



ST MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
MBA IN GENERAL MANAGEMENT

**ASSESSMENT OF SERVICE DELIVERY QUALITY AND CORE
BANKING SYSTEM IN BANK OF ABYSSINIA.**

BY:

KAHSAY MERESSA ABAY

May, 2018

ADDIS ABABA

ETHIOPIA

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BY

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SGS/0077/2009A

A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY, SCHOOL OF
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Declaration

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Abrham G. (Ass Prof).all the sources used for the thesis have been dully acknowledged. I further confirm that this thesis has not been submitted either in part or in full to any higher learning institutions for the purpose of earning any degree.

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List of Abbreviations and Acronyms

ATM: Automated Teller Machine

BOA: Bank of Abyssinia

CBS: Core Banking Service

EFT: Electronic Fund Transfer

ICT: Information Communication Technology

IT: Information Communication

LMTS: Local Money Transfer System

PIN: Personal Identification Number

POS: point of sale

SERVQUAL: Service Quality

SPSS: Statistical Package for Social Science

VISA: Visa International Service Association

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Abstract

Organizations strive to launch different technologies to improve their service delivery quality which in turn leads to win customer loyalty. Banking sector is shifting from manual area to technology because of technological shift, as Banks are under increasing pressure to offer better services to their customers, with the new technology aiding globalization and integration of the world's financial market with the drastic increase in the expectation of customers for newer products and alternative delivery channels that meet their specification i.e. is delivering quality service at anywhere and anytime. Thus, the study focused on assessing service quality and core banking system in Bank of Abyssinia. This study used descriptive-correlational research design and quantitative approach in which questionnaires were distributed to 291 sampled customers and analyzed using SPSS version 23. This study used tables, frequency, percent, charts, mean and standard deviation in displaying the results. The computed mean scores of service delivery quality through service quality dimensions which helps to measure their rate of service delivery quality of the bank; majority of respondents rate of the service delivery quality dimensions are rated as good and there is no much variance of the respondents' response since the standard deviation results are almost near to zero. majority of the respondents show their strong agreement that CBS benefited customers and users by reducing error on transactions, enhancing security of account information, facilitating speed of services, improving the way of business, reducing waiting time, providing more flexible services, reducing transaction cost and quick transfer of funds. On the contrary, a few respondents indicate that there is lack of network infrastructure, lack of ICT and skilled personnel and fear of cybercrimes or security and trust factors. It also used Pearson's correlation coefficient to analyze the relationship between core banking system and service delivery quality. The study revealed that core banking system have significantly contributed to service delivery quality and there is a strong and significant relationship between core banking system and service delivery quality.

Key words: core banking system, service delivery, service quality

CHAPTER ONE

Introduction

Technological innovations play a crucial role in banking industry by creating value for banks and customers, that it enables customers to perform banking transactions without visiting a unit and cement banking system. Modern banking technologies particularly, core banking system contributed in improving service delivery quality of the bank. This chapter introduces the basic issues of study which consists of background of the study, statement of the problem, research questions, and objectives of the study, definition of terms, significance of the study, scope of the study, limitation of the study and organization of the paper.

1.1 Background of the study

Technological innovation is crucial to survive in a competitive environment. It also improves service quality which is an important aspect of any organization. Service quality is evasive (intangible) and is not distinguished clearly, but high quality service provision is the target that every organization wants to achieve (Gloria, 2015). As a result organizations strive to launch different technologies to improve their service delivery quality which in turn leads to win customer loyalty. Banking sector is shifting from manual area to technology because of technological shift, as Banks are under increasing pressure to offer better services to their customers, with the new technology aiding globalization and integration of the world's financial market with the drastic increase in the expectation of customers for newer products and alternative delivery channels that meet their specification.

According to NBE (2018) all banks use core banking applications to support their operations, which basically means the entire bank's branches can access applications from centralized data centers. Bank operations like deposits made are reflected immediately on the servers of bank and the customer can withdraw the deposited money from any of the branches of bank throughout the country. These applications now also have the capability to address the needs of corporate customers providing a comprehensive banking solution and normal core banking functions which

include deposit accounts, loans, mortgages and payments. Banks make these services available across multiple channels like ATMs, internet banking, mobile banking and branches.

According to Anteneh and Mesfin (2013) it enables customers to access their account anytime, anywhere, with minimum error and high rate of accuracy through its different channels which improves the delivery of service and enhances service quality that helps to remain competent in the market by retaining their customers due to their recent and advanced technology that meets their customers expectation. Most bank services are easy to duplicate and provides nearly identical services, they can only distinguish themselves on the basis of quality of service delivery. Thus, this study is important to assess whether the application of core banking system enhanced the level of service delivery quality and identifies the position of core banking channels in service delivery quality at the bank. Moreover, it examines the role of core banking system on bringing service delivery quality.

This study focused on assessing core banking system and service delivery quality. The study assessed core banking system by examining its effectiveness through success factors such as efficiency, flexibility, reliability, simplicity and user acceptance; reducing errors and risks, accessibility, speed and satisfactory service delivery. Moreover, service delivery quality investigated in terms of service quality dimensions such as tangibles, reliability, responsiveness, assurance and empathy and the relationship between core banking system and service quality dimensions

1.2 Statement of the Problem

In a very competitive sector like banking industry, it is evident that improving customer services, management information system and ensuring high productivity, technology orientation has become inevitable. In creating a viable and efficient banking system, which can respond adequately to the needs of growing economy and tastes of customers, technology has a key role to play (Rupinder, 2012).

Bank service delivery is concerned with the provision of quality services to customers. Obviously, one of the factors that separate competitors from the other in the banking industry is their level of services delivery. This is because service delivery determines the level of customers' satisfaction and consequently, the customer patronage of any bank. The support by customers on the service

delivered by a given bank, no doubt is a function of the satisfaction they so derive from it. Satisfaction in relation to bank service delivery is the customers' evaluation of the service in terms of whether that service met their needs and expectations. A happy and satisfied customer behaves in a positive manner (Babatunde and Olukemi, 2012).

Core Banking System (CBS) is one of the recent developments in the field of banking industry which proved to be useful since, it enable customers anywhere banking once they opened an account. From the customer's perspective it simplify their banking operations by allowing them to conduct common frequently used banking transactions without visiting bank's branches, thus saving a lot of time. On the other hand, banks have improved upon their operational efficiency after the introduction of CBS. It provides for online banking, Mobile banking and ATM services on 24/7 basis to customers so that a customer need not visit a bank for his banking needs (Geetha, 2015).

According to Tekalign (2013), the growing population which demands financial service, financial regulations are requiring banks to adopt a robust, scalable core banking system to support their daily operations. According to Anteneh and Mesfin (2013), Ethiopian banks rely on multiple systems with different monitoring mechanisms in a single data center for core banking system infrastructure which delay the uptime of system failure since information became hidden. It is essential for banks to leverage integrated monitoring and recovery tool to properly administer and allocate resources which can enhance the availability of the core banking application that will satisfy the bank's customers, stakeholders and will make also the bank profitable. As a result, all banks in Ethiopia have implemented core banking system. These banks have upgraded their traditional systems to more modern and centralized core processing systems (Seifu and Mesfin, 2014).

Even though significant numbers of researches have been done on the impact of banking technology on service quality of banks internationally, there is little done in Ethiopia. In line with the context of core banking systems there are studies undertaken that mainly focuses on how core banking is adopted and the role of core banking system towards ATM and other services like inter-branch services mainly cash deposit and withdrawals that are very limited since core banking system has a lot of functions and roles through its different channels in baking industry.

Tekalign (2014) assess as core banking system adoption and found that adopting CBS as a comparative advantage and differentiating the bank from its competitors by adding value and creating competitive advantage in and user acceptance.

Rahel (2017) has conducted on “core banking system practice and challenges”, and found that though there were challenges during the introduction of the new system, there were also different mechanisms designed and undertaken by the bank to successfully implement the technology. Moreover, Endalkachew (2013) assess as the Impact of Core Banking and Service Quality on Customer Satisfaction and revealed that customers are satisfied by core banking system of the bank. The researcher concludes that core banking has positive and significant relationship with customer satisfaction.

The above studies undertaken focuses on the adoption, practice and challenges of CBS and its impact on customer satisfaction, This study focused on assessing CBS and service delivery quality which assesse core banking system by examining its effectiveness through success factors such as efficiency, flexibility, reliability, simplicity and user acceptance; reducing errors and risks, accessibility, speed and satisfactory service delivery. Moreover, service delivery quality investigated in terms of service quality dimensions and the relationship between core banking system and service quality dimensions. CBS deliver quality service through its channels which are mobile banking, internet banking, ATM, inter-branch services, point of sales (POS), inter-bank transfers and fund transfer etc.

1.3 Research Questions

This study aiming to answer the following research questions:-

- What is the customers' expectation about CBS in service delivery quality?
- What benefits do CBS bring to customers?
- How do core banking channels improve service delivery quality?
- What are the challenges which customers faced while using core banking channels?
- What is the relationship between core banking system and service delivery quality?

1.4 Objective of the Study

1.4.1 General objective

This research aims to assess Core Banking System and service delivery quality in Bank of Abyssinia; selected branches.

1.4.2 Specific objectives

The specific objective includes:-

- To assess customers' expectation about CBS in service delivery quality.
- To examine the benefits that customers get from CBS.
- To investigate the role of core banking technology channels in improving service delivery quality.
- To assess the challenges which customers face while using core banking channels.
- To examine the relationship between CBS and service delivery quality.

1.5 Definition of Terms

Definitions of terms that are used in this study are:-

- Core banking technology: is generic term which denotes inter-branch transaction capability through central data base and enable banks to provide modern banking service like ATM, mobile banking and internet banking (chavan & gaikwad, 2010).
- Service delivery: is the provision of quality services to the intended customers.
- Service quality: is the difference between customer's expectations and perception of service provider (a firm). Moreover service quality can be defined as the difference between customers' expectations for service performance prior to the service encounter and their perceptions of the service received. Service quality is an important factor for success in the banking sector. Thus, bank managers emphasize the various dimensions of service quality (parasuraman, 2002).

Parasuraman and his supporters introduce five general dimensions of service quality of any service provider. These dimensions include:

1. **Tangibility:** physical facilities, tools, machines, personnel, materials and communication channels.
2. **Assurance:** the ability to provide promised services in a proper and reliable way.
3. **Responsiveness:** to have the interest in providing appropriate service and generally helping customers.
4. **Reliability:** knowledgeable and polite personnel and their ability to win customers trust and confidence.
5. **Empathy:** taking care and paying attention to individuals.

Core banking includes all electronic channels which are used by customers in order to deposit accounts, pay bills and purchase what they need (Dandapani, 2008). These are;

- **ATM:** is an electronic telecommunications device that enables the customers of a financial institution to perform financial transactions.
- **Point of Sale (POS):** is the place where a retail transaction is completed. It is the point at which a customer makes a payment to the merchant in exchange for goods.
- **Mobile banking:** Multidimensional services such as GPRS which are accessible through mobiles enable customers to conduct financial transactions like getting account balance and financial statement, requesting check, and transferring from one account into other accounts.
- **Internet banking:** is an electronic home banking system using web technology in which bank customers are able to conduct their business transactions with the bank through personal computers, mobile phones etc.

1.6. Significance of the Study

This study helps the organization (Bank) to see the role of core banking system on service delivery quality, examine CBS effectiveness by using success factors and address the challenges while delivering its services, it helps the management and Bank in identifying the role of core banking technology channels in service delivery quality as a means in creating cashless society and to examine the status of their service delivery quality and alert them to design efficient and effective service delivery design through describing the customer perception on delivering bank services by channels of CBS. Moreover, it helps researchers for future researches.

1.7 Scope of the Study

This study is confined to assess core banking system and service delivery quality at bank of Abyssinia city branches located in Addis Ababa city. Specifically, this study focus on assessing role CBS on delivering quality service by examining service quality dimensions in Addis Ababa which consists of two districts namely West Addis district and East Addis district.

1.8 Limitation of the Study

This study used convenience sampling technique where customers of branches which are available and nearest are taken which may not give the overall picture of the bank.

1.9 Organization of the Paper

This paper is organized in to different chapters. The second chapter focuses on review of literatures where earlier studies are reviewed and presented about core banking and service. Moreover, concepts and definitions, basic issues on core baking and service and empirical evidences (studies) will be discussed in detail. Previous studies will be incorporated in this chapter.

The third chapter is about research design and methodology which deals with the design and method of the study which consist the research design, population and sampling technique, types of data and tools of data collection, procedure of data collection and method of data collection. The fourth chapter is devoted to data presentation, analysis and interpretation of the data collected accordingly with the theoretical and empirical frameworks discussed in the earlier chapters. The final chapter deals with summarization of the study findings which leads the researcher to conclude and recommend based on the results.

CHAPTER TWO

2. LITERATURE REVIEW

This chapter reviews literature on the areas of core banking roles on service delivery quality which establishes the framework for the study and highlights the overview of core banking, types and features of CBS channels, core banking and service quality, service delivery quality and banking sector, benefits of core banking, challenges of core banking, previous studies and conceptual framework.

2.1 An Overview of Core Banking System

Technology has changed radically how service organizations conduct business. It has opened up new markets, new products, new services and efficient delivery channels for the banking industry. It enables banks in meeting customer needs who demands instant anytime and anywhere banking facilities. Information technology development has led to new ways of doing business in banking. Core banking solution with other information technologies like internet enables banks to allow customers to operate accounts from any branch. In other words, core banking technology changes a customer of particular branch of a bank to a customer of the bank. It is all about knowing customer needs i.e. providing them with the right products at the right time through the right channels 24 hours a day, 7 days a week using technology aspects like internet, ATM, mobile etc.. (Rupinder, 2012).

Core banking technology from its inception has become an integral part of the banking system, especially in the service delivery, product development, and risk management and regulation compliance. Without core banking solutions, ATM and mobile banking services will not be possible (Varnes, 2012). According to Varnes (2012), core banking solution has increased banks' productivity and efficiency and improved the delivery of service by enabling banks to offer multicurrency transactions and 24 hours banking services, anytime, anywhere. Moreover, it enables banks' to address the customers' demands quickly and efficiently i.e. it improves service quality.

According to Varnes (2012) core banking solution empowered banks in Africa by,

- Providing excellent customer service: like providing real time transactions offered by the internet, mobile and ATM channels.
- Target sales and marketing: most core banking solutions can analyze customer data and produce valuable information which can be used to personalize the services and design the marketing campaign.
- Reducing cost of bank ownership: big banks normally run using a number of isolated, limited applications to process and manage their retail products and services product in which it can reduce cost.

In Africa because of the growing of population which demands financial services, financial regulators are requiring banks to adopt a robust, scalable core banking system to support their daily operations (Tekalign, 2014).

According to Geetha (2015), CBS is one of the recent developments in the field of banking and it has proved to be very useful. It is a facility provided by banks in which a person having an account in one branch can operate his account in another branch. This has become possible because each account holder is given a specialized computerized and unique account number. In simple terms, CBS is a type of banking in which a person who opens a bank account in a particular branch of a bank will be a customer of the bank rather than being a customer of a particular branch. Core banking is all about knowing customers' needs; providing them with the right services at the right time through the right channels. The platform where communication technology and information technology are merged to suit core needs of banking is known as Core Banking Solutions. Here computer software is developed to perform core operations of banking like recording of transactions, passbook maintenance, and interest calculations on loans and deposits, customer records, balance of payments and withdrawal are done. This software is installed at different branches of bank and then interconnected by means of communication lines like telephones, satellite, internet etc. It allows the user (customers) to operate accounts from any branch if it has installed core banking solutions.

This new platform has changed the way of working in the banks. CBS enables banks to consolidate their technology platforms across functions and geographies leveraging cost and at the same time acquiring flexibility and scalability to adapt to a fast changing and competitive environment. In

core banking, Banks are getting their data aggregation layers in place to facilitate projection of data in the form of static and dynamic reporting capability. This would be a logical extension of operational data aggregation using core banking systems. Systems such as core banking and business intelligence, if used synchronously, will add phenomenal enterprise value to business (Rupinder, 2012).

2.2 Types and Features of Core Banking System Channels

There are different types of core banking technology terminals which are used to enter data for different applications. Some of the popular are one are:-

2.2.1. Automatic teller machine (ATM)

ATM is a device that allows customers who have an ATM card to perform routine banking transactions without interacting with the human teller. The ATM cardholder can do most of the banking transactions like withdrawals, cash transfer to any account with in the bank, balance enquiry, etc. with the use of ATM cards the banks are providing “anywhere and anytime banking” to their customers.

It is an electronic terminal which gives users the opportunity to get banking services at anywhere and anytime which combines a computer terminal, record keeping system and cash vault in one unit, permitting customers to enter financial firms bookkeeping system with either a plastic card containing a personal identification number (PIN) or by punching a special code number into a computer terminal linked to the financial firms computerized record 24 hours a day. Once access is gained into the system, cash withdrawals may be made up to the pre-specified limits and deposits, balance enquires, and bill payments will take place.

ATM offers significant benefits to both banks and their customers. It can enable depositors to withdraw cash at more convenient times and places than during banking hours at branches. It also reduces cost of servicing some depositors’ demands through making the process automatic (McaAndrews, 2003).

2.2.2 Point of Sale (POS)

A point sale service is an electronic payment type that allows credit or debit card holders make payments at sales or purchase outlets.it allows customers to perform the following services: retail

payments, cashless payments, cash back balance enquiry, air time transaction, printing mini statement etc.

It is a computer facilities in stores that permit a customer to instantly pay for goods and services electronically by deducting the cost of each purchase directly from his or her account. A customer present an encoded debit card to the store clerk who inserts it into computer terminal connected to the financial firm's computer system. The customer's account is charged for the purchase and funds are automatically transferred to the stores deposit account (kumanaga, 2010).

2.2.3. Mobile Banking

Customers can make their transactions anywhere such as account balance, transaction enquiries, stop checks and other customer service instructions, balance enquiry, account verification, bill payment, electronic fund transfer, account balances, updates and history, customer service via mobile transfer between accounts etc. as more cell phones appear and are linked technologically with the internet and with the credit and debit card accounts, the cell phone literally becomes a 'portable Bank' (kumanaga, 2010).

2.2.4. Electronic Fund Transfer (EFT)

This system permits transfer of funds from any account to at branch of any member bank in city to other account at any branch of member bank.it utilizes the service branches of the member banks (Kumanaga, 2010).

2.2.5. Internet Banking

This is an electronic banking system using web technology in which customers' able to conduct their business transactions with the bank through personal computers, phones, tablets and other web connected devices. Use of internet to carry out financial transactions is certainly one of the most promising opportunities today for linking customers with financial service rendering organizations. According to Kumanaga (2010), through the internet customers can:-

- Verify real time account balances anytime from any location.
- Transfer funds instantly from account to account.
- Confirm that deposits have been made, checks have cleared, and online transactions have been taken place.
- Place an order for new check issuance.

- Submit an application for loans and credit cards etc...

2.2.6. Local Money Transfer (LMTS)

This service enables individuals who don't have an account in any branch of the bank to transfer cash to any individual who don't have an account. The beneficiary can withdraw from any member branch of the bank.

2.3. Core Banking and Service Quality

According to Burnham et.al.. (2003), Due to an increasingly competitive, saturated and dynamic business environment, retail banks in many countries have adopted customer-driven philosophies to address the rapid and changing needs of their customers. Technological advances have changed the world radically, altering the manner in which individuals conduct their personal and business affairs.

Over the past two decades in particular, the banking industry has invested substantial resources in bringing ICT to customers. The banking industry is undergoing through the significant technological changes; it has several impacts on customer satisfaction and loyalty. It has revolutionized every industry including banking in the world by rendering faster and cost effective delivery of products and services to the customers (Walker et al., 2008).

According to Chakrabarty (2007), core banking solution enables banks to extend the full benefits of ATM, Tele-banking, mobile banking, internet banking, card banking and other multiple delivery channels to all customers allowing banks to offer a multitude of customer-centric services on a 24x7 basis from a single location, supporting retail as well as corporate banking activities.

Banks in Ethiopia are using Information Technology (IT) not only to improve their own internal processes but also to increase, facilities and to provide quality services to their customers. Particularly, in the banking sector ICT is one of the most important tools, because it provides many suitable alternative banking channels to the customers. It brings connivance, customer centricity, enhance service quality and cost effectiveness in the banking services (Kumbhar, 2012). Even now, customers are evaluating their banks based on availability of high-tech services. Therefore, implementation of ICT in the banking business continues to improve the banking service.

In addition to service quality dimensions, there are other factors used to evaluate the performances of core banking services in the banking industry. Those factors include the followings:

2.3.1 Reducing Risks and Errors

The security issue is of special concern in the Banking Industry, as banking is highly based on trust from its customers. Hence, the risk of hackers, denial of service attacks, technological failures, breach of privacy of customer information, and opportunities for fraud created by the anonymity of the parties to electronic transactions all have to be managed. Depending upon its nature and scope, a breach in security can seriously damage public confidence in the stability of a financial institution or of a nation's entire banking system. Hence, by introducing the appropriate security measures and putting security concerns at ease, the Banking Industry might be able to attract the segments among consumers who previously were not inclined to use core banking. Furthermore, it is also in the banks' own interest to improve security, as digital fraud can be costly both in financial losses, and in terms of the damage it does to the brand of the bank in question (Broderick & Vachirapornpuc, 2002).

2.3.2 Accessibility

Rapid advancement in information and communication technology (ICT) has had a profound effect on the banking industry and the wider financial sector over the last 2 decades. ICT is now a tool that facilitates the banks' organizational structures' business strategies & customer services. It enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risk and helps the financial intermediaries to reach geographically distant and diversified markets. Hence, the uses of core banking in commercial bank of Ethiopia are making its services that can be accessed easily. For instances, VISA card can facilitates you to make a purchase goods and services at an automated teller station that is set up to handle such transactions. Core banking helps to promote customer retention, convenience and satisfaction for customer in which the bank mightn't be got without the use of the system (Kumbhar, 2012).

2.3.3 Speed

Transactions are also faster in banks via core banking. Core banking makes transactions faster through dissemination of required information or data at a quicker and faster rate. The Banking Industry is currently being renewed in many areas. One of these areas related to the digitalization

of formerly paper-based processes. Electronic mail is increasingly being applied for especially non-legal correspondence like account statements, marketing and sales.

Core banking can be used to enhance customer service delivery, which could also pave the way for the reduction of the workload on tellers in banking halls. Such workload reduction could provide the tellers with opportunities for adequate interaction with customer and also help improve their functional efficiencies and effectiveness in customer service delivery. Therefore improving the service quality of the banking with the core banking could improve the overall customer perception of the banks functional suitability for service provision as rendered by tellers in the banking halls (Biju. et.al. 2012).

2.3.4 Satisfactory Customer Service Delivery

The ability of most banks in Ethiopia to deliver effective and satisfactory services to their clients remains a challenge as a result of the continued use of traditional approaches in the delivery of banking services. In this regard, such banks were faced with a situation where the functions of their employees and the traditional service delivery functions they offered were no longer their first interest. Instead such banks are increasingly depending on technology with their attendant quality issues (Charles, 2006). In bids to overcome this challenge, most of these banks have moved away from using traditional approaches in customer service delivery and have introduced information and communication technologies in their place to enable effective and satisfactory customer service delivery.

Thus, the proliferation of new core banking application within the financial industry has significantly influenced the way banks deliver services to their clients. Such technologies have enabled banks in developed economies to provide satisfactory customer services by enhancing their capacities to develop sophisticated products, design better market infrastructure, and implement reliable techniques for controlling risks. A semblance of this influence is highlighted by the introduction of self-service technologies that have enabled banks to develop electronically mediated multi-channel service delivery platforms for clients. These platforms, which include the ATMs, core banking, telephone banking, Internet banking, and mobile banking, are efficient means for selling products and servicing customers. In this wise, the banking industry in Ethiopia has experienced rapid legal and technological change (Grönroos, 2000). Among the many changes

the introduction of money counting machines and automated teller machines (ATM) to reduce workload and meet customer demands and the implementation of core banking solution to make the service flexible and fast (Kumbhar ,2012).

The quality of service is one of the major determinants of the customer satisfaction, which can be enhanced by using ICT available to survive. Particularly, in the banking sector ICT is one of the important tools, because it provides many suitable alternative banking channels to customers.it bring convenience, customer centricity, enhance service quality and cost effectiveness in the banking services.

According to Tekalign (2013) core banking system to be effective there are several critical success factors that financial institutions should focus on; these are efficiency, flexibility, simplicity and reliability and user acceptance.

- Efficiency: the likely improvement in the efficiency of specific tasks and the statutory obligation of generating accurate and timely information for reporting to various users.as the volume of information generated increase substantially, the cost of effectiveness become a critical factor.
- Flexibility: core banking system as a technology needs to be flexible and capable of adapting to the changes in the business environment and information technology.
- Simplicity: core banking system is used by a variety of users, both internal external .these users have differing levels of understanding of technology .it is, therefore essential to ensure that the system is simple and friendly. It should avoid unwanted features , as they only add complexity to the system
- Reliability: since core banking system is related to the day to day operation banking business, it needs to be highly reliable system.it must ensure that designed to ensure that neither accept erroneous data ,nor give erroneous or incomplete reports.
- User acceptance: the use of core banking system is pervasive in the banking industry business, as almost every department uses it. Due to the large number of users, the securing acceptance of users becomes difficult. Without user acceptance, it can't succeed. The user acceptance comes when the system makes the user's job easier and solves his problems, without others.

2.4. Service Delivery Quality and Banking Sector

Service quality is a long term customer cognitive evaluations of firm's service delivery (sorayaei, 2013). According to Rahaman (2011), Service quality is a method to manage business in order to satisfy customers which leads to increased competitiveness and effectiveness of the business. Consistent service delivery quality is a key for successful supply of service in general for private banking sector in particular. Bank services aim to optimize service quality in in order to attain superior outcome level. Service quality in banking implies every time anticipating and satisfying the needs and expectations of customers. The significance of service quality in banks has been emphasized in studies and perceived quality advantage leads them to higher profit (Kumar and Manjunath, 2012).

Siddique et.al. (2011) the importance of service quality in the long-term help companies to gain a lasting competitive advantage. Therefore, many companies try to deliver a service with superior differentiated service quality. Improved service quality can create brand loyalty. In addition Doyle (2002), said a successful brand is one that customers perceive as offering superior value. Commonly, increased service quality contributes a lot for good profit and creating customer loyalty.

According to Mukherjee (2003), improved service quality have a role of enhancing performance in the financial sector in India by taking sample from 27 banks. They stated almost 60% of banks performing excellently on quality efficiency dimensions perform well in their financial performance. Beside this, Bloemer, Ruyter and pascal (1998), have conducted a study I n Netherlands, and found that image, quality and satisfaction exert an influence on customers' loyalty with the bank. They showed that quality perception has a significant effect on the loyalty of the customers toward the bank.

Gupta and Bansal (2012) have found that all service delivery quality dimensions have significant positive impact on over all internet banking service (one of the core banking channel) in India. They stated that the five dimensions (assurance, reliability, efficiency, responsiveness and site aesthetics) together explain 70.9% variance in the overall internet banking service quality.

According to Tasmin, Aliyu and Tankala (2012), there is a direct relationship between electronic banking service and customer service delivery in banking industry. In addition Auta (2010) has

studied E-banking channels developments in Nigeria and found out that most of the respondents agree that channels of CBS is convenient and flexible way of banking and also has various transactions related benefits.

Parasuraman (1985) analyzed the dimensions of service quality and constituted a gap model that provides an important frame work for defining and measuring service quality .The ten service quality determinants and their description have been identified below.

Table 1 parasuraman ten quality determinants

1	Reliability	Consistency of performance and dependability, accuracy in billing, keeping records correctly, performing the service right at the designated time.
2	Responsiveness	Willingness or readiness of employees to provide service, timeliness of service such as mailing a transaction slip immediately, calling the customer back quickly, giving prompt service.
3	Competence	Possession of the required skills and knowledge to perform the service, knowledge and skill of the contact and support personnel, research capability of the organization.
4	Access	Approachability and ease of contact, the service is easily accessible by telephone, waiting time to receive service is not extensive, convenient hours of operation, convenient location of service facility.

5	Courtesy	Politeness, respect, consideration, friendliness of contact personnel, consideration for the consumer's property, clean and neat appearance of public contact personnel.
6	communication	Keeping customers informed in language they can understand and listening to them, explaining the service itself and its cost, assuring the consumer that a problem will be handled.
7	Credibility	Trustworthiness, believability, honesty, company reputation, having the customer's best interest at heart, personal characteristics of the contact personnel.
8	security	Freedom from danger, risk or doubt, physical safety, financial security and confidentiality.
9	Understanding/ knowing the customer	Understanding customer needs, learning the customer's specific requirements, providing individualized attention, recognizing the regular customer.
10	Tangibles	Physical evidence and representations of the service, other customers in serviceability.

Figure 1 parasuraman ten quality determinants

Source: Parasuraman et al., 1985

Later in 1988 Parasuraman, Zeithamal and Berry reduced by categorizing the above ten quality dimensions in to five which are:-

1. Tangibles: physical facilities, equipment, and appearance of personnel.
2. Reliability: ability to perform the promised service dependability and accuracy.
3. Responsiveness: willingness to help customers and provide promote service.

4. Assurance: knowledge and courtesy of employees and their ability to inspire trust and confidence.
5. Empathy: caring, individualized attention the firm provides to its customers, where the last two dimensions contain items representing seven original dimensions which are communication, credibility, security, competence, courtesy, understanding/knowing customers and access.

Generally, in today's increasingly competitive environment, service quality is essential for the success of any organization. Service quality is an important aspect that affects the competitiveness of a business. Banks should increase the quality of service constantly since there is no assurance that the current outstanding service is also suitable for the future. Consequently, banks should develop new strategy to satisfy their customer and should provide quality service to distinguish themselves from rivalries (Siddiqi, 2011).

2.5. Benefits of Core Banking

A CBS networks branches and allows customers to operate their accounts in any of a bank's branches. It is a solution which reduces manual work and increases efficiency. It is an application which is accessed by all of a bank's branches and manages customers' accounts. Core banking functionalities include deposit accounts, loans and payments. These services are made available through multiple channels such as ATM, mobile banking, POS, Internet banking and branches which have significant benefits to Bank, employees and customers.

2.5.1 Benefits to Banks

Core banking technology enables bank employees to be more effective in providing services by creating different channels to reach global customers through its channel called internet banking. It enables banks to open up new markets, new products, new services, and efficient delivery channels in their operation. It also helps banks in meeting high expectations of customers who are more demanding like instant anytime and anywhere banking facilities (Rupinder, 2012). According to kulkarini (2012) the following are the benefits of core banking to banks:-

- **Centralized accounting:** All the transactions of the bank directly impact the General Ledger and Profit and Loss Account. This provides a real time total picture about the

financial position and situation of the bank. This helps for timely effective decision making for financial management; a very critical and dynamic function in today's banking.

- ***Introduction of Technology Based Services:*** Service channels such as ATM, either on-site or off-site, can be started. Check Deposit Machines (CDM) can be installed. Such machine in WAN connectivity can allow any customer to deposit the check for collection at any branch.
- ***Centralized Customer Account Management:*** Any customer becomes the customer of the bank rather than of a branch. With unique ID / Account Number the accounts of the customers can be viewed centrally by the bank. As such, customer profile, details of the services availed by him and customer behavior about business of the bank can be well understood. Such customer view gives the bank opportunity to decide directions for business development and marketing strategies.
- ***Centralized Reporting:*** it is the Presence of centralized data constantly live up-dated at any time ensures comprehensive report / statement generation. This tremendously helps in decision making as well as submission to various authorities. Operational efficiency of the bank gets increased due to quick report generation for bank as a whole.
- ***Centralized System Administration:*** Centralized system / I. T. administration enhances system security and user management. There is reduction in man-power need and cost. Due to single point resource available IT manpower is utilized properly.
- ***Centralized Product Control & Monitoring:*** Centralization helps in better product analysis, monitoring and rollout. Aspects like interest rate modifications, product modification and interest application can be done centrally from one place for all the branches. Bank can quickly respond to market scenario and customer needs. This gives competitive edge to the bank.

2.5.2 Benefits to Customers

Core banking offers multi-fascinated options to customers either at branches or on internet banking that enables customers a full range of services. These includes:-

- ✓ Customer can operate his account from any of the branch of the bank.
- ✓ More service channels can be made available to the customer.

- ✓ Customer gets immediate credit if the transaction is between the branches of the bank. Even extension counters can provide all services to the customer.
- ✓ Customer gets full attention and service satisfaction at the branches as the branches are freed from all back office functions, clearing functions and almost all accounting functions.
- ✓ Customer can get SMS alerts on his mobile or e-mail alerts through net for transaction taking place in his account. This gives him comfort and security.
- ✓ Customer service improvements etc.

2.6. Challenges of Core Banking System

According to Gardachew (2010) and Vijay and Tewodros (2011) the specific challenges and risks allied with banking technology applications in Ethiopia are;

- ✓ **Security:** firms must develop a coherent corporate policy that consider the nature of the risk .establishing a good framework for security and control requires skillful balancing of risks, rewards the firm’s operational capabilities. Designing system that is neither over controlled nor under controlled of implementing an effective security policy is the major challenge for banking sector firms.
- ✓ **Infrastructure:** telecommunication and networking technologies are present challenges .three challenges can included in, these are loss of management control, organizational change requirement, scalability, reliability and security etc.
 - Loss of management control; employees can collect, store and disseminate inappropriate data that don’t meet corporate standards and use of web and e-mail for non-business purpose. This practice will drain the productivity and business performance of the firm.
 - Organizational change requirements; telecommunication technology and internet can’t make organizations effective unless underlying organizational issues are fully addressed. Old ways of doing business must be changed to work effectively with the internet and related network technologies.
 - Scalability, reliability and security; companies that intensively use communication technology require plentiful band width and storage capacity for transmitting and maintaining all the data generated by electronic business transactions. Network infrastructure must be able to

handle the current e-commerce and scale rapidly to meet future demand while providing high level of performance and availability for mission accomplishment.

In addition to the above allied risks and challenges Vijay and Tewodros (2011) and Gardachew (2010) have listed specific challenges of core banking channels in Ethiopian; these include:-

- High rate of illiteracy: banking sector provide proper features like ATM machine, internet and mobile banking to their customers, they are not in position to use these facilities.
- Frequent power interruption: lack of reliable power supply is a key challenge for core banking services like ATM machine.
- Resistance to change in technology among customers and staffs: lack of awareness on the benefits of new technologies, fear of risk, lack of trained personnel in the key organizations and tendency to continue with existing infrastructure.
- Internet and communication: lack of infrastructure for internet and telecommunication impede smooth development and improvement in core banking channels in the country.

2.7. Review of Previous Empirical Studies

According to Moala (1998) cited in Almaz (2015), the study aimed at measuring the quality of banking services rendered by commercial banks of Jordan, from the point of view of the bank's customers, where the study found that the actual performance of banking services quality is low compared to the level of quality customer's expectation in their banking services. The study recommended that the departments of commercial banks should develop programs to enhance the quality of their services.

Geetha (2015) has conducted a study which indicates customers were for the CBS because of its ease of operations, instantaneous, timely response and cost effectiveness. As CBS offers any time anywhere banking facility, customers are surely benefitted out of it and after the introduction of CBS the operational efficiency of banks has certainly improved.

Geetha (2017) has conducted A Comparative Analysis of Retail Banking Services of Public Sector Banks (Allahabad Bank) Vis-A-Vis Private Sector (HDFC) Banks in India. He concluded banking industry is undergoing rapid changes in which the financial sector reform in Indian banks change the entire scenario. As a result, banks are given a Complacency way to innovative banking new products and Services, adding new delivery channels like ATMs, Tele-banking and Internal banking through strategic use of new technology to woo the customers.

Rupinder (2012) has conducted a study on two banks in Chandigarh , India and found that in the first bank 14% of the respondents feel that the service of the banks is extremely better,22% of the respondents feel that the service of the banks is better and 52% feel that service are the same after the implementation of core banking system .in the second bank, 54% and 36% of the respondents feel that the service of the bank is extremely better and better after the implementation of core banking system .therefore, the customers satisfaction level is increased because of the information technology starting core banking system .this implies that modern banking technologies have a significant positive influence of service quality of banks.

Rakesh (2012) has assessed the service quality in banking industry of India using SERQUAL model and concluded that the instrument can also be modified to assess the quality of the internal service provided by departments and divisions within a company to employees in other departments and divisions. The result of the current study illustrate that the organizations can at least assess five dimensions of service quality to ascertain the level of service provided, and to determine which dimensions need improvement. He concluded that knowing how banking customers perceive the service quality and being able to measure service quality can benefit the service providing organization's professionals sine it can provide specific data that can be used in quality management; hence, service organizations can monitor and maintain quality service. Assessing service quality and better understanding of how various dimensions affect overall quality would enable organizations to efficiently design the service delivery process.

Finally, there were a few studies conducted locally on core banking technology.

Rahel (2018) has conducted a study on Assessment core banking system practice and challenges in Bank of Abyssinia and concluded that, though there were a number of challenges faced during introduction of the new system such as complication in selection of external consultants, resource

scarcity, and resistance of managers to accept and properly manage the changes, data migration process from the legacy system, power interruption and frequent network failure, the study also indicated that; there are still different mechanisms designed and undertaken by the bank to successfully implement the technology.

Tekalign (2014) has conducted a study on “Assessment of core banking system adoption in Awash International Bank S.C.”, and revealed that Adopting CBS as a comparative advantage and differentiating the bank from its competitors by adding value and creating competitive advantage in and user acceptance.

Endalkachew (2013) has conducted “a study on Assessing the Impact of Core Banking and Service Quality on Customer Satisfaction in Commercial Bank of Ethiopia (A case of Bishofftu Branch”, and revealed that customers are satisfied by core banking system of the bank. The researcher concludes that core banking has positive and significant relationship with customer satisfaction. And also core banking has positive and significant effect on customer satisfaction.

Therefore, this study tried to examine the role of CBS on service delivery quality by investigation its effectiveness, flexibility, reliability, simplicity and user acceptance and reducing errors and risks, accessibility, speed and satisfactory service delivery.it also examine its service delivery quality by assessing service quality dimensions to investigate quality of service delivered by the organization which includes tangibility, assurance, responsiveness, reliability and sympathy.

2.8 Literature Summary

This chapter consists of theoretical and empirical literatures which helps as a bench mark in order to make attachment with the studies to be analyzed which incorporated the general overview of core banking system, types and features of core banking channels, core banking and service quality, service delivery and banking sector, benefits and challenges of core banking system.

2.9. Conceptual Framework

Parasuraman et al. (1985), has conducted a research on different service organizations (bank, hotel, electrical corporation, hospital, transportation) by using ten service quality dimensions (tangibility, reliability, responsiveness, communication, access, competence, courtesy, credibility, security and knowledge). Later on Parasuraman et al., (1985), conducted research and the ten quality dimensions were further purified and developed into five dimensions (tangibility, reliability, responsiveness, assurance and empathy).from their exploratory research in 1985 Parasuramn, Zeithaml and Berry developed SERVQUAL instrument and laid down a conceptual framework for the measurement of service quality . The SERVQUAL instrument has become the most dominant instrument for measuring service quality and it originally comprises ten dimensions with ninety seven items but later reduced to five dimensions with twenty two items in 1991.the five dimensions were tangibles, reliability, responsiveness, assurance and empathy. According to Zeithamal et al.(2006);

Tangibles entail the physical evidence of the service. Specifically, the concept discovers the physical facilities of the service provider, the appearance of the personnel, the tools and equipment used to provide the service including other customers in the service facility. Tangibles are used by firms to convey image and signal quality.

Reliability measures the consistency of performance and the dependability of the service. It is the ability to perform the promised services dependably and accurately or delivering on its promises, does the firm perform the service right at the first time? Does the firm honor its promises? These are some of the questions which needed to be answered by the service providers if they are to achieve reliability.

Assurance involves the knowledge and courtesy of employees and their ability to convey trust and confidence.it also includes competence, courtesy, credibility and security. The trust and confidence may be represented in the personnel who connect the customer to the organization.

Responsiveness concerns the willingness or readiness of employees to provide service “(parasuraman et al., 1985).this dimension is concerned with dealing the customers’ requests, questions and complaints promptly and attentively. A firm is known to be responsive when it communicates to its customers how long it would take to get answers or have their problems dealt

with. To be successful, companies need to look at responsiveness from the view point of customers rather than the company's perspective.

Empathy needs caring and provision of individualized attention to customers by personnel of the firm; in this regard, the customer feels unique and special .in an attempt to develop empathy, personnel of the firm should endeavor to know the names of their customers, their preferences and needs and take steps to satisfy them.

According to zeithamal et al..., (2006), Service quality dimension has been proven to be the best model to measure service quality in service sectors especially with customer perspective.

CBS is a technology that describe the services provided by a group of network bank branches, bank customers may occurs their funds and other simple transaction from any of the member branch. Thus, CBS is a stride-headed towards enhancing the customer services through

Any-where and Any-time banking which helps customers to remove temporal and spatial constraints, and utilize networks and telecommunications technology to transfer resources (money) in banking system through its different channels ;which includes ATM, POS, mobile banking, internet banking, local money transfer and fund transfer. Such products and services include deposit taking, lending and payment products and provision of other electronic payment product and services like electronic money during 24 hours a day as well as 7 days a week. Therefore, core banking includes all electronic channels which are used by customers in order to deposit accounts, pay bills and purchase what they need (Manjushree, 2014).

According to sekhar and sudhir (2012), the adoption of banking technologies including CBS has increased productivity and operational efficiency .it makes financial institution like banks to deliver the real benefit to all customers and stakeholders. Internet banking enables banks to offer a variety of services which allow customers to make transactions on-line that access their accounts, transfer funds. CBS channels can increase productivity significantly in terms of delivering quality service to customers' which increase bank performance (Berger, 2003).

According to the empirical study done by Chaoprasert and Elsey (2004), showed that CBS channels are adopting to continue improving service quality in Thailand. In addition, Wang (2006) studied the impact of internet on service quality in banking sector in Sweden and found out that access

dimension of service delivery quality has more positively influenced by internet banking. This indicates internet banking has more convenience, time saving and easier to reach.

Therefore, CBS through its channels can bring service delivery quality by making retail banking services easy, accessible, assured, empathic and quickly responsive.

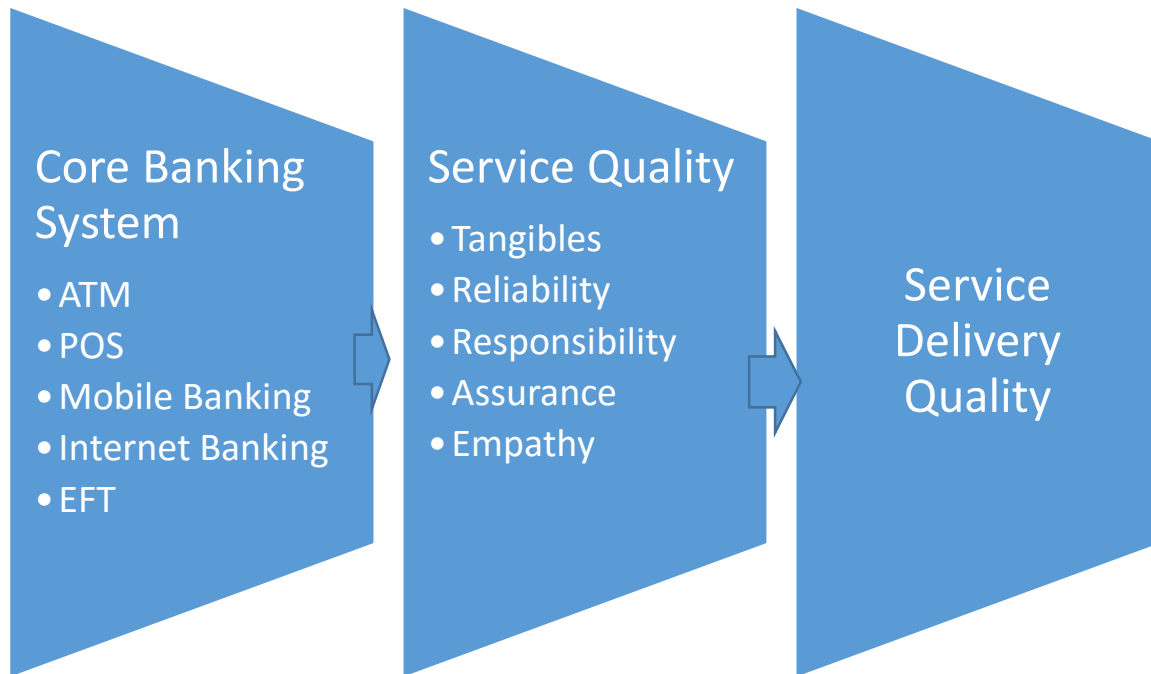


Figure 2 conceptual framework

Source: *Adopted from Parasuraman et al... (1988), Manjushree (2014) and kumanga (2010)*

CHAPTER THREE

3. RESEARCH METHODOLOGY

Introduction

The purpose of this study is to assess CBS and `service delivery quality. This methodological section is divided into seven sub-sections. These sub-sections discussed about research design, research approach, sampling designs, data sources, data analysis, reliability and validity and ethical considerations.

3.1 Research Design

According to Cooper (2014), research design is the blueprint for the collection, measurement, and analysis of data. Descriptive studies serve variety of research objectives; such as description of phenomenon or characteristics associated with a subject population (the who, what, when, where, and how of a topic), Estimates of the proportions of a population that have these characteristics and Discovery of associations among different variables which labeled as a correlational study. Kothari (2004), also defined research design as “the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. Neuman (2007), said ‘descriptive research design presents a picture of specific details of a situation or a relationship. The researcher used the descriptive-correlational form of research design to provide solutions to the research problems. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection. This research design was used because it often uses visual aids such as graphs and charts to aid the reader in understanding the data distribution. Because the human mind cannot extract the full import of a large mass of raw data, descriptive statistics are very important in reducing the data to manageable form. In addition, correlation used to examine the relationship between core banking system and service delivery quality.

3.2 Research Approach

The three common approaches for conducting a research are quantitative, qualitative, and mixed methods. The knowledge claims, the strategies, and the method all contribute to a research approach that tends to be more quantitative, qualitative or mixed (Creswell 2003).this study used quantitative research approach. According to Kumar (2005), quantitative research approach is used

based on the purpose of the research, data collection process and analysis of the data. The purpose of quantitative approach is to quantify the situation or phenomenon and to determine the relationship between the dependent and independent variables. Hence, the researcher implemented quantitative type of approach to analyze and interpret the relationship between CBS and service delivery quality from data collected through questionnaire.

3.3 Data source

This study used primary data source collection method. According to Kothari (2004), Primary data are fresh data that are gathered for the first time and thus happened to be original in character. It is considered as a major source of information since it is directly collected from purposively selected respondents through duly advanced questionnaire which were developed based on previously reviewed literatures and studies.

3.4 Target Population and Sample Size Determination

3.4.1 Target population

According to Saunders *et al.*, (2009), population of the study is full set of cases from which sample is taken. The target populations of the study was customers of bank of Abyssinia located at city branches. The bank have two districts in Addis Ababa having 136 branches. According to annual report (2017) of the bank these three branches namely Legehar, Ras corporate and Guenet are branches which have high number of active customers with respect to their grades. As can be seen below...

Name	Grade	number of customers
Legehar	II	5525
Guenet	III	9441
Ras corporate	corporate	6720

Figure 3 branches in grade and no. of customers

Source: annual report of BOA, 2017

3.4.2 Sampling techniques and sample size determination

This study used Convenience sampling where a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in study. The reason for using convenience sampling is because it is difficult to carry on a probability sampling since there is no specific point of time during which all customers are available due to different reasons and it is impossible to contact everyone who is sampled, as Convenience sampling is a technique in which a sample is drawn from that part of the population that is close to hand, readily available, or convenient (Anol, 2012).

Yamane (1967:886) provides a formula to determine sample sizes and this formula was used to calculate the sample size of bank of Abyssinia city branch customers. A sample size of 291 customers of bank of Abyssinia was considered with 90% confidence level by calculating each branches number of customers’.

Yamane (1967:886)’s formula

$n = \frac{N}{1 + N(e)^2}$ where, n ~is the sample size

e ~ is the sample error

N ~ is the population size

Table 2 Branches grade and number of customers

Name	Grade	number of customers	percent	sample taken
legehar	II	5525	25.48	98
Guenet	III	9441	43.53	94
Ras corporate	corporate	6720	30.99	99
Total		21686		291

Figure 4 sample taken from branches

Source: annual report of BOA, 2017

Saunders et al., (2009) said a Sample is sub group or part of a larger population which is included in the study. Thus, number of suitable size of respondents of each branch were decided using the formula stated above and summed up to give a total of 282. The researcher used 90% confidence level to better manage the population of the sample size.

3.4.3 Data Collection

The researcher sought permission from the bank to collect the data through questionnaire from customers. After the permission is granted, the questionnaires were distributed to the respondents. Questionnaire are prepared using five point likert response scale to show their extent of agreement or not. According to Robson (2002), likert scale method is preferred to make questions interesting to respondents there by enhance their cooperation and ultimately to ensure maximum response rate. Service delivery quality questions were developed from parasuramn et.al, (1988) SERVQUAL model while core banking questionnaires were developed from different literatures incorporated in the previous chapter. For the purpose, a standardized SERVQUAL questionnaire and core banking questionnaire were prepared in English and translated into Amharic to ensure the respondents proper understanding of the content of the items in the questionnaire.

3.4.3.1 Questionnaire

The questionnaires consist of two types which were distributed to customers which consist of service delivery quality dimension questionnaires and core banking dimension questionnaires. service delivery quality questionnaire measures the bank service delivery quality using service quality dimensions by using a five point likert response scale which includes strongly disagree(1), disagree (2), neutral (3), agree (4) and strongly agree (5) whereas core banking questionnaire measures the core banking dimensions which incorporates the benefits, core banking channels and challenges found out by using a five point Likert response scale which includes strongly disagree(1), disagree (2), neutral (3), agree (4) and strongly agree (5). The questionnaires were developed from SERVQUAL model of parasuraman (1998) and different literatures reviewed under literature review.

3.5 Method of data Analysis

The collected data were compiled, sorted, edited, classified and finally entered into computer for analysis. Statistical package for social science (SPSS) software version 23 was employed to organize the data descriptive statistics and Pearson correlation was used to analyze it.

The Descriptive statistics results were presented by tables, percent, mean, frequency and standard deviation to give condensed picture of the data. This statistical tools helps to determine the role of CBS on service delivery quality. According to Poonlar (1987) cited by Almaz (2015), the highest the mean, the highest quality service served to customers as the respondents indicate the extent of their agreement or not. Pearson correlation coefficient is used to determine the relationship between service delivery quality dimension (tangibility, reliability, responsiveness, assurance and empathy) and core banking system channels.

To find out the relationship between service delivery quality dimensions (tangibility, reliability, responsiveness, empathy and assurance) and core banking system (ATM, POS, mobile banking g, EFT, internet banking); and service quality dimensions Pearson's correlation coefficient (r) is used. Values of Pearson's correlation coefficient are always between -1 and +1. A correlation coefficient +1 indicates that two variables are perfectly related in a positive sense; a -1 correlation coefficient indicates that two variables are perfectly related in a negative sense and a correlation coefficient 0 indicates that there is no relationship between the two variables.

3.6 Reliability and Validity

According to Cerri (2012) cited by Almaz (2015) reliability is conducted to assess data quality .hence, reliability is used to assess consistency in measurement items. Validity is concerned with whether the findings are really about what they appear to be about. According to sounders et.al (2003), validity is the extent to which data collection methods accurately measure what they are intended to measure. Thus, to achieve this objective the researcher took different steps to ensure the validity of the study:

- ✓ Data were collected from those target population respondents who have good understanding and experiences in using the services of the bank as they are active users of the bank services.

- ✓ Survey questions were prepared based on previous empirical research review and literature review to ensure validity.

3.7 Ethical considerations

The study gave much attention to ethical considerations when collecting of questionnaires from the respondents, their permission and mutual consent was asked and the purpose was thoroughly explained. Moreover, name of the respondents'' and details was not be asked to write in order to increase their confidentiality for the information they gave. Finally, the questionnaire was explained that the purpose of the research was only for academic purpose and the respondents' were included based on their willingness.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

As the purpose of this study is to assess core banking system and service delivery quality, this chapter presents the final results and the process through which the results were obtained. This chapter consists of background of respondents, validity and reliability, descriptive and inferential statistics analysis of respondents.

4.1 Rate of Response

In this study 291 questionnaires were distributed to customers and all the distributed questionnaires were collected though only 282 questionnaires were properly filled and the remaining nine questionnaires were not fully and properly filled. As a result the researcher used 282 questionnaires response were used for analysis. Thus, the analysis were based on 96.9% validity response from the customers.

Table 3 Background of Respondents

Item		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	male	167	59.2	59.2	59.2
	female	115	40.8	40.8	100
	Total	282	100	100	
Age	18-29	138	48.9	48.9	48.9
	30-40	101	35.8	35.8	84.8
	40-50	24	8.5	8.5	93.3
	above 50	19	6.7	6.7	100
	Total	282	100	100	
Educational Level	Elementary school	11	3.9	3.9	3.9
	High school	19	6.7	6.7	10.6
	Certificate	9	3.2	3.2	13.8
	Diploma	26	9.2	9.2	23

Degree	186	66	66	89
Masters and Above	31	11	11	100
Total	282	100	100	

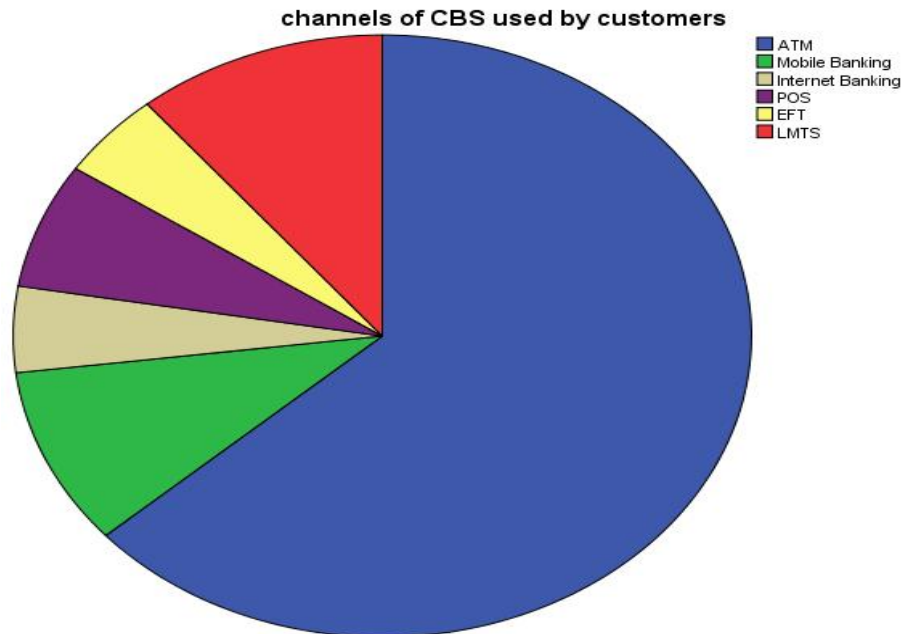
Source: Questionnaire result (2018)

Table 4.1 presents the background information of the respondents of the study. The Survey showed that there were more males as compared to females. Male respondents represents 59.2 Percent, and the rest 40.8 percent were females. Regarding age of respondents 48.9 percent of the respondents are in the range of 18-29years, 35.8percent of the respondents are in the range of 30-40 years, 8.5 percent are in the range of 40-50 years, and 6.7 percent of the respondents are under the age of 50 and above. Moreover, with respect to the educational level of the respondents 3.9 percent are Elementary school graduates, 6.7 percent are secondary school graduates, 3.2 percent are certificate graduates,9.2 percent are Diploma graduates, 66 percent are degree graduates and 11 percent are Masters and Above graduates. This shows majority of the customers are degree holders.

Table 4: channels of CBS used by Customers

channels of CBS used by customers				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
ATM	179	63.5	63.5	63.5
Mobile Banking	27	9.6	9.6	73
Internet Banking	13	4.6	4.6	77.7
POS	19	6.7	6.7	84.4
EFT	13	4.6	4.6	89
LMTS	31	11	11	100
Total	282	100	100	

Source: Questionnaire result (2018)



As it clearly stated on the above table 4 and pie-chart channels of core banking technology which used frequently are ATM followed by mobile banking, internet Banking, POS, EFT and LMTS. This indicates that even though there are frequent users of ATM banking, there are few users of POS. moreover, in the presence of frequent users of ATM, there should be usual transfer of funds using ATM card than using branch to transfer funds.

4.2 Validity and Reliability Test

Validity is concerned with whether the findings are really about what they appear to be about. According to sounders et.al (2003), validity is the extent to which data collection methods accurately measure what they are intended to measure.

According to Cerri (2012) cited by Almaz (2015) reliability is conducted to assess data quality .hence, reliability is used to assess consistency in measurement items. Reliability test was computed to test whether the scale used in the study is internally consistent and consistently measures the criterion variable using the reliability procedure in SPSS (version 23).from the data analysis Cronach's alpha for this study is presented as follows.

Table 5 Cronbach's Alpha test for variables

Item	Cronbach's Alpha	No. of Items
service delivery quality	0.873	22
core banking channels	0.815	15
benefits of CBS	0.857	8
challenges of CBS	0.881	7
Total		52

Questionnaire Result (2018)

According to Cerri (2012) standard set for reliability test is; when the test result α is greater than 0.70; and the test result of the variables is above the standard set as it stated on table 5.

4.3 Descriptive Results of Service Delivery Quality Dimensions

To assess customer- perceived service delivery quality of Bank of Abyssinia, descriptive statistics were computed per service quality dimension. Percent, frequency, mean and standard deviation were computed in order to show how many respondents show their agreement or dis agreement, how frequent their agree or dis agree, what is the average of responses and what is the deviation of the responses.

According to Poonlar (1987) cited by Almaz (2015) mean score is calculated to show the average responses of respondents for each question that was included under each dimension. Thus, mean score can be categorized as **Excellent or very good** when the score is **4.51-5.00**, **Good** when it is **3.51-4.50**, **Average or Moderate** when it is **2.51-3.50**, **Fair** when it is **1.51-2.50** and **Poor** when it is **1.00-1.50**.

4.3.1 Tangibles

Tangibles refers to the appearance of physical facilities, equipment, personnel and documents which are visually appealing.

Table 6 The Bank has up-to- date Equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Up-to- date Equipment	Strongly Agree	108	38.3	38.3	38.3
	Agree	134	47.5	47.5	85.8
	Neutral	23	8.2	8.2	94.0
	Dis-agree	17	6.0	6.0	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Table 6 shows most customers perceive (agreed) core banking technology bring up-to-date equipment while delivering service through its services to them. As a result, the highest the frequency, the highest the degree of agreement which is 47.5 percent customers of the bank perceive that the bank have up-to-date equipments,38.3 percent strongly agreed and 6 percent disagreed saying the bank didn't have up-to-date equipment while delivering its services to its customers.

Table 7 the bank have visually appealing physical facilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Physical facilities	Strongly Agree	66	23.4	23.4	23.4
	Agree	169	59.9	59.9	83.3
	Neutral	23	8.2	8.2	91.5
	Dis-agree	24	8.5	8.5	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Customers were asked whether the bank have visually appealing physical facilities like parking, sitting chair, writing table are visually appealing and convenient to customers. As it clearly shown on table 7, 59.9 percent agreed, the bank have visually appealing physical facilities and 23.4 percent strongly agreed too. The remaining 8.5 percent are dis-agreed and 8.2 percent are neutral to the physical facilities provided in delivering service through core banking technology. Thus, majority of the customers show their degree of agreement of visually appealing of the documents.

Table 8 Bank Employees are well dressed and neat.

		Frequency	Percent	Valid Percent	Cumulative Percent
Dressing and neatness	Strongly Agree	118	41.8	41.8	41.8
	Agree	136	48.2	48.2	90.1
	Neutral	18	6.4	6.4	96.5
	Strongly Disagree	10	3.5	3.5	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Customers were asked their degree of agreement or dis-agreement about the bank staff appearance and 48.2percent of customers are agreed, 41.8 percent of the respondents strongly agreed, 6.4 percent of the respondents are neutral, 3.5 percent of the customers are dis-agreed .With regard to staffs appearance the bank should keep the existing situation. Majority of the respondents show their agreement that the bank staffs are well dressed and looks neat.

Table 9 Documents like deposit slip, vouchers, check and others are visually appealing

		Frequency	Percent	Valid Percent	Cumulative Percent
Documents used	Strongly Agree	106	37.6	37.6	37.6
	Agree	117	41.5	41.5	79.1
	Neutral	45	16.0	16.0	95.0
	Dis-agree	11	3.9	3.9	98.9
	Strongly Disagree	3	1.1	1.1	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

With regard to the documents deposit slip, voucher, applications to be filled, receipts bank statements and pamphlets prepared to customers, it should be visually appealing, simple and easily understanding to customers. According to the above table regarding documents, 41.5 percent customers agreed, 37.6 percent customers strongly agreed, 16 percent feels neutral and 3.9 are dis agreeing while 1.1 percent were strongly disagreed about the documents the bank prepared. This indicates that the bank should give prior attention to the documents prepared as documents are crucial parts of banking operations.

Generally, the overall mean result shows customer perception of tangibles that core banking system bring while delivering its services anywhere and anytime.

Table 10 Table mean results of tangibles

Tangibles dimension	N	Mean	Std. Deviation
the bank has up-to-date Equipment	282	3.4894	.61554
visually Appealing physical Facilities	282	4.1809	.71530
Employees are well dressed and neat	282	4.3972	.77670
Physical facilities goes with type of Service	282	3.8617	.78147
Documents are visually Appealing	282	4.1950	.71654

Questionnaire Result (2018)

Table 10 indicates the mean result of tangible in which customers perceived about service delivery quality of tangibles dimension in which the highest the mean, the customers perceived highest quality service delivered and the lowest the mean score the less they perceive.. Accordingly, the third, fifth and second items of tangibles dimension respectively showed the highest mean which can be categorized as excellent or very good while the rest are categorized as good which indicates the tangible dimensions are perceived as very good and good that shows service delivery quality in terms of tangible dimension is delivered well in such a way that the bank have up-to-date equipment, physical facilities like parking, sitting chair, benches and pedestals are convenient, documents are visually appealing and employees are well dressed and neat.

According the result of the respondent there is not much vary in the response of the respondents as the standard deviation is almost nearest to one another.

4.3.2 Reliability

It refers to the ability to perform the promised service dependably and accurately.

Table 11 Employees provide service at the time they promise to do so.

		Frequency	Percent	Valid Percent	Cumulative Percent
Service provision	Strongly Agree	122	43.3	43.3	43.3
	Agree	121	42.9	42.9	86.2
	Neutral	23	8.2	8.2	94.3
	Dis-agree	8	2.8	2.8	97.2
	Strongly Disagree	8	2.8	2.8	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

According table 11, 43.3 percent customers strongly agree, 42.9 percent customers agree, 8.2 percent customers are neutral while 2.8 percent customers dis-agreed and strongly dis-agreed. This states that customers believe employees of the bank provide service at the time they promise to do even though there are customers who strongly dis agreed. Therefore, the bank management should give much attention to examine the strong dis agreement of the 2.8 percent.

Table 12 Employees show sincere interest in solving a customer's problem.

		Frequency	Percent	Valid Percent	Cumulative Percent
Sincere interest in solving problem	Strongly Agree	104	36.9	36.9	36.9
	Agree	141	50.0	50.0	86.9
	Neutral	10	3.5	3.5	90.4
	Dis-agree	12	4.3	4.3	94.7
	Strongly Disagree	15	5.3	5.3	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Table 12 shows the result of customer's response towards the question which says bank employees show sincere interest in solving customer problem, thus majority customers of the bank which counts 50 percent agreed, 36.9 percent strongly agreed and 4.3 percent are neutral while 5.3 percent are strongly dis agreed that show the bank should give higher attention to those who are strongly disagreed.

Table 13 the bank insists error free record.

		Frequency	Percent	Valid Percent	Cumulative Percent
Error free record	Strongly Agree	102	36.2	36.2	36.2
	Agree	122	43.3	43.3	79.4
	Neutral	41	14.5	14.5	94.0
	Dis-agree	10	3.5	3.5	97.5
	Strongly Disagree	7	2.5	2.5	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Table 13 shows the bank insist error free record and 43.3 customers agreed, 36.2 strongly agreed, 14.5 customers are neutral while 3.5 percent are disagreed and 2.5 percent are strongly disagreed. Even though majority of the customers are agreed and strongly agreed but, there is still area of improvement in insisting error free record.

Table 14 Mean Results of Reliability

Reliability dimension	N	Mean	Std. Deviation
Provide Service at the time they promise	282	4.0887	.66639
Employees show Sincere Interest	282	3.9858	.87256
Bank insists Error Free Record	282	4.6135	.48782

Questionnaire Result (2018)

According to the above table 14, the average mean perception of reliability items ranges from 4.6135 to 3.9858 on a five point scale the highest the mean is scored from item three i.e. is the bank insists error free record with a mean score of 4.6135 followed by item two which is employees show sincere interest with the mean score is 4.0887 and the last one is provide service at the time they promise with mean score of 3.9858 which ranges from excellent to good response of the customers but, the standard deviation show a bit variance on the response of the respondents.

4.3.3 Responsiveness

It is the willingness to help customers and provide prompt service.

Table 15 Bank employees tell you exactly when the service will be performed

		Frequency	Percent	Valid Percent	Cumulative Percent
Exact time when service will be performed	Strongly Agree	86	30.5	30.5	30.5
	Agree	142	50.4	50.4	80.9
	Neutral	39	13.8	13.8	94.7
	Strongly Disagree	15	5.3	5.3	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Table 15 shows that the bank keeps customers informed about when services will be performed. The table indicates majority of customers agreed that the bank tells them exactly when the service will be performed. Accordingly, 50.4 percent respondents agreed, 30.5 percent strongly agreed and 13.8 percent are neutral while 5.3 percent are respondents who strongly dis agreed.

Table 16 customers receive prompt service from the bank.

		Frequency	Percent	Valid Percent	Cumulative Percent
Prompt service	Strongly Agree	98	34.8	34.8	34.8
	Agree	155	55.0	55.0	89.7
	Neutral	26	9.2	9.2	98.9
	Dis-agree	3	1.1	1.1	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The second question for responsiveness is whether the bank staff gives prompt services for the customers or not. Accordingly, 55 percent of the respondents agreed, 34.8 percent strongly agreed and 9.2percent perceived neutral and 1.1 percent strongly dis agreed.

Table 17 Bank employees are always helpful

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	107	37.9	37.9	37.9
	Agree	142	50.4	50.4	88.3
	Neutral	18	6.4	6.4	94.7
	Dis-agree	7	2.5	2.5	97.2
	Strongly Disagree	8	2.8	2.8	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Table 17 shows 50.4 percent customers agreed that bank employees are always helpful followed by 37.9 percent strongly agreed customers and 6.4 percent are neutral while 2.8 percent are strongly dis agreed. This indicates customers getting assisted willingly by the bank employees.

Table 18 Mean results of Responsiveness

Responsiveness Dimension	N	Mean	Std. Deviation
Tell you exactly when service performed	282	3.9823	.62825
Receive Prompt Service from the bank	282	4.6418	.48031
Bank employees are always Helpful	282	4.3582	.48031
Bank Employees Never be Busy to respond	282	4.4539	.49876

Questionnaire Result (2018)

According to the above table mean results of the respondents, its mean ranges from 3.9823 to 4.6418 and the higher mean result is item two i.e. customers receive prompt service from the bank followed by bank employees never be busy to respond customers request and bank employees are always helpful. The last mean score goes to bank employees tell customers exactly when the service will be performed. Regarding the service delivery quality customers of the bank perceive from excellent to good. Except the first item, the remaining item's response is nearest to each other while the first item is somehow vary.

4.3.4. Empathy

It represents the provision of caring and individualized attention to customers including access or approaching and ease of contact, effective communication and understanding.

Table 19 Bank employees give you an individual attention

		Frequency	Percent	Valid Percent	Cumulative Percent
Attention on customers	Strongly Agree	119	42.2	42.2	42.2
	Agree	121	42.9	42.9	85.1
	Neutral	18	6.4	6.4	91.5
	Dis-agree	15	5.3	5.3	96.8
	Strongly Disagree	9	3.2	3.2	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The opening question for empathy dimension is that whether employees of the bank give Individual attention to customers or not. Thus, the above table indicates 42.9 percent of the respondents agreed, 42.2 percent strongly agreed, 6.4 percent neutral and 5.3 percent disagree, finally 3.2 percent of the respondents strongly dis agreed. As compare to the previous dimensions of the items incorporated under them, the item is mostly closer in the agreement and strongly agreement which indicates the bank have better service delivery quality in this item which is giving an individual attention.

Table 20 the bank service hours are convenient to customers

		Frequency	Percent	Valid Percent	Cumulative Percent
convenience	Strongly Agree	112	39.7	39.7	39.7
	Agree	106	37.6	37.6	77.3
	Neutral	35	12.4	12.4	89.7
	Dis-agree	27	9.6	9.6	99.3
	Strongly Disagree	2	.7	.7	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The second item for empathy dimension is whether the bank service hours are convenient to customers or not. This table shows majority of the respondents strongly agreed that the bank service hour is convenient to customers followed by 37.6 percent agreed respondents.

Table 21 the bank's branches are accessible to customers'

		Frequency	Percent	Valid Percent	Cumulative Percent
Accessibility	Strongly Agree	132	46.8	46.8	46.8
	Agree	104	36.9	36.9	83.7
	Neutral	32	11.3	11.3	95.0
	Dis-agree	14	5.0	5.0	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

This table indicate whether the bank branches are accessible to customers or not. Majority of the respondents believe that the bank branches are accessible to them followed by 36.9 percent agreed customers' and 11.3 percent are neutral while 5 percent are disagreed customers.

Table 22 Bank forms are understandable

		Frequency	Percent	Valid Percent	Cumulative Percent
Bank forms	Strongly Agree	141	50.0	50.0	50.0
	Agree	89	31.6	31.6	81.6
	Neutral	25	8.9	8.9	90.4
	Dis-agree	19	6.7	6.7	97.2
	Strongly Disagree	8	2.8	2.8	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

This table examines whether bank forms are easily understandable by customers or not. Thus, the table shows 50 percent of respondents strongly agreed 31.6 percent agreed, 8.9 percent are neutral and 2.8 percent strongly dis-agreed. This table states majority of the respondents are satisfied with easily understandable bank forms

Table 23 the bank employees understand customer's specific needs

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	79	28.0	28.0	28.0
	Agree	159	56.4	56.4	84.4
	Neutral	29	10.3	10.3	94.7
	Dis-agree	15	5.3	5.3	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The fourth question for empathy is whether the bank staff understands specific needs of Customers or not. According to the above table, 56.4 percent agreed, 28 percent strongly agreed, 10.3 neutral and 5.3 percent customers perceived dis agree. Thus, majority of respondents how that customers getting understanding of their needs by the banks staff.

Table 24 Mean Result of Empathy

Empathy Dimension	N	Mean	Std. Deviation
Bank employees give an individual attention	282	4.3688	.48334
Bank Service hours are Convenient to customers'	282	4.6412	.48334
Bank Branches are Accessible to Customers	282	4.1879	.39136
Bank Documents Are Understandable	282	4.6312	.48334
Bank employees Understand Customers' specific needs	282	4.3652	.48236
The Bank Deliver An Excellent Service	282	4.4610	.78253

Questionnaires Result (2018)

As empathy is taking care and paying attention to individuals, the mean score result ranges from 4.1879 to 4.6412. According to the above table the highest mean score i.e. is item two which is bank service hours are convenient to customers' followed by bank documents are understandable, the bank deliver an excellent service, bank employees understand customers' specific needs, and bank employees give an individual attention. Generally, the mean score result shows the empathy dimension of service quality delivery rests on the category of excellent which shows the service delivery quality is in an excellent phase as customers perceive. Among the empathy dimension questions of the response, there is a deviation on the standard.

4.3.5 Assurance

Assurance dimension refers to the knowledge and courtesy of employees and their ability to inspire trust and confidence including competence, credibility, and security. The following assurance question items portrays that measure assurance dimensions.

Table 25 Customers feel safe with transaction with the bank

		Frequency	Percent	Valid Percent	Cumulative Percent
Transactions made	Strongly Agree	141	50.0	50.0	50.0
	Agree	103	36.5	36.5	86.5
	Neutral	23	8.2	8.2	94.7
	Dis-agree	15	5.3	5.3	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The first item question under assurance dimension is customer trust on the bank transaction. The above table shows 50 percent customers strongly agree, 36.5 percent perceived agree, 8.2 percent feels neutral and 5.3 percent customers dis agree with trust on the bank transactions. This indicates customers are giving their trust but there is still loophole to improve.

Table 26 the behavior of bank employees instills confidence in customers.

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	129	45.7	45.7	45.7
	Agree	134	47.5	47.5	93.3
	Neutral	19	6.7	6.7	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The second item of assurance dimension goes to the behavior of employees which instills confidence on customers. According to the above table 47.5 percent agree, 45.7 percent strongly agree and 6.7 percent feels neutral. This indicates majority of customers of the bank are instilling confidence due to the way bank employees behave.

Table 27 Bank employees are consistently polite

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	123	43.6	43.6	43.6
	Agree	106	37.6	37.6	81.2
	Neutral	17	6.0	6.0	87.2
	Dis-agree	28	9.9	9.9	97.2
	Strongly Disagree	8	2.8	2.8	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The third item of assurance dimension whether bank employees are consistently polite or not. As clearly indicated on the above table, 43.6 percent of respondents strongly agreed, 37.6 percent agreed, 6 percent feels neutral, 9.9 percent dis-agree and 2.8 percent strongly dis agree. This indicates, even there are majority of respondents strongly agreed, there are also strongly dis agreements. Therefore, the bank should give much attention to mitigate this loophole too.

Table 28 the bank employees have the knowledge to answer customers' questions

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	113	40.1	40.1	40.1
	Agree	119	42.2	42.2	82.3
	Neutral	31	11.0	11.0	93.3
	Dis-agree	10	3.5	3.5	96.8
	Strongly Disagree	9	3.2	3.2	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The final item of assurance dimension is the knowledge of employees to respond customers' questions. According to the table, majority of customers believe bank employees have the knowledge to answer their questions.

Table 29 Mean result of assurance

Assurance Dimension	N	Mean	Std. Deviation
Customers Feel Safe in Transaction with the bank	282	4.3652	.48236
Behavior of Employees instills Confidence in Customers'	282	4.4539	.49876
Employees are Consistently Polite	282	4.1809	.38558
Employees have the Knowledge to answer customers' Question	282	4.4610	.78253

Questionnaire Result (2018)

As this table portrays items that measure assurance, the highest mean score is item four i.e. employees have the knowledge to answer customers' questions followed by item two which is behavior of employees instills confidence in customers' and finally items one and three are the

third and fourth respectively. According to service quality category of customers' perception of this mean rests on the category of excellent.

Generally, the overall response of customers towards the service delivery quality looks like as follows.

Table 30 overall mean score and level of category of customer's expectation

Dimensions	Average mean	Grand mean	level
Tangibles	4.0248	4.28382	Good
Reliability	4.2293		Good
Responsiveness	4.3590		Good
Empathy	4.4408		Good
Assurance	4.3652		Good
Total	21.4191		

Questionnaire Result (2018)

According to the above table empathy have the highest mean score with 4.4408 which followed by assurance with mean score of 4.3652 and responsiveness with 4.3590 and the remaining are reliability with mean score of 4.2293 and tangibles with mean score of 4.0248 respectively. This indicates that majority of respondents perceived that the bank have an employees who give an individual attention to customers, the bank's service hour is convenient to customers, the bank branches are accessible to customers, the bank forms are understandable and the bank employees understand customers specific needs.in addition, customers feel safe with transactions they made with the bank, the bank employees instills confidence on customers and employees are consistently polite.

Table 31 the overall frequency result of service delivery quality

Dimensions	Responses	strongly agree	agree	neutral	disagree	strongly dis-agree	Total
Tangibles	N	102.6	136.6	24.6	14.6	3.6	282
	Percent	36.4	48.4	8.7	5.2	1.3	100
Reliability	N	105	115	35	20	7	282
	percent	37.23	40.78	12.41	7.09	2.48	100
Responsiveness	N	90	100	45	29	18	282
	Percent	31.91	35.46	15.96	10.28	6.38	100
Empathy	N	190	50	17	15	10	282
	Percent	67.38	17.73	6.03	5.31	3.55	100
Assurance	N	110	80	40	27	25	282
	Percent	39.01	28.37	14.18	9.57	8.87	100

Questionnaire Result (2018)

According to the above table, the overall frequency result shows 67.38 percent of the respondents strongly agreed that core banking technology bring better assurance dimension followed by tangibles which is 48.4 percent. This indicates, CBS make customers feel safe with the transaction they made, behavior of employees instills confidence and the employees have the knowledge of answering the questions of customers; and it brings tangibles to customers which indicates the bank has up-to-date equipment's, physical facilities are visually appealing and employees are well-dressed and neat. Finally, the remaining service delivery quality dimensions have promising frequency results which gives CBS brings an essential role on delivering service to customers.

4.6 The role of core banking channels on service delivery

Core banking channels enables banks to extend the full benefits of ATM, POS, mobile banking, internet banking, card banking and other multiple delivery channels to all customers allowing banks to offer a multitude of customer-centric services on a 24x7 basis from a single location, supporting retail as well as corporate banking activities. This helps customers' to get service anywhere and anytime.

4.6.1 Automated Teller Machine (ATM)

It provides customers' of a given bank to access financial transaction in a public space without visiting a host branch of host bank. Any card user can withdraw a privileged amount from any member bank or from any ATM terminal.

Table 32 frequency result of ATM

ATM		Responses		Percent of Cases
		N	Percent	
	Strongly Agree	365	43.1%	129.4%
	Agree	396	46.8%	140.4%
	Neutral	49	5.8%	17.4%
	Dis-agree	26	3.1%	9.2%
	Strongly Disagree	10	1.2%	3.5%
Total		846	100.0%	300.0%

Questionnaire Result (2018)

According to the above table 46.8 percent of respondents agreed and 43.1 percent strongly agree that card holders can easily withdraw and transfer their funds, can access their balance and can withdraw at more convenient time and place than banking hours. According to Auta (2010), a survey conducted on commercial banks of Nigeria 84 percent of the respondents felt that core banking channels mainly ATM is very convenient and flexible. In our context, 46.8 percent of the respondents agreed and 43.1 percent strongly agreed which in total gives 90 percent of agreement on the respondents view of ATM role which is encouraging.

4.6.2 Point of Sales (POS)

It is an electronic device in which card holders can make payments at the time of purchase, or nowadays customers use POS machine to withdraw cash in any member branch in the absence of network connection.

Table 33 Frequency result of POS

		Responses		Percent of Cases
		N	Percent	
	Strongly Agree	244	43.3%	86.5%
	Agree	213	37.8%	75.5%
	Neutral	53	9.4%	18.8%
	Dis-agree	52	9.2%	18.4%
	Strongly Disagree	2	.4%	.7%
Total		564	100.0%	200.0%

Questionnaire Result (2018)

According to the above table of frequency survey result of the respondents 43.3 percent are strongly agreed and 37.8 percent agreed that entails card holders make payments at sales or purchase outlets and users can withdraw at bank more than they can withdraw with ATM. In addition, 9.2 percent feels disagreed and 0.4 percent strongly disagree and finally 9.4 percent are neutral.

4.6.3 Mobile banking

It is one of the channels in which customers can make transactions using their cell phone without visiting member branches.

Table 34 . Frequency result of Mobile Banking

Mobile Banking		Responses		Percent of Cases
		N	Percent	
	Strongly Agree	286	33.8%	101.4%
	Agree	349	41.3%	123.8%
	Neutral	161	19.0%	57.1%
	Dis-agree	22	2.6%	7.8%
	Strongly Disagree	28	3.3%	9.9%
Total		846	100.0%	300.0%

Questionnaire Result (2018)

According table 4.6.3.A majority of the respondents agree and strongly dis agree on the channel which indicates core banking technology brings easy transfer of funds through their cell phones, access to their balance at hand, easy of making stop payments and getting updated balance at any time.

4.6.4 Account to Account transfer

It is one of the CBS channels where account holders can transfer their fund in any member branch which is convenient and accessible to them.

Table 35 Frequency Result of EFT

Account Transfer		Frequency	Percent	Valid Percent	Cumulative Percent
	strongly agree	136	48.2	48.2	48.2
	agree	112	39.7	39.7	87.9
	neutral	28	9.9	9.9	97.9
	dis agree	6	2.1	2.1	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

The above table shows majority of the respondents strongly agreed, followed by agree which counts 48.2 percent and 39.7 percent respectively. This indicates majority of customers use account to account transfer in any nearby member branches conveniently.

4.6.5 Internet Banking

Internet banking is one of CBS channels in which customers use web-based technology through their computers, phones and tablets to make transitions.

Table 36 Frequency of Internet Banking

internet banking		Responses		Percent of Cases
		N	Percent	
	Strongly Agree	207	18.4%	73.4%
	Agree	420	37.2%	148.9%
	Neutral	435	38.6%	154.3%
	Dis-agree	66	5.9%	23.4%
Total		1128	100.0%	400.0%

Questionnaire Result (2018)

According to the above table majority of respondents feels neutral in the service delivery role of internet banking followed by agree respondents. This shows customers are not well aware of the role or they are not utilizing the role of internet banking as majority feels neutral though there are 37.2 percent agreed customers are using this CBS channels service.as a result, the bank is expected to do a lot on promotion to bring these neutral customers to the internet banking net.

4.6.6 Local money transfer (LMTS)

Local money transfer is a kind of local remittance service where account holders and other users can transfer money to anyone who can collect the remitted money in any member branch of the bank.

Table 37 Frequency of Respondents on LMTS

LMTS		Responses		Percent of Cases
		N	Percent	
	Strongly Agree	342	60.6%	121.3%
	Agree	191	33.9%	67.7%
	Neutral	23	4.1%	8.2%
	Strongly Disagree	8	1.4%	2.8%
Total		564	100.0%	200.0%

Questionnaire Result (2018)

Table 4.6.6.A. indicates majority of respondents are getting the service of LMTS in anywhere easily and conveniently where account holders can transfer funds to non-account holders from their account through mobile banking, internet banking and ATM in which beneficiaries can withdraw from any nearby and convenient branch member. Accordingly 60.6 percent respondents strongly agreed and 33.9 percent agreed which shows CBS bring a lot of convenience to anyone who wonder to get service through LMTS.

Generally, the overall service delivered through core banking channels results an average mean of 4.7973 which is categorized as excellent according to Poonlar (1987) category of mean score service delivery level. Thus, core banking channels have an immense contribution on service delivery quality.

Table 38 Mean Score Result of Core Banking Channels

CBS channels	N	Mean	average mean	Std. Deviation
Channels	282	28.7837	4.7973	6.70258
total	282			

Questionnaire Result (2018)

4.7. Benefits of Core Banking System

CBS networks all branch members of a given bank which allow customers to operate their account from any convenient and nearby outlets; access their account through different channels of core banked products and services that save their time, cost and increase safety.

Table 39 CBS Reduced error on transactions

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	129	45.7	45.7	45.7
	Agree	127	45.0	45.0	90.8
	Neutral	14	5.0	5.0	95.7
	Dis-agree	12	4.3	4.3	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

According to table 4.7.A. majority of the respondents strongly agreed which counts 45.7 percent followed by agree response which is 45 percent that indicates CBs have reduced error on

transactions which in turn increase efficiency and effectiveness of the bank that hugely boost the loyalty of customers.

Table 40 CBS enhances security of account information

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	109	38.7	38.7	38.7
	Agree	163	57.8	57.8	96.5
	Neutral	5	1.8	1.8	98.2
	Strongly Disagree	5	1.8	1.8	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

As it can be shown on the above table 4.7.B majority of the respondents agreed that CBS enhanced security of account information of customers. This shows CBS have an important contribution on enhancing security of account information by systematically recording and making available on privately accessible devices like computer, cell phones and tablets.

Table 41 CBS facilitates Speed of Services

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	128	45.4	45.4	45.4
	Agree	113	40.1	40.1	85.5
	Neutral	33	11.7	11.7	97.2
	Dis-agree	8	2.8	2.8	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Concerning speed of services CBS facilitates quick and on time of transactions which brings low waiting time or minimum. In addition it brings very quick transactions through different channels like internet banking, mobile banking, ATM and POS.

Table 42 CBS provides more Flexible services

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	141	50.0	50.0	50.0
	Agree	129	45.7	45.7	95.7
	Neutral	12	4.3	4.3	100.0
	Total	282	100.0	100.0	

Questionnaire Result, (2018)

This table deals with whether CBS provides more flexible services or not and majority of the respondents strongly agreed, followed by agree which counts 50percent and 45.7 percent respectively. While the remaining 4.3 percent of the respondents' feels neutral.

Table 43 CBS brings low transaction cost

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	164	58.2	58.2	58.2
	Agree	92	32.6	32.6	90.8
	Dis-agree	20	7.1	7.1	97.9
	Strongly Disagree	6	2.1	2.1	100.0
	Total	282	100.0	100.0	

Questionnaire Result, (2018)

According to the above table CBS brings low transaction cost whose majority percent are strongly agreed and agree which is 58.2 percent and 32.6 percent respectively. The remaining 7.1 percent and 2.1 percent are dis agree and strongly dis agree respectively. These shows customers are getting service in affordable cost or minimum cost of service.

Table 44 CBS bring Quick transfer of Fund.

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	162	57.4	57.4	57.4
	Agree	105	37.2	37.2	94.7
	Neutral	2	.7	.7	95.4
	Dis-agree	8	2.8	2.8	98.2
	Strongly Disagree	5	1.8	1.8	100.0
	Total	282	100.0	100.0	

Questionnaire Result (2018)

Based on the above table which deals whether CBS bring quick transfer of funds, majority of respondents strongly agree which holds 57.4 percent, agree that counts 37.2 percent and 2.8 percent disagree, 1.8 percent strongly disagree and the remaining 0.7 percent containing respondents who feels neutral.

Table 45 mean and standard deviation results of Core Banking Channels

ATM	N	Mean	Std. Deviation
Users can withdraw and transfer their funds	282	4.0106	.60534
users can access balance enquiry	282	4.1915	.71997
users can withdraw cash anytime, anywhere	282	4.5638	.49679
POS	N	Mean	Std.Deviation
card holders make pay't at sales or purchase outlets	282	5.0000	0.00000
users can withdraw more amount than ATM withdrawal	282	4.0000	0.00000
Mobile Banking	N	Mean	Std. Deviation
users can transfer funds using their cell phone	282	4.8227	.38261
users can access updated balance enquiry	282	4.1773	.38261
Customers' an make stop pay'ts, update balance and history	282	4.8217	.38261
Account transfer	N	Mean	Std. Deviation
Account holders can transfer funds to member branch	282	4.1773	.38261
Internet Banking	N	Mean	Std. Deviation
users verify real time account balance anytime from any location	282	4.8121	.39136
users can transfer instantly from account to account	282	4.1809	.38558
confirm deposits and online transactions	282	4.2589	.75483
place an order for new check issuance	282	4.0071	.60832
LMTS	N	Mean	Std. Deviation
Account holders can remit to someone don't have an account	282	4.6312	.48334
Beneficiaries can withdraw from any nearby branch	282	4.1879	.39136

Questionnaire Results (2018)

As stated on table 45 (ATM) the third item of ATM channel i.e. card users can withdraw their money at any time in any convenient place through their cards which categorized as an excellent mean score followed by users can access balance enquiry using their ATM cards that rests a category of good mean score and customers' can transfer their funds anytime and anywhere easily using their cards is categorized as Good too. Card holders can purchase at sales and purchase outlets using their ATM cards through POS terminal which the mean score regarded as excellent, followed by users can withdraw cash at any branch member more than ATM terminal privileges to be withdrawn.

With regard to mobile banking majority of respondents perceived an excellent which indicates customers are transferring their funds through their cell phones at any time to any beneficiary and users are accessing their balance using their phones. Moreover, customers transferring funds from account to account any convenient and nearby member branch.

Concerning internet banking majority of respondents rate as very good which shows customers are using their web-based computers, cell phones and tablets to access their account. Finally, majority of customers rate LMTS service as very good mean score which clearly indicates users of LMTS are transferring money to beneficiaries at any member branch to any member branch where payees(beneficiaries) can withdraw at any convenient and nearby member branches.

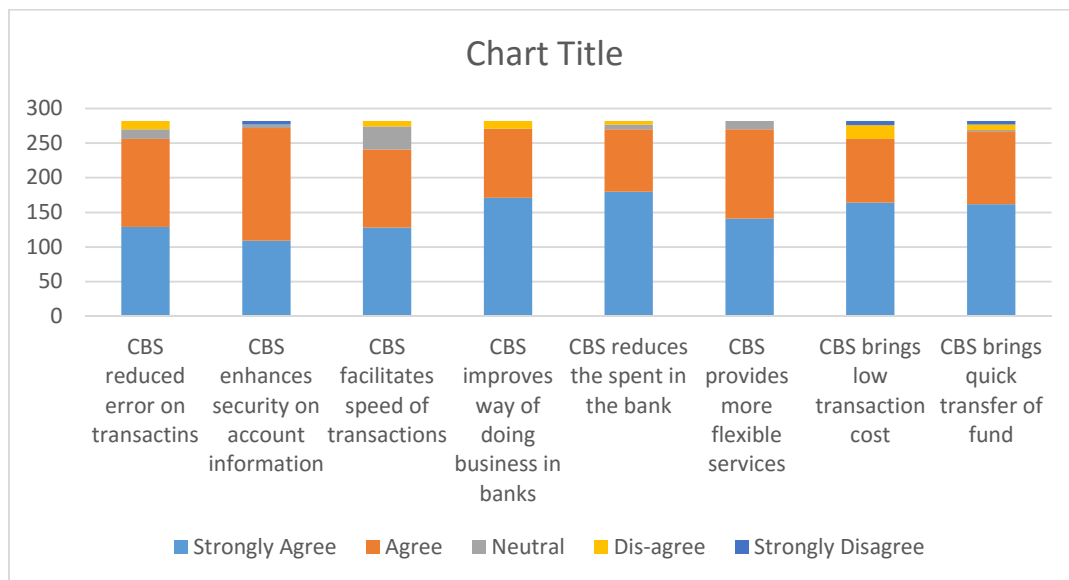
Geetha (2015) in his study indicates, customers were for the CBS because of its ease of operations, instantaneous, timely response and cost effectiveness. As CBS offers any time anywhere banking facility through its channels, customers are surely benefitted out of it and after the introduction of CBS the operational efficiency of banks has certainly improved. Table 4.7.G indicates the benefits out core banking channels and its role on reducing waiting time, ease of access, cost of service, convenience and anytime withdrawal of cash which in turn increase the quality of service delivery etc...

4.8 Benefits of Core Banking System in frequency

Table 46 Benefits of Core Banking System (five likert scale) Response in frequency

CBS Questions	Strongly Agree	Agree	Neutral	Dis-agree	Strongly Disagree
CBS reduced error on transactions	129	127	14	12	-
CBS enhances security on account information	109	163	5		5
CBS facilitates speed of transactions	128	113	33	8	-
CBS improves way of doing business in banks	171	100	-	11	-
CBS reduces the spent in the bank	180	90	7	5	-
CBS provides more flexible services	141	129	12		-
CBS brings low transaction cost	164	92	-	20	6
CBS brings quick transfer of fund	162	105	2	8	5
Total	1184	919	73	64	16

Questionnaire Result (2018)



According to the above table and chart majority of respondents show their agreement (strongly agree and agree) and the remaining few in frequency feels neutral and dis agreement on the benefits

of core banking technology. According to majority of the respondents CBS benefited customers and users by reducing error on transactions, enhancing security of account information, facilitating speed of services, improving the way of business, reducing waiting time, providing more flexible services, reducing transaction cost and quick transfer of funds. Core banking is all about knowing customers' needs; providing them with the right services at the right time through the right channels so as to be delivered in a in a best way to customers.

Table 47 Mean and Standard Deviation results of CBS benefits

Benefits of core banking	N	Mean	Std. Deviation
CBS reduced error on transactions	282	4.8121	.39136
CBS enhances security on account information	282	4.0071	.60832
CBS facilitates speed of services	282	4.4610	.78253
CBS improves the way of doing business in the bank	282	3.9965	.59951
CBS reduces the time spent in the bank	282	4.3972	.77670
CBS provides more flexible services	282	4.0709	.65507
CBS brings low transaction cost	282	4.5780	.49475
CBS brings quick transfer of funds	282	4.2447	.74058

Questionnaire Result (2018)

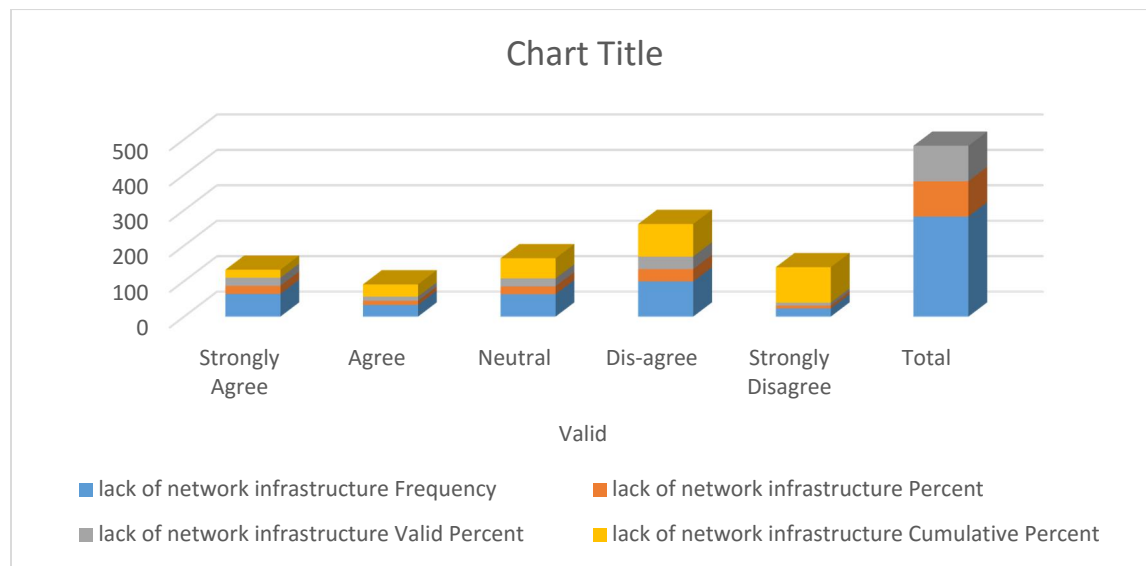
According to table 4.8.B mean result of respondents indicates majority sincere higher mean score that show CBS brings high benefits to customers. Moreover, there is no higher deviation on the response of customers towards benefits of CBS.

4.9 challenges of Core banking System

Table 48 Challenges of CBS related in percent

Challenges of CBS	Strongly Agree	Agree	Neutral	Dis-agree	Strongly Disagree
lack of ICT and Skilled Personnel	16.0	21.6	22.7	27.7	12.1
resistance to changes of technology	8.9	30.5	22.0	32.6	6.0
lack of reliable power supply	11.3	26.3	16.0	28.3	18.1
lack of network infrastructure and internet	22.7	11.7	22.3	35.1	8.2
fear of cybercrimes or security and trust factors	14.2	13.1	31.6	27.3	13.8
competencies to use ICT facilities or rate of literacy	13.1	17.4	30.9	25.5	13.1

Questionnaire Result (2018)



According to the above table and chart majority of respondents indicate that there is lack of network infrastructure followed by lack of ICT and skilled personnel and the third one is fear of cybercrimes or security and trust factors.

4.10 Inferential Statistics Pearson's Correlation Analysis

According to the above table of correlation coefficient table interpretation a high correlation coefficient ranges from -1 to -0.8 and [0.8 to 1.0 and substantial ranges from -0.8 to -0.6 and [0.6 to 0.8 while medium ranges from -0.6 to 0.4 and [0.4 to 0.6. To find out the relationship between

service delivery quality dimensions (tangibility, reliability, responsiveness, empathy and assurance) and core banking system (ATM, POS, mobile banking, EFT, internet banking); and service quality dimensions Pearson's correlation coefficient (r) is used. Values of Pearson's correlation coefficient are always between -1 and +1. A correlation coefficient +1 indicates that two variables are perfectly related in a positive sense; a -1 correlation coefficient indicates that two variables are perfectly related in a negative sense and a correlation coefficient 0 indicates that there is no relationship between the two variables. According to Daniel and Gates(2006), The results of correlation coefficient can be interpreted as (-1 to -0.8) high, (-0.8 to -0.6) substantial, (-0.6 to -0.4) medium, (-0.4 to -0.2) low, (-0.2 to 0.2) very low or [0.8 to 1.00) high, [0.6 to 0.8) substantial, [0.4 to 0.6) medium, [0.2 to 0.4) low.

Table 49 Pearson's correlation coefficient between Service Delivery Quality and Core Banking

		Tangibles	Reliability	Responsiveness	Empathy	Assurance	SERVQUAL	CBS
Tangibles	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	282						
Reliability	Pearson Correlation	.835**	1					
	Sig. (2-tailed)	.000						
	N	282	282					
Responsiveness	Pearson Correlation	.919**	.783**	1				
	Sig. (2-tailed)	.000	.000					
	N	282	282	282				
Empathy	Pearson Correlation	.567**	.890**	.531**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	282	282	282	282			
Assurance	Pearson Correlation	.693**	.796**	.607**	.880**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	282	282	282	282	282		
SERVQUAL	Pearson Correlation	.901**	.973**	.845**	.867**	.879**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	282	282	282	282	282	282	
CBS	Pearson Correlation	.316**	.593**	.144*	.833**	.860**	.619**	1
	Sig. (2-tailed)	.000	.000	.015	.000	.000	.000	
	N	282	282	282	282	282	282	282

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

* . Correlation is significant at the 0.05 level (2-tailed).

According to the above table 49 there is a positive and significant relationship between core banking system and service quality dimensions; core banking channels and service delivery quality dimensions. From the table we can see that there is a positive and strong relationship between service delivery quality dimensions and core banking channels i.e. core banking channels and assurance dimension has high strong correlated relationship with 0.860 followed by empathy which is 0.833 that rests on substantial rate of correlation and service quality with core banking system rates 0.860 which results substantial relationship. On the other hand, responsiveness and tangibles have very low and low relationship with CBS. Service delivery quality dimension have a positive and strong relationship with reliability, tangibles, assurance, empathy and responsiveness respectively which are rated as highly correlated and substantially correlated.

Gupta and Bansal (2012) have found that all service delivery quality dimensions have significant positive impact on over all internet banking service (one of the core banking channel) in India. They stated that the five dimensions (assurance, reliability, efficiency, responsiveness and site aesthetics) together explain 70.9% variance in the overall internet banking service quality. Thus, service delivery quality have a strong(rated substantial) relationship with core banking channels i.e. the more services are delivered through core banking channels it reduces errors, it enhances accessibility, it reduces cost, it minimizes waiting time etc..

When we look at the inter-correlation of the variables, there is strong correlation which implies that a change made on in one of the service quality dimensions will positively motivate to the other dimensions. The highest the inter-correlation is between responsiveness and tangibles ($r=0.919$), empathy and reliability ($r=0.890$), assurance and empathy ($r=0.880$), reliability and tangibles ($r=0.835$), assurance and reliability respectively.

Table 50 correlation between core banking system and Service delivery quality

		Service Delivery Quality	CBS channels
service delivery quality	Pearson Correlation	1	.619**
	Sig. (2-tailed)		.000
CBS channels	N	282	282
	Pearson Correlation	.619**	1
	Sig. (2-tailed)	.000	
	N	282	282

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

According to the above table there is a strong positive relationship between core banking system channels and service delivery quality which is rated substantial rate of correlation. According to sekhar and sudhir (2012), the adoption of banking technologies including CBS has increased productivity and operational efficiency .it makes financial institution like banks to deliver the real benefit to all customers and stakeholders. Internet banking enables banks to offer a variety of services which allow customers to make transactions on-line that access their accounts, transfer funds. CBS channels can increase productivity significantly in terms of delivering quality service to customers' which increase bank performance (Berger, 2003).in addition, Chaoprasert and Elsey (2004) conducted a study on CBS and found that core banking system channels improved service delivery quality in Thailand banks. Moreover, Wang (2006) studied the impact of internet on service quality in banking sector in Sweden and found out that access dimension of service delivery quality has more positively influenced by internet banking. This indicates internet banking has more convenience, time saving and easier to reach. Therefore, there is a strong positive and significant relationship between core banking system and service delivery quality

CHAPTER FIVE

SUMMARY of FINDINGS, CONCLUSION and RECOMMENDATIONS

5.1 summary of findings

- Regarding background of respondents there more male respondents than females which contains 59.2 percent and the majority of respondents age ranges from 18-29 which covers 48.9 percent. In addition to this, regarding to academic level of respondents majority of the respondents are degree graduates which contains 66 percent. Concerning to core banking channels which frequently used are ATM, mobile banking and POS with a percentage of 63.5 percent, 9.6 percent and 6.7 percent respectively.
- The frequency and percent results of service delivery quality shows that majority of respondents strongly agreed that core banking bring better assurance which counts 44.9 percent followed by responsiveness with 50 percent and tangibles with 48.4 agreed respondents.
- The computed mean scores of service delivery quality through service quality dimensions which helps to measure their rate service delivery quality of the bank; majority of respondents rate of the service delivery quality dimensions are rated as good and there is no much variance of the respondents' response since the standard deviation results are almost nearest to one another.
- Based on the computed frequency, mean and standard deviation Core banking channels; majority of the respondents show their strong agreement on their service delivery role and the mean score rate of their service delivery quality rate as excellent or very good that indicates their paramount role.
- majority of the respondents show their strong agreement that CBS benefited customers and users by reducing error on transactions, enhancing security of account information, facilitating speed of services, improving the way of business, reducing waiting time, providing more flexible services, reducing transaction cost and quick transfer of funds. On the contrary, a few respondents indicate that there is lack of network infrastructure, lack of ICT and skilled personnel and fear of cybercrimes or security and trust factors.

- Concerning the challenges of core banking system majority of respondents indicate that there is lack of network infrastructure(22.7%) followed by lack of ICT and skilled personnel(16%) and the third one is fear of cybercrimes or security and trust factors (14.2%).
- The study revealed that, there is a positive and significant relationship between core banking system and service quality dimensions; core banking channels and service delivery quality dimensions. core banking channels and assurance dimension has high strong correlated relationship with 0.860 followed by empathy which is 0.833 that rests on substantial rate of correlation and service quality with core banking system rates 0.860 which results substantial relationship. On the other hand, responsiveness and tangibles have very low and low relationship with CBS. Service delivery quality dimension have a positive and strong relationship with reliability, tangibles, assurance, empathy and responsiveness respectively which are rated as highly correlated and substantially correlated.
- Finally, the inter-correlation of the variables shows, there is strong correlation which implies that a change made on in one of the service quality dimensions will positively motivate to the other dimensions. The highest the inter-correlation is between responsiveness and tangibles ($r=0.919$), empathy and reliability ($r=0.890$), assurance and empathy ($r=0.880$), reliability and tangibles ($r= 0.835$), assurance and reliability respectively.

5.2 Conclusion of the Study

The main objective of the study was to assess core banking system and service delivery quality in bank of Abyssinia; in order to accomplish this objective the researcher distributed questionnaires to sample respondents and collected for data analysis. The researcher attempted to identify which of the service delivery quality dimensions perceived as excellent, good r moderate that core banking system bring. As a result the findings indicate that empathy have the highest mean score with 4.4408 which followed by assurance with mean score of 4.3652 and responsiveness with 4.3590 and the remaining are reliability with mean score of 4.2293 and tangibles with mean score of 4.0248 respectively. Moreover, the overall frequency result shows 67.38 percent of the

respondents strongly agreed that core banking technology bring better assurance dimension followed by tangibles which is 48.4 percent.

Based on the correlation finding there is a strong and positive correlation between Core Banking system and service delivery quality. Thus indicates that the role of core banking system have an immense contribution for delivering quality services by reducing errors, bringing flexibility and reducing waiting time, reducing cost, quick transfer of funds etc...

Based on the research question and the customers response, the researcher conclude that core banking system contributed significantly where customers can easily access their account through different web-based, SMS-based and card-based core banking technologies channels at anytime and anywhere they are needed. Thus, core banking system makes life easier to serve or transact using different channels and nearby outlets.

5.3 Recommendations

Based on the results of the analysis and conclusion made the following recommendations are forwarded which helps the bank to assess its service delivery process.

- ✓ Even though there are high users of ATM channel, there are few users of point of sales machine. Thus, the bank should strive to create awareness on the users to utilize through providing different mechanism like incentives of payback commission.
- ✓ The bank should give much attention to network infrastructure and internet related support services and work close with Ethio-telecom as it is the sole provider of network in our country since there is high interruption of internet connection. Branches can use 3G system to solve the interruption thus, the bank should insist to use 3Gsystem on outlets and branches.
- ✓ The bank should give much more attention to training and development of personnel of IT support departments to solve lack of skilled personnel in support of branches and outlets and CBS terminals. Moreover, there should be continuous training need assessment to fill skill gap of personnel.

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APPENDICES

St. Mary's University

School of Graduate Studies

General MBA

Questionnaire for Bank customers

Respected madam/sir,

This questionnaire aims at assessing **core banking system and service delivery quality at Bank of Abyssinia** city Branches. The purpose of this study is to fulfill a thesis requirement for Masters of Business Administration in General Management at St. Mary's university. To make the study more fruitful, your response to the given question would be necessary. All of your responses to the given questions would be used for the research and will be kept strictly confidential.

Thank you for your willingness and collaboration!!

Part I: General information

Instruction: please put a check mark (✓) on the appropriate box provided.

1. Gender: Male Female

2. Age: 18-29 30-40

40-50 above 50

3. Educational level:

Never been to school Elementary school High school

Certificate Diploma Degree

Masters and above

4. Which channels of core banking are you using most?

ATM Mobile Banking Internet Banking

POS Electronic Fund Transfer (EFT) Local Money Transfer (LMTS)

Part II: Service Delivery Quality Dimensions

Instruction: This part of questionnaire intends to find your perceptions towards to the service delivery quality of bank of Abyssinia S.C. please circle on which it reflects your perception.

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

Statements of Service Quality Dimensions		SA(5)	A (4)	N(3)	D(2)	SD(1)
I	Tangibles					
	1. The bank has up-to-date equipment and technology.	5	4	3	2	1
	2. Bank's physical facilities are visually appealing.	5	4	3	2	1
	3. The employees are well dressed and appear neat.	5	4	3	2	1
	4. The physical facilities and technology goes with the type of service provided.	5	4	3	2	1
	5. Documents like deposit slip, vouchers, check and others are visually appealing.	5	4	3	2	1
II	Reliability					
	1. Employees provide service at the time they promise to do so.	5	4	3	2	1
	2. Employees show sincere interest in solving a problem you face.	5	4	3	2	1
	3. The bank insists error free record.	5	4	3	2	1
III	Responsiveness					
	1. Bank employees tell you exactly when the service will be performed.	5	4	3	2	1
	2. You receive prompt service from the bank employees.	5	4	3	2	1
	3. The bank employees are always helpful.	5	4	3	2	1
	4. The bank employees be never busy to respond your requests.	5	4	3	2	1
IV	Empathy					1
	1. Bank employees give you an individual attention.	5	4	3	2	1
	2. The bank's service hours are convenient to you.	5	4	3	2	1
	3. The bank's branches are accessible to you.	5	4	3	2	1
	4. Bank forms (deposit, withdrawal, receiving money, account opening, money transfer of foreign or local) are understandable.	5	4	3	2	1
	5. The bank employees understand your specific needs.	5	4	3	2	1
	6. The bank always deliver excellent overall service	5	4	3	2	1
V	Assurance					
	1. You feel safe in transaction with the bank.	5	4	3	2	1
	2. The behavior of the bank's employees instills confidence in you.	5	4	3	2	1
	3. The employees are consistently polite.	5	4	3	2	1
	4. The employees have the knowledge to answer your questions.	5	4	3	2	1

Part III: Survey on Core Banking Channels Role

Instruction: This part of questionnaire intends to find your perceptions towards to the role of core banking channels on service delivery quality. Please circle on which it reflects your degree of agreement or disagreement. 1= Strongly Agree (SA) 2= Agree (A) 3= Neutral (N) 4=Disagree (D) 5=Strongly Disagree (SD)

Core banking channels	core banking channels questionnaires	SA(5)	A(4)	N(3)	D(2)	SD(1)
ATM	1. Card holders can easily withdraw and transfer their funds.	5	4	3	2	1
	2. Card holders can access their balance enquiry their cards.	5	4	3	2	1
	3. Cardholders can withdraw cash at more convenient times and places than banking hours.	5	4	3	2	1
POS	1. Card holders can make payments at sales or purchase outlets.	5	4	3	2	1
	2. Users Can withdraw at bank branches better amounts than ATM terminal.	5	4	3	2	1
mobile banking	1. Users can transfer funds through their mobile cells.	5	4	3	2	1
	2. Customers can access their account balance using their cell phones.	5	4	3	2	1
	3. Users can make stop payments, update balance and history.	5	4	3	2	1
EFT	1. Users can transfer funds to any member branch.	5	4	3	2	1
		5	4	3	2	1
Internet Banking	1. Verify real time account balances anytime from any location.	5	4	3	2	1
	2. Transfer funds instantly from account to account.	5	4	3	2	1
	3. Confirm that deposits have been made, checks have cleared, and online transactions have been taken place.	5	4	3	2	1
	4. Place an order for new check issuance	5	4	3	2	1
LMTS	1. Account holders can transfer money to someone who don't have account.	5	4	3	2	1
	2. Users can withdraw from any nearby branch.	5	4	3	2	1

Part IV: Benefits and Challenges of Core Banking Questionnaires

Instruction: This part of questionnaire intends to find your extent of agreement or dis agreement on the benefits and challenges of core banking system. Please circle on which it reflects your degree of agreement or dis agreement. 5= Strongly Agree (SA) 4= Agree (A) 3= Neutral (N) 2=Disagree (D) 1=Strongly Disagree (SD).

Core Banking Questionnaires	S A(5)	A (4)	N (3)	D(2)	SD(1)
A. Benefits of core banking system					
1. Core banking Reduced error on transactions.	5	4	3	2	1
2. Core banking enhances security of account information.	5	4	3	2	1
3. Core banking facilitates speed of services.	5	4	3	2	1
4. Core banking generally improves the way of doing business in the bank.	5	4	3	2	1
5. Core banking reduces the time spent in the bank.	5	4	3	2	1
6. Core banking provides more flexible services.	5	4	3	2	1
7. Core banking brings Low transaction cost.	5	4	3	2	1
8. Core banking brings Quick transfer of fund.	5	4	3	2	1
B. Challenges of core banking system related					
1. Lack of ICT and skilled personnel	5	4	3	2	1
2. Resistance to changes of technology by employees and customers.	5	4	3	2	1
3. Lack reliable power supply.	5	4	3	2	1
4. Lack of network infrastructure and internet related support service.	5	4	3	2	1
5. Fear of cybercrimes or security and trust factors.	5	4	3	2	1
6. Preference of for established working culture e.g. paper work.	5	4	3	2	1
7. Competencies to use ICT facilities or rate of illiteracy/literacy.	5	4	3	2	1

Finally, if you have any reflections you want to add on.....

ቅድስተ ማርያም ዩኒቨርሲቲ
የድህረ ምረቃ ትምህርት ክፍል
አጠቃላይ የንግድ አስተዳደር ትምህርት
በአቢሲኒያ ባንክ ደንበኞች የሚሞላ

ውድ መላሽ

እኔ በቅድስተ ማርያም ዩኒቨርሲቲ የድህረ ምረቃ ትምህርት ክፍል እጩ ተመራቂ ስሆን የምሰራው ጥናት በአቢሲኒያ ባንክ የኮርባንኪንግ እና የአገልግሎት ጥራትን ይመለከታል። ጥናቱ የማስተርስ ዲግሪ ቅድመ ማሟያ ሲሆን በመጠይቁ የተቀመጡ ጥያቄዎችን ጊዜ ሰጥተው እንዲሟመልሱ በመተማመን፣ ከመጠይቁ ለሚገኙት ማንኛውም መረጃዎች ለጥናታዊ ጽሁፍ ብቻ የሚያገለግል እና ሚስጥራዊነቱ በፍፁም ጥንቃቄ የሚያዘ መሆኑን እየገለጽኩኝ ለሚሰጡኝ ተጨማሪ መረጃ እና ለመልካም ትብብርዎ አልብ አመሰግናለሁ።

ክፍል አንድ :- እባክዎ በተዘጋጀው ሳጥን የ “✓” ምልክት ያስቀምጡ።

1. ያታ፡ ወንድ ሴት
2. ዕድሜ፡ 18-29 30-40 40-50 ከ50 ዓመት በላይ
3. የትምህርት ደረጃ፡

- | | |
|---|-------------------------------------|
| መደበኛ ትምህርት ያልተማሩ <input type="checkbox"/> | ሁለተኛ ደረጃ <input type="checkbox"/> |
| አንደኛ ደረጃ <input type="checkbox"/> | የምስክር ወረቀት <input type="checkbox"/> |
| ዲፕሎማ <input type="checkbox"/> | ዲግሪ <input type="checkbox"/> |
| ማስትራት ዲግሪ <input type="checkbox"/> | |

4. በየትኛው የኮርባንኪንግ አገልግሎት ይገለገላሉ?

ፈጣን የክፍያ ማሻሻያ (ኢ.ቲ.ኤም) <input type="checkbox"/>	የኢንተርኔት ባንኪንግ <input type="checkbox"/>
የሽያጭ ማሻሻያ (ፖስት) <input type="checkbox"/>	በሐዋላ የገንዘብ ዝውውር <input type="checkbox"/>
ሞባይል ባንኪንግ <input type="checkbox"/>	ከሒሳብ ወረቀት ሰነድ <input type="checkbox"/>

ክፍል ሁለት፡

ውድ ደንበኛ የዚህ መጠይቅ የባንክ አገልግሎት ጥራትን የሚያተኩር (የሚመለከት) ሲሆን ከተዘጋጁት ምርጫዎች ስር የ “✓” ምልክት ያስቀምጡ።

- ማብራሪያ፡ 5. በጣም እስማማለሁ 3. ገለልተኛ 1 በጣም አልስማም
4. እስማማለሁ 2. አልስማማም

ተ/ቁ	የአገልግሎት ጥራት አቅጣጫዎች	በጣም አስተማሪ (5)	በአማካኝ ሁኔታ (4)	ገለልተኛ (3)	አልሰማማም (2)	በጣም አልሰማም (1)
	<u>ተጨማሪ</u>					
1	ባንክ ዘመናዊ ቁሳቁሶች እና ቴክኖሎጂዎች አሉት፤	5	4	3	2	1
	በዓይን የሚታዩ የባንክ ፋሲሊቲዎች (የመኪናማቆሚያ፣ ደንበኛመቀመጫ፣ የደንበኛ መግቢያ እና መደገፊያ እንዲሁም ጠረጴዛና ሌሎች የመገልገያ ቁሳቁሶች) አመቺ ናቸው።	5	4	3	2	1
	የባንክ ሠራተኞች አለባበስና ንፅህና የባንክ አገልግሎትን ያማከለ ነው።	5	4	3	2	1
	የባንክ ማስረጃዎች እንደ የገቢ ወረቀት፣ የወጪ ወረቀት የሚዘጋጁ ቼኮች እና ሌሎች ግልጽና ለአጠቃቀም ምቹ ናቸው።	5	4	3	2	1
	<u>ተአማኒ</u>					
2	የባንክ ሠራተኞች ቃል በገቡበት ጊዜ አገልግሎት ይሰጣሉ	5	4	3	2	1
	የባንክ ሠራተኞች ችግሮችን ለመፍታት ተአማኒ ተነሳሽነት አላቸው።	5	4	3	2	1
	የባንክ ሠራተኞች ከስህተት የፀዳ አገልግሎት ይሰጣሉ።	5	4	3	2	1
	ባንክ ከስህተት የፀዳ የመረጃ አያያዝ አለው።	5	4	3	2	1
	<u>ቀናምላሽ</u>					
3	የባንክ ሰራተኞች አገልግሎት የሚያገኙበትን ትክክለኛ ቀጠሮ ይሰጣሉ	5	4	3	2	1
	የባንክ ሠራተኞች ሁልጊዜ ለማገዝ ዝግጁ ናቸው።	5	4	3	2	1
	የባንክ ሠራተኞች ለደንበኛው ጥያቄ ቀና ምላሽ ላለመስጠት ሆን ብለው በስራ የተወጠሩ ለመምስል ይሞክራሉ።	5	4	3	2	1
	<u>ችግሮችመረዳት</u>					
4	የባንክ ሠራተኞች ለአያንዳንዱ ደንበኛ ትኩረት ይሰጣሉ።	5	4	3	2	1
	የባንክ የአገልግሎት ሰዓት ለደንበኛው (ለእርስዎ) ምቹ ነው።	5	4	3	2	1
	የባንክ ቅርንጫፎች በቀላሉ በሚገኙበት ቦታዎች ተቀምጧል፤	5	4	3	2	1
	የባንክ የመገልገያ ቅጾች ለመረዳት ቀላል ናቸው።	5	4	3	2	1
	የባንክ ሠራተኞች የግል ፍላጎትዎን ይረዳሉ።	5	4	2	2	1
	ባንክ ሁልጊዜ መላው የአገልግሎት አቅርቦቱ በጣም ጥሩ ነው።	5	4	3	2	1

	እርግጠኝነት					
	የባንኩ ሰራተኞች በራስ መተማመን አላቸው።	5	4	3	2	1
	ከአቢ.ሲ.ያ ባንክ ጋር ሲሰሩ ደህንነት ይሰማዎታል፤	5	4	3	2	1
	ሰራተኞቹ ሁሉ ቅን ናቸው።	5	4	3	2	1
5	የባንኩ ሰራተኞች የደንበኞች (የእርስዎ) ጥያቄ ለመመለስ በቂ እውቀት አላቸው።	5	4	3	2	1

ክፍል ሶስት፡-

ተ/ቁ	ኮርባንኪንግ በተመለከተ	በጣም እስማማለሁ (5)	እስማማለሁ (4)	ገለልተኛ (3)	አልስማማም (2)	በጣም አልስማማም (1)
3.1.	በባንክ ውስጥ የአሰራር ስህተት ቀንሷል፤	5	4	3	2	1
		5	4	3	2	1
	የደንበኞች ሒሳብ ደህንነት ጨምሯል፤	5	4	3	2	1
	ፈጣን የባንክ አገልግሎት አመቻችቷል፤	5	4	3	2	1
	አጠቃላይ የባንኩ አሰራር አሻሽሏል፤	5	4	3	2	1
	ደንበኛው ባንክ ውስጥ የሚያሳልፈው ጊዜ ቀንሷል፤	5	4	3	2	1
	ቀልጣፋ አገልግሎት አምጥቷል፤	5	4	3	2	1
	ለገንዘብ ልውውጥ የሚያስፈልገው ዋጋ ቀርፏል፤	5	4	3	2	1
	ፈጣን የገንዘብ ዝውውር አምጥቷል፤					
3.2.	የኮርባንኪንግ ችግሮች	5	4	3	2	1
	ብቃት ያለው የሰው ኃይል እና አይ ሲ ቲ (መገናኛ) እጥረት አለ።	5	4	3	2	1
	የኮር ባንኪንግ አዳዲስ ለውጦች በሰራተኞች እና ደንበኞች ተቀባይነት ያለማግኘት ችግር አለ።	5	4	3	2	1
	ሁነኛ የኃይል ምንጭ እጥረት (መብራት) አለ።	5	4	3	2	1
	የመገናኛ (ኔትወርክ) የኢንተርኔት እና የመሳሰሉት እጥረት አለ።	5	4	3	2	1

የሳይበር ጥቃትና የመሳሰሉት ፍራቻ በደንበኛው አለ።	5	4	3	2	1
በወረቀት ብቻ የተመረከዘ (የተለመደ) አሰራር ብቻ መከተል አለ።	5	4	3	2	1
መሠረታዊ የትምህርት (የቀለም) እውቀት ማነስ አለ።	5	4	3	2	1

ክፍል:

ተ/ቁ	የኮር ባንኪንግ መገልገያ መንገዶች	5	4	3	2	1
ፈጣን የክፍያ ማሽን (ATM)	1. ደንበኞች በቀላሉ ገንዘባቸው ወጪ እና ዝውውር ያደርጋሉ።	5	4	3	2	1
	2. ደንበኞች በካርዳቸው ቀሪ ገንዘባቸውን ያውቃሉ።	5	4	3	2	1
	3. ደንበኞች በተመቻቸው ቦታና ሰዓት ወጪ ያደርጋሉ።	5	4	3	2	1
የሽያጭ ማሽን (POS)	1. ደንበኞች ካርዳቸውን በመጠቀም ክፍያ ይፈጸማሉ።	5	4	3	2	1
	2. ደንበኞች ከፈጣን የክፍያ ማሽን የበለጠ የብር መጠን ማውጣት ይችላሉ።	5	4	3	2	1
ሞባይል ባንኪንግ (Mobile Banking)	1. ደንበኞች በስልካቸው የገንዘብ ዝውውር ይፈጽማሉ።	5	4	3	2	1
	2. ደንበኞች ስልካቸውን በመጠቀም ቀሪ ገንዘባቸውን ያውቃሉ።	5	4	3	2	1
	3. ደንበኞች የቼክ እገዳ አገልግሎት ያገኛሉ።	5	4	3	2	1
ከሒሳብ ወደ ሒሳብ	1. ተጠቃሚዎች ያለገደብ የገንዘብ ዝውውር ያካሂዳሉ።	5	4	3	2	1
ኢንተርኔት ባንኪንግ (Internet Banking)	1. ደንበኞች በየሰአቱ እና በየጊዜው የተስተካከለ ቀሪ ገንዘባቸውን ያውቃሉ።	5	4	3	2	1
	2. የገቢና ወጪ እንዲሁም የችክ እንቅስቃሴ በቀጥታ ማረጋገጥ።	5	4	3	2	1
	3. አዲስ የቼክ ቅጠል የማዘዝ አገልግሎት ያገኛሉ።	5	4	3	2	1
	4. ከሒሳብ ወደ ሒሳብ የገንዘብ ዝውውር አገልግሎት ያገኛሉ።	5	4	3	2	1
የሐዋላ አገልግሎት	1. ደንበኞች ገንዘብ ሒሳብ ወደ ሌላቸው ሰዎች ይልካሉ።	5	4	3	2	1
	2. በሐዋላ የተላከ ብር ከየትኛውም ቅርንጫፍ ይወስዳሉ።	5	4	3	2	1