

The Effect of Digitalization process on Bank In Relation with customer’s case of Commercial Bank of Ethiopia Proposal

By: AMARE TESFAYE

Submitted to: Dr Berihun Muchie

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# Abstract

*Ethiopian banking system is still underdeveloped compared to the rest of the world. In Ethiopia Cash is still the most dominant medium of exchange and electronic payment systems are at an embryonic stage.The role of Digitalization in the banking sector has altered customers preference and demands, As a result of this ,Commercial Bank of Ethiopia are becoming more digitally oriented in order to satisfy their customers new preference and demand. This study is aimed to assess the effect of digitalization process on bank in relation with customer’s case of commercial bank of Ethiopia. The study was conducted based on the data gathered from five Special Branches one Grade IV Branch in Commercial Bank of Ethiopia; Addis Abeba Branch,Arat Kilo ,Arada Ghiorgis Branch ,silassie Branch ,finfine Branch and Mahitem Ghandi Branch. To conduct this study, the researcher collected data from the active electronic banking service users for the past consecutive two months. A mixed approach was used to answer the research questions that obtained from the existing literature and gathered data. A Purposive sampling technique was Collected from 150 Random selecting of respondents representing the target criteria (age, duration of usage, and technology-know-how). The study statistically analyses data obtained from the survey questionnaire. The study used descriptive statistics and Data was analyzed using a statistical package for social sciences (SPSS).*

# CHAPTER

## INTRODUCTION

### 1. Overview

Banking system is one of the most important economic sectors and strongest financial intermediaries in the economies that plays a key role in economic development in societies through receiving the deposits of depositors and instead pays loans and facilities to applicants and give interest (IRAVANI, GHAZALI and GHAZALI, 2012). So, it is difficult to conceptualize how an economy would operate and survive without the crucial services offered by banks. Business organizations and especially the banking sector are operating in an environment characterized by a complex and competitive climate (Agbolade, 2011). In today’s competitive world, banks are starving to endure survival, in spite of their vital role playing in the economy. Therefore, the banks need to consider several criteria such as bank’s image and performance, speed of transaction, channel of delivery system, banking convenience and product diversity to attract customers to continuously do banking business with them and also changing banking product and service they provided.

With the advance process of technology, digitalization is rapidly changing the day to day living style of the people. In Parallel, digital transformations have also changed the organization design, hiring process and management of the employee. In these digital days anything can be purchased through smart phone in global level with rapid advances in automation and artificial intelligence technologies. In such digital society, banking sector has been passing through rapid transformation due to progressive economic reforms and fast pace technology. Digital banking provides end to end services to their customer through digital platforms like mobile, tablets and internet. Banks provide paperless, branchless, signature less services and added to it also offer 24\*7 services which help the customers to access the banking services even on bank holidays(Fitzgerald, kruschwiz, Boonet and Welch, 2014).

Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business. (Zhou, 2016). According to (Shukla, 2014) “Digital” is the new buzz word in the banking sector, with banks all around the globe shifting towards digitalization. Banks of all sizes and across all regions are making huge investments in digital initiatives in order to maintain a competitive edge and deliver the maximum to its customers. Additionally, digitalization leads to robust data analytics and intelligence, which helps banks get closer to customers and close in on competition. Basically digitalization is a combination of two worlds: a new customer experience on the outside and an efficient, effective operating model on the inside—both enabled by digitalization and the underlying technologies, processes, and structures. (Weschool, 2017) mention that digitalization impacts everything, and this impact is transformative. However, there are some challenges which banks face due to digitalization, namely, security risks, financial illiteracy, lack of customer awareness, fear factor, lack of training, etc. One of the greatest concerns of digital banks in 2019 is to remove the friction from customer journey. Banks are struggling and competing against the increasing onslaught of FinTech companies and start-ups that specialize in resolving some common banking issues and simplifying the customer journey with mobility and context. Forward-thinking banks have responded to these market disruptions by expanding their in-house capabilities. Others have partnered with Fintechs’ to develop new digital offerings. And some have simply been acquired by their competitors. Customers want a seamless and simple transactional journey enabled by technology and various digital channels. Digital innovations in banking sector, emerging financial models, delivery systems and customer expectations are driving banks to re-evaluate how they deliver value to their digital customers.

Digital banking is a significantly cheaper alternative to conventional branch-based banking that allows financial institutions and other commercial actors to offer financial services outside traditional bank premises by using internet or non-Internet (Chang, 2003).

Digital banking provides benefits for both customers and banks. It provides additional market and services to wide geographical areas that attracts more customers. Information technology revolution has led to fundamental changes in banking industry that receives instruction from the customer within a short time of period and with ease of operation. It also gives an opportunity for the customers to gain access to their accounts and execute transactions regardless of time and space boundaries (Dewan & Seidmann, 2001

Digital banking has been rising due to the convenience that is offered though facilitating self-service in marketing to undertake banking transaction outside of bank hours and from anywhere where internet access is available. It helps customers achieving speed, efficiency, cost reduction and competitive advantage (Gonzalez, 2008; Maholtra& Singh, 2007).

Several studies have found that Digital banking services can positively affect customer satisfaction with website and online purchasing, thus, the purpose of this study is to assess the quality of electronic banking services in Ethiopian Banking sector. The Ethiopian Banking sector has functioned recently the Digital banking service however, with the start of Digital banking service; the sector was characterized by intensely aggressive competition to solicit the customer more. This technological advancement has made the banking processes faster and easier whilst satisfying the needs of the customers.

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* ATMs,
* Debit Cards,
* Electronic Funds Transfer System (EFT)
* Check the truncation payment system,
* Mobile Banking,
* Internet Banking,
* Agency Banking(M-BIRR, Hello cash ,CBE birr, Tele Birr Hiber agent Banking) etc

Source: Ethiopian Commercial Banks Broachers’.

## 1.2 Statement of the problem

As the environment changes, so too does consumers’ behavior. Customer satisfaction is a key term in measuring how well banks are meeting or exceeding customers’ expectations (Thuli & Bharadwaj, 2009). When customers’ expectations are met, their satisfaction increases and this is a key part in increasing loyalty in the customer base (Skinner, 2014). In order for there to be customer loyalty, there has to be customer satisfaction first. Without customer satisfaction, the customers will want to look elsewhere (Thuli & Bharadwaj, 2009).

A bank’s relationship with its customers is among the most important aspects for the bank to be profitable. Customers are the bloodline of the bank as they are the ones conducting business with the bank and bringing revenue into the bank (Skinner, 2014). For long-term survival, having customer loyalty is essential as loyal customers benefit the bank through repeat businesses with the bank and advocate the bank to others whereas unhappy customers will bad-mouth the bank (Nițescu, 2016). Without customers, the revenue line of the bank will perish and survival in the long run will be hard (Skinner, 2014). Therefore, it is important for banks to maintain a good relation with customers. The relationship with customers is maintained through business to consumer interactions in which the bank offers the products and services customers want (Ebert, 2009). This is done by gathering information regarding consumers and current customers, and then reacting accordingly to the gathered information. The process is known as customer relationship management (CRM) and is a core aspect of most banks (Swift, 2001).

With the digitalization process that has been occurring in society, consumer behavior is changing and consumers’ are starting to expect retail banking service at anytime and anywhere (Becket *et al.*, 2000). As the customers in retail banks are natural persons, the changes in consumer behavior is especially noticeable in the retail banking sector as retail banks now have to keep up with the fast-changing preferences of the consumers to keep them satisfied in order to enhance the customer relationship. If they fail to keep up with the new preferences, then customers will start to become unsatisfied and start looking elsewhere (Storbacka & Lehtinen, 2012). Studies are finding that almost a quarter of customers are planning on changing banks in the near future, which is an indication that banks are not keeping up with the changing preferences (Accenture, 2015b). While the digitalization process is affecting consumers, the banks can also use new technological innovations to meet the new demands of consumers. It is possible for the bank to react quickly to noticeable changes in consumer behavior by incorporating digital solutions into the customer relationship management, but this in turn will also affect the bank’s relationship with customers (Grönroos, 2004).

The changes in consumer behavior and the increased mobility of customers is problematic for retail banks as at first it creates issues in satisfying customers and then makes it hard for the bank to maintain the customer’s loyalty once the demands and preferences have been satisfied (Ndubisi, 2007). Despite the challenges in sustaining the customer relationship, there are possible ways to neglect the downwards trend. Campbell and Frei (2010) have found that retail banks that offer services and products through online channels benefit from higher revenue, lower service costs, and gain customer loyalty. This is in line with the prospect that consumers are moving towards impersonal channels to conduct their retail banking business (Eriksson & Marquardt, 2001).Incorporating digital venues into the bank’s customer relationship management opens up for the opportunity to meet the consumers’ demands. Despite digital channels being impersonal, there is still a demand for a personal experience (Eriksson & Marquardt, 2001). Digital products and services have a primary role to play here as it is through the digital channels that it is possible to meet both the demands for availability and personalization at the same time. The indication here is that even with the increased customer movement, it is possible meet multiple consumer demands at the same time. With this, there is a possibility for providing an experience that makes the customer not want to switch bank despite the low switching costs (Campbell & Frei, 2010).

Along with the digitalization process, technical solutions are heavily reducing the switching costs associated with switching banks and satisfied customers are starting to enjoy variation for themselves (Storbacka & Lehtinen, 2012). Around half of the bank customers today are willing to take their business to non-financial firms if they were to start offering banking services (Accenture, 2015a). Satisfied customers are, therefore, prone to changing banks to see what other banks have to offer (Storbacka & Lehtinen, 2012). This has resulted in an increase in movement on the market and it is harder for banks to keep their customers loyal (Ndubisi, 2007). Nevertheless, the importance of customers within banks has not changed and the challenges in keeping customers satisfied are putting pressure on banks to focus more on their customer relationship management (Swift, 2001).

* + - How are bank relationships with customers affected by the digitalization process in Commercial bank of Ethiopia?
    - To examine the Digital Banking service quality and customer satisfaction, for the purpose of ES-QUAL model and examined the direct impact of ES-QUAL Dimensions and customer’s satisfaction.
    - To examine and check whether customer satisfaction translates in to the business performance of Ethiopian commercial banks or Not.

# 1.3 Objectives of the study

## 1.3.1 General Objective

The general objective of this study is to assess the service quality of Digital banking in Ethiopian banks.

## 1.3.2 Specific Objectives

The study tries to address more specific objectives as follows:

* + - 1. To identify the basic dimensions of Digital banking service quality.
      2. To study the relationship with customers affected by the digitalization process in Commercial Bank of Ethiopia?
      3. Check whether customer satisfaction translates in to the business performance of Commercial bank of Ethiopia or Not.

## 1.3.3 Significance of the Study

The study is expected to add to the existing knowledge in Digital banking field of study in Ethiopia and may help academicians as a reference who might be interested in carrying out their research. It also enables the banks and National Bank of Ethiopia, the supervisory and regulatory body, to have a better understanding of the Digital banking dimensions and their contribution toward customer satisfaction.

# 1.4 Scope of the Study

The researcher has found that it is very important to delimit the scope of the study to a manageable size in order to investigate the issue thoroughly. There are 28 banks in Ethiopia where all of them have adopted Digital banking services to their customers all over the country, out of these the research is confining only to the Addis Ababa region for the sake of in-depth analysis with genuine investigation on quality of Digital banking service in Commercial Bank Of Ethiopia.

# 1.5 Organization of the Study

This study is organizing and comprises into five chapters. The first chapter consists of an introduction which consists of background of the study, statement of the problem, objectives of the study, significance of the study, scope of the study and definition of terms. The second chapter discusses about the review of related literature. The third chapter deals with the research design and method of the study. The fourth chapter deals with the presentation, analysis and interpretation of the data. The fifth chapter deals with the summary of findings, conclusions and recommendations of the study. Finally, references, a set of appendices and questionnaire that will be to collect primary data for this work to be include.

# CHAPTER TWO

## LITRATURE REVIEW

## 2.1 INTRODUCTION

Digital Banking is a generic term for development of banking services and delivering products through electronic channels, such as the Automated Teller Machines, the telephone, the internet, the mobile phone. The introduction of digital banking has revolutionized the banking sector with various recent updated modernizing technologies. The Computer world has changed different new technology such cloud computing, grid computing, Mobile computing, IoTs, Machine learning and Artificial Technology

The recent digital banking innovative services are electronic payment, electronic banking, mobile-banking, Automated Teller Machines, Electronic Clearing Services, National Automated Clearing House, Credit and Debit Cards, Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT), Prepaid Payment Instruments (PPIS), Unified Payments Interface (UPI), Social Media Banking. In this numerous technology development business world required critical evaluation and examination of digital banking services in respect of customer satisfaction and to find new strategy to adopt or develop the technology and systems. In Digital India now days Government is taking initiation of digital services in banking like ACH, online, wire transfer and mobile money transfer. Therefore this study is most essential for improving services of bank. Though a number of research study already has taken this research area , researcher has done this research to taking the development in terms of level of accessibility, adaptability, affordability and efficiency in the usage of digital banking services in customer perspective and to this study focuses on Digital banking. A technology driven banking that involves E- banking, Digital wallets like PayPal, Mobile banking, ATMs, RTGS and POS terminals which influences customer satisfaction which is a measure of how a customer responds having used in digital banking platforms that makes them remain loyal to the bank, or lead to increase in the numbers of customers using the various digital channels platforms to do their banking. In current business world in digital scenario of all business and specially technology enabled banking services are having numerous development of technology like cloud computing, mobile computing, IoTs, Financial analytics so the research in technology based banking services are having major scope in business research. : (Pappu Reajun, 2018)

AS (Pappu Reajun, 2018) Concluded that In his research that accessibility of digital banking is undertaken while considering only persons that are deemed physically fit in the society. A study needs to be undertaken to determine the influences of accessibility of digital banking amongst persons living with disabilities. In order to have faster processes in digital banking, there is need by banks to invest more on robust reliable systems to reduce incidents of failed transactions and transactional errors in ATMs, Mobile banking and POS terminals. Banks should further automate most services like loan recovery, loan disbursement and introduce queue management systems. Banks need to come up with an application that can be used to enhance digital banking which will be considered safe and private in order to boost the operations, availability and accessibility of digital banking. There is further need to facilitate ICT skills so that technology can be embraced. Through a joined venture with education institutions ICT skills can be impacted through banks teaching individuals and cooperates on the changing world of banking technologies. There is need to carry out customer satisfaction surveys to establish how customers are adapting to technology. Suitable techniques should be devised based on what customers want and not what is convenient for banks. There are many new technology and development came in the business world. The recent developments are neural networking, zero carbon natural gas, genetic fortune telling, quantum leap, robotics, sensor devices, business analytics, machine learning, natural Language Process and deep Learning. Therefore, banks are aware of the technology development as much possible implement the latest technology and create new strategy through them to fulfill the customers need with fullest services. (Reajun, Pappu, 2018)

## 2.2 The Banking Industry

The digitalization of banks is seen as the omnipresent challenge which the banking industry is currently facing. In this digital change process, banks are facing disruptive innovation that requires adaptation of almost all cooperative processes. Digital transformation in the financial industry is associated with obstacles that seem to hinder smooth implementation of digital approaches. (Špaˇce, Florian Diener and Miroslav, 2021)

One of the main drivers of digital economy development is the financial sector, which takes the second position, just behind telecommunication. The key underlying process is the digital transformation of financial service systems through financial technology (Fin-Tech) disruptive innovations by new market entrants that challenge the position of mainstream financial institutions . In particular, retail banks have been at the forefront of technological revolution, characterized by rapid deployment and innovation of digital services, exponential pace of change, and innovative breakthroughs that alter conventional banking practice. (Špaˇce, Florian Diener and Miroslav, 2021)

Banks are under massive pressure to transform their approaches and business models to a more customer-centric approach in order to remain competitive. The traditional institution has felt the disruption and is working towards changing its business model from product-centric to customer-centric. Similarly, Mărăcine et al. Suggest that five main areas exist where FinTechs can provide improvements in business models for the banks:

* Introducing specialized platforms,
* Covering neglected customer segments,
* Improving customer selection,
* Reduction of the operating costs of the banks, and
* Optimization of the business processes of the banks.

As digital banking offerings have matured and cost pressures have increased, it has become inevitable to make changes to the operating models of banks. Driven by the sub-optimum performance of the existing business model, the “digital” concept has evolved into more than a channel for accessing services. One of the outcomes was a full-fledged branchless digital bank or challenger bank. A challenger bank stands for a financial institution that can be presented in the plain form of an information–communication system. Sadigov et al. have proved that FinTech development contributes to economic growth by increasing the GDP generated in the financial sector, and indirectly does so by increasing e-commerce turnover and real sector financing, particularly by creating more favorable lending conditions for small and medium-sized businesses. As has become evident, business models adopted by Fin Techs differ from those applied by traditional banks. Nevertheless, these differences do not mean that both types of banks may eventually converge towards a common market by exploiting co-operation strategies. Their business model is intangibly driven, combining e-finance, internet technologies, social networking, artificial intelligence, block chains, and big data analytics. Moreover, their revenue model is much more scalable than that of a typical bank. (Špaˇce, Florian Diener and Miroslav, 2021)

As per the conclusion of (Umberto Filotto, Massimo Caratelli,2020) that migration from traditional to direct banking does not happen by itself, simply because it is logical. Considering that the upsides of direct banking are impressive, the choice could not be more obvious for banking institutions: to emphasize accessibility (in time and space), underline transparency and usability, but, above all, be ready to share cost advantages with customers by slashing the prices of services and introducing better rates for deposits. It worked, but with price sensitive, rational, financially savvy, and digitally educated individuals. They are indeed a part of the market, and, often, they belong to the more affluent and wealthy segments. Still, they are a minority, while the majority of the business is made up of individuals who have a mixed relationship with their financial affairs; in fact, the findings tells us that people who keep completely away from direct banking feel incompetent and unable to master the technology. What could drive them to shift to direct banking is user-friendliness and security; factors that, indeed, reveal that what they feel is a lack of competence, better, of basic competence necessary to enter the digital banking world. But once the great leap forward in competence is made. What people want is a different bank, where technology is the enabling factor that makes transparency real, delivers high-quality customer care, and guarantees security and easy personal relationships. This means that acquiring the necessary digital skills is the pre-requisite; but once people have climbed the steep cliff of competence, they move on to demand services, personal touch, and care. i.e. factors that it would be difficult to deem purely logical, coldly accountable. Therefore, direct banking has catered to the rational hemisphere of our needs: prices, convenience, transparency; it worked, but everything that can be labelled“emotional” was not even taken into consideration, limiting the potential for adoption and making the process slower than it could have been. Lastly, our survey was conducted in 2017, thus in a pre-COVID 19 era. In the spring of 2020, most countries went through long periods of lockdown, which forced individuals to make intensive use of e-commerce, social media, co working tools, etc. Some, indeed, say that the real leadership in digital transformation of business and society has come not from CEOs, CTOs, or digital gurus but from COVID 19 itself. Banking was profoundly affected by this phenomenon, as customers were strongly driven to the use of all remote banking options; an accelerated, strong learning process was activated and a new familiarity with digital access to financial services was the result. It is still too early to assess the long-term effect of what has happened on digital transformation, but while the role of rational and emotional drivers remains crucial, future research should investigate the impact of this exceptional forced change of customer habits on the shift from traditional to high-tech banking. (Umberto Filotto,Massimo Caratelli,Fabrizio Fornezza, 2020).

## 2.2.1 Developing Digital Banking in the Ethiopia

As Wondwossen Jerene (2018) showed that the advancement of information technology is profoundly influencing the daily activity of every individual almost across the world. The banking industry is one of the major affected service sectors that investing huge amount of capital for adopting new technologies. Banking technologies intended in this study only focused on self-managed technologies like ATM, mobile, internet, SMS banking. However, its induction is still infancy in developing countries like Ethiopia. In Ethiopia from the total population only 18% are bank account holders in one of it’s the largest public bank whereas among those customers only 9.8% are electronic banking technology users in the same bank. In some African countries it was criticized even there was no attempt of introducing technology as of 2016 in Eretria, the most neighbor to Ethiopia in Northern part (Gvozdanovic & Solomon, 2016). It was reported that the adoption of electronic banking suffering from infrastructure challenges, illiteracy, low internet penetration and high service charge of using technologies (Teka, 2017; Worku, 2010). The absence of strong legal framework was also confirmed as the challenging factor in both developed and developing country due to fear of financial risk and security concerns (Hussain et al., 2017; Sayar & Wolfe, 2007; Vijay & Asefa, 2011). The adoption of those banking technologies resulted in customer’s satisfaction and loyalty in many countries (Jo, 2018; Kaur & Kiran, 2014; Sathiyavany & Shivany, 2018). It witnessed that positive motivation from bank customers side helps the bankers to achieve their market penetration strategy and as well as organizational profitability (Anderson, Fornell, & Lehmann, 1994; Luo & Homburg, 2007). However, the acceptance of those banking technology is not easy from customers` point of view especially in developing countries. The challenges can be summarized as internal and external factors. The external factors more concerned with poor infrastructure while the internal factors more of related with bank customers perception or belief about using the technology. During early emerge of the technology, bank customers afraid of adopting the technology for security concern (Lee, 2008; Yan, 2013; Zhang, Weng, & Zhu, 2018) and its complexity to use (Abbad, 2013; Olatokun & Igbinedion, 2009; Yaghoubi & Bahmani, 2011). Therefore, the aim of this study was to explore the status of banking technology induction in Ethiopian public bank scenario.

## 2.2.2 The overview of Modern Banking History in Ethiopia

The modern banking system in Ethiopia begins since 1906, when the first bank called “Bank of Abyssinia” launched by emperor Minilik II (Mauri, 2003). Its major share was owned by foreign bank from Egypt but was not welcomed by the society until 1919, the first time became profitable. Till that it was expanding branches in different regions of the country and it was investment period. However, later on after the fall of the first government, in August, 1931 Emperor Haileselassie inaugurated the first African domestic bank named “Bank of Ethiopia” with initial capital of £750,000. 60% of its share was owned by public capital and it was totally controlled by Minster of Finance. After long unsuccessful attempt of Italian and British troops to evade the people of Ethiopia, the name of “Bank of Ethiopia” changed to “State Bank of Ethiopia” April, 1943.The public bank was involved in both commercial and financial regulatory activities during early commencement of modern banking. However, In 1963 Ethiopian banking and monetary law enforced and separated commercial banking activity and central banking activity. Accordingly, State Bank of Ethiopia divided in to “National Bank of Ethiopia” (NBE), to perform central banking duty and “Commercial Bank of Ethiopia” (CBE), for commercial banking function. In 1964 the National Bank of Ethiopia (NBE) started its operation as a central regulatory body and according to proclamation No.207/1955, Commercial Bank of Ethiopia continued the commercial function of State Bank of Ethiopia. The first domestic private bank was Awash International Bank that inaugurated in 1994 and followed by Dashen Bank in 1995.However, the public bank, Commercial Bank of Ethiopia is the dominant banks almost in all aspects of banking services. (Wondwossen Jerene, 2018)

The induction of Digital banking technology was for the first time started by commercial bank of Ethiopia in 2001, introducing the first visa card service but it was not successful since 2005 due to infrastructural problem (Worku, 2010). The most dominant banking technology adopted by customers was card banking (ATM) and the number of users dramatically increasing from time to time. This distribution of banking technologies still highly saturated in Addis Ababa and other major regional cities in Ethiopia. In case of Commercial Bank of Ethiopia (CBE), the NorthAddis Ababa district is the leading district in expanding the banking technologies like card banking, internet banking and mobile banking. Among outlet districts, Adama district is the leading one in number of banking technology users. This is might be due to bank customers in urban area more educated and aware about the benefit of the banking technology. As the result people who are resigning in major cities and business area want to save their time and avoid long waiting time to get financial services. However, the adoption of internet and mobile banking is still at introduction stage among bank customers. The attempt of introducing e-commerce like air ticket booking, mobile phone air time recharging, Utility payment and online shopping might ignite the Expansion of agent banking in the country. Therefore, expanding other banking technologies like mobile and agent banking would enhance customers` saving habit and as the result it will contribute positively for financial inclusion of rural community. Banks should focus on expansion of simply manageable technologies and create awareness to increase the number of technology adopters. (Wondwossen Jerene, 2018)

# 2.3 Digital Banking Service Quality

Digital Banking service has recently become a popular research topic, with the growth of the e-commerce, and a number of published studies have offered a variety of conceptual definitions (Sylvie and Ina, 2010) .Digital Banking service quality can be described as overall customer evaluations and judgments regarding the excellence and the quality of e-service delivery in the virtual marketplace (Santos, 2003). Parasuraman et.al (2005) also define ES-QUAL as broadly to encompass all phases of a customer’s interactions with a web site: the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery, over all, it is the extent to which a website supports purchases and delivery of products and services in an efficient and effective manner

2.3.1 Digital Banking Service Quality Dimensions

As the Jamil Hammoud stated that the relationship between the dimensions of Digital Banking service quality and customer satisfaction to determine which dimension can potentially have the strongest influence on customer satisfaction.which was distributed among bank clients in the Lebanese banking sector. The findings show that reliability, efficiency, and ease of use; responsiveness and communication; and security and privacy all have a significant impact on customer Satisfaction, with reliability being the dimension with the strongest impact. Digital Banking has become one of the essential banking services that can, if properly implemented, increase customer satisfaction, and give banks a competitive advantage. Knowing the relative importance of service quality dimensions can help the banking industry focus on what satisfies customers the most.

2.3.2 Dimensions of Digital Banking Service Affecting Customer Satisfaction

With a number of studies converging to show a relationship between Digital Banking service and customer satisfaction, the question becomes the following: What aspects or dimensions of Digital Banking service affect customer satisfaction and in what ways? Our review of the literature reveals that these aspects could be grouped under efficiency, reliability, privacy and security, and responsiveness and communication. Speed in performing Digital Banking services is a determining factor of customer satisfaction according to Parasuraman, Zeithaml, and Berry (1985). Efficiency in terms of quick speedy service is also confirmed by Wirtz and Bateson (1995) and Khadem and Mousavi (2013). Liao and Cheung (2002) find reliability as one of the most important features that customers seek in evaluating their E-Banking service quality. A similar result was also obtained in an empirical study done by Kettinger and Lee (2005).With respect to privacy and security, a number of elements were identified and studied by researchers including maintaining the confidentiality of operations, refraining from sharing personal information, and insuring a good level of security for the customer’s information (Agarwal, Rastogi, & Mehrotra, 2009; Datta, 2010; Poon, 2007).According to Madu and Madu (2002), responsiveness is the readiness to support the bank’s customers and deliver them a rapid service. This kind of service can be shaped into four forms. First, the Digital Banking system can control and operate the service properly. Second, the Digital Banking channels can guide customers toward proceeding properly in case of any failing operations. Third, it can also cover a rapid solution for any possible error in Digital Banking transactions. Finally, it can support the customer’s questions with on-the spot response items were conveyed

# 2.4 Digital Strategy

A digital strateg is the strategic form of digitization intentions of companies. The short and mid-term objectives are to create new or to maintain competitive advantages. Within the digital strategy, digital technologies and methods are applied to products, services, processes and business models. In order to develop a digital strategy, The Company and its environment have to be analyzed as a basis for several future scenarios. The digital strategy consists of a vison, mission, strategic objectives, strategic success factors, values and measures.

Rauser (2016) states that The development of a digital strategy is, similar to the digital transformation of business models, an integral part of companies’ activities. Although many companies have recognized the need for a digital strategy, these companies still face the challenge of developing a digital strategy in a structured way and integrating individual digitization efforts into a strategic concept. Companies also often do not have clarity on which direction to take regarding their digital strategy and which general principles and options to apply.

2.4.1 Theoretical Background

Based on the literature mentioned (Schallmo, Williams, Lohse 2018) They propose the following definition of “digital strategy” for our research.A digital strategy is the strategic form of digitization intentions of companies.

* The short and mid-term objectives are to create new or to maintain competitive advantages.
* Within the digital strategy, digital technologies and methods are applied to Products, services, processes, and business models. In order to develop a digital strategy, the company and its environment have to be analyzed as a basis for several future scenarios. The digital strategy consists of a vision, mission, strategic objectives, strategic success factors, values, and measures.

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2.4.2Procedure Model / Components

The procedure model of the Kraewing approach comprises of the following steps and

Activities:

1. Definition of the digital vision / mission: formulation of vision and mission statements which not only specify them further but also describe the specific goal of the digital strategy, how, and why this should be pursued.

2. Analysis of the initial situation: internal analysis of value-adding elements and Their use within the value-added chain as well as external analysis of customers and competitors.

3. Generation of strategic options: identification, evaluation and selection of Strategic options as the basis of the digital strategy.

4. Definition of the strategy: definition of the digital strategy through the two components content (individual strategic direction, taking into account the resources to be used) and methodology for implementation.

5. Defining strategic objectives: Breaking down the digital strategy into milestones as intermediate stages from the current state to the overarching objective.

6. Implementation of the strategy: individual implementation of the strategic objectives with continuous improvement.

## 2.5 [Business Strategy - CRM Relationship](#_bookmark25)

Digital transformation in the business world is occurring at a high speed these days. The main concern of many organizations worldwide is integrating information and communication technologies (ICT) into their relationship management. This integrative strategy is primarily aimed at satisfying customers’ needs and attaining their loyalty to achieve higher revenues and thus profits. The usefulness of e-CRM (electronic customer relationship management) to banks stems from reduced routine work across bank branches. Huge customer information data storage and easy access through digital assistance provides banks with the capability to assess their needs and attend to them instantly. On the other hand, advanced technologies allow customers a new experience with their banks. This experience entails convenient interaction, faster response, time-saving, cost reduction, security, and trustworthy relations with the bank.

Many organizations across the world have already shifted their strategies to implement a customer-centric approach as a replacement to the older product-centric marketing approach in order to develop and sustain a long-term relationship with valuable customers (Sheath & Parvatiyar, 1995; Porter & Heppelmann, 2015). Transactional management is not being replaced by customer relationship management. CRM has shifted organizations’ management from the product-oriented approach to the customer-oriented mindset. This movement is fortified by the international trend of digital transformation. Digital platforms provide customers with an alternative means of purchasing unrelated to physical distance and geographical boundaries. Thus, customers now can carry out their purchases anywhere and anytime. Banking sector, being an early adopter of such new technologies, has made a significant change in the way of doing business. Online banking is used nowadays on a global scale. Banks have realized that banking is not about money and transactions alone, it is also about incorporating technologies into daily transactions, thus attaining customer satisfaction and loyalty. This implies, inters alia, that e-CRM, with its advanced technological toolkit, and is of vital necessity for achieving this end. (Sami Bachir, 2021)

# 2.5 CRM Features

As the stated by his Journal ( Sami Bachir) that the major features that characterize CRM are customer needs, customer response, customer satisfaction, customer loyalty, customer retention, customer complaints, and customer service (Juneja, 2020). An organization should know what the customer needs to effectively adhere to it and create a long-term commitment. Responding to customers’ queries intelligently also enhances this life-long relationship. A major feature in CRM and an important strategic goal of any organization is customer satisfaction. Winning customers’ satisfaction increases the bond with them. Satisfied customers are more prone to become loyal ones. Customer loyalty is crucial for CRM and is also an indicator of business success.As long as the needs of these loyal customers are fulfilled, the strategy of customer retention will prevail, and the probability of organization’s growth will increase. In order to maintain this growth, an organization should define a clear CRM process that will promptly attend to the complaints of dissatisfied customers. Finally, organizations, through CRM, should ensure that the service provided to customers is well defined and is of required quality. These features explain the continuous management of company-customer relationships at all touch points. Because of the importance of customers, companies are assuming a more customer-centric than product-centric trend in their applied strategies, tools, and technology to achieve efficient and effective CRM (Seth & Parvatiyar, 2001).

## 2.5.1 E-CRM Evolution in Banks

2.5.2 CRM in Banks

Bank branches play a major role in providing customers with its products and services. It is within their strategic objective to create long-term relationships with customers. The proximity of a branch to a customer’s home and/or office is a major factor in choosing a certain bank. Nowadays, bank customers are not only attracted to a bank because of the products and services provided, but also because of the personal experience they get from the bank. With the introduction of the Internet into the banking system, customers can choose whatever bank they prefer and engage in banking transactions from anywhere through online platforms. Technological insurgence and competitive pressures inevitably lead banks to become more customer-centric rather than product-centric, consequently leading to the growth of CRM in the financial services arena (De La Castro et al., 2014).Before effectively implementing CRM, banks should first address two issues. First, the type of information the bank needs to have about its customers, and second, the bank’s decision on how to utilize this information further on (Jindal, 2017). Effectiveness of its implementation in the banking sector is not connected to the installed software as such, instead, according to (Jindal, 2017) it is based on six requirements as follows:

There should be a customer-focused and optimization of profit from each customer relationship, own know-how on attracting and retaining best customers, and finally, marketing operations that will result in the highest return on investment. The easy flow of information to customers resulting from technological advancement and the internet age is strengthening the position of the general public and thus is putting additional pressure on banks. This situation is compelling banks to seek long-term customer relationship management by formulating the strategies that integrate marketing with information technologies (Abu Shanab, 2015). With technology, a bank can make use of its huge database warehouse so that to efficiently interact with its customers and provide them with better product and service experience (Latimore, 2018). Bank data contains information about the behavioral patterns of customers such as banking relationship, payment trends as well as various external data related to the sites mostly visited by customers, etc. In an HBR article, Porter & Heppelmann (2015) emphasized that there is a major shift in the functions of businesses, mainly product development, IT, manufacturing, logistics, marketing, sales, and after-sale service resulting from technological advancements. The The EUrASEANs: journal on global socio-economic dynamics, № 3 (28), 202155article goes on to state that new functions to manage the huge amount of data collected are emerging using data analytics tools. These analytics tools are descriptive, diagnostic, predictive, and prescriptive in their nature. The descriptive tools review products’ condition, environment, and operation. Diagnostic tools inspect the reasons for reduction or change in products’ performance. Predictive tools reveal the patterns that signal imminent events. Prescriptive tools find the ways to provide better outcomes. Porter then continues to stipulate that the so-called smart products and the huge available data generated are creating new customer relationships and new business models related specifically to product usability and customer satisfaction. The major challenge the banks are facing within the digital economy is maintaining a persistent profitable and growth environment. When attaining profitability and sustainable growth, banks should embrace a customer-centric business approach, provide its customers with online channels, and benefit fully from digital information (De La Castro et al., 2014).

**E-CRM in Banks**

The ongoing digital evolution in the banking sector has made customers channel independent, thus removing the necessity of middlemen as such (Nitescu, 2015; Al -Rfouh, 2019). As companies started using the internet and electronic communication technologies to connect with their customers, CRM was transformed into e-CRM. From a traditional CRM that focused on personal connection in achieving customer satisfaction and loyalty, e-CRM has shifted the approach to the use of information and communication technology in pursuit of attaining the same goals as CRM did (Abu Shanab, 2015). This paradigm shift in the business arena is the result of integrating the internet in every fact of today’s commerce. Businesses worldwide are investing heavily in the digital transformation process, mainly investing in cloud, mobility, the Internet of Things, artificial intelligence, robotics, and increasingly in DevOps and edge computing. In 2020 alone, spending on ICT amounted to $4.3 trillion (Businesswire, 2020). Banks worldwide were forecasted to spend $387 billion on IT in 2019 (Hrushka, 2019). The main aim of banks’ enormous investment in IT is to build a new bank-customers relationship experience through automated processes and online banking (Al-Rfouh, 2019). This new way of conducting business that evolved in banks involves mobile phones, online banking, ATMs and POSs. Nitescu (2015) wrote that the customer relationship with banks is no longer about transactions, it is about connecting to their daily lives. Technological advancements enabled banks to utilize online monitoring and data mining in customer needs identification process, and also, with e-CRM, provided means to retain them (Bezhovski & Hussain, 2016). To provide better services to customers and increase loyalty, e-CRM facilitates fast communication and interaction with customers wherever they are and 24/7.Abu Shanab (2015) stated that e-CRM is helpful to both companies and customers. It helps companies to increase their competitive advantage, thus enhancing profit growth, minimizing costs, and widening companies’ knowledge of the market. On the customer side, e-CRM boosts customers’ loyalty and expands customer services. E-CRM is an effective web-based company-customer interactive application that consists of hardware, software, applications, processes and commitment of management practices to gather information about customers’ needs and finding ways to provide them (Dhingra & Dhingra, 2013; Abu Shanab, 2015).

# 2.6 [Acquiring New Customers](#_bookmark18)

The process of interacting with customers starts with the acquirement of new customers and continues with the process of retaining them. To succeed with this, an offensive strategy has to be employed by targeting the demands and preferences of the consumers the bank is looking to acquire (Peelen, 2005). At first, this requires knowledge of what the consumers are seeking. Through processes in the organization that allows for the gathering of data whenever the bank interacts with the consumer, the bank can gain this information (Sawyer, 2002). The next step is then to analyze the information gained which can then be used to change the customer service in the organization in accordance to the analyzed information (Sawyer, 2002).The final part of the information gathering process is to apply the analysed information on consumer groups. By interacting with the consumers through either personal channels or less personal channels, depending on their preferences, and offering the products and services that are in demand, the hope is that the consumer will discover a satisfying experience and decide to become a customer (Sawyer, 2002). The CRM components of gathering information, analyzing it, and then interacting with consumers based on the information should start a strong new relationship (Sawyer, 2002).

## 2.6.1 [Customer Loyalty](#_bookmark19)

The service industry has become the driving force of economic development in recent years. With the current fierce competitive situation, competing businesses have continually provided a superior quality of service and an excellent perceived brand image to gain customer satisfaction and customer loyalty. Service quality, trust, perceived value, and customer satisfaction affected behavioral intention or store loyalty (Shpetim, 2012; Veloso et al., 2017).

# 2.7 Linking between Customer Satisfaction and Customer Loyalty

As (Minta, 2018). Customer satisfaction has been one of the essential characters that managers should focus on. The firm’s competitive advantage was satisfying clients better than its rivals, surpassing clients’ needs, and wants better than its competitors (Minta, 2018).

Customer satisfaction resulted from the subjective evaluation that the chosen option (the store/supermarket) matches or exceeds expectations (Bloomer & de Ruyter, 1998). Customer satisfaction was defined as measuring how the products/services meet or exceed client expectations (Fornell et al., 1996). Customer satisfaction was also the client’s mood/attitude to a product/service after it has been utilized. Customer satisfaction was a significant result of marketing activity whereby it acted as a connection between the various steps of purchaser buying behavior (Jamal & Naser, 2002). Kotler and Keller (2016) said that customer satisfaction was clients’ perceptions of happiness or frustration due to a comparison between the performance of a product/service and clients’ expectations (Kotler & Keller, 2016). Surpassed expectations, then the client was satisfied. If the result was under expectations, next, the client was dissatisfied.

Customer loyalty was defined as the strength of the relationship between a clients’ relative attitude and repurchase trade (Dick & Basu, 1994). Customer loyalty also was described as a strong continued commitment to repurchase or patronize a favored product/service consistently in the future, thereby creating repeated same products/brands purchasing (Oliver, 1997). Customer loyalty was explained as a combination of clients’ favorable attitudes and re-buy behavior (Kim et al., 2004). Customer loyalty has been identified as the principal factor in a business firm’s success (Yap et al., 2012). The importance of customer loyalty was closely linked to the business’s continued survival and the influence of future growth (Kim et al., 2004).

Some studies have confirmed the connection between customer satisfaction and customer loyalty. Customer satisfaction was an antecedent of customer loyalty. Customer satisfaction was an important variable that pointed to customer loyalty (Minta, 2018). Prior studies declared that customer satisfaction positively influenced customer loyalty (Anwar et al., 2019; Santouridis & Trivellas, 2010; Yap et al., 2012).

This current research demonstrated the link between service quality, brand image, customer satisfaction, and customer loyalty in line with the previous investigations. Therefore, practitioners should focus on strategies that improve the customer’s perception of service quality, brand image, and customer satisfaction to increase customer loyalty. The research results showed that service quality was an antecedent of brand image, customer satisfaction, and customer loyalty (DAM, 2021)

(Ipang SASONO, 2021) Concluded on his research according to His data analysis result and shows that:

(1) e-service quality has a significant positive influence on e-satisfaction. With the increase in e-service quality of Internet banking; there will be an increase in consumer e-satisfaction.

(2) e-service quality has a significant positive influence on e-loyalty. With the increase in service quality of Internet banking, there will be an increase in consumer e-loyalty.

(3) e-satisfaction has a significant positive influence one-loyalty. With an increase in consumer e -satisfaction, there will be an increase in consumer e-loyalty.

(4) Finally, this research concludes that the role of e-satisfaction significantly mediates the influence of e-service quality on e-loyalty. This result indicates that that the importance of the role of e-satisfaction towards e-service quality would be impactful to the e-loyalty of college students as Internet banking users in Indonesia. This research has some limitations. Firstly, this research analyzed the influence of e-service quality on e-loyalty both directly or indirectly through the e-satisfaction variable. This is because there are maybe some other variables (like

Motivation, Belief, company branding, e-CRM, etc.) That influence e-loyalty. The author recommends further studies to discover, explore, and analyze the next research. Second, this research is done in a unit of analysis of college students, and may not be generalized to other industries. Therefore, it is highly advisable to do further research regarding this topic in other industries or even adding to all regions or other countries and show a comparison between private and public organizations. (Ipang SASONO, 2021)

# 2.8 Need for Digital banking

Today's highly competitive marketplace, characterized by global economic integration into volatile business environment, shorter product and innovation life cycles, rapid growth of information technologies and electronic communication, puts pressure on banks to continuously evolve, by changing its competitive dynamics and strategic context. Besides, business worldwide is rapidly digitizing, breaking down industry boundaries, building new opportunities, and at the same time accelerating the challenges while harming long-successful business models. This is called digital disruption a phenomenon that will substantially shape banking industry and its operations in years to come . However, despite growing significance digital disruption is causing in banking, there is still a lack of interest among researches with respect to this issue. **o**n the other hand, age of digital disruption requires businesses to swiftly and smoothly change businesses and its business processes beyond the standard level of flexibility to efficiently and effectively carry out unpredictable external and internal changes, i.e. to be agile. Given that banking is not recognized as fast-changing industry, various issues and gaps arise with reference to confronted trends that shaping banking industry today. Yet, fast-changing and uncertain business environment of the new economy imposed by digital era, address new organizational capabilities and competencies which imply that banks need to redefine traditional approaches of doing business, to adapt to changes faster, more efficiently and effectively. Having that in mind, the article aims to shed light the understanding of biggest challenges facing banking industry in the age of digital disruption. (Tornjanski, 2015)

2.8.1Benefit of Digital banking system

The wave of technological development has changed the face of the world in multiple economic sectors because banks are the mainstay of the economy with the increase in the volume of transactions in the global and local markets, as customers have also begun to prefer unconventional methods of banking services (A. Almagtome, Khaghaany, & Önce, 2020). So, it became delivered using IT tools anytime and anywhere without any direct participation from employees. Competition in the banking industry also grew too stiff levels and every effort was made to improve customer comfort by adding new channels and options for digital banking services. Because customer satisfaction is the only key to success, what the bank needs to understand their requirements is not an easy matter because the dynamics of digital and traditional banking are completely different**.** (Mohammed, 2020)

Digital banking services is one of the most innovative and newest technologies, and it represents a technological breakthrough in the banking sector, which allows the customer to produce financial transactions in a manner that meets his requests and desires (such as balance inquiries, money transfers, and bill payments) through digital channels at the time and place chosen by the customer (Ali, Almagtome, & Hameedi, 2019). Banks are still in the process of changing the bank’s culture, structure, and infrastructure to accommodate the concept of digital in banks. It is a difficult and time-consuming process because the bank has not been digital since its inception. (Mohammed, 2020)

Modern technology and digitization have removed barriers from modern society, such as time and place, data acquisition and sharing, giving customers more freedom to interact with other parties regardless of time or place (Koiranen, 2010, 24) .Technology provides an opportunity for banks to build new models and platforms that have the ability to adapt to the needs of customers. Banks realize that it is not just a matter of the complexity and multiplicity of customers' needs, but now they demand services tailored to their needs. What's more, they are not shy about changing their banks, if these needs are not met (Almusawi, Almagtome, & Shaker, 2019). This requires banks to become more sensitive, aware, and relevant to customers, not only by increasing their communications but by providing the right service at the right time and place (Sardana & Singhania, 2018: 29).Digitization can be defined as the use of digital technologies in order to create new business models and provide new revenue and value-producing opportunities. It is the process of moving into digital business and integrating digital technologies into everyday life.(Gartner, 2016) Digitization is an opportunity for companies and organizations to improve their business activities There are many digital banking channels and their availability in the appropriate place and time for the customer, in addition to the availability of comfort and safety for him. Digital banking services are an important way to reduce costs for the bank and the customer, as well as flexibility in time and deal. (Mohammed, 2020)

2.8.2Benefit of Digital banking for Banks and Customers.

Today it is impossible to imagine the bank industry without digitalization of data. We can place funds in a deposit online, conduct online conversion, transfer money from one account to another, make online purchases and even borrow loan without additional bureaucracy. All these points contribute to reducing the costs both for banks and customers, and also help to reduce corruption. Software processing significantly reduces transaction costs. Banks have the opportunity to submit customer accounts by soft. The cost of delivering invoices in electronic form is much lower than if the invoice was in paper form delivered by mail. Electronic billing costs 40% less1 than paper delivery. Such savings can offer both customers and banks a lower cost of banking services, while providing efficient and diverse services. It is much easier for banks to know consumer interests using social networks. Knowing the demand for certain banking products from customers, it is easier to develop and offer these products. Banks offer a “center” of financial services, including presentation and payment of bills, financial planning, real estate financing, and insurance, lending and brokerage services. By acquiring customer loyalty, which becomes dependent on the bank for many financial instruments, it is possible to offer more packages of banking services and receive higher income per client. Banks acquire a new role, some kind role of financial portal, which allows customers to use the products and services of the bank avoiding bureaucracy, reducing the time of the transaction, and reducing dependence on the human being factor. So, digital banking means the complete digitization of banks and all their activities, programs and functions. This applies not only to the digitization of banking services and products - the interface that customers see, but also to the automation of internal processes. Digital banking is the automation of every step of a banking relationship, which goes far beyond the scope of an online, off-line, and mobile and Internet banking platform. Digital banking is a complete transformation into a digital environment, an interface, a backend and everything in between, both for customers and employees. Digital banking relies on big data, analytics and uses all new technologies to improve the quality of customer service. A bank can be considered digital only if it has digitalized all the available functions - from product development to customer service. (Fathiddinovna, THE ROLE OF DIGITAL BANKING IN MODERN BANKING, Feb 2020)

The following aspects can be considered as main advantages of digital banking for banks and for customers:

1. Reduce costs. Banks are forced to reduce their costs in order to remain competitive. If the bank does not switch to digitalization

2. The opportunity to increase profitability: traditional banks do not have a complete overview of their customers. They have lack in smart systems for collecting customer information and systems for customer orientation. Research of customer preferences through social networks, instant messengers, leads to the creation of a banking product. International Journal of Economics, Commerce and Management, United Kingdom Licensed under Creative Common Page 365 in accordance with the interests of customers. The greater the bank’s market share, the higher the likelihood of increasing its profit

3. Attracting new customers and saving loyalty of existing clients, as well as outstripping competitors: Financial technologies and other newcomers shocked the banking community. As a result, the demand for improved customer service and personalized services is growing, and the products and services of well-known banks are becoming more expensive. Digital banking can improve the quality of customer service and reduce costs, which is necessary in order to anticipate and prevent customer demand.

4. Research of the advantages of new technologies allows us to predict how new technologies, such as data analytics, block chain and cognitive banking; will affect the business models of banking operations. However, outdated systems limit the ability of banks to respond quickly to these events. Full digitalization is needed in order to research the advantages of these technologies and calculate the bank’s position for the future. Customer expectations are changing, new regulation is being introduced, and competition from technology companies is growing. These changes should encourage banks to create their own implementation and development of activities in the field of crypto assets turnover, including mining (activities to maintain the distribution platform and create new blocks with the opportunity to receive remuneration in the form of new units and commission fees in various crypto-currencies), smart contracts (electronic agreement, exercise of rights and responsibilities for which is carried out by automatically making digital transactions), consulting, issue, exchange, storage, distribution, management, insurance, crowd-funding (collective financing), as well as technology "block chain" to diversify the various forms of investment and entrepreneurial activity; personnel training for high qualification in the development and use of block chain technologies with practical skills using modern information and communication technologies; comprehensive development of cooperation with international and foreign organizations in the field of activities on crypto assets and block chain technologies, attracting highly qualified foreign experts in the field of developing block chain technologies for joint implementation of projects in the digital economy; (Fathiddinovna, feb,2020)

2.8.3 Benefits of Digital Banking For General Economy

Lifestyles of today’s civilizations are mostly dominated by technology usages no matter where they reside in the globe. As a result, human-services are mostly carried out in competitive manner where Banking-services are not different. It is carried-out with business mentality that has presented digital-banking, i.e. Bank-led and Mobile-led digitals in today’s human society. However, COVID-19 has interrupted the entire human-system. It puts strains on markets, governments, businesses and individuals. But COVID-19 has escalated usages of digital-banking, a product in bank-sector. Customers are identified in two categories and their efficiency-costs or prices are measured and utilized for analysis purposes in this Article. The findings show that digital-banking customers where adverse-user faces lower efficiency-price than equilibrium-price and the advantageous user faces least expected cost. Thus the progression of usages digital-banking is an outcome of market-economics, not something else. Despites the fact that the study uses a basic Microeconomics tools such as Consumer Choice Theory in completion the analysis, it is one of a kind in literature based on the approaches utilized interpreting customers behaviors in terms of economics. (Rahman1, p. 2021).

As per the find out of published by Akim Mahbubur by journal of business and economics that the common phenomenon of today’s world-economy country-wise where Bangladesh is no different. Thus, this study has used Bangladesh-economy as a proxy of country-wise world-economy where besides traditional banking, Bank-led and Mobile-led digital-banking are playing significant roles in the economy. More specifically, ATM / Debit / Credit cards etc. and now Agent Banking etc. are in bank-led category whereas bKash, Rocket, Nagad, UCash, MyCash etc. are in Mobile-led category. While this progression was going on, then suddenly came in the incident of COVID-19 more or less globally where in the sense of its consequences, Bangladesh no exception was.It puts unprecedented strains on market systems and has twisted the decisions of governments, businesses and individuals in multi-faucets. However, as a result, the pandemic has facilitated higher trends of usages of digital-banking in world-economy where Bangladesh-economy is no exception. It raises question: was the upward trend or progression, especially during the COVID-19, of usages digital-banking country-wise an outcome of market economics or something else? (Rahman1, COVID-19 Brings Blessing for Digital-Banking in, May,2021)

At the initial stage of the COVID 19 country-wise, hundreds of bank branches were temporarily closed and ATM withdrawals were collapsed. As results, these constraints had further enhanced the usages of mobile-led or bank-led digital banking services. So it would not be overstated claiming that the facilitation of digital-banking has kept the market economics lives. Few studies, either in empirical or theoretical or in report format, have been conducted on COVID-19 vs. its impacts on global economy or country-wise economy. Many studies have done on trends of usages digital financial-service or on banking influenced by COVID-19. It has triggered the level of usages of digital-banking in many countries. As reported, money lending rate cap in many countries like Bangladesh and the impacts of the COVID-19 have hit hard the business of banks. The referred report further continued, as results, the most banks experienced a decline in its revenue earnings. However, ongoing digitization becomes a major tool helping the financial sector coping with the challenges. It has started improving operational efficiency and minimizing expenditures in aim to address the problem at a faster pace. Financial sector particularly Banking-sector have seen this as helpful for generating further revenues country-wise such as Bangladesh. As reported, the banking sector has seen it as a “blessing” for digitization country-wise as the pandemic has pushed banks to go for expanding its digital services. (Rahman1, COVID-19 Brings Blessing for Digital-Banking in, May,2021)

On COVID-19 vs. Digital-banking perspective, planning strategically to be on safe-side from the danger of the pandemic, an individual like most humans prefers to use mask, sanitizer etc. as protectors. On the same token individual prefers to use digital-banking when she/he faces choices of monetary transactions. Besides other factors, to be on safe-side during COVID-19, individual, either new one to digital-banking or the one who was using it before has preferred to use digital transactions in its preferences for making survival needs available to individual or to family. This was the common scenario of world-economy country wise. With this reality of world-economy country-wise, demand of usages-digital-banking increases during COVID-19 despites the fact that it incurs higher costs or prices for using services of digital-banking. It is like, in summer season, market price or cost for buying a leather-jacket is very low because the demand of leaser-jacket in jack-market tends to zero. But because of winter, despites price or cost of leader jacket increases, demand for leader-jacket increases too. On digital-banking service cases, new users face extra cost for internet services, bank accounts fees (ex. yearly fees) or charges for using agent (s) for completion of mobile-led banking. Similarly, the ongoing users face higher costs or prices because of higher demand of internet and higher demand for digital-banking services than that before. In this scenario, consumer who is now protected from the COVID19 or the bank or the product such as services of digital banking or the technology gains further advantage that has resulted increased returns to parties involved. (Rahman1, COVID-19 Brings Blessing for Digital-Banking in, May,2021)

Akim Mahbubur Rahman( (Rahman1, COVID-19 Brings Blessing for Digital-Banking in, May,2021) concluded that Humankind in the 21st Century lives in world of business mentality with technology-driven lifestyles where services are carried out in multi-faced, competitive and rationality manner. Banking services are no different in world-economy country-wise. While this economic development was going on, the appearance and spread of the COVID-19 across the world has shacked up progression-trends in most sectors country-wise. Bank sector have seen this as an opportunity for generating further revenues country-wise. As reported, bank sector sees it as “blessing” for digitization country-wise as the pandemic has pushed banks to go for expanding their digital-banking services. This study takes the tasks to interpret the episode COVID-19 vs. digital-banking usages progression in terms of Demand-Supply Model in market economics. Because of COVID-19, both adverse and advantageous users of digital-banking are in market for the services. It results higher level of demand and higher price of services of digital-banking that leads demand curve shits outward. Thus progression of usage of digital-banking during the period COVID-19 is a phenomenon of market economics not something else. On efficiency costs or prices of different types of preferences of users of digital-banking (adverse users and advantageous users) in world-economy, it is clear that market equilibrium price is higher than market efficiency price. The key feature of adverse users is that individuals who have the highest willingness to pay for digital-services are those who have the highest expected costs or damages from the COVID-19. In advantageous users cases, efficiency price or cost is higher than market equilibrium price or cost. In contrast to adverse users, the advantageous users who have been using digital-banking since before COVID-19, the most are those who have the least expected costs. Thus progression of usages of digital-banking in world-economy country-wise is an outcome of market-economics, not something else. (Rahman1, COVID-19 Brings Blessing for Digital-Banking in, May,2021)

2.8.4 [Factors influencing Banks to practice Digital banking system](#_bookmark26)

AS Quoted by (Fathiddinovna, THE ROLE OF DIGITAL BANKING IN MODERN BANKING, Feb 2020) The main disadvantages that affect of digital banking:

1. Security system. Digital banks are subject to the same laws and regulations as traditional banks. Sophisticated encryption software is designed to protect the account information, but no system is perfect. Accounts may be subject to phishing, hacker attacks, malware and other unauthorized actions;

2. Types of services. Some digital banks may not offer all of the comprehensive financial services, such as insurance and brokerage accounts that traditional banks offer. Traditional banks sometimes offer special services to regular customers, such as preferred rates and investment advice at no extra charge. In addition, services such as notarization and bank signature are not available on the Internet. They are necessary for many financial and legal operations. However, today, users of social networks can reduce the lending rate for the bank by collecting a certain number of “likes” for the bank. The system is identical to cumulative cards in stores. in accordance with the loyalty program of a particular bank. Relations with the client. Frequently, a bank which knows its client, its credit history, and the specifics of its business, can accept favorable terms for the client. The digital banking system excludes such opportunities.

3. The complexity or significance of the transaction. Frequently, to complete an important transaction or make a serious decision, a direct meeting with the client is required. A traditional bank can hold meetings and call experts to resolve a specific issue. Complicated international operations, issues of international financing, syndicates may not be possible in digital banks. In addition to the general characteristics of the above mentioned information regarding the digitalization process, it is necessary to emphasize that regulatory framework has to be developed and comply with current legislative remuneration in the form of new units and commission fees in various crypto-currencies), smart contra. (Fathiddinovna, THE ROLE OF DIGITAL BANKING IN MODERN BANKING, Feb 2020)

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2.8.5 Measuring Customer Experience and Financial Performance

The overall experience of the customer about a product or services they purchase compare with their expectation is known as customer satisfaction. Kottler defined customer satisfaction as “a person’s feelings of pleasure or disappointment resulting from comparing a product’s perceived performance or outcome in relation to his/her expectations”. Customer satisfaction is an important tool used by the banks for stand out for years by delivering pleasurable customer experience in the competitive market. Rather than offering new, innovative products and services which fulfill the customer needs, a good customer relationship matters a lot for customer satisfaction. Customers expect a consistent experience through Omni channels and it’s the bank’s responsibility to deliver the services without resistance. Though banks introduce new products customers concern how they response to them and how they solve the problems in relation to the services they access. Content, Ease of Use, Accuracy, Timeliness and Safety are used by previous researchers in order to evaluate the customer satisfaction of digital banking services. (Rajeshwaran, NOV,2020)

# 2.9 Digital banking service Quality and customer satisfaction

Digital banking quality is the initial step which develops customer satisfaction. According to the research conducted in Pakistan on impact of Digital banking on customer satisfaction based on the key dimensions of SERQUAL model and emphasizes that people evaluate Digital banking service quality mainly on three key dimensions: Responsiveness, Reliability and Assurance Some researches point out that Digital banking services helps to retain customers with good customer satisfaction. A research study carryout by (Rajeshwaran, NOV,2020) verified that quality services retain the customers with the bank and illustrated there is a direct relationship between Digital banking service quality and customer satisfaction.

By the (Rajeshwaran, NOV,2020) find out that Most customers prefer to use government banks than private banks pertaining to digital banking in the province. Therefore, CEO and management of private banks have to focus to attract the customers in digital banking services. Results of the research deliver core areas where management should focus to enhance the service quality particularly compensation. Content of digital banking services could be redesigned to provide more information to increase the customer satisfaction. (Rajeshwaran, NOV,2020)

2.9.1[Technology- organization- Environment (TOE) framework](#_bookmark27)

Information technology (IT) has a key role to play in supporting firms’ sustainability initiatives. While there are many possible avenues for using IT in supporting a firm’s environmental management information system (EMIS), this study will pay particular attention to the implementation of a decision support system (DSS) to enable sustainability. An EMIS is an “organizational-technical system for systematically obtaining, processing, and making available relevant environmental information available in companies” (El-Gayar & Fritz, 2006, p. 2). On the other hand, an environmental management system or EMS is a set of management policies, business processes, and metrics for improving a firm’s environmental performance (Pun et al., 2002). The following are a number of studies on the use of DSS to support an organization’s environmental sustainability. Pereira and Quintana (2002) studied the development of the DSS for environmental issues covering waste management, water management, land-use planning, etc. by a research group at the Joint Research Centre (JRC). The ten-year evolution of the DSS was traced from the time it was a more specialized DSS targeted at expert decision makers who used expert knowledge databases and multi-criteria engines, requiring skilled domain users to perform analysis work. The DSS, then, was modified to be more inclusive in order to be accessible to the variety of stakeholders involved in the decision making process, who were encouraged to actively debate issues that arose in the decision making process product supply chains which would be inclusive of both the firm of focus and its supply chain trading partners. The system has an inter organizational orientation in approaching the decision making process involved in reducing carbon emissions along the entire supply chain, using the hybrid life cycle analysis method in assessing direct and indirect carbon emissions in key business processes. This supply chain environmental analysis tool (SCEnAT) was developed using supply chain (SC) mapping, SC carbon accounting, SC interventions, and SC intervention evaluations on a range of key performance indicators. Finally, the authors narrate how the SCEnAT system was tested in a specific setting. Foxon, et al. (2013 The theoretical framework used for understanding how Nike deployed its DSS oriented EMIS is Tornatzky and Fleischer’s (1990) technology-organization-environment framework

1. Environmental Context Nike dealt with a number of public relations issues in the mid-nineties as protests were mounted against the firm on account of substandard working conditions in the Asian factories where Nike outsourced the manufacturing of its shoes (Harish, 2010). Then, in 1992, Nike was widely criticized for the use of sulfur hexafluoride (SF6), a powerful greenhouse gas, in its Nike Air shoe
2. Organizational Context: The organizational changes Nike put in motion are characteristic of features of an “organic” organizational system

2.9.2 Technology Acceptance model (TAM)

The proposed conceptual model through the TOE framework will help banks with the information required to attract more customers, develop survival strategies, overtake competitors, and gain more profit. In this regard, it must be noted that there is a constant change in the knowledge of how to increase the actual usage of information technology services like Digital banking (Adapa and Roy 2017), Internet banking, mobile and phone banking, online card payments, net safe, smart money order, funds transfer (e-cheques), and stock market (Alalwan et al. 2018). This leads to a change in requirements for and perceptions towards and affects individuals’ actual usage. The TOE framework consists of the following technology contexts: technology infrastructure and compatibility, relative advantage, complexity and security (Awa, Ukoha, and Emecheta 2016; Abed 2020), and technical competence (Cruz-Jesus, Pinheiro, and Oliveira 2019). Some researchers asserted that the actual usage and behavioral intention towards electronic services depend on the compatibility between the technology’s structure and consumer needs and tasks (Liu, Jayaraman, and Luo 2017; Chen and Huang 2017), and hence it is essential to know how to extend and modify a technology to make it suitable for customers. This study evaluates the technological-structure context on the basis of the task-technology fit (TTF) model (Goodhue and Thompson 1995) – a technology’s fit with its users’ values and needs (Amini and Bakri 2015). In this context, it must also be noted that Digital banking services suffer due to their virtual nature, the lack of control, and the lack of experienced users. These services are perceived as characterized by a high degree of risk and uncertainties, which influence decisions related to the technology’s actual usage (Kim, Shin, and Lee 2009). To address this fear and uncertainty, banks should evaluate the technology’s security structure (Zhou 2011). The studies have identified technological innovation, personal innovativeness, and service innovation (Witell et al. 2016) as crucial to the higher-level recognition of consumer needs; this recognition contributes towards increasing the actual usage of Digital banking. Hence, this study has included the technical service innovation (TSI) to the aforementioned technology context (Chiu and Yang 2019).The studies on the TOE framework have added the following aspects to the organizational context: top management support, organizational readiness, firm size, organizational characteristics (Awa, Ukoha, and Emecheta 2016; Cruz-Jesus, Pinheiro, and Oliveira 2019; Abed 2020), and communication process (Baker 2012). Since this research is based on users’ actual Digital banking usage, we have explained the communication process through integration between the bank as a technology service provider and customers (Salunke, Weerawardena, and McColl-Kennedy 2019). Specifically, on the basis of an evaluation of the responses of real-time users of these technologies, this study shows that the communication process can enhance Digital banking actual usage; this process is neglected by studies discussing the organizational context in the TOE framework. An organization can utilize information technology services to showcase its integrity to customers; this would promote transparency in the users’ task environment and affect users’ intention and actual usage (Nyirongo 2009). Integration is achieved by reducing time and cost of the e-commerce process and improving customer service; this, in turn, influences customers’ views and intention towards electronic services (Oliveira and Martins 2010). We also introduce firm size to the organizational context (Awa, Ukoha, and Emecheta 2016). The studies on firm size have restricted their investigation to the number of employees (Hausdorf and Duncan 2004) in a firm; however, we have evaluated users’ perception of firm size in relation to e-banking (see Table 1).The TOE framework also consists of the environment context. It focuses on the environmental pressure and external support, which comprise the organizational structure and the dogmatic environment (Abed 2020). Concerning external support, a robust technological structure and policies and regulations comprise crucial environmental forces that can influence individuals’ intentions and decision-making processes (Awa, Ukoha, and Emecheta 2016). Concerning the environmental pressure, we have extended this context by including the initial trust model (Kim, Shin, and Lee 2009; Oliveira et al. 2014). It is time-consuming and costly to build initial trust (Oliveira et al. 2014); it is based on the cautious forces and cognitive cues that can influence the decision-making related to the actual usage of the technology actual usage (Kim, Shin, and Lee 2009). Most previous studies demonstrate trust as a key determinant of the intention to use information technology. While trust is built over the long-term after acceptance and usage, initial trust is transient and built within a short span before acceptance (Qin et al. 2011). Owing to the fear and uncertainties associated with Digital banking, banks must develop initial trust (ITR) among users (Zhou 2011). Studies have emphasized trust over initial trust, which is the foundation for building trust (Aljaafreh, Gill, and Al-Ani 2014). The ITR model includes comprises reputation and brand strength, social influence, and structure assurance (Oliveira et al. 2014). These components of the ITR model influence users’ trustworthiness (Khan et al. 2018), and thereby determine their attitude towards Digital banking (Oliveira et al. 2014).The affection of the aforementioned environmental forces varies in different countries under the influence of the economy, culture, risk-taking attitudes, and technological advancements. In this context, it must be noted that conventional viewpoints propose assessing the culture and the system surrounding the implementation of an information system implementation. The success or failure of a technology depends on the interaction between the technology’s design features and the individual traits of the culture in which the technology is implemented (Markus 1983). This explains the different responses of different societies’ members towards a specific system (Lee, Cheng, and Cheng 2007a). In the environmental context, the culture-technology fit (Lee et al. 2007b) plays a vital role in shaping individuals’ assessment of and preference towards an e-banking service or product innovation (Hassan and Wood 2020)..

Behavioral intention and actual usage

Management experience has indicated that behavioral intention is the key determinant of individuals’ technology services acceptance and actual usage (Arts, Frambach, and Bijmolt 2011). The TAM (Davis 1989) described a users’ intention as an effective assessment of a specific issue. According to Fishbein and Ajzen (1975), people act logically and systematically assess all accessible behaviors and their effects and, based on this logic, decide whether to perform a specific action. Concerning TRA (Fishbein and Ajzen 1975), the framework draws upon the relationship between beliefs, attitudes, intentions, behaviors, and subjective norms; specifically, TRA focuses on the determinants of consciously intended behaviors (Fishbein and Ajzen 1975). The TPB proposed by Ajzen (1985) demonstrates that an individual’s behavior depends on behavioral intention, which is influenced by perceived behavioral control, attitude, and subjective norms. The aforementioned theories are discussed in relation to the actual usage of technological innovation. It has two stages – the decision-making process and the use phase (Damanpour and Schneider 2008) – which are governed by multiple behaviors (from awareness to the continued use of the innovation) (Rogers Everett 1983, 1995; Leong et al. 2013).

2.9.3Technology context

In the TOE framework (Tornatzky, Fleischer, and Chakrabarti 1990), the acceptance of technology services is impacted by a technology’s availability and characteristics, the organization employing the technology, and its environmental context (Tomás, Thomas, and Oliveira 2018); this is similar to the assertion that technological factors influence the technology services’ acceptance process (Fishbein and Ajzen 1975). Similarly, Arts, Frambach, and Bijmolt (2011) examine the effect of the characteristics of technology services on the adopters’ decision-making process. This effect is evaluated in terms of the TTF. In the context of the information technology services like Digital banking, TTF is described as the level at which a system can help users to perform necessary tasks. The purpose of TTF is to bridge the gap between task needs and the attributes of technologies, and, according to the TTF model, users will adopt technology services that will help them carry out their daily tasks efficiently (Goodhue and Thompson 1995). The TTF model (Goodhue and Thompson 1995) affirms that, in order to be implemented and to positively affect user’s performance, information technology services (e.g. e-banking) should be a good fit for the tasks they support. In this regard, the proposed conceptual model describes acceptance through the following four constructs – task characteristics (TAC), technology characteristics (TEC), TTF, and use. TTF is controlled by TEC and TAC, which drive the acceptance and employment of electronic financial services (Oliveira et al. 2014).The two significant constructs implicit in TAMs are TTF and performance impact. The TTF model provides insight into how user performance is impacted by technology services, user tasks, and utilization (Goodhue and Thompson 1995). In other words, TAC and TEC affect the users’ perception of TTF, which, in turn, influences the system’s application and affects the user’s performance (El Said 2015).

2.9.4 Technical service innovation

Innovation generates competitive advantage through the creation of new solutions and values, and hence it is essential for industries based on electronic services (Eisingerich, Rubera, and Seifert 2009; Toivonen and Tuominen 2009; Skålén et al. 2015; Salunke,Weerawardena, and McColl-Kennedy 2019). Innovation can be attributed to changes in an individual’s behavior, system, technology, service, and products (Damanpour and Schneider 2008). In the case of services, technological innovation based on the acceptance of e-services depends on the service concept. Given this, the framework of service innovation comprises a set of economic, market, industry knowledge, and management perspectives (Hsu et al. 2019). Service innovation entails a fundamental change in the current service feature and an improvement in the process of providing it through a change in structure; service providers must have specific skills to implement these changes (Ordanini and Parasuraman 2011; Santamaría, Nieto, and Miles 2012; Björk 2014).Chen and Tsou (2007) identified the following four processes of service innovation – administrative process innovation, technological processes innovation, the supporting process of customer interfacing, and innovation in technological integration. In service innovation, technological services are based on technologies related to the provision of online services, such as e-banking (D’Antone and Santos 2016). These technologies focus on user interaction and new service delivery systems (Chiu and Yang 2019) that create value both for the users and the institution (Salunke, Weerawardena, and McColl-Kennedy 2019).

2.9.4 Organizational context

User integration

Concerning people’s tendency to use the online system and its products and services, human interactions have been discussed in several studies; this tendency has increased e-commerce use all over the world (Yu, Lin, and Liao 2017). Concerning the extensive changes and intense competition, online interaction with customers contributes towards differentiation and provides a way to survive the competition (Gikandi and Bloor 2010). The concept of integration comes from the management ability to establish a relationship between the creation and implementation of technology services (Salunke, Weerawardena, and McColl-Kennedy 2019). Customer orientation emphasizes the use of customers’ information and the identification of their needs and responsibility for increasing customer satisfaction and facilitating integrity (Yang and Tsai 2019). The integrity of customers towards institutions can be categorized under the affection of the following dimensions: knowledge about the customers and sectors, brand awareness, creative development, production management, staff training, and personnel skills (Hughes, Vafeas, and Hilton 2018). The integration between customers and service providers depends on their interchange of information and knowledge, collaboration, and technical support on the service innovation provided (Narayanan et al. 2011). Integrity indicates that service providers act on their promise instead of cheating users. Benevolence indicates that users’ interests are crucial for service providers, and they are not concerned only with their benefits (Choudrie et al. 2018).

Perceived size

It is assumed that large-scale enterprises facilitate the diffusion of innovation (Buzzacchi, Colombo, and Mariotti 1995). By analyzing evidence, several researchers asserted that large banks, through brand recognition among banks’ users and their robust information management systems, retain their lead over small banks (Keeton 2001). This study assumes that, by controlling the other effects, the larger the bank, the more likely it is to suggest Internet banking and gain consumer trust. Regarding consumer trust, online users, when perceiving a company as large, are more likely to trust it (Koufaris and Hampton-Sosa 2004).

2.9.6 Environment context

2.9.6.1 Initial trust model

Trust is a vital issue in online service settings because these services are characterized by high ambiguity owing to the lack of face-to-face communication and a high level of user-generated content. These factors intensify the importance of trust (Hajli et al. 2015). In e-banking, ITR involves accepting the risk of using electronic financial services without prior experience of and valid information about its ability to fulfill own needs (Oliveira et al. 2014). Trust is created by the continuity of the relationship between the service provider and customers, but ITR is created by a customer’s first use experience (Zhou, Lu, and Wang 2016). Mayer, Davis, and Schoorman (1995) also asserted that trust echoes an enthusiasm to be in a state of susceptibility based on the positive expectation from the future action of another party. Trust consists of customers’ beneficence and tendencies and the capability (awareness and experience of customers) and integrity (honesty) of service providers (Zahedi and Song 2008; Zhou, Lu, and Wang 2016).McKnight, Kacmar, and Choudhury (2004) asserted that the forces influencing ITR are divided into institutional, individual, and environmental factors. The institutional factors include industry characteristics such as structural assurance, size, competence, and honesty, the industry’s role in the markets, philanthropy, assistance, fame, and brand. In financial industries, structural assurance is defined by the level of customers’ belief in financial institutions – assurance that the structural processes of electronic transactions are governed by regulations and legal rules (Sha 2009). Personal tendencies and structural assurance positively influence ITR-building, which, in turn, positively affects customers’ intention (Kim, Shin, and Lee 2009). Security and transaction assurance are prioritized in the process of building online users’ trust (Toufaily and Pons 2017).The ITR model also includes social influence; studies have bifurcated the major and minor sources of social influence. Contrary to common belief, the minor sources can challenge and destroy the consensus, validity, and dominant thinking created by the major sources (Cialdini and Trost 1998). Having said that, when a particular innovation is consumed at the general level of society, it can have a greater impact on customer behavior and their willingness to use innovation (Leicht, Chtourou, and Youssef 2018). This influence can be evaluated in terms of Bandura’s (1986) social cognitive theory, which considers human behavior as an interaction between personal factors, behaviour, and the environment. In the competitive environment, most industries use the social context to achieve customers’ loyalty and promote the acceptance towards online services (Senadheera, Warren, and Leitch 2017). Rogers (1983, 1995) asserted that Digital banking acceptance is a social construct, which gradually diffuses through populations. Individuals develop different perceptions towards the acceptance of technology services, with the popularity of the technology services distributed over time (Hanafizadeh, Keating, and Khedmatgozar 2014). These perceptions are significantly impacted by the social context, which reflects the potential of social communication and interpersonal relationships (Lu and Yang, 2014). Based on the features of social context, ITR was divided into social influence and reputation. Social influence is defined by Venkatesh et al. (2003) as the perception of individuals that important persons to them such as friends, family, colleagues, reference groups and opinionated leaders (Hassan and Wood 2020) believe they use information technology. Therefore, social influence shapes behavioral intention by affecting an individual’s evaluation (Leicht, Chtourou, and Youssef 2018). There is an assumption that an individual’s behavior is influenced by the way family members or peers value the use of Digital banking (Alsajjan and Dennis 2010). Researchers focusing on the social, psychological, and economic perspectives classify social influence into social norms, which specify that members of a group tend to consent to the norms of the group, and network effects (Lascu and Zinkhan 1999).Reputation influences customers’ attitude, recognition, and perception towards the capability of providers in delivering effective services that are credible and make an institution dependable (McKnight, Cummings, and Chervany 1998); it plays a vital role in confidence-building and motivates consumers to use the provided service (Kim, Shin, and Lee 2009).

2.9.7 Culture-technology fit

Culture informs about the societal rules, norms, rituals, and procedures; it also promotes and reinforces our values and beliefs (Liu, Volcic, and Gallois 2014). The patterns of thinking and behaviour of people are influenced by culture (Hofstede 2001). Hofstede (2001) provided the cultural dimensions and informed that individuals with different value tendencies understand and behave differently. For example, people in a culture or society characterised by high-power distance, are likely to follow the discourse of leader or superior as essential and vice-versa (Huang et al. 2019). Thus, when considering technology acceptance, culture affects an individual’s attitudes and beliefs, the tendency to accept uncertainties, and the level of innovativeness. Considering this important influence of culture on people’s thoughts, it would be reasonable to assume that culture can influence how people perceive technology (Lee et al. 2007b). Since traditional thoughts (historically derived and shared) and their attached values (Kroeber and Kluckhohn 1952) are known as the core of culture, culture can affect the individuals’ thinking and behaviour process (Hofstede 2001). The system-determined theory holds that the failure or success of implementing an information system will be influenced by features inherent to the information system rather than by the organisational culture (Markus 1983). In this regard, it must be noted that this study’s conceptual model differs from a conventional culture in that it focuses on the individual rather than organisational cultural characteristics. To this end, the concept of the culture-technology fit is applied to measure the congruency degree between an information system (here, e-banking) and a user’s cultural characteristics (Lee et al. 2007b). We have evaluated this aspect by considering Hofstede’s cultural dimensions .Some scholars such as McSweeney (2002) asserted that Hofstede’s cultural dimensions are restricted to test different cultures owing to their questionable reliability and validity; however, recent studies indicated that Hofstede’s cultural dimensions are valid and beneficial in exploring the effect of culture on an individual’s technology acceptance (Tarhini et al. 2017; Teo and Huang 2019). Accordingly, we have measured the influence of culture on e-banking users’ actual use by employing the cultural dimensions proposed by Hofstede (2001), which consist of power distance, uncertainty avoidance, indulgence- constraint concepts, and individualism-collectivism (Huang et al. 2019).

2.9.8 Government support

Users are attracted to use technologies when these are supported by trusted sources (Yi, Fiedler, and Park 2006). In the environmental context, the technology support infrastructure and government regulation influence the use of technology services (Tornatzky, Fleischer, and Chakrabarti 1990). Manifested through technical infrastructure and the acceptance of specific rules, government support simplifies the process of technology acceptance (Ajmal and Yasin 2012). The confidence and intention to use online services will increase when they are provided or supported by the government; governmental intervention affects the risk-taking behaviour of individuals, the creation of value and sense of assurance, security, and structural quality (Alshehri et al. 2012)

**CHAPTER THREE**

# 3.1 Research Design and Methodology

In the previous chapter, the literature review, which shows the factors affecting the practice of Digital banking system and review of issues related with barriers and benefits of Digital banking related with commercial bank of Ethiopia has been presented. This chapter presents the detail methodology, showing the logical frame work that discusses research purpose, research approaches, Research strategy, data collection and data analysis method (research method adopted). For the purpose of understanding all the content of this chapter, it is arranged as follows.

# 3.2RESEARCH METHODOLOGY

Many researchers have written extensively on research methodology. The underlying factor in most studies on research methodology is that the selection of methodology is based on the research problem and stated research questions. Methodologies cannot be true or false, only more or less useful (Silverman, 2001). Nachamias et al. (1996) for instance states that methodologies are considered to be systems of explicit rules and produced, upon which research is based, and against which claims for knowledge are evaluated. Conducting any type of research should be governed by a well-defined research methodology based on scientific principles. Eldabi (2002) suggested that a series of steps as a research paradigm to be followed in a methodology part of a research. Based on this suggestion researcher follows the basic framework of research paradigm developed by Foster.

## 3.2.1 Research purpose

There are three types of academic researches depending on the problem area and the nature of the phenomenon that it studies. The purpose of the research can be Exploratory which deals with unknown problem, Descriptive in which there is an awareness of the problem and Explanatory, where the problem is clearly defined (Ahmed 2011).

The purpose of this thesis is to conduct descriptive research in order to gather as much information as possible concerning the practice of Digital banking in Commercial Bank of Ethiopia. Specifically, these were in respect of the perspective of banking institution in Ethiopia. This research were focused on describing the current situation of the problem and answer the research questions which are in the form of “what”, and to highlight the most important factors that can negatively or positively affect the practice of Digital banking in Commercial Bank of Ethiopia Therefore, Descriptive research was being used in to fulfill this approach.

# 3.3 Research Approach.

Research approach is selected by researcher(s) based on the research purpose, the nature of the research, the problem area, and research questions (Alhamdani et al. 2006).The research approach in this study is chosen based on the purpose and the research questions set out to be addressed. According to Creswell (2003, p.13-15)

In order to achieve the objective of this study and answer the research questions researcher adopts both qualitative and quantitative research approach to assess the main practice of Digital banking in Commercial bank of Ethiopia and explore the basic challenges which hinder the practice of Digital banking in Commercial Bank of Ethiopian banking industry to converge across qualitative and quantitative methods (triangulating data sources). Employing this approach is used to neutralize or cancel the biases of applying any of a single approach and a means to offset the weaknesses inherent in a single method with the strengths of the other method (Creswell 2003). This research approach pose the researcher to the challenges that need for extensive data collection, the time-intensive nature of analyzing both text and numeric data, and the requirement for the researcher to be familiar with both quantitative and qualitative forms of research (Creswell, 2003; pp. 210).

# 3.4 Research strategy

The most important condition for differentiating among the various research strategies is to identify the type of research question being asked (Creswell, 2003; Hair et al. 2006; Leady, 1989; McNabb, 2004; and Yin, 1989). It is possible to identify some situations in which all research strategies might be relevant and other situations in which two strategies might be considered equally attractive. We can also use more than one strategy in any given study. To this extent, the various strategies are not mutually exclusive. But we can also identify some situations in which a specific strategy has a distinct advantage (Yin, 1989; p. 20).

According to Yin (1994), there are five strategies to collect data and get results: experiment, survey, archival analysis, history and case study. In addition, there are three criteria to determine the research strategy: types of research questions, control over behavioral events, and focus on present events. But it is important to notice that boundaries among the above methods are not completely clear, they may overlap each other.

* In this study, Survey approach is chosen, because the research questions are focused on: What are the basic practices of Digital banking techniques available in Commercial Bank of Ethiopia? ,
* What are the benefits of Digital banking?
* What kind of problems are there in implementing Digital banking?
* What are the basic challenges of Digital banking?

Regarding on service, So the types of questions are in the form of “what”. This research does not require control over behavioral events but it focuses on current issues.

#### Study Area

This section describes the banking environment in Ethiopia with respect to the policy and legal framework under which the banking industry operates. The banking industry in Ethiopia is controlled by the National bank of Ethiopia (NBE) acting as the central bank of the country. There are 28 commercial banks registered under the NBE up to June30,2023 E.C, these comprises 3 state owned banks and 19 other private commercial banks. Commercial Bank of Ethiopia is selected for this study.

#### Type of Data

Primary data was used in this study. The data was collected through, questionnaires. This gives specific responses to the research questions. Primary data is recognized as data is gathered for a specific research in response to a particular problem through questionnaires. Additional data were obtained by examining various documents, including, banks annual reports, local and international newspaper related with issues of Digital banking system, Research reports, books and journal articles.

### Research Method

This research paper intended to assess the main practice and challenges of Digital banking in commercial Bank of Ethiopia. To undertake this research, the specific methods of data collection used were survey, document sources. Survey for the quantitative strategy was used through distributing self- administered questionnaires. Questionnaires were distributed to some users of Digital payment of the selected branches. Those respondents were selected because, they are deemed to be knowledgeable about Digital banking system and could provide important perspectives on its practice.

#### Survey design

Questionnaires were distributed to the purposely sampled commercial bank Customers ,and was conducted the sampled commercial bank of Ethiopia in addis abeba five selected Branches.

The questionnaires were divided into Four sections. Section I captured basic demographic information of the respondents such as age and educational back ground Section II: Factors, types and frequency of service usage, Section III Problem of Technology usage, Section IV: Customer perception of the quality dimensions

#### Sample Design

Sampling is the process of choosing, from a much large population, a group about which wish to make generalized statements so that the selected part represent the total group (Leedy, 1989; pp. 158). The total number of Commercial Banks which is operated in the year 2023 is 25 private banks and 3state-owned banks. However, to undertake this research paper, the researcher purposely sampled only the state owned Commercial Bank Of Ethiopia of Six selected Branches, which are currently, practiced some technological innovation .They are *Addis Abeba Branch,Arat Kilo ,Arada Ghiorgis Branch ,silassie Branch ,finfine Branch and Mahitem Ghandi Branch.*

The Commercial Bank of Ethiopia until June 30,2023 total number of branches was 1288, From each category six Branches were used as a sample units that can be based on the practice of Digital banking and the total of 150 Branch Customers.

Method of data collection

In order to collect sufficient data that can answer the research questions, researcher designed one surveys; the first was a questionnaire to get quantified results. Questionnaires

The questionnaires were structured in close-ended type and responses to the questions were measured on a five Likert rating scale where: Strongly Agree (SA) = 1; Agree (A) = 2; Neutral (N)=3, Disagree (D) = 1; and Strongly Disagree (SD) = 5; To use of Likert scale is to make it

easier for respondents to answer question in a simple way. In addition, this research instrument was permitting an efficient use of statistics for the interpretation of data. Moreover, the central issue to argue that likert scales is that it produce ordinal data. Johns (2010) noted that in statistical terms the level of measurement of the likert response scale is ordinal rather than interval: that is, we can make assumptions about the order but not the spacing of the response options. Thus, the permissible descriptive statistics that can perform on ordinal data is mean (or average response) and mode (or more frequent responses) (Hole 2011).

#### Method of data Analysis

Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Yin, 1989; pp. 105). The researcher analyzed the data collected through survey to statistical population concerning the practice of Digital banking system. The data collected via questionnaires was analyzed with descriptive statistics using statistical package for social scientists (SPSS). Furthermore, Wolcott (1994) cited in Creswell (2003; pp. 184), suggested that qualitative research is fundamentally interpretative i.e. the researcher makes an interpretation of the data. To sum, the analysis of quantitative data and interpretation of qualitative data combines to seek convergence among the results (Creswell, 2003).

# CHAPTER FOUR

## 4.1Data Presentation and Analysis

This chapter deals with the presentation and analysis of data collected from questionnaires administered to get bank customers opinion on Digital Banking service quality who prioritize the services for the last two months under study, June and July. A total of 150 questions were distributed to respondents, among the distributed questionnaires 133 or 88.67% were filled and responded.

## 4.2 Background of the Respondent

The gender, age, education and occupation category of respondent were counted from the responded questioners and summarized in the under table. Among the total of 133 respondent all are responded their expressed their gender category that 51.1% were found female and 48.9%male.

The age category 24 respondents found between 18-24 or 17.3% of where this indicate the lowest respondent and the second lowest respondent were at age between 34-42 years out of the total its was 36 respondents from the total of the respondent 74 were between 25-33 range of the highest respondent of 55.6 %. Majority the Respondents, i.e 74or 72.9% of the of them have BA Degree and 26 or 19.5%,7(5.3)% and 3 or 2.3 %of the respondent have Master’s Degree and above, Diploma, and Grade 12/10and below Respectively. Concerning respondent occupation most of the respondents, 70.7%, were employees. The other groups 29.3% Businessmen, students and household and others.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Gender of the respondent* | Male | 65 | 48.9 | 48.9 | 48.9 |
| Female | 68 | 51.1 | 51.1 | 100 |
| Total | 133 | 100 | 100 |  |
|  | Age Group | Frequency | Percent | Valid Percent | Cumulative Percent |
| Age of the respondent | 18-24 | 23 | 17.3 | 17.3 | 17.3 |
| 25-33 | 74 | 55.6 | 55.6 | 55.6 |
| 34-42 | 36 | 27.3 | 27.1 | 27.1 |
| Total | 133 | 100 | 100 | 100 |
| Education level of the respondent | Edu,Level | frequency | percent | Valid percent | Cumulative percent |
| Grade 12/10and below | 3 | 2.3 | 2.3 | 2.3 |
| Diploma | 7 | 5.3 | 5.3 | 7.5 |
| First Degree | 97 | 72.9 | 72.9 | 80.5 |
| Master’s Degree and above | 26 | 19.5 | 19.5 | 100.0 |
| Total | 100.0 | 100.0 |  |  |
| Occupation of the Respondent |  | frequency | percent | Valid percent | Cumulative percent |
| Student | 9 | 6.8 | 6.8 | 6.8 |
| Employed | 94 | 70.7 | 70.7 | 77.4 |
| Business | 18 | 13.5 | 13.5 | 91.0 |
| Household | 8 | 6.0 | 6.0 | 97.0 |
| Others | 4 | 3.0 | 3.0 | 100.0 |
| Total | 133 | 100.0 | 100.0 |  |
| Type and frequency of digital service usage |  | Responses(N) | Percent | Percent of Cases | |
| Debit Card on ATM | 110 | 25.5% | 82.7% |  |
| Mobile Banking | 115 | 26.7% | 86.5% |  |
| Debit card on POS | 71 | 16.5% | 53.4% |  |
| Internet Banking | 53 | 12.3% | 39.8% |  |
| Agent Banking(CBE Birr, E-birr, Mbirr, TellBirr) | 82 | 19.0% | 61.7% |  |
| Total | 431 | 100.0% | 324.1% |  |
| Missing | System | 24 | 18.0% | 18.0% | 18.0% |
| Digital Banking factor use |  | Response’s (N) | Percent | Percent of Cases | |
| Reduce time of transaction | 54 | 25.4% | 49.5% | 3 |
| Cost effectiveness | 78 | 36.6% | 71.6% | 2 |
| Ease of use | 80 | 37.6% | 73.4% | 1 |
| Technology savvy | 1 | 0.5% | 0.9% | 4 |
| Total | 213 | 100.0% | 195.4% |  |

Table 1. Respondent Background

Most of the respondents of digital banking users (86.5%) were Mobile banking service users. ATM card service, POS service, and Agent banking service users make up 82.7%, 61.7% and 53.4% respondents respectively. And Internet banking remains 39.8%

The factor that most respondent prefer digital banking due to Ease of use, Cost effectiveness, Reduce time of transaction and Technology savvy respectively ranking 73.49%,71.6,49.5 and 0.9%

## Usage of Banking Service

Branch banking service was the service that almost all of the respondents used. Majority of the respondents used the branch banking service by their bank book (cheque and pass book) simultaneously with Digital banking services. These customers had visited different bank branches at different frequency for services. They had approached the bank at different times during the two months period of investigation. Out of 133 customers 119 visited the bank branch for service in addition to service available on Digital Banking. The majority of users visited branch banks 3-5 times (33.6%) and 6-10 times by 31.9% of users. Those respondents who only visited the banks for 1-2 or over 10 times were the least and encountered 16% and 18.5% respectively. The result indicates that users or customers were not fully using Digital banking services or they were demanding other services which are not available as digital banking solution or the service was not fully functioning or in other cases most of them didn’t use all the available Digital banking services.

Among all the respondents, 83.7% of users were responded that they had used the ATM service at different times. The majority of users visited the ATM service 6-10 and above 10 times was found as 34.3% and 30.6% of respondents reported respectively. Those who had used the ATM services for 3-5 times were 24.1% of the respondents; compared to the 11.1% of the customers who had visited ATMs for 1-2 times

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DESCRIPTION | | Frequency | Percent | Valid Percent |
| **Branch Banking** | 1or2 times | 19 | 14.7 | 16 |
| 3to5 times | 40 | 31 | 33.6 |
| 6to10 times | 38 | 29.5 | 31.9 |
| over 10 times | 22 | 17.1 | 18.5 |
| **ATM** | 1or2 times | 12 | 9.3 | 11.1 |
| 3to5 times | 26 | 20.2 | 24.1 |
| 6to10 times | 37 | 28.7 | 34.3 |
| over 10 times | 33 | 25.6 | 30.6 |
| Total | 108 | 83.7 | 100 |
| **INTERNET Banking** | 1or2 times | 4 | 3.1 | 57.1 |
| 3to5 times | 1 | 0.8 | 14.3 |
| over 10 times | 2 | 1.6 | 28.6 |
| Total | 7 | 5.4 | 100 |
| **Mobile banking** | System | 122 | 94.6 |  |
| 1or2 times | 9 | 7 | 18.8 |
| 3to5 times | 12 | 9.3 | 25 |
| 6to10 times | 18 | 14 | 37.5 |
| over 10 times | 9 | 7 | 18.8 |
| Total | 48 | 37.2 | 100 |
| **POS** | System | 81 | 62.8 |  |
| 1-2 times | 3 | 2.3 | 9.4 |
| 3to5 times | 15 | 11.6 | 46.9 |
| 6to10 times | 13 | 10.1 | 40.6 |
| over 10 times | 1 | 0.8 | 3.1 |
| Total | 32 | 24.8 | 100 |
| System | 97 | 75.2 |  |
| **Agent Banking** | 3-5 | 51 | 38.3 | 38.3 |
| 6-10 | 30 | 22.6 | 22.6 |
| over 10 | 16 | 12.0 | 12.0 |
| Total | 133 | 100.0 | 100.0 |

**Table 2 Frequency of Banking Usage**

Only 32 of 133 customers were using the POS service; this seizes the ration of 24.8%. Most of the POS users use the service 3-5 and 6-10 times 46.9 % and 40.6% respectively which is (87%) that had accessed and used this service for 3-10 times during the past two months. Among the mobile banking used by 48 of the customers‟ only 37.2% of the respondents had identified their frequency of using mobile banking service. In contrast with other services, internet banking was used only by 7 of the 129 customers which encompass 5.4% of the total Digital banking users. The result indicated that, due to relatively very small number of customers using mobile banking, POS banking and internet banking services, most customers needed those services from branch banking.

From the total of the respondent ………………………………………………………

## Problems in the Digital Banking services

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DESCRIPTION | | Frequency | Percent | Valid Percent |
| ATM machine out of service | often | 55 | 39.6 | 41.4 |
| Rarely | 64 | 44.4 | 48.1 |
| Never | 14 | 16.0 | 10.5 |
| Total | 133 | 100.0 | 100.0 |
| ATM cards get blocked | often | 51 | 37.4 | 38.6 |
| Rarely | 69 | 47.1 | 52.3 |
| Never | 12 | 15.5 | 9.1 |
| Total | 133 | 100.0 |  |
| ATM Machins out of cash | often | 57 | 40.6 | 42.9 |
| Rarely | 63 | 43.0 | 47.4 |
| Never | 13 | 16.4 | 9.8 |
| Total | 133 | 100.0 | 100.0 |
| ATM Machines non printing statement | often | 54 | 39.0 | 40.6 |
| Rarely | 30 | 26.0 | 22.6 |
| Never | 49 | 35.0 | 36.8 |
| Total | 133 | 100.0 | 100.0 |
| ATM Machines Reduction in balance without cash payment | often | 29 | 25.0 | 21.8 |
| Rarely | 78 | 51.0 | 58.6 |
| Never | 26 | 24.0 | 19.5 |
| Total | 133 | 100.0 | 100.0 |

## Table 3 Problems in the Digital Banking services (ATM)

Regarding the ATM service, customers were assessed the extent of the problems mentioned in the above table. The result indicated that these problems were faced by majority of the respondents to some extent. The out of service problem was experienced by 41.4% of the respondents; and 38.6% of the customers encountered cards gets blocked.

Machine out of cash and Non printing of statement, each was the problems that 42.9% of the users had experienced, at least in the rare instances. Reduction in balance without cash payment was rated by 21.8% of the customers which is the main reason of dispute initiation

From the 104 respondents using the POS service almost 78.2% of the service had the problem of Transaction decline. According to 24.1% of the respondents, the POS service had also the problem of Declining of confirmation message. Most of them, however, rated that these problems were happening in rare instance.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| DESCRIPTION | | | Frequency | Percent | Valid Percent |
| POS Machin’s Transaction declined | | often | 104 | 65.9 | 78.2 |
| Rarely | 5 | 12.0 | 3.8 |
| Never | 24 | 22.1 | 18.0 |
| Total | 133 | 100.0 | 100.0 |
| POS Machins Decline of confirmation message | | often | 32 | 27.0 | 24.1 |
| Rarely | 66 | 45.0 | 49.6 |
| Never | 35 | 28.0 | 26.3 |
| Total | 133 | 100.0 | 100.0 |

Table 4 Digital Problem POS

The internet banking service were found to have left the customer with unfinished transactions where 8.3% of the respondents had rarely experience this problem in contrast to 56% of the respondents who often encountered this problem. Similarly, waiting long time for the system was one of the shortcomings of this.While 42.9% of the respondents encountered the lengthy steps in transaction processing, security concern was also the problem for 27.1% of the respondents’ Digital banking service as this problem often was counted to 45.1% of the respondents.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DESCRIPTION | | Frequency | Percent | Valid Percent |
| Internet banking not being able to maintain security | often | 36 | 29.0 | 27.1 |
| Rarely | 57 | 40.6 | 42.9 |
| Never | 40 | 30.4 | 30.1 |
| Total | 133 | 100.0 | 100.0 |
| Internet banking leaving the operation unfinished | often | 86 | 56.2 | 64.7 |
| Rarely | 11 | 14.4 | 8.3 |
| Never | 36 | 29.4 | 27.1 |
| Total | 133 | 100.0 | 100.0 |
| Internet banking waiting for long time for the system | often | 60 | 42.0 | 45.1 |
| Rarely | 61 | 42.0 | 45.9 |
| Never | 12 | 16.0 | 9.0 |
| Total | 133 | 100.0 | 100.0 |
| Internet banking to money steps in processing transaction | often | 57 | 40.6 | 42.9 |
| Rarely | 48 | 34.3 | 36.1 |
| Never | 28 | 25.1 | 21.1 |
| Total | 133 | 100.0 | 100.0 |

Table 5-Digital Problems Internet Banking

Regarding mobile banking, potential problems were assessed by the customers. Too many steps in processing transaction were also identified as one of the problems on mobile banking that 20.3% of the respondents had experienced to some extent. The problem of login/sign off/ was attested for being a problem by 14.3% of the respondents. Compared to the two problems, the lack of secured transaction in mobile banking was the Medium problematic as only 17.3% had considered.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DESCRIPTION | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Mobile banking login/signoff are not easy | often | 19 | 24.5 | 14.3 | 14.3 |
| Rarely | 19 | 24.5 | 14.3 | 28.6 |
| Never | 95 | 51.1 | 71.4 | 100.0 |
| Total | 133 | 100.0 | 100.0 |  |
| Mobile banking lack of security in transaction | often | 23 | 22 | 17.3 | 17.3 |
| Rarely | 30 | 25 | 22.6 | 39.8 |
| Never | 80 | 53 | 60.2 | 100 |
| Total | 133 | 100 | 100 |  |
| Mobile banking too maney steps in processing transaction | often | 27 | 24.0 | 20.3 | 20.3 |
| Rarely | 23 | 22.0 | 17.3 | 37.6 |
| Never | 83 | 54.0 | 62.4 | 100.0 |
| Total | 133 | 100.0 | 100.0 |  |

Table 6. Digital Problems Mobile Banking

## Digital Banking Quality Service

Respondents were presented with several statements to assess the quality features of Digital Banking services they have experienced. The security of Digital Banking service rated M=3.40 on average, within the 95% CI 3.37-3.50. Was one of the most acknowledged quality of the Digital Banking services provided by the bank? The result indicated that Digital Banking services are well secured that the customers felt comfortable using them.

The Efficiency of Digital banking services, however, was agreed to the moderate level with M=3.00 within the 95% CI of 2.84-3.08. This indicated that the e-banks were not adequately available as the customer demanded/expected.

Similarly, the responsiveness feature, rated M=3.65 with 95% CI estimate in the range 3.44-3.59, are only moderately appreciated by the customers. That is the responsiveness of Digital banking services was highly appreciated by the customers.

Similarly, Digital banking services were rated for their reliability with M=3.23 in the range of 3.42-3.66, 95% confidence. This result also showed that the services are trusted by the customers to some considerable level that however, needs for much improved quality in its reliability feature.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **One-Sample Statistics** | | | | | **One-Sample Test** | | | | | |
|
| Test Value = 3 | |  |  | 95% Confidence Interval of the Difference | |
|  |  |
|  |  |
| **Security and Privacy** | N | Mean | Std. Deviation | Std. Error Mean | t | df | Sig. (2-tailed) | Mean Difference | Lower | Upper |
| SQ\_8\_1\_1 | 133 | 3.33 | 1.229 | 0.107 | 3.104 | 132 | 0.002 | 0.331 | 0.12 | 0.54 |
| SQ\_8\_1\_2 | 133 | 2.76 | 1.462 | 0.127 | -1.897 | 132 | 0.060 | -0.241 | -0.49 | 0.01 |
| SQ\_8\_1\_3 | 133 | 4.05 | 1.154 | 0.100 | 10.446 | 132 | 0.000 | 1.045 | 0.85 | 1.24 |
| SQ\_8\_1\_4 | 133 | 3.73 | 1.404 | 0.122 | 5.990 | 132 | 0.000 | 0.729 | 0.49 | 0.97 |
| SQ\_8\_1\_5 | 133 | 3.11 | 1.755 | 0.152 | 0.692 | 132 | 0.490 | 0.105 | -0.20 | 0.41 |
| SQ\_8\_1\_6 | 133 | 3.40 | 1.651 | 0.143 | 2.783 | 132 | 0.006 | 0.398 | 0.12 | 0.68 |
| EQ\_8\_2\_1 | 133 | 3.14 | 1.606 | 0.139 | 1.026 | 132 | 0.307 | 0.143 | -0.13 | 0.42 |
| EQ\_8\_2\_2 | 133 | 1.83 | 1.286 | 0.112 | -10.450 | 132 | 0.000 | -1.165 | -1.39 | -0.94 |
| EQ\_8\_2\_3 | 133 | 3.73 | 1.393 | 0.121 | 6.037 | 132 | 0.000 | 0.729 | 0.49 | 0.97 |
| EQ\_8\_2\_4 | 133 | 2.83 | 1.548 | 0.134 | -1.232 | 132 | 0.220 | -0.165 | -0.43 | 0.10 |
| EQ\_8\_2\_5 | 133 | 2.93 | 1.587 | 0.138 | -0.492 | 132 | 0.624 | -0.068 | -0.34 | 0.20 |
| EQ\_8\_2\_6 | 133 | 3.94 | 1.380 | 0.120 | 7.852 | 132 | 0.000 | 0.940 | 0.70 | 1.18 |
| EQ\_8\_2\_7 | 133 | 2.43 | 1.410 | 0.122 | -4.673 | 132 | 0.000 | -0.571 | -0.81 | -0.33 |
| RQ\_8.3.1 | 133 | 3.34 | 1.642 | 0.142 | 2.377 | 132 | 0.019 | 0.338 | 0.06 | 0.62 |
| RQ\_8.3.1 | 133 | 3.41 | 1.523 | 0.132 | 3.131 | 132 | 0.002 | 0.414 | 0.15 | 0.67 |
| RQ\_8.3.1 | 133 | 3.21 | 1.387 | 0.120 | 1.750 | 132 | 0.082 | 0.211 | -0.03 | 0.45 |
| RQ\_8.3.1 | 133 | 2.95 | 1.440 | 0.125 | -0.361 | 132 | 0.718 | -0.045 | -0.29 | 0.20 |
| RCQ\_8\_4\_1 | 133 | 3.55 | 1.373 | 0.119 | 4.609 | 132 | 0.000 | 0.549 | 0.31 | 0.78 |
| RCQ\_8\_4\_2 | 133 | 3.72 | 1.157 | 0.100 | 7.195 | 132 | 0.000 | 0.722 | 0.52 | 0.92 |

Table 8.Assesemnt of Quality Features

# Customer Satisfaction on Digital were moderately satisfied banking Services

The satisfaction level of customers on Digital banking services was evaluated with one-sample t-test, as presented in the following table. Regarding the satisfaction on ATM service, four statements were presented to customers, and the satisfaction levels ranges from M= 3.38 to M=3.68. In case of statement #4, customers; within the 95% CI ranges 2.70-3.10. Whereas, customers have above moderate level agreement for the rest of the statements and the respective 95% CIs ranged above the moderate level agreement, i.e 3.0. Overall, customers had scored M=3.48 regarding their satisfaction on ATM service. This level of agreement was found above moderate level agreement and the 95% CI of ATM service satisfaction was in the range 3.19-4.12. This level of satisfaction, which was made by the majority of the respondents, looks good but suggests the need for improvement.

Among all the respondents, only 35 of them were found to have used POS service. They made evaluation on their satisfaction with this service. The customers‟ satisfaction on POS service was M=3.30 on average within the 95% CI of 3.63-4.08. Despite of customer number this indicated that customers were highly satisfied in the POS services available to them.

Regarding the Internet banking Service, which was used by only 15 of the respondents, three statements were used to assess the customers‟ satisfaction. The average agreement to statement #2 was the least, M=2.7, that fall within the 95% CI 1.88-3.52. The interval indicated the disagreement to the statement by the majority of the respondents, but within the range for moderate level agreement. The average rating for statement #1 and #3 were also fall within the moderate level agreement; which is justified by the respective CIs that included the moderate level agreement. The overall agreement to the internet banking service, rated by 14 respondents were M=3.33, which is statistically indifferent to the moderate level and estimated within the 95% CI of 2.97-3.93.

Regarding the Mobile banking Service, which was used by only 60 of the respondents, four statements were used to assess the customers‟ satisfaction. The satisfaction on Mobile banking service specific to statement #4, M=2.83, was statistically indifferent to the moderate level agreement in the 95% CI of 2.56-3.11. Whereas, customers expressed their high level agreement to the rest three statements. The overall customers satisfaction on Mobile banking was computed M=3.83, which range 3.64 -4.02 in the 95%CI

The customers‟ overall satisfaction in e-banking services was computed to an average level of M=3.62 that falls above moderate level and within the 95% CI 3.51-3.73. This is a considerably high level of satisfaction, which still needs work from the bankers to raise the satisfaction of their customers

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| One-Sample Statistics | | | | | **One-Sample Test** | | | | | |
| Test Value = 3 | | | 95% Confidence Interval of the Difference | | |
|
|
|  | N | Mean | Std. Deviation | Std. Error Mean | t | df | Sig. (2-tailed) | Mean Difference | Lower | Upper |
| Q\_9\_1\_1 | 133 | 3.68 | 1.234 | 0.107 | 6.323 | 132 | 0.000 | 0.677 | 0.46 | 0.89 |
| Q\_9\_1\_2 | 133 | 3.53 | 1.240 | 0.108 | 4.963 | 132 | 0.000 | 0.534 | 0.32 | 0.75 |
| Q\_9\_1\_3 | 133 | 3.38 | 1.380 | 0.120 | 3.204 | 132 | 0.002 | 0.383 | 0.15 | 0.62 |
| Q\_9\_1\_4 | 133 | 3.59 | 1.268 | 0.110 | 5.404 | 132 | 0.000 | 0.594 | 0.38 | 0.81 |
| Q\_9\_2\_1 | 133 | 4.12 | 0.921 | 0.080 | 14.021 | 132 | 0.000 | 1.120 | 0.96 | 1.28 |
| Q\_9\_2\_1 | 133 | 3.19 | 1.410 | 0.122 | 1.538 | 132 | 0.126 | 0.188 | -0.05 | 0.43 |
| Q\_9\_3\_1 | 133 | 3.30 | 1.472 | 0.128 | 2.356 | 132 | 0.020 | 0.301 | 0.05 | 0.55 |
| Q\_9\_3\_2 | 133 | 4.25 | 0.865 | 0.075 | 16.637 | 132 | 0.000 | 1.248 | 1.10 | 1.40 |
| Q\_9\_3\_3 | 133 | 4.12 | 1.094 | 0.095 | 11.806 | 132 | 0.000 | 1.120 | 0.93 | 1.31 |
| Q\_9\_4\_1 | 133 | 3.28 | 1.448 | 0.126 | 2.216 | 132 | 0.028 | 0.278 | 0.03 | 0.53 |
| Q\_9\_4\_2 | 133 | 4.01 | 1.026 | 0.089 | 11.323 | 132 | 0.000 | 1.008 | 0.83 | 1.18 |
| Q\_9\_4\_3 | 133 | 3.49 | 1.295 | 0.112 | 4.354 | 132 | 0.000 | 0.489 | 0.27 | 0.71 |
| Q\_9\_4\_4 | 133 | 3.70 | 1.343 | 0.116 | 6.006 | 132 | 0.000 | 0.699 | 0.47 | 0.93 |

## Relationships between E-banking Service Quality and Customer Satisfaction

We have discussed the attributes of the service quality in e-banking and the satisfaction of customers in these Digital banking services. One of the purposes of this study was to investigate the relationship of service quality and customer satisfaction. These relationships were examined using Pearson moment correlation analyses.

The table below presented the correlation analysis results. The security attribute in e-banking was only significantly correlated with the satisfaction level of customers in ATM P0S,Internet, Mobile service. This relationship is weak and direct and estimated with correlation value, r=0.666,r=0.343,and r=0.424. The Efficiency feature, however, was not significantly correlated with the other three services and overall customer satisfaction. Whereas the availability feature in Digital banking services was found not significantly correlated with the satisfaction of customer to any of the Digital banking services.

The ease of use in the Digital Banking service was found to have significantly correlated to ATM service and POS service satisfaction with respective correlations estimated r=0.270 and r=0.440.these relationship ,however were not strong as the ease of use features in digital banking can only determine 7.29%and 19.36% of the satisfaction ATM and POS service, respectively. The ease of use feature also found to have significantbut weak correlation, r=0.307 with customers overall satisfaction in digital banking services.The result indicated that r2=0.0942=9.42

The reliability in Digital banking services had significantly correlated to the satisfaction on ATM, POS, and Mobile banking, but not to the satisfaction on Internet banking service. The satisfaction on ATM, POS and Mobile banking services and the reliability of e-banking services were correlated significantly and directly estimated at respective values of r=0.343, r=0.306, and r=0.226.

Whereas, the responsiveness feature were only related with the satisfaction on ATM POS,AND Mobile banking service expressed with the correlation value r=0.424,r=0.460 and r=0.226

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Correlations** | | | | | |
|  | | SecuritY | Efficency | Reliability | Responsivness |
|  |  |  |
| Security | Pearson Correlation | 1 | .666\*\* | .343\*\* | .424\*\* |
| Sig. (2-tailed) |  | 0.000 | 0.000 | 0.000 |
| N | 133 | 133 | 133 | 133 |
| Efficency | Pearson Correlation | .666\*\* | 1 | .306\*\* | .460\*\* |
| Sig. (2-tailed) | 0.000 |  | 0.000 | 0.000 |
| N | 133 | 133 | 133 | 133 |
| Reliability | Pearson Correlation | .343\*\* | .306\*\* | 1 | .226\*\* |
| Sig. (2-tailed) | 0.000 | 0.000 |  | 0.009 |
| N | 133 | 133 | 133 | 133 |
| Responsiveness | Pearson Correlation | .424\*\* | .460\*\* | .226\*\* | 1 |
| Sig. (2-tailed) | 0.000 | 0.000 | 0.009 |  |
| N | 133 | 133 | 133 | 133 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | | | |

Table 9.

# CHAPTER FIVE

## 5.1 Summery, Conclusion and Recommendations

# Conclusion

Most of the customers of branch banking users were also using the ATM service. Nearly half of the customers are also using mobile Digital banking service. Only about 2/7th of the respondents were POS service users; while only more than half users are registered for internet banking, and respondents of Agent banking also registered. This indicated that the Digital banking services .Even mobile banking required an attention that only nearly half the respondent are using the services. Users prefer the Digital banking service mostly because of the time-saving and ease of use features.

The majority of the customers are still visiting the banks for branch services; while they have Digital banking service alternatives. They had visited the bank several times. This concludes that majority of users were not fully using Digital banking services or they are not satisfied with current technology or they were demanding other services not available as Digital banking solution; i.e. most of them didn’t use all the available Digital banking services. The ATM service was also visited frequently by the majority of customers. They are relatively active than the other Digital banking services. Irrespective of the small number of customers, those using mobile banking, POS banking, Internet banking and Agent Banking also habited using the services frequently.

The Digital banking services exhibited several problems that may hinder the services rendered to customers. The ATM service was found to have out of service problems most frequently that forced the customers to move from place to place finding ATM with system. Also customers sometimes face the machine out of cash; this indicated that the ATM was short of liquidity. The ATM was also not free from Non printing of statement and failure of confirmation of amount deduction from customers balance. Reduction in balance without cash payment problems was a big issue of the ATM machine. The problems in POS service were transaction decline, and decline of confirmation message’s though they were happening in rare instance. The main problem in the internet banking service was leaving the customer with unfinished transactions. Customers were also experienced waiting

Long time for the internet system. Hence the internet time lacked the quality of time saving and payment failure that most customers demanded to use e-services. The major problem that customers experienced on mobile banking was the lengthy steps in processing transactions.

The security of Digital banking service was one of the most acknowledged qualities in the Digital banking services provided by the bank. That is Digital banking services were found secured adequately; that customers have little or no doubt about the security features. The availability of Digital banking services, however, was agreed to the moderate level. This indicated that the Digital banks were not adequately available as the customer demanded/expected. Similarly, the responsiveness feature was not up to high level as the customers wanted.

The satisfaction level of customers on ATM service was rated to the moderately high level; while the service was not found satisfactory in some of the expected facilities. Overall, customers were satisfied by the ATM service that the bank had to ensure a much better satisfaction from its customers.

Despite the number of customers, satisfaction on POS services was high; that the bank may guarantee to attract more customers to use this service. Similarly, the Internet banking Service, which was used by very small proportion of customers, was moderately satisfactory to the customers using the service. This as mentioned earlier was due the time-taking using the system and the interruptions encountered without completing transactions. The overall customers‟ satisfaction on Mobile banking was adequately high; that could be improved by reducing the problems stated in this specific Digital banking service.

* 1. **Recommendations**

The findings of this study are believed to have some recommendations for practice. The implication might show areas of intervention to improve the most wanted quality Digital banking service in Commercial Bank of Ethiopia. As we think of improving the quality of Digital banking service and customer satisfaction in Ethiopia. Thus, we need to look in to the recommendations involved. Accordingly, the following recommendations are made on the basis of the research findings and the conclusion.

**Recommendations forwarded to National Bank of Ethiopia**

* + - Digital banking systems, such as Card Banking, Mobile Banking and Internet Banking in Commercial bank of Ethiopian is at an infant stage. This is therefore, NBE and Management of the commercial bank of the financial sector need to improve those services and able to bring the most wanted customers satisfaction.
    - Digital Banking services are moderately affected by suffered the low level of technology, poor infrastructure and lack of implementing legal frame work of NBE. The consequence of these barriers has an effect on the quality of services that Commercial bank of Ethiopia is serving its customers. Thus, NBE and key stakeholders of the banking system should establish a system that improves the quality of the Digital banking and minimize the challenges observed in the Digital banking services.
    - As indicated in the finding of the study, Customers have shown their level of dissatisfaction or indifferences with some aspects of Digital quality dimensions while on the other hand banks have performed relatively better on some issues. Thus, it is possible to suggest that serious of measure has to be taken on the ICT and the bank update the software.
    - The National Bank of Ethiopia as the regulatory body of the financial sectors of the country together with the Commercial Bank of Ethiopia Management and Board has to enforce he bank to update and modernize their technology so as to satisfy the end users of the Digital banking.

**Recommendations forwarded to the Government**

* + - * Even if The government of Ethiopia has to liberalize the telecom industry,still not the satisfactory this is therefore it must invite better network providing companies to enhance efficiency and competitive within the sector. Banks have to choose network providing companies than sharing a single among them. The country has to learn a practical from neighbor Kenya that there are a number of network providers companies like Acces Kenya Group, Adcare Limited, Airtel Kenya Ltd, Bandwidth and Cloud Service (BCS) Group, Orange Kenya are few among many.
      * The government has to encourage employees and users of Digital banking services by paying salaries, benefits and remuneration through these novel products.
      * Improve infrastructure to minimize the frequency of network failure and power interruption.

**Recommendations forwarded to the Bank**

* + - As long as quality Digita banking is concerned the Commercial Bank Ethiopian should take the initiative and improve the service by employing the following key issues need to be implemented in the banking sector.
      * Sporadically obtain feedback on taking complaints and suggestions of the customers in order to improve the service and increase customer satisfaction.
      * Periodically control of the ATM network and power supplies and provide it with sufficient amount of cash.
      * Update the software on a regular base in order to avoid interruptions of services.
      * Maintain and clean the machines.
      * Develop the habit of working cooperatively and
      * Encourage customers using e-banking by reward and tariff discount.
      * One way of addressing this could be by designing strategies of staff training and development to build the knowledge and courtesy of employees and their ability to inspire trust and confidence for customers. This is to say, the bank management should focus on this factor to maximize customer satisfaction. Furthermore, responsiveness dimension was considered as one of the most important factors influencing customer satisfaction. The finding of the

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