environmental sustainability by minimizing paper usage through online statements and correspondence. Another advantage is the facilitation of direct deposit, expediting the availability of funds and enabling quicker interest accrual. Automatic bill payment streamlines monthly financial obligations, while real-time account information grants immediate access to financial status. Moreover, online transfers between accounts within the same financial institution occur almost instantly, offering unparalleled convenience and flexibility in managing finances.

### **2.2.3. Perceptions of Customers on Digital Banking**

**Perceived Benefit (PB)** Perceived benefits of Digital banking obtain both direct and indirect benefits for the banking industry as well as for the consumers. Direct benefits include the savings on operational cost, improved organizational functionality, productivity gain, improved efficiency and increased profitability. Indirect benefits include the opportunity or intangible benefits such as improved customer's satisfaction through improved services, improved banking experience and fulfillment of their changing needs and lifestyle, (White, 2001). Robinson (2000) argued that the online banking extends the relationship with the customers through providing financial services right into the home or office of customers.

**Perceived Security (PS)** Security is one of the very important challenges in determining the decision of consumers to use internet banking. According to Polatoglu and Ekin (2001), security defines three dimensions: those are reliability, safety, and privacy. **Perceived Risk (PR)** Perceived risk defined in terms of the customer's perception of the uncertainty and potential adverse consequences of buying a product or services. As different authors (Bauer 1960; Hsi-Peng, 2005) clearly stated risk in terms of uncertainty and negative consequences associated with consumer's actions.

#### **2.2.4. Technology Challenge**

Technological challenge appears that there is a lack of consensus on what challenges belong to this context and lack of literacy about technology. For example, one study (Salwani 2013) conduct a study about” technology competence covering existing technology infrastructure and skills to utilize the technology in this context”, while other studies (Ellias, 2009; Chang 2007) consider some relevant characteristics of technology. To avoid overlapping between technology and organizational contexts, researcher chooses two basic challenges related to technology competence, which have relevant to the organizational challenges, i.e perceived benefits and perceived risks are considered in the study from the technological challenges.

#### **2.2.5. Organizational Challenge**

Organizations are different in their preference to adopt technological innovation. Some organizations influenced by a number of challenges, like top management support, financial and human resources.

**Financial and human resources:** - Financial resources are an important challenge in facilitating any technological adoption for any organization and they are often correlated with the firm size (Kuan, 2001; Iacovou, 1995).Therefore, it is expected that the availability of financial resources within the adopting firms is important for Digital banking practice. These resources enable banking institutions to obtain human related resources including the required skills and expertise to develop and support provision of Digital banking services.

#### **2.2.6. Environmental Challenge**

Challenges related to the environmental context that plays a crucial role in technology adoption. Some challenges relevant for Digital banking adoptions are:

**Legal Frameworks:** - The existence and maturity of E-commerce legal frameworks within a country influence the diffusion of online transactions including Digital banking as demonstrated in various studies (Tan & Wu, 2002; Martinson & Trappey, 2001). The National **ICT infrastructure:** - National ICT infrastructure is a major challenge that affects the adoption of Digital banking as the case for other E-commerce initiatives. Without an adequate development level and quality of a nation’s ICT infrastructure, Digital banking adoption and use cannot do well (Efendioghu, 2004; Scupola, 2003).

**Competitive pressure:** - Competitive pressure can strongly influence any bank to develop and adopt Digital banking initiatives and it may affect the bank's perception towards Digital banking system. As implied in previous studies (Quaddus & Hofmeyer, 2007; Gibbs, Kraemer & Dedrick, 2003).

**Government Support:** -Government can either directly or indirectly affect the adoption of Digital banking in terms of creating a favorable environment and impetus for banking institutions and their customers so that the services can be diffused with the community (Kuan 2001 & Iacovou, 1995).

## **2.3. Theoretical Literature**

### **2.3.1. Technology Acceptance Model (TAM)**

The Technology Acceptance Model introduced by Davis (1985) is one of the most cited theoretical frameworks to predict the acceptance and use of new information technology within organizations. The Technology Acceptance Model hypothesizes that system use is directly determined by behavioral intention to use, which is in turn influenced by users' attitudes toward using the system and the perceived usefulness of the system. Perceived usefulness was defined as the degree to which individuals believe that using a particular system would enhance their job performance whereas perceived ease of use relates to the degree to which individuals believe that using a particular system would require no effort (Davis, 1989).

According to (Pfeffer, 1982; Vroom, 1964) TAM posits that two particular beliefs, perceived usefulness and perceived ease of use are the primary relevance for computer acceptance behavior. Perceived usefulness is defined as the degree to which a prospective user believes that using a particular system would enhance his or her job performance. Since its inception, the model has been tested with various applications in various studies and has become the most widely applied model of user acceptance and usage (Pikkarainen et al., 2004).

Various authors, simply posits that individuals who are keen to adopt an innovation, would want to believe or made to believe that they will not find a particular technology difficult to use and it would require no much labor in its usage.

The following researchers Lee (2009), in Finland; Lichtenstein and Williamson (2006) have utilized TAM variously in their works and some modifications based on environmental and cultural characteristics have also been included. However, The TAM model does not account for social influences in the adoption and utilization of new technologies (Edwin, 2013) According to Masrom and Hussein (2008) the adoption of whether to use an information system for a particular individual is very much dependent on the perceived usefulness and perceived ease of use of the information system.

### **2.3.2. Theory of Planned Behaviour (TPB)**

The theory of planned behavior (TPB) suggested that human behavior is determined by intention to perform the behavior, which is affected jointly by attitude toward behavior, subjective norm and perceived behavioral control (Ajzen, 1991, 2002).

Attitude is the general feeling of people about the desirability or undesirability of a specific behavior. Subjective norm expresses the perceived organizational or social pressure of a person who intends to perform a particular behavior. Perceived Behavioral Control (PBC) reflects a person's perception of the ease or difficulty of implementing a particular behavior. The ability of TBP in providing a useful theoretical framework for understanding and predicting the acceptance of new information systems is demonstrated (Ajzen, 2002). Armitage and Conner (2001) analyzed previous studies using the TBP in a meta-analysis study. The major conclusion was support for the efficacy of the TPB and the suggestion that more work on new variables is needed to increase the predictability of the model.

The theory assumes people are rational and make systematic decisions based on available information. Human behavior is under the voluntary control of the individual. It further assumes that people think about the consequences and implications of their actions behavior before they decide whether to do or not to do something. The limitation of this theory of planned behavior is that it is based on cognitive processing and level of behavior change.

Compared to affective processing models, the theory of planned behavior overlooks emotional variables such as threat, fear, mood and negative or positive feeling and assessed them in a limited fashion. The theory is largely dependent on rational processes and do not allow explicitly for the impacts of emotions and beliefs.

## **2.4. Empirical Literature**

Bend (2020) studied on Factors Affecting Electronic Banking Adoption in Barbados. The low rate of customers' adoption of electronic banking services affects retail banks' profitability. The operating cost for a financial transaction performed by bank tellers' averages US\$1.07 compared to US\$0.01 using electronic banking channels. It is paramount for retail banking leaders to understand the factors influencing customer adoption of electronic banking to sustain competitive advantage. Grounded in the technology acceptance model framework, the purpose of this quantitative correlational study was to examine the relationship between perceived usefulness, perceived ease of use, and customer adoption of electronic banking in Barbados. The validated technology acceptance model survey instrument was used to collect 72 responses from bank account holders living in Barbados who owned a mobile smartphone or a computer and used electronic banking services (mobile or online banking). A multiple regression analysis confirmed that the model as a whole was able to significantly predict customer adoption of electronic banking services.

A study conducted by Aklog (2018) on factors affecting for the adoption of Digital banking: The case of Commercial Bank of Ethiopia, Gondar city. Specifically, the study sought to examine the factors affecting for Digital banking adoption namely perceived benefit, perceived risk, internal capability, and ease of use, infrastructure, governing regulations and the role of other supporting institutions. This study was adopted quantitative research approach with descriptive and explanatory research design. To collect data from respondent's convenience and purposive sampling techniques were used. Primary data was collected from 352 CBE customers they are using either of Digital banking products in Gondar city by using self-administrated structured questionnaires with five scale likert statements. Quantitative data was collected, coded and entered into the computer for analysis using the Statistical Package for Social Sciences. Data was analyzed by using descriptive, correlation and

multiple linear regression models. This study was found that perceived benefit, ease of use, perceived risk, role of supporting institutions and internal capability of the bank were significantly associated with Digital banking adoption.

Atnkut (2018) studied on factors affecting adoption of e- banking in Ethiopian banking industry (In case of five selected banks). In order to achieve the objective of this study and answer the research questions, the researcher adopted mixed research design (both descriptive and explanatory research design).The study was conducted based on the data gathered from the following five banks in Ethiopia; commercial bank of Ethiopia, Dashen Bank, United Bank, Awash Bank and Abay bank. The data collected was analyzed using descriptive statistics by using spss version 20. A research framework developed based on the Technology Organization Environment (TOE) framework and Technology Acceptance Model (TAM) was used to guide the study. The study revealed the following major driving factors in adopting e-banking among commercial banks in Ethiopia; technological factors(perceived risk),from organizational factor, human and financial resources , from environmental factors, national ICT infrastructure, lack of legal and regulatory frame work, lack of government support and lack of completion from foreign banks, from demographical factors, gender, age and education level, and finally lack of awareness and lack of trust on the system are major factors.

Khan and Abdullah (2019) conducted a study aiming to examine the impact of service quality on overall customer satisfaction regarding Automated Teller Machine (ATM) services. The researchers used a survey method to collect data, gathering information from 211 ATM users in different places within the Kurdistan region. A structured questionnaire was utilized, and a pilot survey was conducted to ensure the research objectives were met. The data was analyzed using SPSS-22, employing descriptive analysis, correlation and coefficient tests, regression tests, and ANOVA tests to identify the service quality components of ATMs and their association with overall customer satisfaction. The results indicated that the majority of dimensions were significantly correlated with overall customer satisfaction. The study concluded by providing a few recommendations for improving ATM service quality.

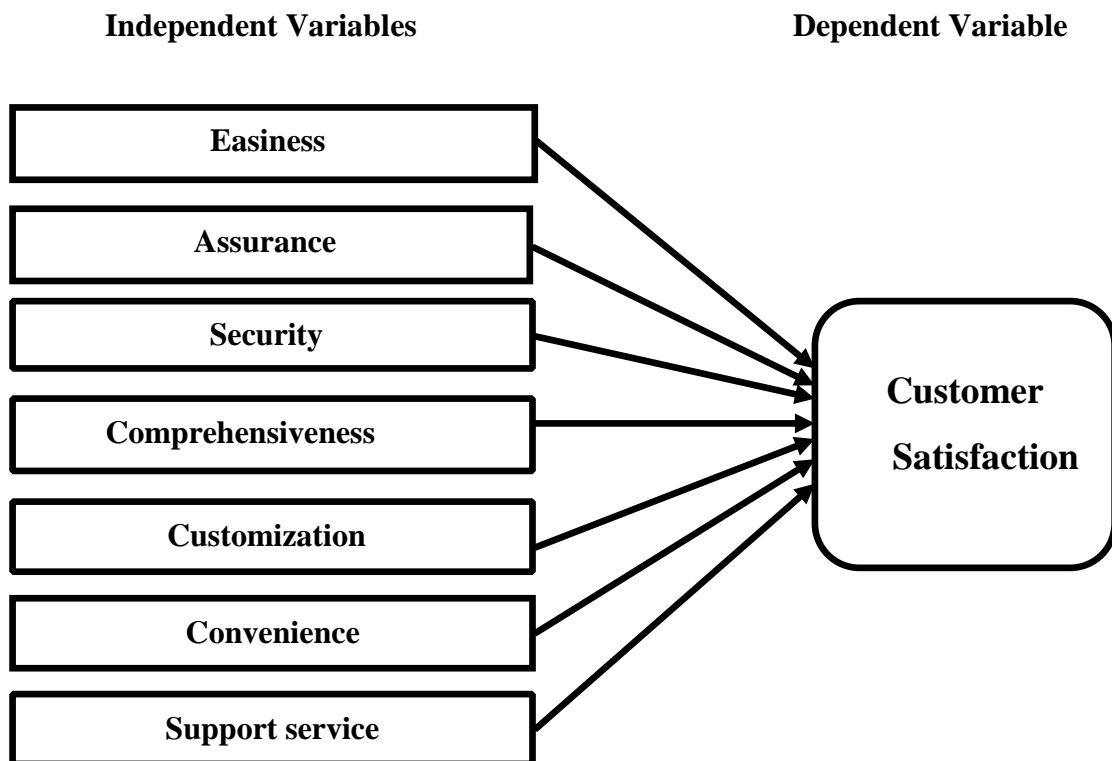
Tirhas et al. (2017) conducted a study to assess customer satisfaction with Automated Teller Machines (ATMs) in Adigrat, Ethiopia, using systematic sampling. Due to customers approaching the ATMs at different times, the researchers identified skipping intervals and considered customers who used the machine within those intervals. The study employed a descriptive research method. The findings revealed that promptness of card delivery, number of transactions, quality of notes, and convenient location highly satisfied customers.

However, the study also indicated concerns regarding the lack of privacy during transactions, reductions in balance without cash payments, blocked cards, and fears regarding safety. Lemma (2016) examined the effect of ATM service quality on customer satisfaction in Ethiopian commercial banks, specifically in Debremarkos town. The study utilized proportional stratified and simple random sampling techniques to collect cross-sectional data from 190 customers of Ethiopian commercial banks. Statistical tools such as mean, standard deviation, correlation, and multiple regression models were employed for analysis. The results indicated that all service quality dimensions, except assurance, had a positive and significant effect on customer satisfaction. Customers were particularly satisfied with the responsiveness dimension of ATM service quality.

Mwatsika (2016) conducted a study on customer satisfaction with ATM banking in Malawi. The study collected data from 353 ATM card users and adopted the importance-performance approach to measure customer satisfaction. Descriptive and correlation analyses were utilized to answer research questions. The results showed that all service quality dimensions significantly correlated with customer satisfaction, with responsiveness being the least performing dimension. Additionally, reliability was identified as the most important dimension, followed by responsiveness, empathy, assurance, and tangibles as the least important dimensions.

## 2.5. Conceptual Framework

Based on the literature review, the nature of relationship expected to exist is that service quality is to be evaluated based on independent variables of better service reliability, better service responsiveness; better service tangibility, assurance and empathy will result in an improved customer satisfaction. In this research it is believed that customer satisfaction is dependent on quality service and quality is providing solutions to customers problem better than their competitors to create a competitive advantage i.e. enhancing service quality dimensions such as reliability, responsiveness, tangibility, assurance and empathy will result in improved customer satisfaction (see figure 2.1).



**Figure 2.1: Conceptual framework of the study**

**Source:** Adapted from Putri et al. (2022)

### **Customer Satisfaction**

Customer satisfaction refers to the overall contentment and fulfillment experienced by a customer after interacting with a product, service, or brand. It is a measure of how well a company meets or exceeds customer expectations. It encompasses various aspects, including product quality, customer service, pricing, and overall experience. It is often assessed through surveys, feedback, and reviews.

### **Easiness**

Easiness refers to the simplicity, intuitiveness, and user-friendliness of a product or service. It measures how easily customers can understand, access, and use the offering. A product or service with a high level of easiness is likely to require minimal effort or learning curve for users to derive value from it.

### **Assurance**

Assurance relates to the trustworthiness, reliability, and credibility of a product or service. It involves providing customers with confidence that the offering will perform as expected and meet their needs. Assurance can be established through clear communication, warranties, guarantees, and a track record of delivering on promises.

### **Security**

Security pertains to the protection of sensitive information and assets from unauthorized access, breaches, or damage. It ensures that customer data and transactions are kept safe and confidential. This variable is crucial in establishing trust and confidence among customers, especially in industries like finance, healthcare, and e-commerce.

### **Comprehensiveness**

Comprehensiveness refers to the extent to which a product or service covers all relevant features, functions, or needs of the customer. It measures the breadth and depth of offerings. A comprehensive offering addresses a wide range of customer requirements, reducing the need for customers to seek additional solutions.

### **Customization**

Customization involves the ability to tailor a product or service to meet specific individual or business needs. It allows customers to personalize their experience. Products or services that

offer high levels of customization empower customers to adapt and configure the offering to align with their unique requirements.

### **Convenience**

Convenience refers to the ease and efficiency with which customers can access and use a product or service. It considers factors such as accessibility, availability, and time-saving features. Convenience is a significant driver of customer satisfaction, as it minimizes hassle and enhances the overall experience.

### **Support Service**

Support service encompasses the assistance, guidance, and resources provided to customers before, during, and after their interaction with a product or service. It includes channels like customer service hotlines, chat support, and self-help resources. Effective support service ensures that customers receive timely help, troubleshoot issues, and get the most value from their purchase, thereby contributing to overall satisfaction (Putri et al., 2022).

## CHAPTER THREE

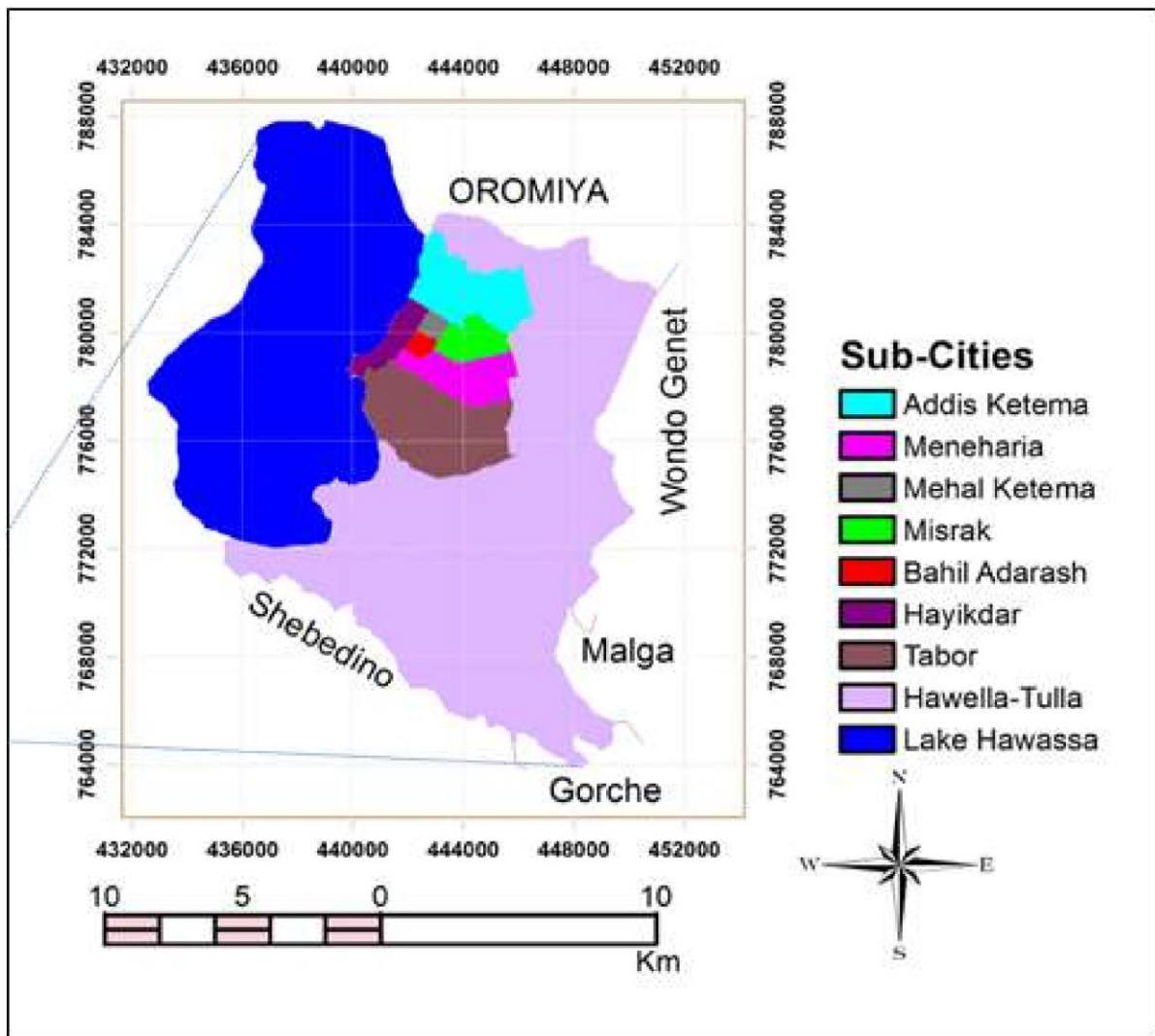
### 3. RESEARCH METHODOLOGY

#### 3.1. Description of the Study Area

The study was conducted in *Hawassa* City Administration. *Hawassa* was established in 1960 during the regime of Emperor Haile Silassie and celebrated its 50<sup>th</sup> year of anniversary in October 2010. The name *Hawassa* was taken from Lake *Hawassa* which means very vast and large field of cattle by *Sidama* language. Since 2003, *Hawassa* has gotten the status of Zonal level and obtained the special privilege of becoming a self-administering city and headed by a Mayor and his committee (*Hawassa* City Administration Finance and Economic Development Department [HCAFEDD], 2016).

*Hawassa* City is structured in eight Sub-Cities namely *Misrak*, *Menehariya*, *Tabor*, *Mahal Ketema*, *Haykdar*, *Addis Ketema*, *Bahil Adarash*, and *Hawella Tulla*. There are also 21 urban and 11 rural *Kebeles*. The highest decision-making body is the city council. All political, economic, social as well as governance duties are carried out by the mayor's committee members who are heads of the departments (HCAFEDD, 2016).

The City Administration has a role in service provision and creating employment opportunity for residents in collaboration with NGOs. However, migration contributes to the urban population growth of the city and become the main challenges of *Hawassa* City social service delivery (MUDHCo, 2015). The majority of the people in the town are driving their livelihood by undertaking small and Medium-Sized Enterprises (SMEs). According to HCATID (2016), about 5802 (3617 male and 2184 female), 4144(2569 male and 1575 female), 1658(1028 male and 630 female), 3315(2055 male and 1260 female) and 1657(1027 male and 630 female) entrepreneurs were involved in Manufacturing, Construction, Trade, Service and Urban agriculture respectively. *Hawassa* city revenue authority collects 556,409,586.24 Birr from different sources through direct tax, indirect tax and non-tax revenues (HCAFEDD, 2016).



**Figure 3.1: Administrative Map of Hawassa City Administration**

*Source:* BoFED, 2021

### 3.2. Research Design

The study used descriptive and explanatory research design. Likewise, a researcher applied cross-sectional study design. A cross-sectional design focuses on a particular phenomenon at a specific period (Saunders et al., 2009). In this case, one sample of a population can be taken and studied at a particular time as in a single cross-sectional study, or two or more samples of a target population could be studied once as in multiple cross-sectional studies (Mark et al., 2008).

### **3.3. Research Approach**

The study used a quantitative research approach. This approach refers to the data involved numeric scores, metrics, and so on. The quantitative approach helps to quantify or objectively measure certain variables in numeric terms, which makes descriptive analysis easy and manageable (Creswell, 2012). Therefore, throughout the study, the researcher used quantitative research approach to compute and interpret numerical data.

### **3.4. Target Population**

The target population of the study was commercial bank of Ethiopia digital banking customer. The digital banking includes ATM, Mobile Banking, Internet Banking, Point of Sale (POS), and CBE Birr.

### **3.5. Sample Size and Sampling Technique**

#### **3.5.1. Sampling Techniques**

To conduct this study a researcher has employed multi-stage sampling techniques. At the first stage it has been employed purposive sampling technique so as to select Hawassa City administration for this study. Since a researcher working in Commercial Bank of Ethiopia (CBE) at Hawassa city administration, he knows well about the existing station very well and due to that this area has been selected in purposive sampling base.

Second stage out of twenty-five branches of CBE a researcher has selected 8 branches on random sampling techniques since all branches provide same service modality to the customers. Third stage, a research has employed convenient sampling techniques to select the respondents in their convenience at different branches in the sampled branches.

To determine the sample size of the respondents a researcher used the formula developed by (Kothari, 2004) since the number of population of the study is unknown, it is found to be appropriate for determining the sample size.

$$n = \frac{z^2 p (1 - p)}{[e]^2} = \frac{1.96^2 0.5 (1-0.5)}{[0.05]^2} = \frac{3.8416(0.5)(0.5)}{[0.05]^2} = \frac{0.9604}{0.0025} \quad n = 384$$

Where

n = sample size      p = Presence of the study characteristics (p=0.5  
maximum variability)      e = accepted margin of error (5% precision)  
z = 1.96(95% confidence interval)

After determining the sample size, the researcher employed convenient sampling technique. This means the researcher selected participants based on their willingness and available to be studied. Because, when population elements has no sampling frame and was selected for inclusion in the sample based on the ease of access, convenience sampling is the correct sampling technique (Kothari, 2012).

### **3.6. Data Sources**

The sources of data were both primary and secondary data. The primary data sources for this study were obtained from the customers of the selected commercial banks operating in Ethiopia. Secondary sources of data were obtained from different books, websites, annual reports of the banks, case studies, journals, magazines, and different books in Digital banking and its determinates.

### **3.7. Data Collection Tool**

The main data collection tool for this study was questionnaire. The researcher used a five point Likert type questions where 1 stands for “Strongly Disagree”, 2 stands for “Disagree”, 3 stands for “Neutral”, 4 stands for “Agree” and 5 stands for “Strongly Agree.” The questionnaire was divided into two sections where the first part of the questionnaire was about the background information of respondents and the second one was for the study variables (dependent and independent variables).

### **3.8. Method of Data Processing and Analysis**

Data that was collected through a questionnaire was cleaned, coded, entered, edited, and analyzed using SPSS software version 26. Descriptive statistical analysis such as frequency, percentage, mean, and standard deviation was used to analyze it. Inferential statistics such as

correlation and multiple linear regression analysis was employed to investigate the factors that determine electronic banking adoption.

### **3.8.1. Model Specification**

In the pursuit of data analysis, the chosen inferential statistical test was the multiple linear regression model.

This analytical model is designed to meticulously explore and elucidate the intricate interplay between various independent variables and the dependent variable. Through this method, the study aims to decode and quantify the extent to which these independent factors collectively contribute to shaping and influencing the overall satisfaction level of customers.

$$\text{Customer satisfaction} = \beta_0 + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + X_4\beta_4 + X_5\beta_5 + X_6\beta_6 + X_7\beta_7 + \varepsilon$$

Where:  $\beta_0$  = the intercept term.

$X_1$  = Easiness

$X_2$  = Assurance

$X_3$  = Security

$X_4$  = Comprehensiveness

$X_5$  = Customization

$X_6$  = Convenience

$X_7$  = Support service

$\varepsilon$  = the error term.

## **3.9. Pre-test**

### **3.9.1 Validity Test**

Validity refers to the extent to which a measure adequately represents the underlying construct. It measures what is supposed to measure (Bhatteheriee, 2012). Therefore, the researcher consulted his advisor repeatedly in order to maintain the quality of the questionnaire.

### **3.9.2. Reliability test**

Reliability test is the degree to which the measure of a construct is consistent or dependable. It is a measure of consistency between different items of the same construct. If a multiple

item construct measure is administered to respondents, the extent to which respondent rate those items in a similar manner is a reflection of internal consistency. This reliability can be estimated in terms of Cronbach's alpha (Bhattacharjee, 2012).

According to George and Mallery (2003), a reliability score of greater than 0.9 is excellent, greater than 0.8 is good, greater than 0.7 is acceptable, greater than 0.6 is questionable, greater than 0.5 is poor, and less than 0.5 is unacceptable. In this research Cronbach's alpha model will be used with five-point Likert scales.

Reliability was checked through getting the questionnaires by selecting 39 respondents which would not be included in the final analysis. Therefore, before proceeding to the descriptive and inferential statistical analysis, the reliability of data for each variable and the overall reliability on every question item was tested using Cronbach's alpha ( $\alpha$ ) and presented in Table 3.1 as Follows:

**Table 3.1: Reliability test**

Variables	Cronbach's Alpha	Number of items
Easiness	0.919	4
Assurance	0.809	6
Security	0.836	5
Comprehensiveness	0.853	8
Customization	0.831	6
Convenience	0.894	5
Support service	0.823	4
Customer satisfaction	0.885	6
Overall	0.916	44

**Source:** Software output, 2023

As depicted in Table 3.1, the analysis of Cronbach's Alpha values for the study variables demonstrates an overall reliability coefficient of 0.916. This finding indicates that the questionnaire utilized in the study exhibits a high level of internal consistency, surpassing the threshold of 0.9 and attaining an excellent level of reliability. The robustness of the questionnaire's reliability suggests that the data collected is highly dependable and consistent, instilling confidence in the accuracy and validity of the study's findings.

With a Cronbach's Alpha exceeding 0.9, the questionnaire demonstrates strong reliability, affirming its suitability for assessing the intended constructs and facilitating meaningful analysis of the research hypotheses. This result underscores the meticulous design and careful construction of the questionnaire, reinforcing the credibility of the study's outcomes and conclusions.

### **3.10. Ethical Considerations**

The research endeavors to meticulously address ethical concerns throughout its execution. In particular, great emphasis has been placed on upholding the principles of consent and confidentiality when engaging with participants, who, in this case, are clients of the bank. The paramount importance of obtaining customer permission has been ingrained in the data collection process, ensuring that every participant is fully informed and willingly participates in the study. When administering questionnaires to the bank's clientele, the researchers have made it a top priority to secure mutual consent.

This ensures that participants are not only aware of their involvement but also actively agree to contribute their insights. By prioritizing customer permission, the study not only adheres to ethical standards but also fosters a sense of respect and transparency in the research process. Furthermore, the questionnaire distributed among the participants explicitly outlines the academic nature of the research. This transparency serves a dual purpose – not only does it provide clarity to the participants regarding the purpose of the study, but it also underscores the scholarly and unbiased intent of the research. Participants are made aware that their valuable contributions will be utilized solely for academic purposes, reinforcing the integrity of the study.

Lastly, the research extends a commitment to respecting the autonomy and willingness of each participant. Beyond mere compliance, the study seeks to engage participants who are genuinely interested and willing to share their perspectives. This approach not only ensures the voluntary nature of participation but also enhances the reliability and authenticity of the gathered data.

## CHAPTER FOUR

### 4. RESULT AND DISCUSSION

#### 4.1. Introduction

This chapter focuses on the results and discussions of the analyzed data which were collected from customers who is using digital banking. As stated in chapter one, the general objective of the study was examining the effect of digital banking service quality on customer satisfaction. To this end, pertinent data were collected through questionnaire. The results are presented in the form of tables and diagrams followed by interpretation and the inference. In this study, a total of 384 questionnaires were distributed and 369 (96.1%) were collected while 15(3.9%) of the questionnaire remained uncollected. Therefore, analysis was made based on the responses obtained from 369 questionnaires. This indicates that there was high rate of response

#### 4.2. Characteristics of Respondents

This section presents the background characteristics of the study participants in which the variables included were sex, age, education level, marital status, occupation, and monthly income. The results are presented in Tables 4.1, 4.2 and 4.3.

**Table 4.1: Distribution of Respondents by their Age and Sex**

Variables	Categories	Frequency(n)	Percentage (%)
Sex	Male	231	62.6
	Female	138	37.4
	Total	369	100
Age	18-30 Years	55	14.9
	31-43 Years	190	51.5
	44-56 Years	86	23.3
	Above 56	38	10.3
	Total	369	100

**Source:** Survey data, 2023

As the result in Table 4.1 shows, the majority (62.6%) of the CBE digital banking customers were male, while 37.4% were female. This indicates that the number of male customers were greater than female digital banking customers in CBE. Concerning age of the respondents, the findings indicate that 51.5% of the respondents were dominated by respondents aged between 31-43 years. Those respondents aged between 44-56 years were 23.3%. The remaining, 14.9% and 10.3% of respondents were found in the age group of 18,30 years and above 56 years, respectively. This implied that all CBE digital banking customers in the study area were youth.

**Table 4.2: Distribution of Respondents by their Educational Level and Marital Status**

Variables	Categories	Frequency(n)	Percentage (%)
Educational level	Grade 1-8	14	3.8
	Grade 9-12	21	5.7
	Certificate	36	9.8
	Diploma	31	8.4
	Degree	235	63.7
	Masters and above	32	8.7
	Total	369	100
Marital status	Single	87	23.6
	Married	217	58.8
	Divorced	56	15.2
	Widowed	9	2.4
	Total	369	100

**Source:** Survey data, 2023

The results in Table 4.2 indicated that 63.7% of respondents had degree, 8.7% of them had masters and above, and 8.4% of them had diploma. The remaining, 19.3% of them were at secondary school and below level. The study result indicated that the majority of digital banking customers were degree holders. As summarized in Table 4.2, the majority (55%) of the customers were married, while 24.3% were divorced. The remaining 16.5% and 4.2% of

them were single and widowed, respectively. This indicates that the majority of digital banking user customers in CBE were married.

**Table 4.3: Distribution of Respondents by their Occupation and Monthly income**

Variables	Categories	Frequency(n)	Percentage (%)
Occupation of customers	Government employee	16	4.3
	Private sector employee	40	10.8
	Own business	287	77.8
	Student	26	7.0
	Total	369	100
Monthly income	Below 3000	54	14.6
	3000-6000	86	23.3
	6001-9000	66	17.9
	Above 9000	163	44.2
	Total	369	100

**Source:** Survey data, 2023

In connection to occupation, 77.8% of customers were engaged on their own business, 10.8% of them were private sector employee and 7% of them were student. The remaining 4.3% of them were government employee. This implies that the majority of sampled CBE customers in the study area had their own business. Regarding sampled customers' current monthly income, 44.2% of them had a monthly income of above 9000 birr, 23.3% of them had monthly income of 3000-6000 birr, and 17.9% of the sampled respondents had monthly income 6001-9000 birr. The remaining, 14.6% of customers had monthly income below 3000 birr. The result indicated that the greater number of digital banking customers had monthly income above 9000 birr.

### **4.3. Customer Satisfaction and Digital Banking Service Quality**

#### **Dimensions**

Under this topic, the questions that were collected using Likert items were analyzed. The researcher used descriptive statistics such as frequency and percentage for analyzing individual items under each variable. Because, individual Likert item data are categorical and should be analyzed using frequency (Subedi, 2016). Furthermore, the mean and standard deviation were used for summarizing the computed items which is called Likert scale data to

get the representative number of a variable. The researcher considers an inherent assumption, which states that with the usage of any Likert scale that although the scale is truly ordinal, it is assumed to be on an interval scale with which statistical properties such as the mean can be justifiably used.

It is an assumption made quite frequently in empirical studies (Edmindson, 2005). Accordingly, the paper applies mean and standard deviation as the best measures for analysis based on the mean range developed by AlSayaad et al. (2006, cited in Bassam, 2013) of the following table:

**Table 4.4: Mean Score Range for Five Scale Likert’s Response**

Mean	Response
1.00 - 1.79	Strongly Disagree
1.80 - 2.59	Disagree
2.60 - 3.39	Neutral
3.40 - 4.19	Agree
4.20 - 5.00	Strongly Agree

**Source:** Al-Sayaad et al. (2006)

As revealed on Table 4.4, the ranges of values were presented as disagreeing if the mean score is between 1.0 and 2.6, neutral if the mean score is between 2.6 and 3.4 and agree if the mean score is above 3.4. Based on these classifications, the interpretations of all Likert scale items were presented as follows:

**Table 4.5: Perception of respondents on Easiness**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%
1	DB gives clear directions on use	8	2.2	40	10.8	27	7.3	202	54.7	92	24.9
2	DB is user friendly for transactions	10	2.7	49	13.3	53	14.4	199	53.9	58	15.7
3	Language of DB is easy.	11	3.0	48	13.0	78	21.1	139	37.7	93	25.2
4	DB gives illustrations and adverts of bank administrations	9	2.4	63	17.1	106	28.7	163	44.2	28	7.6
	Overall mean (SD)	3.66(.474)									

**Source:** Survey data, 2023.

In line with item 1, as summarized in Table 4.5, 79.6% of sampled respondents agreed that digital banking gives clear directions on use, while 13% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking gives clear directions on use. With respect to item 2, the result of Table 4.5 indicates that 69.6% of sampled respondents agreed that digital banking is user friendly for transactions, while 16% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking is user friendly for transactions.

On the subject of item 3, as summarized in Table 4.5, 62.9% of sampled respondents agreed that language of digital banking is easy, while 16% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that language of digital banking is easy. Regarding item 4, the result of Table 4.5 indicates that 51.8% of sampled respondents agreed that digital banking gives illustrations and adverts of bank administrations, while 19.5% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking gives illustrations and adverts of bank administrations.

The result of Table 4.5 indicates that the overall average value of easiness is 3.66 with a standard deviation of 0.474. This showed that the mean value is greater than 3.4 which relied on agreement level based on Al-Sayaad et al. (2006) proposed techniques of mean score ranges for five-point Likert scale questions. Therefore, the sampled respondents in the study area responded that CBE's digital banking is easy to use.

**Table 4.6: Perception of respondents on Assurance**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%
1	The employee is skilled in providing DB services with competence and expertise.	16	4.3	46	12.5	42	11.4	191	51.8	74	20.1
2	DB transactions are secured with robust measures, ensuring user confidence.	10	2.7	73	19.8	56	15.2	161	43.6	69	18.7
3	The employee actively builds customer trust in DB's reliability and security.	7	1.9	61	16.5	67	18.2	158	42.8	76	20.6
4	Ongoing training keeps employees proficient in evolving DB technologies.	15	4.1	70	19.0	85	23.0	130	35.2	69	18.7
5	The organization consistently monitors and addresses DB performance for user satisfaction.	12	3.3	65	17.6	66	17.9	127	34.4	99	26.8
6	Clear communication reinforces the organization's commitment to secure and reliable DB.	18	4.9	44	11.9	109	29.5	126	34.1	72	19.5
	Overall mean (SD)	3.59(.743)									

**Source:** Survey data, 2023

Concerning item 1, as presented in Table 4.6, 71.9% of sampled respondents agreed that the employee is skilled in providing digital banking services with competence and expertise, while 16.8% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that the employee is skilled in providing digital banking services with competence and expertise.

In line with item 2, the result of Table 4.6 indicates that 62.3% of sampled respondents agreed that digital banking transactions are secured with robust measures, ensuring user confidence, while 22.5% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking transactions are secured with robust measures, ensuring user confidence. Regarding item 3, as summarized in Table 4.6, 63.4% of sampled respondents agreed that the employee actively builds customer trust in digital banking's reliability and security, while 18.4% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that the employee actively builds customer trust in digital banking's reliability and security.

Concerning item 4, as presented in Table 4.6, 53.9% of sampled respondents agreed that ongoing training keeps employees proficient in evolving digital banking technologies, while 23.1% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that ongoing training keeps employees proficient in evolving digital banking technologies.

On the subject of item 5, as summarized in Table 4.6, 61.2% of sampled respondents agreed that the organization consistently monitors and addresses digital banking performance for user satisfaction, while 20.9% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that the organization consistently monitors and addresses digital banking performance for user satisfaction.

Regarding item 6, as summarized in Table 4.6, 53.6% of sampled respondents agreed that clear communication reinforces the organization's commitment to secure and reliable digital banking, while 16.8% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that clear communication reinforces the organization's commitment to secure and reliable digital banking. As presented in Table 4.6, the overall average value of assurance is 3.59 with a standard deviation of 0.743. This showed that the mean value is greater than 3.4 which relied on agreement level based on Al-Sayaad et al. (2006) proposed techniques of mean score ranges for five-point Likert scale questions. Therefore, the sampled respondents in the study area perceived that they feel safe in all their transactions at the bank.

**Table 4.7: Perception of respondents on Security**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%
1	I can rely on the security of digital banking	17	4.6	31	8.4	62	16.8	158	42.8	101	27.4
2	PIN code provided from the bank is confidential	32	8.7	50	13.6	55	14.9	72	19.5	160	43.4
3	I believe in the security of my own data	11	3.0	54	14.6	27	7.3	195	52.8	82	22.2
4	I trust that digital banking will not misuse my personal information	5	1.4	60	16.3	87	23.6	174	47.2	43	11.7
5	I feel secure in using digital banking	6	1.6	52	14.1	116	31.4	148	40.1	47	12.7
	Overall mean (SD)	3.66(.501)									

**Source:** Survey data, 2023

In line with item 1, as summarized in Table 4.7, 70.2% of sampled respondents agreed that they can rely on the security of digital banking, while 13% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that they can rely on the security of digital banking.

With respect to item 2, the result of Table 4.7 indicates that 62.9% of sampled respondents agreed that PIN code provided from the bank is confidential, while 22.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that PIN code provided from the bank is confidential.

On the subject of item 3, as summarized in Table 4.7, 75% of sampled respondents agreed that they believe in the security of their own data, while 17.6% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that they believe in the security of their own data.

In line with item 4, the result of Table 4.7 indicates that 58.9% of sampled respondents agreed that they trust that digital banking will not misuse their personal information, while 17.7% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that they trust that digital banking will not misuse their personal information.

Regarding item 5, as summarized in Table 4.7, 52.8% of sampled respondents agreed that they feel secure in using digital banking, while 15.7% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that they feel secure in using digital banking.

The result of Table 4.7 indicates that the overall average value of security is 3.66 with a standard deviation of 0.501. This showed that the mean value is greater than 3.4 which relied on agreement level based on Al-Sayaad et al. (2006) proposed techniques of mean score ranges for five-point Likert scale questions. Therefore, the sampled respondents in the study area stated that they believe in the security of digital banking.

**Table 4.8: Perception of respondents on Comprehensiveness**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	Digital banking's speed ensures efficient financial transactions.	28	7.6	69	18.7	15	4.1	198	53.7	59	16.0
2	It's a versatile platform, meeting diverse financial needs seamlessly.	8	2.2	60	16.3	15	4.1	244	66.1	42	11.4
3	Access to instant money at all times enhances digital banking's comprehensiveness.	8	2.2	52	14.1	138	37.4	148	40.1	23	6.2
4	Charges in digital banking are sensible, ensuring user accessibility.	11	3.0	19	5.1	98	26.6	171	46.3	70	19.0
5	Features enable swift financial transactions, enhancing overall comprehensiveness.	10	2.7	50	13.6	26	7.0	188	50.9	95	25.7
6	Digital banking accommodates diverse needs, providing instant access to money.	6	1.6	54	14.6	71	19.2	170	46.1	68	18.4
7	Transparent fee structures foster a positive user experience in digital banking.	11	3.0	36	9.8	88	23.8	131	35.5	103	27.9
8	Digital banking goes beyond basics, meeting a wide range of financial needs.	9	2.4	54	14.6	111	30.1	158	42.8	37	10.0
	Overall mean (SD)	3.62(.440)									

**Source:** Survey data, 2023

Concerning item 1, as presented in Table 4.8, 69.7% of sampled respondents agreed that digital banking's speed ensures efficient financial transactions, while 26.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking's speed ensures efficient financial transactions.

In line with item 2, the result of Table 4.8 indicates that 77.5% of sampled respondents agreed that it's a versatile platform, meeting diverse financial needs seamlessly, while 18.5% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that it's a versatile platform, meeting diverse financial needs seamlessly.

Regarding item 3, as summarized in Table 4.8, 46.3% of sampled respondents agreed that access to instant money at all times enhances digital banking's comprehensiveness, while 16.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that access to instant money at all times enhances digital banking's comprehensiveness.

Concerning item 4, as presented in Table 4.8, 65.3% of sampled respondents agreed that charges in digital banking are sensible, ensuring user accessibility, while 8.1% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that charges in digital banking are sensible, ensuring user accessibility.

On the subject of item 5, the result of Table 4.8 indicates that 76.6% of sampled respondents agreed that features enable swift financial transactions, enhancing overall comprehensiveness, while 16.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that features enable swift financial transactions, enhancing overall comprehensiveness.

Concerning item 6, as presented in Table 4.8, 64.5% of sampled respondents agreed that digital banking accommodates diverse needs, providing instant access to money, while 16.2% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking accommodates diverse needs, providing instant access to money.

In line with item 7, the result of Table 4.8 indicates that 63.4% of sampled respondents agreed that transparent fee structures foster a positive user experience in digital banking, while 12.8% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that transparent fee structures foster a positive user experience in digital banking.

Regarding item 8, as summarized in Table 4.8, 52.8% of sampled respondents agreed that digital banking goes beyond basics, meeting a wide range of financial needs, while 17% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking goes beyond basics, meeting a wide range of financial needs.

As summarized in Table 4.8, the overall average value of comprehensiveness is 3.62 with a standard deviation of 0.440. This showed that the mean value is greater than 3.4 which relied on agreement level based on Al-Sayaad et al. (2006) proposed techniques of mean score ranges for five-point Likert scale questions. Therefore, the sampled respondents in the study area perceived that digital banking fulfills their financial needs.

**Table 4.9: Perception of respondents on Customization**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	The digital banking is suitable for various transactions.	11	3.0	38	10.3	45	12.2	222	60.2	53	14.4
2	Digital banking offering customizable options.	5	1.4	75	20.3	65	17.6	157	42.5	67	18.2
3	Digital banking caters to specific customer needs, providing tailored services.	7	1.9	42	11.4	60	16.3	206	55.8	54	14.6
4	The digital banking allows users to customize their experience seamlessly.	2	0.5	49	13.3	100	27.1	180	48.8	38	10.3
5	Customers actively engage in customizing their digital banking.	10	2.7	50	13.6	57	15.4	173	46.9	79	21.4
6	Digital banking empowers users with a range of customizable options	19	5.1	27	7.3	126	34.1	141	38.2	56	15.2
Overall mean (SD)		3.64(.543)									

**Source:** Survey data, 2023

Concerning item 1, as presented in Table 4.9, 74.6% of sampled respondents agreed that the digital banking is suitable for various transactions, while 13.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that the digital banking is suitable for various transactions.

In line with item 2, the result of Table 4.9 indicates that 60.7% of sampled respondents agreed that digital banking offering customizable options, while 21.7% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking offering customizable options.

Regarding item 3, as summarized in Table 4.9, 70.4% of sampled respondents agreed that digital banking caters to specific customer needs, providing tailored services, while 13.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking caters to specific customer needs, providing tailored services.

Concerning item 4, as presented in Table 4.9, 59.1% of sampled respondents agreed that the digital banking allows users to customize their experience seamlessly, while 13.8% of them disagreed with the idea. The result implies that the greater number of sampled respondents agreed that the digital banking allows users to customize their experience seamlessly.

In line with item 5, the result of Table 4.9 indicates that 68.3% of sampled respondents agreed that customers actively engage in customizing their digital banking, while 16.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that customers actively engage in customizing their digital banking.

Regarding item 6, as summarized in Table 4.9, 53.4% of sampled respondents agreed that digital banking empowers users with a range of customizable options for a personalized financial experience, while 12.4% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking empowers users with a range of customizable options for a personalized financial experience. The findings derived from Table 4.9 reveal a substantial consensus among sampled respondents in the study area, indicating an overall average value of 3.64 and a standard deviation of 0.543 in the assessment of digital banking customization facilitated by Computer-Based Education (CBE).

Aligned with the agreement level proposed by AlSayaad et al. (2006) for Likert scale questions, the mean value surpasses the threshold of 3.4, signifying that respondents collectively agree that CBE contributes significantly to commendable digital banking customization. The moderate standard deviation underscores the consistency of this agreement, highlighting a reliable and widespread positive sentiment.

**Table 4.10. Perception of respondents on Convenience**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	The charge for getting service from any bank's digital banking terminals is fair	24	6.5	69	18.7	13	3.5	192	52.0	71	19.2
2	Digital banking of my bank are easily found at all useful places	2	0.5	74	20.1	17	4.6	226	61.2	50	13.6
3	Digital banking are always connected to network and ready for service	12	3.3	40	10.8	140	37.9	168	45.5	9	2.4
4	Digital banking are presented in convenience locations for use	7	1.9	15	4.1	98	26.6	183	49.6	66	17.9
5	The digital banking is serving the purpose of avoiding going to banks for services	7	1.9	69	18.7	17	4.6	218	59.1	58	15.7
Overall mean (SD)		3.61(.528)									

**Source:** Survey data, 2023

Concerning item 1, as presented in Table 4.10, 71.2% of sampled respondents agreed that the charge for getting service from any bank's digital banking terminals is fair, while 25.2% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that the charge for getting service from any bank's digital banking terminals is fair.

In line with item 2, the result of Table 4.10 indicates that 74.8% of sampled respondents agreed that digital banking of their bank are easily found at all useful places, while 20.6% of

them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking of their bank is easily found at all useful places.

Regarding item 3, as summarized in Table 4.10, 47.9% of sampled respondents agreed that digital banking are always connected to network and ready for service, while 14.1% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking are always connected to network and ready for service.

Concerning item 4, as presented in Table 4.10, 67.5% of sampled respondents agreed that digital banking are presented in convenience locations for use, while 6% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that digital banking are presented in convenience locations for use.

In line with item 5, the result of Table 4.10 indicates that 74.8% of sampled respondents agreed that the digital banking is serving the purpose of avoiding going to banks for services, while 20.6% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that the digital banking is serving the purpose of avoiding going to banks for services.

As presented in Table 4.10, the overall average value of convenience is 3.61 with a standard deviation of 0.528. This showed that the mean value is greater than 3.4 which relied on agreement level based on Al-Sayaad et al. (2006) proposed techniques of mean score ranges for five-point Likert scale questions. Therefore, the sampled respondents in the study area agreed that CBE's located at convenience location.

**Table 4.11. Perception of respondents on Support Service**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	Whenever I find difficult in using digital banking services there is quickly assistance	7	1.9	66	17.9	53	14.4	183	49.6	60	16.3
2	When error happed in using digital banking, I can get quick assistance	5	1.4	103	27.9	76	20.6	129	35.0	56	15.2
3	There are clear guidelines to follow when digital banking services do not dispense cash	8	2.2	51	13.8	101	27.4	167	45.3	42	11.4
4	When a customer has a problem, CBE banks will show a sincere interest in solving it.	4	1.1	75	20.3	72	19.5	160	43.4	58	15.7
	Overall mean (SD)	3.48(.461)									

**Source:** Survey data, 2023

Concerning item 1, as presented in Table 4.11, 65.9% of sampled respondents agreed that whenever they find difficult in using digital banking services there is quickly assistance, while 19.8% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that whenever they find difficult in using digital banking services there is quickly assistance.

On the subject of item 2, the result of Table 4.11 indicates that 50.2% of sampled respondents agreed that when error happed in using digital banking, they can get quick assistance, while 29.3% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that when error happed in using digital banking, they can get quick assistance.

With respect to item 3, as presented in Table 4.11, 56.7% of sampled respondents agreed that there are clear guidelines to follow when digital banking services do not dispense cash, while 16% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that there are clear guidelines to follow when digital banking services do not dispense cash.

Regarding item 4, as summary end in Table 4.11, 5 .1 of sampled respondents agreed that when a customer has a problem, CBE banks will show a sincere interest in solving it, while 21.4% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that when a customer has a problem, CBE banks will show a sincere interest in solving it.

The result of Table 4.11 indicates that the overall average value of support service is 3.48 with a standard deviation of 0.461. This showed that the mean value is greater than 3.4 which relied on agreement level based on Al-Sayaad et al. (2006) proposed techniques of mean score ranges for five-point Likert scale questions. Therefore, the sampled respondents in the study area responded that CBE has good support service on digital banking.

**Table 4.12 Perception of respondents on Customer Satisfaction**

Item no	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	My bank's digital banking provides me all the service that I need.	8	2.2	30	8.1	10	2.7	248	67.2	73	19.8
2	I like to urge family, friends and relatives to utilize an digital banking machine worked by this bank	6	1.6	29	7.9	99	26.8	202	54.7	33	8.9
3	I imagine that I settled on the right choice to utilize this current bank's digital banking	13	3.5	74	20.1	35	9.5	202	54.7	45	12.2
4	I am satisfied by the digital banking customer service and I can recommend others to use	5	1.4	74	20.1	170	46.1	93	25.2	27	7.3
5	I am satisfied with the performance of the employees of this bank.	8	2.2	31	8.4	77	20.9	231	62.6	22	6.0
6	Generally speaking, I am exceptionally happy with the services an digital banking gives me	8	2.2	14	3.8	31	8.4	206	55.8	110	29.8
Overall mean (SD)		3.66(.293)									

**Source:** Survey data, 2023

Concerning item 1, as presented in Table 4.12, 87% of sampled respondents agreed that their bank's digital banking provides them all the service that they need while 10.3 of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that their bank's digital banking provides them all the service that they need.

In line with item 2, the result of Table 4.12 indicates that 63.6% of sampled respondents agreed that they like to urge family, friends and relatives to utilize an digital banking machine worked by this bank, while 9.5% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that they like to urge family, friends and relatives to utilize a digital banking machine worked by this bank.

Regarding item 3, as summarized in Table 4.12, 66.9% of sampled respondents agreed that they imagine that they settled on the right choice to utilize this current bank's digital banking, while 23.6% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that they imagine that they settled on the right choice to utilize this current bank's digital banking.

Concerning item 4, as presented in Table 4.12, 32.5% of sampled respondents agreed that they are satisfied by the digital banking customer service and they can recommend others to use, while 21.5% of them disagreed with the idea. The result implies that the greater number of sampled respondents agreed that they are satisfied by the digital banking customer service and they can recommend others to use.

In line with item 5, the result of Table 4.12 indicates that 68.6% of sampled respondents agreed that they are satisfied with the performance of the employees of this bank, while 10.6% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that they are satisfied with the performance of the employees of this bank.

Regarding item 6, as summarized in Table 4.12, 85.6% of sampled respondents agreed that generally speaking, they are exceptionally happy with the services a digital banking gives them, while 6% of them disagreed with the idea. The result implies that the majority of sampled respondents agreed that generally speaking, they are exceptionally happy with the services on digital banking give them.

As presented in Table 4.12, the overall average value of customer satisfaction is 3.66 with a standard deviation of 0.293. This showed that the mean value is greater than 3.4 which relied on agreement level based on Al-Sayaad et al. (2006) proposed techniques of mean score

ranges for five-point Likert scale questions. Therefore, the sampled respondents in the study area perceived that they satisfied with the CBE's digital banking service.

#### 4.4. The Relationship between Digital Banking Service Quality

To analyze the relationship between two variables at a time, the correlation coefficient was used. The possible values of correlation coefficients range from  $-1$  to  $+1$ . A value of  $0$  indicates no linear relationship between two variables (Kothari, 2004). In this section, the independent variables were analyzed one by one using correlation analysis in order to identify their individual relationship with the dependent variable. For this purpose, independent variables namely easiness, assurance, security, comprehensiveness, customization, convenience, and support service were tested their degree of relationship with customer satisfaction. To know the strength and type of correlation between variables, the following table set as a rule of thumb for discussion of variables.

**Table 4.13: Rule of Thumb for about the Strength of Correlation of Coefficient**

Range of Coefficient	Description of Strength
$\pm.81$ to $\pm 1.00$	Very strong
$\pm.61$ to $\pm .80$	Strong
$\pm.41$ to $\pm.60$	Moderate
$\pm.21$ to $\pm.40$	Weak
$\pm.00$ to $\pm.20$	None

**Source:** Bhattacharjee (2012)

The range of correlation coefficients and its description of their strength were indicated in Table 4.14. Therefore, the individual relationships between two variables at a time were interpreted based on this Table 4.14. That means the correlation between the dependent variable such as customer satisfaction and independent variables were correlated and presented in Table 4.15.

**Table 4.14: Correlation Analysis Result**

Variables		X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	DV
Easiness (X <sub>1</sub> )	Correlation	1	.563**	.405**	.418**	.350**	.404**	.369**	.654**
	Sig.		.000	.000	.000	.000	.000	.000	.000
Assurance (X <sub>2</sub> )	Correlation	.563**	1	.384**	.373**	.393**	.349**	.434**	.624**
	Sig.	.000		.000	.000	.000	.000	.000	.000
Security (X <sub>3</sub> )	Correlation	.405**	.384**	1	.414**	.362**	.542**	.374**	.612**
	Sig.	.000	.000		.000	.000	.000	.000	.000
Comprehensiveness (X <sub>4</sub> )	Correlation	.418**	.373**	.414**	1	.292**	.486**	.439**	.547**
	Sig.	.000	.000	.000		.000	.000	.000	.000
Customization (X <sub>5</sub> )	Correlation	.350**	.393**	.362**	.292**	1	.382**	.316**	.542**
	Sig.	.000	.000	.000	.000		.000	.000	.000
Convenience (X <sub>6</sub> )	Correlation	.404**	.349**	.542**	.486**	.382**	1	.412**	.650**
	Sig.	.000	.000	.000	.000	.000		.000	.000
Support service (X <sub>7</sub> )	Correlation	.369**	.434**	.374**	.439**	.316**	.412**	1	.499**
	Sig.	.000	.000	.000	.000	.000	.000		.000
Customer satisfaction (DV)	Correlation	.654**	.624**	.612**	.547**	.542**	.650**	.499**	1
	Sig.	.000	.000	.000	.000	.000	.000	.000	

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

**Source:** Model output, 2023

As depicted in Table 4.14, the results of correlation analysis indicated that there is a statistically significant positive correlation between easiness and customer satisfaction ( $r = 0.654$ ,  $p < 0.01$ ). The correlation coefficient between easiness and customer satisfaction was 0.654, indicating a strong relationship. The direction of the correlation revealed that when easiness increases customer satisfaction also increase. As stated in Table 4.14, the results of correlation analysis indicated that there is a statistically significant positive correlation between assurance and customer satisfaction ( $r = 0.624$ ,  $p < 0.01$ ). The correlation coefficient between assurance and customer satisfaction was 0.624, indicating a strong relationship. This implied that as assurance increase, the probability of customer satisfaction also increases.

The results presented in Table 4.14 showed that there is a statistically significant 0.07 correlation between security and customer satisfaction ( $r = 0.612$ ,  $p < 0.01$ ). The correlation coefficient between security and customer satisfaction was 0.612, indicating a strong relationship. This implied that as security increase, the probability of customer satisfaction also increases.

As depicted in Table 4.14, the results of correlation analysis indicated that there is a statistically significant positive correlation between comprehensiveness and customer satisfaction ( $r = 0.547$ ,  $p < 0.01$ ). The correlation coefficient between comprehensiveness and customer satisfaction was 0.547, indicating a moderate relationship. The direction of the correlation revealed that when comprehensiveness increase customer satisfaction also increase.

As stated in Table 4.14, the results of correlation analysis indicated that there is a statistically significant positive correlation between customization and customer satisfaction ( $r = 0.542$ ,  $p < 0.01$ ). The correlation coefficient between customization and customer satisfaction was 0.542, indicating a moderate relationship. This implied that as customization increase, the probability of customer satisfaction also increases.

The results of Table 4.14 showed that there is a statistically significant positive correlation between convenience and customer satisfaction ( $r = 0.650$ ,  $p < 0.01$ ). The correlation coefficient between Convenience of Customer satisfaction was 0.650, indicating a strong relationship. This implied that as Convenience increase, the probability of Customer satisfaction also increase

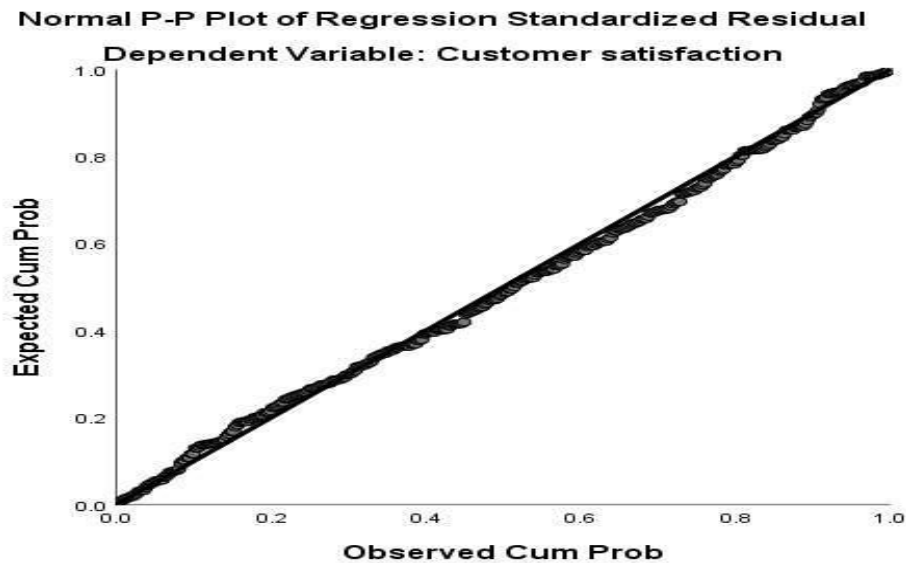
As presented in Table 4.14, the results of correlation analysis indicated that there is a statistically significant positive correlation between support service and customer satisfaction ( $r = 0.499$ ,  $p < 0.01$ ). The correlation coefficient between support service and customer satisfaction was 0.499, indicating a moderate relationship. The direction of the correlation revealed that when support service increase customer satisfaction also increase.

## 4.5. The Effect of Digital Banking Service Quality Dimensions on Customer Satisfaction

The customer satisfaction was determined using a multiple linear regression model. Customer satisfaction was used as the dependent variable in the model with customer satisfaction being independent variables. Before applying regression analysis to examine the effect of independent variables on the dependent variable, diagnostic tests such as linearity, normality, and multicollinearity tests are made for identifying misspecification of data if any so as to fulfill research quality as follows:

### 4.5.1. Linearity Test

Linearity refers to the degree to which the change in the dependent variable is related to the change in the independent variables. To determine whether the relationship between the dependent variable (Customer satisfaction) and the independent variables (easiness, assurance, security, comprehensiveness, customization, convenience, and support service) is linear; plots of the regression residuals through SPSS software had been used. Therefore, the results of the linearity test were presented as follows.



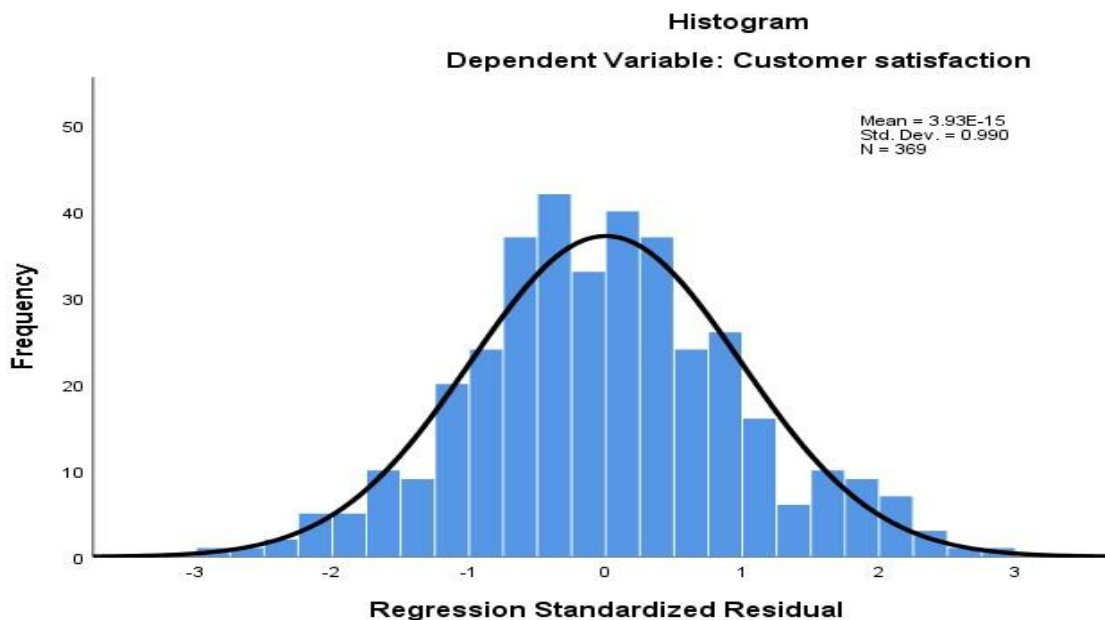
**Figure 4.1: The Linearity test of Standardized Residual**

Source: Model output, 2023

The scatter plot of residuals shows no large difference in the spread of the residuals as can be seen from left to right on Figure 4.1. This result suggests that the predicted relationship is linear. Similarly, the figure shows the distribution of residuals around its mean of zero. Hence the linearity assumption is fulfilled as required based on the above figure. Therefore, it is possible to conclude that the inferences that the researcher make about the population parameter from the sample is valid.

#### 4.5.2. Normality Test

The other important diagnostic test conducted in this paper is the normality assumption. Normality test is used to determine whether a data set is modeled for normal distribution or not. The Histogram result is presented as follows:



**Figure 4.2: Frequency Distribution of Standardized Residual**

**Source:** Model output, 2023

As can be seen from Figure 4.2, the frequency distribution of the standardized residuals compared to a normal distribution. Although there are some residuals (e.g., those occurring around 0) that are relatively far away from the curve, many of the residuals are fairly close. Moreover, the histogram is bell shaped which lead to infer that the residual (disturbance or errors) are normally distributed. Thus, no violations of the assumption normally distributed error term.

### 4.5.3. Multicollinearity Test

Under this section, multicollinearity test was checked. Multicollinearity indicates a linear relationship between explanatory variables which may cause the regression model biased (Gujarati, 2004). If an independent variable has an exact linear combination of the other independent variables, then we say the model suffers from perfect Collinearity, and it cannot be estimated by regression analysis. Therefore, the following table presents the results of the multicollinearity using Variance Inflation Factor (VIF) and tolerance.

**Table 4.15: Multicollinearity Assumption**

Independent variables	Collinearity Statistics	
	Tolerance	VIF
Easiness	.600	1.668
Assurance	.589	1.697
Security	.626	1.598
Comprehensiveness	.650	1.538
Customization	.754	1.327
Convenience	.581	1.721
Support service	.683	1.465

**Source:** Model output, 2023

The results of Table 4.15 presented the results of multicollinearity test. If there is high correlation between any two independent variables among easiness, assurance, security, comprehensiveness, customization, convenience, and support service, the regression model assumes redundancy of one of these variables that the significance of it becomes too low and its coefficient also be negatively affected. Therefore, the problem of multicollinearity is checked using Tolerance and VIF. The result showed that a tolerance of  $>.10$  and a  $VIF < 10$  are considered as good enough to minimize the effect of multicollinearity (Miller & Whicker, 1999). This implies that the regression model is not affected by higher correlation between two independent variables.

#### 4.5.4. Regression analysis

This section presents the multiple linear regression result of that made to examine the effect of independent variables on Customer satisfaction. Accordingly, the regression result was made and coefficients of the variables were estimated via SPSS software version 21. The regression result in Table 4.16 demonstrates both coefficients of explanatory variables and the corresponding significant values.

**Table 4.16: Results of Multiple Linear Regression Analysis**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	SE	Beta		
1	(Constant)	1.238	.087		14.190	.000
	Easiness	.153	.022	.247	7.010	.000
	Assurance	.080	.014	.202	5.696	.000
	Security	.103	.020	.177	5.122	.000
	Comprehensiveness	.068	.023	.102	3.014	.003
	Customization	.093	.017	.172	5.474	.000
	Convenience	.137	.020	.246	6.886	.000
	Support service	.034	.021	.053	1.599	.111
	F-statistic	140.416				
	Sig.	0.000				
R-square	0.731					
Adjusted R-square	0.726					

**Note:** B= Regression coefficient, SE = Standard Error, Dependent variable = Customer Satisfaction

**Source:** Model output, 2023

The regression results showed that the computed F-statistic (140.416) was significant at one percent. This justifies the suitability of the regression model in determining the customer satisfaction. The  $R^2$  value of 0.731 implies that about 73.1 percent of the effect of customer satisfaction has been explained by easiness, assurance, security, comprehensiveness, customization, convenience, and support service.

The remaining 26.9 percent of variance in customer satisfaction was not accounted by the independent variables considered in the model. Based on Table 4.16, using “□” (unstandardized) coefficients, the model used to examine the Customer satisfaction was:

$$\text{Customer satisfaction} = \beta_0 + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + X_4\beta_4 + X_5\beta_5 + X_6\beta_6 + X_7\beta_7 + \varepsilon$$

$$\text{Customer satisfaction} = 1.238 + 0.153*\text{Easiness} + 0.08*\text{Assurance} + 0.103*\text{Security} + 0.068*\text{Comprehensiveness} + 0.093*\text{Customization} + 0.137*\text{convenience} + 0.034*\text{support service} + 0.087$$

The regression equation is interpreted in the following few paragraphs. Among seven variables which were included in the model, six have found to be significant effect on customer satisfaction. These are easiness, assurance, security, comprehensiveness, customization, and convenience. The interpretation is in the following paragraphs.

**Easiness:** Based on the results of Table 4.16, easiness has positive and statistically significant effect on customer satisfaction ( $\beta = 0.153$ ,  $p < 0.01$ ). The result of the regression coefficient indicates that on average, a one unit increase of easiness will increase the value of customer satisfaction by 0.153 units. Similar to this finding, Adeniran and Junaidu (2014) studied the important determinants of customer satisfaction in Nigeria and identified that ease of use is the most prominent factor for the customer satisfaction for service quality of digital banking. The improvement in the service quality of digital banking in terms of ease of use enhance the satisfaction level of customers and customers use this advance technology on regular basis

**Assurance:** As presented in Table 4.16, assurance has positive and statistically significant effect on customer satisfaction ( $\beta = 0.08$ ,  $p < 0.01$ ). The result of the regression coefficient indicates that on average, a one unit increase of assurance brings a 0.08 units increase in Customer satisfaction. In corresponding this finding, Lee and Kim (2023) found a positive and significant relationship between perceived assurance (competence, reliability, and security) and customer satisfaction in the insurance industry. Customers who felt more assured by their insurance provider reported higher levels of satisfaction.

**Security:** On the bases of Table 4.17 result, security has positive and statistically significant effect on customer satisfaction ( $\beta = 0.103$ ,  $p < 0.01$ ).

The result of the regression coefficient indicates that on average, a one unit increase of security will increase the value of customer satisfaction by 0.103 units. Hammoud et al. (2018) also stated that the overall quality of E-banking services, including security and privacy, has a positive and statistically significant influence on customer satisfaction.

**Comprehensiveness:** As per the results of Table 4.17, comprehensiveness has positive and statistically significant effect on customer satisfaction ( $\beta = 0.068$ ,  $p < 0.01$ ). The result of the regression coefficient indicates that on average, a one unit increase of comprehensiveness brings a 0.068 units increase in customer satisfaction. Similarly, Al-Qudah and Al-Majali (2023) found a positive and significant relationship between the comprehensiveness of digital banking features and both customer satisfaction and loyalty. Customers who perceived their bank's digital platform as offering a wider range of features and functionalities were more satisfied and more likely to recommend the bank to others.

**Customization:** Depending on the results of Table 4.17, customization has positive and statistically significant effect on customer satisfaction ( $\beta = 0.093$ ,  $p < 0.01$ ). The result of the regression coefficient indicates that on average, a one unit increase of customization will increase the value of customer satisfaction by 0.093 units. In supporting this finding, Park and Jun (2020) showed that customization options in online banking, such as personalized dashboards and transaction categorization, lead to improved user experience and higher customer satisfaction.

**Convenience:** According to the results of Table 4.17, convenience has positive and statistically significant effect on customer satisfaction ( $\beta = 0.137$ ,  $p < 0.01$ ). The result of the regression coefficient indicates that on average, a one unit increase of convenience brings a 0.137 units increase in Customer satisfaction. In corresponding to this finding, Kim et al. (2023) found that mobile banking convenience, measured by features like account accessibility and transaction ease, had a significant positive impact on customer satisfaction and loyalty.

## CHAPTER FIVE

### 5. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

In this chapter, summary of major findings, conclusion and recommendations of the study were presented. The chapter started from major findings that are obtained from mixed results and followed by presentation on conclusion. Finally, it forwards recommendations for the identified gaps by this study.

#### 5.1. Summary of Major Findings

The main purpose of this study was to examine the effect of digital banking service quality on customer satisfaction. A total of 369 were participated in responding to the questionnaire and the collected data was analyzed using descriptive statistics such as frequency, percentage, mean, and standard deviation. Moreover, inferential statistics such as correlation and multiple linear regression analysis were applied. Based on the results of the study, a summary of the major findings was identified as follows:

- In relation to background characteristics of respondents, the majority (62.6%) of respondents were male. Likewise, the majority (51.5%) of them were found in the age group of 31-43. Similarly, the majority (58.8%) of them were married. Also, the majority (63.7%) of respondents were first degree holders. Moreover, larger number (77.8%) of respondents work in their own business.
- The ranges of values were presented as disagreeing if the mean score is between 1.00 and 2.60, neutral if the mean score is between 2.60 and 3.40 and agree if the mean score is above 3.40. Therefore, the interpretations of all Likert scale items such as easiness, assurance, security, comprehensiveness, customization, convenience, support service, and customer satisfaction were done based on these classifications.
- Based on the descriptive statistics result, respondents were agreed one easiness ( $M = 3.66$ ,  $SD = 0.474$ ), assurance ( $M = 3.59$ ,  $SD = 0.743$ ), security ( $M = 3.66$ ,  $SD = 0.501$ ), comprehensiveness ( $M = 3.62$ ,  $SD = 0.44$ ), customization ( $M = 3.64$ ,  $SD = 0.543$ ), convenience ( $M = 3.61$ ,  $SD = 0.527$ ), support service ( $M = 3.48$ ,  $SD = 0.461$ ), and customer satisfaction ( $M = 3.66$ ,  $SD = 0.293$ ).

- The results of the correlation analysis indicated that easiness ( $r = 0.654$ ,  $p < 0.01$ ), assurance ( $r = 0.624$ ,  $p < 0.01$ ), security ( $r = 0.612$ ,  $p < 0.01$ ), comprehensiveness ( $r = 0.547$ ,  $p < 0.01$ ) customization ( $r = 0.542$ ,  $p < 0.01$ ), convenience ( $r = 0.650$ ,  $p < 0.01$ ), and support service ( $r = 0.499$ ,  $p < 0.01$ ) have statistically significant relationship with customer satisfaction. The result implies that all independent variables have moderate and strong relationship to the dependent variable.
- The R-square value of the regression model was 0.731, indicating that 73.1 percent of the variation of customer satisfaction has been explained by easiness, assurance, security, comprehensiveness, customization, convenience, and support service. The remaining 26.9 percent of variance in customer satisfaction was not accounted by the independent variables considered in the model.
- The ANOVA table indicated that the multiple regression model itself is statistically significant or not significant. Accordingly, it is found that the model is statistically significant when easiness, assurance, security, comprehensiveness, customization, convenience, and support service were included ( $F = 140.416$ ,  $p < 0.01$ ). Therefore, the overall equation was found to be statistically significant.
- The results of the multiple linear regression models indicated that easiness ( $\beta = 0.153$ ,  $p < 0.01$ ), assurance ( $\beta = 0.08$ ,  $p < 0.01$ ), security ( $\beta = 0.103$ ,  $p < 0.01$ ), comprehensiveness ( $\beta = 0.068$ ,  $p < 0.01$ ), customization ( $\beta = 0.093$ ,  $p < 0.01$ ), convenience ( $\beta = 0.137$ ,  $p < 0.01$ ), and support service ( $\beta = 0.034$ ,  $p < 0.01$ ) have statistically significant effect on customer satisfaction. The result implies that among seven variables which were included in the model, six have found to be significant effect on customer satisfaction. These variables were easiness, assurance, security, comprehensiveness, customization, inconvenience.

## **5.2. Conclusion**

The customer satisfaction was affected by easiness, convenience, security, customization, assurance, and comprehensiveness. Among them the dominant factor that affects customer satisfaction was easiness. Easiness of the digital banking products has effect on bank customers' satisfaction.

Digital banking products provides clear instructions for use, it is user friendly for transactions, and digital banking products language is simple. Likewise, convenience is a pivotal factor that undeniably shapes customer satisfaction in various industries, particularly in the realm of modern banking. With the advent of digital banking, the ability for customers to conduct transactions and manage their finances at any time, from anywhere, has become a cornerstone of service excellence. The 24/7 availability of digital banking services eliminates the constraints of traditional banking hours, offering customers the flexibility to engage with their accounts when it best suits their schedules.

The other important factor that affects customer satisfaction was security. Security of digital banking has effect on satisfaction of customers. Customers rely on and believe in the security of digital banking because, the PIN code provided by the bank is confidential. Thus, customers believe in the security of their own data and they trust that the bank digital service will not misuse their personal information. Customization was one of the factors that affect customer satisfaction. Customization has contribution for customers satisfaction in the banking industry. The Automatic Teller Machine card is easy to use, a good option for customers, and it meets their specific requirements. Furthermore, assurance was found to be one of the important factors that affect Customer satisfaction. Assurance has effect on improving the satisfaction level of automatic teller machine customers in the study area. Customers feel safe in all bank transactions because the employee has the necessary skills, and the employee instills confidence in customers. The other important factor that affects customer satisfaction was comprehensiveness. Comprehensiveness has an impact on commercial bank of Ethiopia customers. Providing fast service, fulfilling the majority of customers financial needs, providing instant money all the time, and levying sensible charges makes the automatic teller machine acceptable by their customers.

### **5.3. Recommendations**

In order to improve the customer satisfaction in the study area, the researcher forwards the following recommendations based on the conclusion and main findings of the study as follows:

- ❖ Easiness was found to be one of the determinant factors for the customer satisfaction. Therefore, the bank should follow the functionality of digital banking products such as automatic teller machine, internet banking, mobile banking, and PoS.
- ❖ Based on the identified influence of convenience on customer satisfaction in the context of digital banking, the researcher would recommend financial institutions to prioritize and continually enhance the convenience aspects of their digital banking services. This could involve further investments in technological infrastructure to ensure robust 24/7 availability, streamlined user interfaces, and seamless functionalities.
- ❖ Security emerged as a crucial determinant influencing customer satisfaction, emphasizing the paramount need for the bank to strengthen the security protocols of its digital banking platforms, thereby fostering trust and confidence among customers in their digital interactions with the financial institution. Customization was found to be one of the determinant factors for the customer satisfaction. Therefore, commercial bank of Ethiopia should focus on customizing services by providing the digital banking services timely.
- ❖ Assurance was one of the factors influencing the customer satisfaction. Therefore, the employees of the bank should give positive declaration intended to give confidence for customers.
- ❖ Comprehensiveness was the significant factor which influences customer satisfaction. Therefore, the bank should provide comprehensive service to its customers.

#### **5.4. Direction for Future Research**

Enhancing the customer satisfaction is an assignment that all responsible bodies struggle for. Therefore, it is recommended that other researchers should carry out determinant of Customer satisfaction by adding other variables which were not included in this study. Since the researcher focused only on Commercial bank of Ethiopia, Hawassa district, it is better expanded it to other private banks.

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# APPENDICES

## APPENDIX I

### Survey Questionnaire

#### HAWASSA UNIVERSITY SCHOOL OF GRADUATE STUDIES

**Dear respondent:**

Currently, I am undertaking a research entitled on “**Effect of Digital Banking Service Quality on Customer Satisfaction: A Case of Commercial Bank of Ethiopia, Hawassa City**”. So, you are one of respondent selected to participate on this study. Please assist me in giving correct and complete information to present a representative finding on the current states of the topic. Your participation is entirely voluntary. Finally, I confirm you that the information that you share was kept confidential and only used for the academic purpose. The identity of respondent would not be published or released to anyone. So, all information was used for academic purpose only.

Thank you for your dedicating your time!

General Instructions

- ❖Pleas indicate your choice by circling where you think is appropriate in the number provided to each preference and for likert scale type questing indicate your answers with a check mark (☐) in the appropriate spaces.

**Part I: Demographic Information of Respondents**

1. Sex: 1) Male                    2) Female
2. Age: \_\_\_\_\_
3. Educational status:  
1) Grade 1-8 2) Grade 9-12 3) Certificate 4) Diploma 5) Degree 6) Masters & Above
4. Marital status    1) Married    2) Single    3) Divorced    4) Widowed
5. Occupation of customers:  
1) Government employee 2) Private sector employee 3) Own Business 4) Student
6. Monthly income:    1) Below 3000 2) 3000-6000 3) 6001-9000 4) Above 9000

## Part II: Easiness

The following questions were designed to collect data on Easiness. Therefore, please indicate the degree to which you agree or disagree with each of the following statements by ticking in the box under the number which is most applicable to you. The grading scale is from (1) to (5) with 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree

No	Statement	1	2	3	4	5
1.	Digital banking gives clear directions on use					
2.	Digital banking is user friendly for transactions					
3.	Language of digital banking is easy.					
4.	Digital banking gives illustrations and adverts of bank administrations					

## Part III: Assurance

The following questions were designed to collect data on assurance. Therefore, please indicate the degree to which you agree or disagree with each of the following statements by ticking in the box under the number which is most applicable to you. The grading scale is from (1) to (5) with 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree

No	Statement	1	2	3	4	5
1.	The employee is skilled in providing digital banking services with competence and expertise.					
2.	Digital banking transactions are secured with robust measures, ensuring user confidence.					
3.	The employee actively builds customer trust in digital banking's reliability and security.					
4.	Ongoing training keeps employees proficient in evolving digital banking technologies.					
5.	The organization consistently monitors and addresses digital banking performance for user satisfaction.					
6.	Clear communication reinforces the organization's commitment to secure and reliable digital banking.					

### Part IV: Security

The following questions were designed to collect data on security. Therefore, please indicate the degree to which you agree or disagree with each of the following statements by ticking in the box under the number which is most applicable to you. The grading scale is from (1) to (5) with 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree

No	Statement	1	2	3	4	5
1.	I can rely on the security of digital banking					
2.	PIN code provided from the bank is confidential					
3.	I believe in the security of my own data					
4.	I trust that digital banking will not misuse my personal information					
5.	I feel secure in using digital banking					

### Part V:Comprehensiveness

The following questions were designed to collect data on comprehensiveness. Therefore, please indicate the degree to which you agree or disagree with each of the following statements by ticking in the box under the number which is most applicable to you. The grading scale is from (1) to (5) with 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree

No	Statement	1	2	3	4	5
1.	Digital banking's speed ensures efficient financial transactions.					
2.	It's a versatile platform, meeting diverse financial needs seamlessly.					
3.	Access to instant money at all times enhances digital banking's comprehensiveness.					
4.	Charges in digital banking are sensible, ensuring user accessibility.					
5.	Features enable swift financial transactions, enhancing overall comprehensiveness.					
6.	Digital banking accommodates diverse needs, providing instant access to money.					
7.	Transparent fee structures foster a positive user experience in digital banking.					
8.	Digital banking goes beyond basics, meeting a wide range of financial needs.					

### Part VI: Customization

The following questions were designed to collect data on customization. Therefore, please indicate the degree to which you agree or disagree with each of the following statements by ticking in the box under the number which is most applicable to you. The grading scale is from (1) to (5) with 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree

No	Statement	1	2	3	4	5
1.	The digital banking is suitable for various transactions.					
2.	Digital banking offering customizable options.					
3.	Digital banking caters to specific customer needs, providing tailored services.					
4.	The digital banking allows users to customize their experience seamlessly.					
5.	Customers actively engage in customizing their digital banking.					
6.	Digital banking empowers users with a range of customizable options for a personalized financial experience.					

### Part VII: Convenience

The following questions were designed to collect data on convenience. Therefore, please indicate the degree to which you agree or disagree with each of the following statements by ticking in the box under the number which is most applicable to you. **Key:** 1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, and 5= Strongly agree .

No.	Statement	1	2	3	4	5
1.	The charge for getting service from any bank's digital banking terminals is fair					
2.	Digital banking of my bank are easily found at all useful places					
3.	DB are always connected to network and ready for service					
4.	Digital banking are presented in convenience locations for use					
5.	The digital banking is serving the purpose of avoiding going to banks for services					

**Part VIII: Support Service**

The following questions were designed to collect data on support service. Please use the scale (1 to 5) to show your agreement with the following statements about support services.

**Note:** 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree

No	Statement	1	2	3	4	5
1.	Whenever I find difficult in using digital banking services there is quickly assistance					
2.	When error happed in using digital banking, I can get quick assistance					
3.	There are clear guidelines to follow when digital banking services do not dispense cash					
4	When a customer has a problem, CBE banks will show a sincere interest in solving it.					

**Part X: Customer Satisfaction**

The following questions were designed to collect data on customer satisfaction. Please use the scale (1 to 5) to show your agreement with the following statements about support services.

**Note:** 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree

No	Statement	1	2	3	4	5
1.	My bank’s digital banking provides me all the service that I need.					
2.	I like to urge family, friends and relatives to utilize an digital banking machine worked by this bank					
3.	I imagine that I settled on the right choice to utilize this current bank's digital banking					
4	I am satisfied by the digital banking customer service and I can recommend others to use					
5	I am satisfied with the performance of the employees of this bank.					
6	Generally speaking, I am exceptionally happy with the services an digital banking gives me					

**Thank You for Time!**