**BINDURA UNIVERSITY OF SCIENCE EDUCATION**

**FACULTY OF COMMERCE**

**DEPARTMENT OF BANKING AND FINANCE**

# FINANCIAL TECHNOLOGY IMPLEMENTATION CHALLENGES IN THE BANKING SECTOR. A CASE STUDY OF CBZ.

**B1953626**

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR BACHELOR OF BUSINESS STUDIES (HONOURS) DEGREE IN BANKING AND FINANCE OF BINDURA UNIVERSITY OF SCIENCE EDUCATION FACULTY OF COMMERCE.**

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The undersigned certifies that they have supervised, read, and recommended to the Bindura University of Science Education for acceptance a research project entitled: Financial technology implementation challenges in the banking sector. A case study of CBZ bank submitted in partial fulfilment of the requirements of the Bachelor of Business Studies honors degree in Banking and Finance.

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## DECLARATION FORM

I Godknows Mugoniwa declare that the research project herein is my work and has not been copied or lifted from any source without the acknowledgment of the source.

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## DEDICATION

To the Lord Jesus Christ who was with me through thick and thin throughout the research work. For all the effort that she put in ensuring that I continued with my studies, I also dedicate this work to my mother: Cecelia Gunde, my sister: Beatrice Mapunga, and my father: Milton Mugoniwa.

## ABSTRACT

This study focused on the assessment of financial technology implementation challenges in the banking sector using a case study of the Commercial Bank of Zimbabwe. The objectives of this research were; to assess the financial technology implementation challenges in the banking sector, to assess the technological advancements in the banking sector, to clarify the roles of financial technologies in the banking sector, to recommend strategies to improve the use of financial technologies, to explore the benefits of financial technology implementation to the customers. The study used a descriptive research design and 80 respondents were selected using systematic random sampling. Data was collected by the use of questionnaires interviews and service reports. With the use of tables and graphs, the collected data were presented for analysis. Findings showed that technological advancement is of prime importance in the service delivery of retail banks as technologies ease the operations resulting in efficient and effective service delivery. The study concludes that the financial technology implementation challenges faced were legal and security issues, lack of mobile and technology expertise, internet connection problems, fear of change, and lack of resources.

The study recommends that banks should continually train their employees who will, in turn, pass the knowledge to their customers, therefore dealing with the issues of illiteracy, negative reception, and lack of customer awareness. Banks should also collaborate with internet service providers to gain high-quality internet infrastructure to enable the banks to offer better quality services and at the same time enhance internet accessibility.

## ACKNOWLEDGEMENTS

It is often said that “no man is an island unto himself” and hence this major undertaking and compilation of this research project could have never been a success without reference to the work, contribution, encouragement, and support of many individuals and organizations which I hereby acknowledge my indebtedness to them all.

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Point of sale-POS

Electronic funds transfer-EFT

Commercial Bank of Zimbabwe-CBZ

# CHAPTER ONE

# INTRODUCTION

## 1.0 Introduction

This study highlights the assessment of financial technology implementation challenges in the banking sector. This chapter includes background to the study, objectives, statement of the problem, research questions, the scope of the study, the significance of the study, organization of the study, and limitations of the study.

## 1.1 Background of the study

Approximately 89% of the world's banks face liquidity risk and volatility of bank fund sources due to financial technology advancement (The World Bank, 2017). The use of new technology and aggregators creates opportunities for customers to automatically change between savings accounts or mutual funds to obtain a better return. While this can increase efficiency, it can also affect customer loyalty and increase the volatility of deposits. This in turn could lead to higher liquidity risk for banks (Hinke, 2018)

In Europe, the use of financial technology increased by 72% in 2020, accompanied by massive financial technology investments (World Bank Report, 2021). New security worries are the largest of the unforeseen outcomes that might accompany such an upgrade. Every 39 seconds, a new cyberattack occurs, indicating that the crime is on the rise. And unfortunately, financial technology companies are one of the hackers' most common targets. It should not come as a surprise to people rely on managing digital money increasingly more often, so financial technology companies now have more valuable data to protect than ever before.

According to a Gallup, Inc (2012), survey of 11 countries in Sub-Saharan Africa, about 80% of adults make bill payments or remittances with cash. According, to August World Bank Report (2014), it was found that due to the lack of digital-payment penetration in Africa, governments, consumers, and financial providers in Sub-Saharan Africa are still facing the high cost of cash payments costs associated with manual acceptance, record keeping, counting, storage, security, and transportation.

The adoption and use of electronic payment systems in Africa will greatly benefit the continent; however, these systems will face a high risk of security breaches through cyber-attacks according to Jones (2015). Electronic payment systems rely on reliable and secure information and communication technology (ICT) networks and internet infrastructure to process and transfer payments. Unfortunately, Africa's ICT networks and Internet infrastructure are poorly protected against cyber-attacks and fraud, and the continent is fast becoming a safe harbor for launching cyber-attacks. Recent Microsoft studies have found that Africa has the highest rate of malware-infected computer systems compared to any other region in the world, and it is estimated that about 80% of personal computers on the continent are attacked with viruses and other malicious software. Further, African countries rank among the highest in the world in cybercrime activities with at least 4 African countries; Cameroun, Ghana, Nigeria, and South Africa (Mukundwa, 2015). Over the last few years, Africa's financial institutions have faced several cybercrimes. A survey by Deloitte estimated that 60% of banks in East Africa are susceptible to security threats because of low information technology budgets; for example, Kenya's Central Bank estimates that its local banks country-wide lose $2.8 million to fraud annually. In South Africa, hackers stole $6.7 million in January 2019 from Postbank over 3 days. Further, a 2013 study by the International Data Group predicts that each year cybercrimes cost South Africa $573 million, Nigeria $200 million, and Kenya $36 million (Fressy, 2019).

The Global System for Mobile Communications (GSMA) industry report for 2021 shows that the number of registered mobile money accounts grew by 12.7% globally in 2021. Whilst in Zimbabwe the number of accounts fell by 21% during the same period. Despite the rapid uptake of digital payments, cash continues to dominate the majority of transactions in Zimbabwe, for example, the National Merchant Bank of Zimbabwe reported that around 85% of transactions in

Zimbabwe were cash-based until recently. Additionally, many companies still pay their employees in cash, and fewer businesses accept digital payments than customers might hope.

New and cashless payment methods are often understandably met with a certain amount of suspicion and hesitancy in Zimbabwe (Chinembiri, 2021). Even with the rapid uptake of digital payments in the wake of COVID-19, a lack of financial awareness and literacy makes it hard for citizens in Zimbabwe to trust financial technology start-ups as a replacement for banks and cash (Zimuto, 2021).

According to the Reserve Bank of Zimbabwe Report (2021), the biggest challenges facing financial technology companies in Zimbabwe are low digital literacy and internet penetration. The challenge for Zimbabwe start-ups is to change this paradigm for good. Digital and financial literacy are essential skills for the twenty-first century, and it will be necessary for Zimbabweans to learn them to survive, thrive, and ensure a secure financial future for themselves and their families (Chiriga, 2021). Therefore, Zimbabwe's financial technology start-ups have a responsibility to empower their customers through personal finance education (Tekere, 2020).

### 1.2 Problem statement

According, to World Bank Report (2014), it was found that due to the lack of digital-payment penetration in Africa, governments, consumers, and financial providers in Sub-Saharan Africa are still facing the high cost of cash payments, costs associated with manual acceptance, record keeping, storage, security, and transportation. The biggest challenges facing financial technology institutions in Zimbabwe are low digital literacy, compliance responsibility, data breaches through cyber-attacks, and low internet penetration according to the Global System for Financial Technology. This study aims at investigating the financial technologies adopted by the Commercial Bank of Zimbabwe and the challenges faced in the implementation.

### 1.3 Objective of the study

The main objective of this study is to assess the financial technology implementation challenges in the banking sector.

The specific objectives are

1. To assess the technological advancements in the banking sector.
2. To clarify the roles of financial technologies in the banking sector.
3. To determine the challenges faced in the implementation of new technologies.
4. To explore the benefits of financial technology implementation to the customers.
5. To recommend strategies to improve the use of financial technologies.

### 1.4 Research questions

1. Which technological advancements have been made in the banking sector?
2. What role does financial technology play in the banking sector?
3. What are the challenges faced in the implementation of new technologies?
4. What are the benefits of financial technology implementation to the customers?
5. What are the strategies that can be used to improve the use of financial technologies?

### 1.5 Significance of the study

This paper will be of value to a whole host of individuals both in academics, university, and future researchers. In practice, this research may be applied to various organizations not only the banking sector to solve problems relating to financial technology implementation. Below is a list of targeted groups of beneficiaries from this paper and the areas that the researcher believes may be of benefit to them.

#### 1.5.1 The researcher

The investigator values the study since it helps the author gain a healthier understanding of the subject matter. The study is also being done as part of a Bindura University of Science Education banking and finance degree program.

#### 1.5.2 The academicians

The academicians may use it for literature review while carrying out research in a similar area.

### 1.5.3 Bindura University of Science Education

The increasing amount of literature in the library will assist the university. Other students can utilize the text for scholarly purposes.

### 1.5.4 Financial institutions in Zimbabwe

Financial institutions in Zimbabwe may benefit from the research if solutions proposed by the researcher are adopted or put into use in their day to day running of their institutions. In the financial industry, customer satisfaction is a core idea and critical goal. This study looked into the function of financial technology in improving service delivery and bank revenue.

## 1.6 Assumptions of the study

This proposed research assumes the following:

- Commercial Bank of Zimbabwe has some financial technologies in place.
- Commercial Bank of Zimbabwe manpower will be able to utilize the technological advancements.
- Availability of electricity for powering the technological advancement gadgets will be reasonable.
- It is assumed that adequate financial resources are to meet all expenses incurred during conducting the study.
- The study was completed within a reasonable time.

## 1.7 Delimitation of the study

According to Kothari (2017), demarcations refer to the research study's limitations, which are determined by the investigator's choice of what to comprise or eliminate. The study's delimitations serve as guidelines for how the study was carried out. The study focused on the influence of financial technology implementation and the challenges of the Commercial Bank of Zimbabwe. The management board of the Commercial Bank of Zimbabwe is the target group. This study was only conducted at the Commercial Bank of Zimbabwe in Bindura, Chivhu, and Harare.

## 1.8 Limitations of the study

### 1.8.1 Time

Time was a limitation for the researcher since he was a full-time student pursuing a Banking and finance degree and during the period of the research, he was also taking his other modules. The researcher had to sacrifice some of his sleeping hours and made use of his free time to be able to research on time.

### 1.8.2 Access

The researcher faced some challenges in managing the access to carry out interviews with the local bankers since some of the executives that were interviewed might be reluctant to answer in-depth questions about their businesses due to several reasons which might include confidentiality reasons and work pressure. The researcher had to use the Bindura University of Science Education student ID as well as book appointments with the respondents so that any suspicion is eliminated.

### 1.8.3 Finance

The researcher faced financial constraints in financing the process of the research since finances were needed for purchasing data bundles to use to access the internet since the greater part of the research was done at home. The researcher made a great effort to use free university Wi-Fi for communication purposes.

## 1.9 Definition of key terms

**Fin-tech**- the technology and innovation that aims to compete with traditional financial methods in the delivery of financial services (Adobe, 2014).

**Infrastructure**-the set of fundamental facilities and systems serving a country, city, or another area, including the services and facilities necessary for its economy to function (Varga, 2017).

**Mobile banking**– A service that allows a mobile phone to be used for storing and transferring money, and, potentially, accessing other financial services (Orodho, 2017).

## 1.10 Chapter Summary

This chapter introduced the research topic, the study's background, the issue statement, research objectives, research questions, assumptions, and significance of the investigation, as well as the study's scope, delimitations, and definitions of key terms. These factors have an impact on the study's course. The problem statement also identified a knowledge gap and explained why the study was being conducted. The review of the literature will be the subject of the next chapter.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

This chapter focuses on the opinions, arguments, and review of literature on the topic under study. In addition, the chapter also seeks to unravel different ideas from different scholars on the financial technology implementation challenges of banks. Much research has been directed in these areas, and a thorough review of these works further indicates the need to carry out a study on the Commercial Bank of Zimbabwe to shed light on the financial technology adopted and its challenges.

## 2.1 Definition of financial technology

Financial technology represents the marriage or combines finance and information technology (Minerva, 2016; Gomber et al., 2017; Prawirasasra, 2018). Varga (2017) argues that financial technology services refer to companies that develop financial services and products by relying on the use of information technology that is far more intense. However, the term financial technology is in the spotlight of public debate in the fields of business and is ambiguous for most people. Several large institutions have made definitions related to financial technology. The board of the International Organization of Securities Commissions (IOSCO) stated that the term financial technology is used to describe a variety of innovative business models and emerging technologies that have the potential to transform the financial services industry (IOSCO, 2017). Additionally, the World Economic Forum (WEF) noted that financial technology has the potential to change and innovate the business model of financial services as new entrants (WEF, 2015).

As a term, the financial technology company is a parasol that embodies the applications of information technology innovations, which contribute to submitting appropriate and innovative

financial solutions (Puschmann, 2017) to fulfill the needs to improve business processes, cutting costs, increase both effectiveness and flexibility, boost rapidity and develop the innovations (Dapp, et al., 2014). Financial technology could be seen as a service or as a company in general or a start-up in particular (Zavolokina, et al., 2016). Moreover, four studies (Shim & Shin, 2015; Lee & Teo, 2015; Lee & Kim, 2015; Arner, et al., 2015) confirmed that financial technology companies are a combination of financial and technology to provide a new type of financial services by using technology innovations, but Arner et al. (2015) considered financial technology as start-ups; some other studies proceed further by associating financial technology with digitalization on a global scale of the banking sector as Cuesta et al. (2015), while others linked it with digital innovation as Fichman, et al. (2014, p. 330).

According to Dorfleitner et al. (2016), the distinctive BMs of financial technology companies are divided into four major segments which are: financing, asset management, payment, and other financial technology such as insurance. While Al Ajlouni & Al-Hakin (2018) mentioned eight categories: insurance, payments, planning, lending, lending and crowdfunding, blockchain, trading and investments, data analytics, and security.
Financial technology can be broken down into several different areas within the banking sector:

**a) Asset Management**

Asset Management is simply the management of a client's investments by a financial services company like an investment bank. The bank or company will then invest on behalf of the client. Financial technology is having a serious impact in this sector with the UK being regarded as the world's largest fund management center in the world accounting for over 6.2trn of assets under management. (Shaul, David, UK Financial Technology Online, 2015) A great example of a company thriving within the Financial Technology world of Asset Management is Motif Investing. A company set up by two friends to make to allow investors to invest in great ideas at a low-cost solution. This is done through online readymade portfolios called motifs. Motif Investing recently won an award for being the most disruptive Financial Technology Company in the market recognized by Benzinga. (Market Watch Online, 2015)

**b) Bank Technology**

Another key trend that has banks and financial institutions baking and bolting with new financial technology innovation is Omni Channel solutions. BackBase is an excellent example omnichannel solution where the customer experience platform allows customers to create web portals and mobile applications. Their software allows companies that are extremely beneficial to financial institutions to manage customer service experiences. Adobe reports how today customers have more control over how and when they interact with their money. They can access their accounts and financial services through mobile phones, laptops, tablets, online, ATMs, and even through social media. According to a Federal Reserve Board study, American internet users have access to the following financial services during the course of a year:

a) 85% visited a bank branch
b) 74% used an ATM
c) 74% used online banking
d) 34% used telephone banking
e) 29% used mobile banking
f) 15% made a mobile payment

The report suggests that although financial institutions are becoming more effective in engaging with customers through apps, mobile technology, and online it acknowledges that social media is causing problems. Banks are having trouble understanding how to utilize social media effectively and efficiently, despite its advantage for clients (Adobe, 2014).

**c) Crowdfunding**

Crowdfunding is one of the most promising areas within the financial technology world (Adode, 2014). This is another innovative financial technology platform that involves raising capital, finance, or money from a large group of people primarily over the internet for ventures or projects. Etsy which is a marketplace where people can buy and sell unique products online has recently looked into crowdfunding. The Wall Street Journal reports how Etsy is to launch a crowdfunding program that will allow sellers to raise money on the website which will help fund the manufacturing of new products. Etsy product manager Joe Lallouz discusses how passionate the

company is about its sellers and they recognize that funds or finance are an issue for sellers. “A lot of sellers identified financing as a big hurdle to growth,” (Leslie, J Wall Street Journal, 2015) and two month pilot for its project launching due to a boom in crowdfunding.

**d) Cryptocurrency**

The origins of cryptocurrency started back in 2008 and were invented by Satoshi Nakamoto through an organization called Bitcoin according to Jones (2019). Bitcoin is a payment network using peer-to-peer technology which operates without any central banks. Bitcoin and cryptocurrency is a digital currency and this is issued by the network. When we look at how the federal reserve system where governments can control currency through printing money however; they cannot control cryptocurrency as this is decentralized. The downside to Bitcoin or cryptocurrency is that although it is not issued by banks nor is it guaranteed by banks. Reveal a new start-up in cryptocurrency similar to Bitcoin (Wallace, Benjamin 2011, Wired Online).

**e) Information Portal**

Enterprise Information Portal (EIG) is another area that can affect the financial technology world. EIG is a framework bringing together information, people, and processes throughout organizational boundaries similar to that of a web portal. Its access to a company's information, the knowledge base of employees and customers, business partners, etc. Quora online reports in their article how “ Big Data has created deep demand for analytics and visualization software in the finance industry as well as increased access to financial information for consumers. Online platforms allow for collaboration and crowd-sourced analyses in real-time. “(Werneck, Bruno Quora Online, 2015) VC Experts provide valuable and powerful information on the financing of private companies and fundraising. “VC Experts has become an indispensable resource for entrepreneurs, investors, lawyers, and various services provides in the venture capital and private equity industries.” (ACE, NYSE Online, 2015)

**f) Investment Management**

Investment management is another key trend in financial technology, which involves buying and selling of investments within a portfolio. Banking, budgeting, and taxes can come under Investment Banking however; it usually consists of portfolio management. Forbes online discusses how Investment management is where people who are investing in a large number of accounts at work, that investment management take the form of mutual funds. Mutual funds are run by money managers who invest these funds to receive capital gains for these investors. These mutual funds are directed by lead investment managers toward stocks and bonds that make up the funds. (Forbes Online, 2013) There has been a reduction in administration fees as well as product fees and customers are reaping the benefits along with more open professional advice. The development of new products within investment management such as crowd-sourced ETFs.

**g) Machine Intelligence**

Artificial Intelligence is having a significant impact on the financial services industry. Jon Kay discusses on the Harrington Star how start-up organizations in the financial technology sector are using artificial intelligence to create and develop software solutions to structure data and create a machine learning system. This innovative software will enable a system to act without being directed or asked to do it. The author discusses how large investment banks are taking AI technology to develop systems on a mobile platform to create a more interactive customer experience and to prevent mistakes by staff or consumers themselves (Kay, Jon, Harrington Starr Online, 2014). Sentifi.com have recently launched an AI-based Financial Technology service that identifies important events and issues to listed stocks worldwide. (Sentifi, Start-Up Ticker, 2015).

**h) Marketplace Lending**

Financial technology is having a grave impact on the lending side of the financial world (Sentifi, Start-Up Ticker, 2015). Marketplace lending which includes both peer-to-peer lending and social lending simply provides borrowers with lower rates on loans and investors with a higher source of fixed income. After the financial crisis of 2008, consumers have been searching for methods to receive loans at cheaper rates, and lenders have been looking for ways to make more money on their investment. Banks have been dealing with the high regulation that exists in the financial

services sector and this has opened doors for peer-to-peer lending. The process involves an online platform that offers borrowers easy and efficient access to lenders. Peer to Peer lending in the U.S. generated $6.6 Billion last year up 128%. Europe, and the UK in particular, have experienced tremendous growth, increase by 144% to € 3 billion (Bakker, Evan 2015, UK Business Insider).

**i) Money Management**

Money management is vital to us all both on a personal level and a business level. Managing our expense reports in our own lives and in a business manner is vital to staying afloat. Money Management firms offer smarter innovative ways of spending and some insight recommendations. Companies like Abacus or Concur are unique online financial technology methods of paying expenses on the go. Even applications for your smart devices are accessible for these online expense platforms. Employees may upload costs using the platforms, and supervisors have easy access to approve them. These can be automatically put into your bank account after they have been authorized.

**j) Payments**

Payment companies have also undertaken dramatic changes from the evolution of financial technology. The organizations involved are always looking for new innovative ways to make the process simpler from the transfer of an item of value from one party to another. One such new financial technology start-up excelling in this sector is the Irish company Stripe. Stripe is a unique online payment platform allowing which allows sellers or people to accept payments online through applications. They have been classified as the new PayPal which already offers this service. The new innovative firm was set up by four limerick brothers and is now valued at a staggering $3.5 Billion. The company has been touted as a firm rival to PayPal (Newenham, Pamela, Irish Times Online, 2014)

**k) Private Markets**

Towers Watson in their paper “Investing in Private Markets” describes private markets as an umbrella term containing a variety of illiquid investments. In other words, investments that cannot be sold at short notice and as a result of this require a more long-term approach with patient capital. (Towers Watson, 2012) Private markets are often referred to as private equity secondary markets. This area of financial technology has also seen advancements due to the vast amount of information available from advisory services and private companies. DueDil has recently become Britain's largest source of information about private companies according to Euro Money online. (Lee, Peter Euro Money Online, 2015) EquityZen is another company in the financial technology world of private markets which connects shareholders of private companies with investors seeking alternative investment.

**l) Real Estate**

Online Real Estate is extremely similar to crowdfunding in that it looks to connect investors with real estate development projects. Planwise is a company that diversified into the real estate online financial technology industry spotting a gap in the market by offering its listing platform for free. This allowed it to challenge the big players already in the market such as Zillow and Trulia. (Pozin, Illya Forbes Online, 2014) Crowdstreet a company start-up in 2012 designed to connect investors with real estate sponsors similar to a crowdfunding organization is growing in the market. CB insights’ CEO and co-founder Anand Sanwal talks about how financial technology businesses on the lending side will start to focus more on the real estate industry. According to Sanwal, some of these fintech start-ups that are primarily focused on lending may ultimately enter the mortgage business as they strive to become more comprehensive service providers. But since many are currently competing in the big loan markets, they could decide to concentrate first on their existing verticals before diversifying and exploring new markets (Swinderman, A. Inman Online, 2015)

**h) Trading**

This last section of financial technology is within the trading industry again seeing significant advancements. More open access to Wall Street's stock markets, investment ideas, and real estate. For example companies such as StockTwits are online organizations offering a financial

connection between investors & traders, similar to a social media site. The organization offers several platforms providing information on stocks and markets across the web and social media. Financial Technology Exchange is a new event in association with FinTex Chicago that was organized to communicate the latest in financial technology for financial markets and trading firms. The event will illustrate the different available trading software, analytics, market data, and cloud computing.

### 2.2 Challenges of financial technology implementation

Literature was reviewed to determine the challenges faced by banks in implementing financial technology and these include:

1. Customers' Exposure and Literacy to financial technology.
2. Legal issues.
3. Infrastructure barriers.
4. Technological risk.

#### 2.2.1 Customers' Exposure and Literacy to financial technology

Perhaps one of the greatest challenges to the adoption of Internet banking is the cultural reluctance to interface with businesses electronically reducing customers' exposure to information technology. Such challenges remain major obstacles, limiting the potential benefits of Internet banking to both the banks and the consumers (Kuisma, Laukkanen & Hiltunen, 2007). Several pieces of research have established that level of education has a very large impact on the acceptance of internet banking, as the education level improves the possibility of adopting online services increases. Low level of education and literacy is therefore identified as a very significant barrier to the diffusion of internet banking services (Yuan et al, 2010).

#### 2.2.2 Legal Issues

Legal risk arises from non-compliance with, violation of, or non-conformance with laws, rules, regulations, or prescribed practices, or when the legal rights and obligations of parties to a transaction are not well established Mattila, et al., (2003). Uncertainty about the validity of some

agreements formed through electronic media and law regarding customer disclosures and privacy protection leads to legal risks in internet banking. Customers who have inadequate information about their rights and obligations may not take precautions when using online banking services. This leads to unwanted suits against the bank or other regulatory sanctions and disputed transactions (Akoh, 2001).

### 2.2.3 Infrastructural Barriers

According to Chiemeke (2006), it is hypothesized that many of the factors affecting the successful adoption of new technologies such as e-banking are generic and that the successful adoption of Internet technologies in part depends on how these are used in conjunction with the other technologies and management practices that form a 'technology cluster'. However, the most critical barrier can be ascribed to the very limited information and communication infrastructure available in most countries, especially in Africa (Abor, 2005)

Gerrard & Cunningham, (2003) investigated and concluded that consumers shy away from using Internet banking due to the poor infrastructure of the online banking system. Infrastructure barriers faced by the bank include cost expenses associated with purchasing equipment and networking, creation and maintenance of software and re-organization

### 2.2.4 Technological Risks

Technology risks are the risks that are associated with systems failures, processing errors, software defects, operating mistakes, hardware breakdowns, capacity inadequacies, network vulnerabilities, control weaknesses, security shortcomings, malicious attacks, hacking incidents, fraudulent actions, and inadequate recovery capabilities (Chiatura et al., 2008). Information technology developments affect the risk profile of banks. Some banking risks are heightened whereas others are reduced. Operational, legal, and strategic risks deserve particular attention. Internet increasingly puts investors at risk through exposure to cybercrime, miss-selling, and direct marketing of unregulated financial services and frauds. Operational risk can increase with

technological developments to the extent that banks do not upgrade their systems of internal control to cope with the new operational environment (Giglio, 2002).

### 2.3 Role of financial technology in the banking sector

Technology plays a significant role in enhancing the success of retail banking in today's competitive world. Literature suggests that financial technology plays the following roles.

- Cost reduction.
- Survival and growth.
- Flexibility.
- Improves service delivery.
- Encourages innovation.

#### 2.3.1 Cost reduction

Technology is seen as a cost-cutting tool and a means of effective communication with those involved in the banking industry Rapp (2000). Rangarajan (2011) postulated that technology provides the scope for affordable financial inclusion for those in rural areas. A small percentage of the total rural households have access to institutional banking facilities. One of the biggest challenges, therefore, relates to the extension of the coverage of banking services to the remotest parts of our country and the most vulnerable sections. Technology provides the scope for providing services to those in the remote parts. Prahalad (2012) concurs with Rangarajan (2011) who asserted that financial inclusion is a major role in IT in retail banking. He defines it as the delivery of banking services at an affordable cost to the vast underprivileged and low-income groups. He continues to explain that technology is the key to providing low-cost financial services in rural areas. It helps reduce transaction costs and time taken by banks. Issues of outreach and credit delivery in rural areas are addressed cost-effectively, for example through the use of weekly banking, mobile banking, satellite offices, rural ATMs, and use of Post offices.

#### 2.3.2 Survival and growth

Because the banking environment has become highly competitive today, technology has a role of enabling banks to survive and grow in the changing market environment where banks are going for the latest technologies and is being perceived as an 'enabling resource' that helps in developing learner and more flexible structures that respond quickly to the dynamics of a fast-changing market scenario, (Rapp, 2000). Plus et al (2002) explained their view on growth that IT is increasing the value of banks over time. It does so by maximizing banks' proactive measures such as strengthening and standardizing banks' infrastructure in respect of security, communication, networking, achieving inter-branch connectivity, and moving towards real-time gross settlements. The growth experienced by the banks in the banking sector has come from technological progress. This is one of the main roles of technology. Jessup et al (2003) also asserted that IT has enabled the sophisticated development of banking products, aiding financial intermediaries, and improving market infrastructures

### 2.3.3 Improves service delivery

Technology has continuously played an important role in the working of banking institutions and in improving service delivery. This service delivery pertains to an improvement in all the operations the bank is involved in.

### 2.3.4 Enables innovation

Information Technology enables sophisticated product development, better market infrastructure, and implementation of reliable techniques for the control of risks, and helps financial intermediaries to reach geographically distant and diversified markets. The Internet has significantly influenced the delivery channels of banks (Agboola et al, 2004). The Internet has emerged as an important medium for the delivery of banking products and services.

### 2.3.5 Flexibility

Ghaziri (1998) explained that customers can view the accounts, get account statements, transfer funds, and purchase drafts by just punching in a few keys. The smart cards that are cards with

microprocessor chips have added a new dimension to the scenario. The collection of electricity bills and telephone bills has become easy. The upgradeability and flexibility of technology offer unprecedented opportunities for banks to reach out to their customers.

### 2.4 Challenges faced in the implementation of new technologies

Literature was reviewed to determine the challenges faced by banks in adopting technology.

1. Security and privacy concerns.
2. Fear of the unknown.
    1. Lack of internal expertise and resources.
    2. Speed of connections.

#### 2.4.1 Security and privacy concerns

Barney (2000) postulated that technology such as the internet, is not a particularly secure environment, as information is widely available on the internet and can be accessed and used for criminal activities. The conventional risks of unauthorized access, identity theft, or network attacks have been made worse by contemporary threats including phishing and pharming, spear phishing, carding and skimming, crime ware and spyware, money laundering, mules, scams and spams, (Chen, 2003). Lane et al (2004) also confirmed that security is a challenge when he asserts that companies as well as their customers are reluctant to purchase online because of the risk of credit card fraud.

This corroborates Holley (2012) who explains that identity confirmation and security concerns were identified to be some of the challenges faced when adopting technologies. Regulations require that financial institutions confirm each customer's identity, and may present a logistical issue as faxing and copying documents is necessary. Security concerns involve hacking of accounts and identity theft which are on the rise. Customers place their trust in the bank that their account and personal information are safe. Kapurubandara (2009) concurs with Holley (2012) in that most firms are faced with security challenges and, in particular, there will be a lack of security equipment to deal with theft as in the case of credit card identity. Customers need to be assured of their financial security to utilize the service of purchasing goods and services online.

According to Suresh et al (2012) the advent of high technology brought with it operational risks in the form of security risks. The safety of banks, the integrity of the country's payments, settlement systems, and the trust that customers impose in the safety of the system are all intertwined to ultimately contribute to financial stability. Technology has evolved into essential mass products whose quality can affect the customers' loyalty to and satisfaction with their bank. The risks also include viability and sustenance. In the case of internet banking, hackers have realized the immense potential of internet banking to give them ill-gotten monetary gains.

### 2.4.2 Fear of the unknown

According to Chen (2003), people are afraid of new things. They say the devil you know is better than the one you don't. They fear to change mostly having fear of the unknown. Customers are afraid to embrace new technologies, making it a challenge for banks to introduce new technologies.

### 2.4.3 Lack of expertise and resources

Teo and Tan (1998) also affirmed that a challenge in adopting technology is a lack of internal expertise. Organizations delay the adoption of innovation until they have acquired sufficient internal expertise. Kapurubandara (2009) supports the point and says that staff lacking in ICT skills is the most significant internal challenge to adopting technology within banks. He goes on to explain that lack of time to investigate appropriate technologies, financial resources, and awareness of suitable technology are also major challenges faced.

### 2.4.4 Speed of connections

Lane et al (2004) cited by Kebonye et al (2010) assert that the speed of Internet connections is also a major drawback in adopting IT. In developing countries, many online services for example on the internet are slow. Many businesses suffer due to slowness and frequent disconnections.

## 2.5 Benefits of financial technology to the customer

The following were identified by the researcher to be the positive impacts of technology on the customer.

1. Saves time and cost
2. Increased accessibility
3. Widened customer choice
4. Convenience
5. Information availability

### 2.5.1 Time and cost saving

According to Clemons et al (2000) that the impact of IT on the financial services sector, has often been placed on direct cost-saving effects to the customers on transaction services. These potential cost savings are indeed significant and in the long term may lead to significant value creation. Nyberg et al (2002) concur with Clemons et al (2000) when he asserts that because of automation, costs become lower because of the lower service charges charged on IT-based transactions since some banks have the service free of bank charges. According to Francis (2011), it is explained that with automation, the cost of banking is reduced to the customer over some time. Technology-related facilities including ATMs, Telebanking, and Net-banking are used by customers to carry out their transactions. It saves time and costs for customers since they do not need to stand in queues for their banking activities, (Gupta and Das, 2011).

### 2.5.1 Increased accessibility

Installation of facilities like ATMs which offer non-stop cash withdrawal, remittances, and inquiry facilities enables accessibility to customers' accounts 24hrs, (Ghaziri, 1998). Nyberg et al (2000) add that the customers' most important benefits accrued from IT are increased accessibility to bank services since even during non-working hours, services will still be available. Nyberg et al (2002) concur with Gupta and Das (2011) in that through technology, customers do not need to queue for

their banking activities, but they can access the services at home be it during working hours or after.

### 2.5.2 Widened customer choice

According to McLennan (2000) because of IT, more communication and distribution channels are evolving, and more information is available to consumers. In other words, the customer's choice is widened since more players will exist in banking because barriers to new entrances to the sector are diminishing. Nyberg et al (2002) go on to explain that IT enables customers to have the choice of waiting in the queue or avoiding waiting to be helped by a teller.

### 2.5.3 Convenience

The assertion by Thompson (1996) is that through technology, services to customers are provided more flexibly, conveniently, and reliably with lower unit costs. Technology enables anywhere banking, which is wherever the customer is in the country they can access their accounts. Ghaziri (1998) views it as remote banking whereby remote terminals at the customer site are connected to the respective branch through a modem, enabling the customers to make inquiries regarding their accounts online anytime without having to move from their offices. Convenience acts as a tremendous psychological benefit all the time, (Francis, 2011). However, Leow (1999) contradicts this when he explains that not all technologies offer convenience, for example, telephone banking, does not offer the productivity generated from cash dispensing by ATMs which is productivity in the form of convenience that accrues in after-banking hours. This is so as with most technologies convenience is only offered during banking hours.

### 2.5.4 Information availability

According to Ghaziri (1998), since information is centralized and updates are available simultaneously at all places, updated information becomes available to customers wherever they will be and at any time in its real-time nature. McLennan (2000) explains that because of technology, more communication, and distribution channels are evolving, which enables more

information to be available to consumers. Francis (2011) adds on by asserting that advancement enables banks to store, retrieve and reassemble customer profile data much more efficiently, which in turn enables customers to have their information available whenever they feel they need it. However, Abor (2005) explains that these positive impacts only accrue to those customers who are technology literate. For those who are not, it will be as good as there will be no technology for them to use.

### 2.6 Strategies to improve the use of financial technologies

Literature was reviewed to determine the strategies used to improve financial technologies as follows.

1. Artificial intelligence
2. Blockchain
3. Cloud computing

#### 2.6.1 Artificial intelligence will drive massive value creation

McKinsey (2021) estimates that artificial intelligence (AI) can generate up to $1 trillion in additional value for the global banking industry annually. Banks and other financial institutions are tipped to adopt an AI-first mindset that will better prepare them to resist encroachment onto their territory by expanding technology firms.

#### 2.6.2 Blockchain will disrupt established financial protocols

Distributed Ledger Technology (DLT) allows the recording and sharing of data across multiple data stores, and for transactions and data to be recorded, shared, and synchronized across a distributed network of participants at the same time according to Jones (2017).

#### 2.6.3 Cloud computing will liberate financial services players

McKinsey's (2021) research shows that by 2030, cloud technology will account for EBITDA (earnings before interest, tax, depreciation, and amortization) of over $1 trillion across the world's top 500 companies. The research shows that effective use of the cloud can increase the efficiency of migrated application development and maintenance by 38%; raise infrastructure cost efficiency by 29%; and reduce migrated applications' downtime by ~57%, thus lowering costs associated with technical violations by 26%. At the same time, the cloud can improve platform integrity through automated and embedded security processes and controls.

## 2.7 Theoretical literature review

The French sociologist Gabriel Tarde, who created the initial S-shaped diffusion curve, first explored the Diffusion of Innovation Theories in 1903. The adopter categories were first presented by Ryan and Gross in 1943 and then made popular by Everett Rogers in 1995 (Rogers 1995, Kaminski, 2011). Later, in 1991, Moore modified the Technology Adoption Curve and Roger's Technology Adoption Categories (Moore, 1991). These theories were chosen for this study because they are relevant to it in the sense that diffusion of innovation explains and controls the pace of technological adoption.

### 2.7.1 The Diffusion of Innovation Process

Diffusion is the process by which an innovation is communicated through certain channels over time taken by members of a society as shown in Figure 2.1 (Rogers, 1995). Innovation is the technology that is perceived as new by an individual or organization. Communication channels refer to how the information about the innovation flows from the source to the receiver whereas time refers to the rate of adoption. The social system is made up of several interconnected units working together to solve problems to objective a share objective. The traits of the adopter, societal features, and perceived need for the innovation all influence adoption rates (Rogers, 1995). The innovation-decision process was composed of 5 stages, namely the knowledge, persuasion, decision, implementation, and confirmation stages as shown in Figure 2.1. At the knowledge stage, the individual learns about the existence of the innovation. At the persuasion stage, the individual

or organization develops an opinion either a positive or negative attitude about the innovation through subjective evaluations of others like colleagues and peers.

At the decision stage, the individual or organization chooses to either adopt or reject the innovation. According to Rogers (1995), there are two types of adoption, that is, continued adoption or active acceptance where there is continued and sustained use, and discontinuance or passive acceptance where the innovation is initially accepted and then discontinued. Rogers also identified two types of rejection, that is, later adoption or active rejection which is rejecting an innovation but eventually adopting it later, and continued rejection or passive rejection which is straight non-adoption where the individual does not think about adopting the innovation at all (Rogers, 1995).

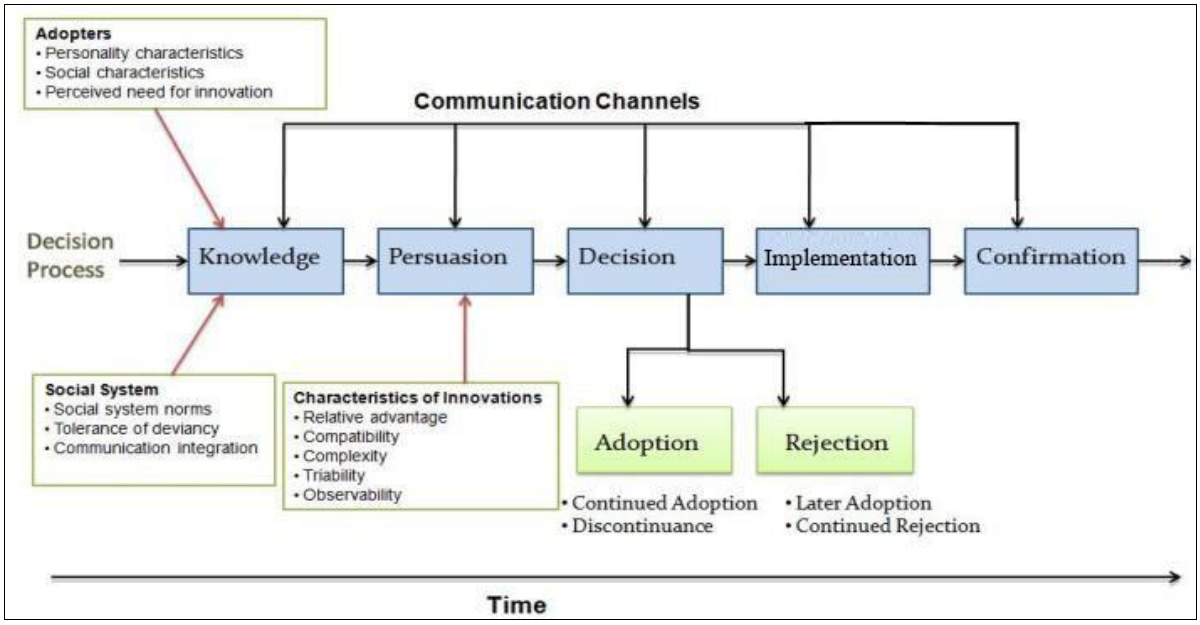


**Figure 2.1 The Innovation Diffusion Process**

**Source: Rogers (2003) and Chang (2010)**

At the implementation stage, mental information processing and decision-making come to an end, but the behavioral change begins and the innovation is put into practice (Rogers, 2003). At the confirmation stage, the individual/organization looks for support for their decision. The adopter

keeps evaluating the results of their decision and if the level of satisfaction is significant enough and the level of support is high, the use of the innovation will continue.

### 2.7.2 The Chasm Model

Moore (2003) found that there is a psychological gap between 'Early markets' and the 'Mainstream markets', what he calls the chasm). He argues that the customers in the first group are visionaries, and the latter are pragmatists. Visionaries want to be the first to try new technology. They would not mind testing the technology as long as it is promising and innovative. Pragmatists only want to engage, when it has been tried to eliminate risks (Martinez, 2010). Moore explains that the chasm model represents a pattern in technology adoption that is based on the tendency of pragmatic customers and organizations to adopt new technology when they see other people like them doing the same. He goes on to say that the tendency is very deep-rooted and persistent (Martinez, 2010). According to Moore (1991), when a new product approaches the chasm, it normally is about 80% of what the complete finished product would look like and that is acceptable for visionaries, but pragmatists will never be comfortable with it. Pragmatists will not accept less than a 100% finished product. According to Moore, a 'Chasm Crisis' is a series of bad decisions and actions caused by not reaching revenues, targets, and other commitments. Moore states that many technologies had failed to cross the chasm because of a loss of marketing focus.

### 2.7.3 The Maturity Model Adoption Curve

Moore's adoption curve is likened to the maturity stages of a human being where innovation grows in its adoption by society. Unlike Roger's technology adopter categories and Moore's technology adoption cycle, which have 5 stages, the maturity adoption curve has 6 stages (Eckerson, 2009). At the prenatal stage, only the innovators or technology enthusiasts accept and use it. Stage 2 (infant), is adopted by early adopters or visionaries. Stage 3 (child) is when the innovation is adopted by the early majority or the pragmatists and at stage 4 (teenager), it is adopted by the late majority or conservatives. The innovation is accepted by the adult (laggards or skeptics) at stage 5. In the sixth stage (sage), the innovation is fully adopted by society and there is little need for

marketing it as it drives the market. In most cases, at this stage, marketing efforts would have shifted from it and they would be focused on new products

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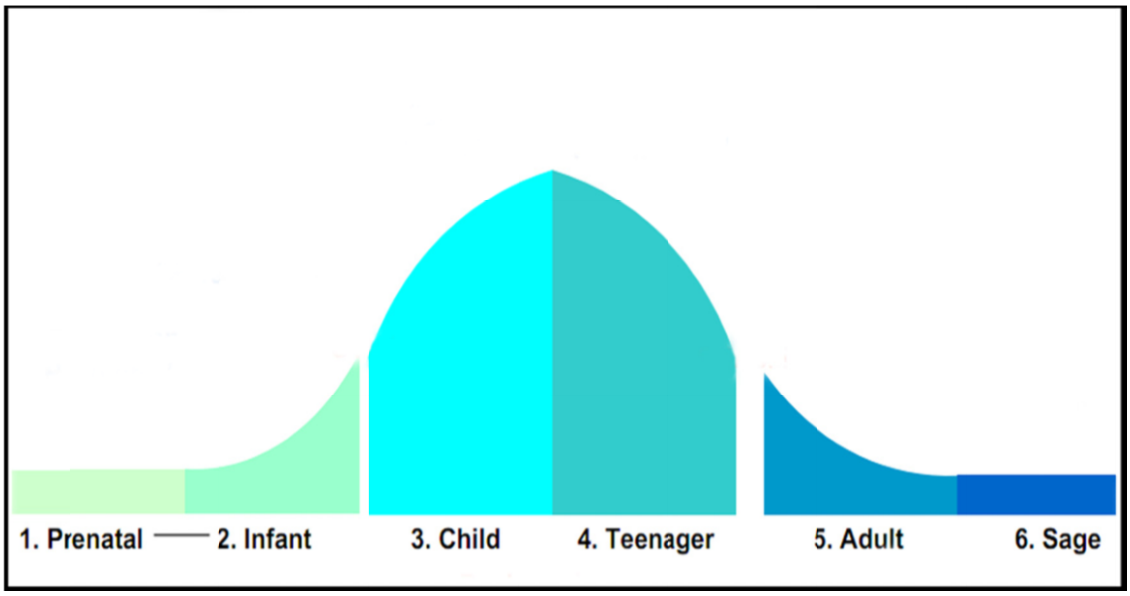



**Figure 2.2 the Maturity Model Adoption Curve, Source: Eckerson (2009)**

### 2.7.4 Technology Acceptance Model

People accept technological development in different ways. The original Technology Acceptance Model was created in 1989 by Davis, Bagozzi, and Warshaw to explore how people embrace new technologies based on their "perceived usefulness" and "perceived ease of use." The Technology Acceptance Model consists of two ideas that influence attitudes toward embracing new technologies: the perceived benefits and the perceived simplicity of use.

According to Davis (1989), the behavioral intention to use an information system directly influences its utilization, which is in turn driven by the users' attitudes about using the system and their perceptions of its utility. The perceived simplicity of use also has an impact on attitude and

perceived usefulness. Tracing how external influences affect internal beliefs, attitudes, and intentions is a key component of the Technology Acceptance Model.

Technology Acceptance Model addressed perceived usefulness, which is the subjective likelihood that a prospective user will perform better on the job within an organizational setting after using a particular application system. It defines perceived ease of use as the extent to which the potential user anticipates the target system to be effort-free. The way that customers use the system is affected by perceived usefulness and perceived ease of use. On Technology Acceptance Model, we refer to this as behavioral intention.

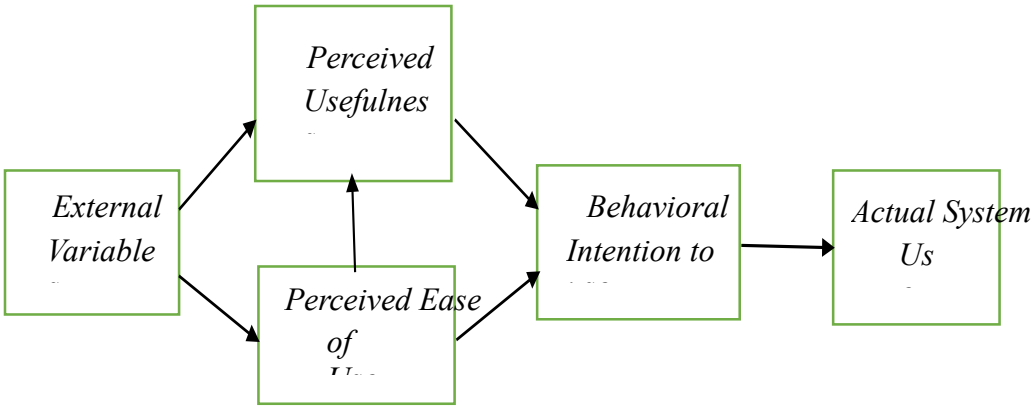



**Figure 2.3 Technology Acceptance Model**

External Stimulus Cognitive Response Intention Behaviour Source: Davis and Venkatesh, (1996)

## 2.8 Empirical evidence

### 2.8.1 Indian researches

The research was conducted by Saravanaraj et al (2011) on technology in the Indian banking sector 2011. They sought to analyze the role of information technology in the Indian banking sector. They found that the industry employed recent technologies that include ATMs, net banking, mobile

banking, telebanking, credit cards, debit cards, smart cards, call centers, Customer Relationship Management and data warehousing. They also found that technological innovations have enabled the industry to open up efficient delivery channels and be efficient in operations and have helped the banking industry deal with the challenges the new economy poses. Saravanaraj et al (2011), in their study, differ from the present study in that they are concentrating on the role of technology and the present study concentrates on the impacts of technology. The present research also goes a step further by conducting the research in an African scenario, whereas their study was in an Asian scenario.

Francis (2011) carried out research in India on the role of financial technology in the banking sector and discovered that technology works as an instrument of cost reduction and effective communication with people and institutions associated with the banking business. It is perceived as an enabling resource, that can help in developing learners and more flexible structures that can respond quickly to the dynamics of a fast-changing market scenario. The present study goes beyond the research by Francis (2011) since it encompasses the role of technology within the research and goes a step further by evaluating the impacts of technology specifically concentrating on service delivery. Das and Gupta (2011) in their research in India on the efficiency of technology in retail banking discovered that consumers still prefer the old technologies of having the personal touch of their branch bank. Financial technology industries face additional challenges in managing and optimizing retail banking. Another challenge they discovered is that of ensuring that account transaction applications run efficiently, between branch offices and data centers.

Saravanaraj et al (2012) in their research on technology in the Indian banking sector, found that Security in financial technology-based transactions is important since the absence of adequate controls will result in issues including hacking and spyware. Customers will feel threatened about the inadequacy of privacy data being maintained by banks regarding transactions and link computerized systems with suspicion. Namche (2002) researched the Empirical Analysis of the Impact of Financial Technology on Vertical Integration and discovered that recent applications of financial technology provide a better means of inter-organizational coordination in the banking system and plays a major role in enhancing productivity and efficiency in the banking sector.

### 2.8.2 Past European researches

The research was carried out by Joseph and Stone (2006) on an empirical evaluation of US bank customer perceptions of the impact of technology on service delivery in the banking sector in 2003. They sought to investigate the various roles played by technology and its general impacts on the delivery of banking services. They discovered that the installment of technology such as ATMs telephones and internet banking services has become commonplace in recent years. The researchers concluded that technology is a relatively inexpensive way to maintain customer loyalty, whereby customers will be empowered by providing them the option of using technology-based systems. For new players in banking, it is cheaper to set up technologically based banks. They also discovered that existing community banks can implement internet banking systems at fairly cheap prices. And that technology improves the overall efficiency of operations and acts as a store and speeds up the transfer of data. They concluded that banks can improve the level of service delivery by providing more technologies to their customers. The present study similarly studies the same aspect and what differs is the location. Joseph and Stone (2006) conducted their study in Europe, whereas the current research is using the African context.

Brown et al (2000) conducted a study on Technology infusion in service encounters in the USA 2000. In their research, they examined the ability of technology to effectively (1) customize service offerings, (2) recover from a service failure, and (3) spontaneously delight customers. They discovered that the infusion of technology is an enabler of both employees and customers in efforts to achieve these three goals. They mention that infusion can lead to negative outcomes and may not be embraced by all customers. They concluded that effective use of technology improves encounters. Brown et al (2000) though they studied what is similar to the present study, concentrate on examining the abilities of technology in encounters, whereas the present study goes beyond evaluating the impacts of technology in the retail banking sector.

In a research conducted by Thompson (1996) on Retail Banking, Technology, and Prudential Supervision, it was discovered that in adopting new technologies, challenges arise and these include the fact that adopting new technology is usually expensive, that is both to install and to maintain and can become more redundant relatively quickly. Adopting new technology is complex

and, makes greater demands on management, resources for staff training, and on backup facilities. New technology is also said to be less labor-intensive giving the bank management a substantial task in reducing staff levels sensitively and smoothly. It was also discovered that not all customers enthusiastically embrace the new delivery systems and products, so traditional systems have to be run in parallel with new ones, perhaps for a long time. New players can have a comparative advantage over those who adopt new technologies since they do not have to carry some of the baggage for example expensive branch networks. Customer loyalty might weaken since customers can shop around and banking becomes more remote and products more commoditized.

Wang and Wang (2007) carried out research in Sweden in 2006 on the impact of the internet on service delivery in the banking sector. This was to find out methods of improving service quality and discovered that the internet is changing the way corporations conduct business with consumers expecting higher services, becoming time saved and wanting more convenience. Internet was seen to improve convenience, reliability, responsiveness, security, communication, and access and service quality. They perceived it to have an important and positive effect on customer-perceived bank services and service quality. The present study though explores similar research that goes beyond Wang and Wang (2007), by concentrating on a wider array of technology and not one technology as is in their study.

Maclennan et al (2000) investigated the use of intranet technology in UK retail banks. In their research, they found out that as the size of the retail banking business grows, the cost of information transfer within branch networks becomes significant. Such information transfer at some time has had to take place not only within individual countries but also across national boundaries. This inevitably requires more sophisticated information systems, and it can be damaging to the banking operation when the systems are deficient. Solving these problems is costly both in terms of money and effort and banks cannot afford to lose their competitive edge by not being able to use new technology innovatively and effectively.

Anderton (1995) cited by Maclennan et al (2000) researched the impact of technology on the financial services sector and came up with results that the banks being enthusiastic users of financial technology, have suffered from a ‘backlog problem which is a carry-over effect from the

early systems which evolved over the last 30 years and have been altered and fixed many times. He estimated that 75% of a computer systems department's costs are spent in coping with backlog problems.

### 2.8.3 Past African researches

The research was conducted in Uganda in 2007 on Technological Innovations in Banks by Moya et al (2008). They sought to ascertain the extent of innovativeness in information technology in the Bank of Africa (BOA) and the level of service delivery in BOA. Recent innovations in banking include ATMs, telephone banking, personal computer banking, internet banking, branch networking, and electronic cash transfers at points of sale. The study was descriptive cross-sectional in nature. The major data utilized in this study was gathered through self-administered structured questionnaires and oral interviews with customers and workers of banks at a few B.O.A Branches. The study's findings usually show that technical advancement or electronic delivery methods, notably ATMs and online banking, have favorably impacted the supply of financial services at Bank of Africa. They concluded that for banks to remain competitive there is a considerable need to be innovative by adopting and diffusing various financial technology innovations. The study recommends increased investment in financial technology innovations in the Bank of Africa and other banks in Uganda to be competitive. The present study though explores similarly the impact of technological advancement on service delivery, it is not focusing on a general aspect that is in banks but goes a step further by concentrating on the retail banking sector which Moya et al (2008) did not concentrate much on.

Masocha et al (2011) researched the impact of technology on competitive marketing by banks which was carried out in South Africa in 2010. They found that primarily recent technology refers to the use of e-banking instruments such as ATMs, EFT, internet, cell phone, and Computer banking. They sought to examine and discuss the extent of technological utilization in various competitive marketing practices of financial institutions. Against this backdrop, the study investigated the impact of technology on competitive marketing by Standard Bank in King-Williams Town, Eastern Cape Province, South Africa. Quantitative research techniques were utilized to obtain customers' and employees' perceptions, opinions, and experiences in e-banking

services. They hypothesized that the use of modern banking technology significantly impacted service delivery to clients. They discovered that a supportive banking network during the 24 hours in the form of ATMs was necessary for a bank to be competitive. Their results support general competition trends occurring in the banking industry in South Africa and worldwide due to technological marketing. The results reflect an extensive prioritization of e-banking but generally low usage levels of the recently developed banking technologies by customers. The present study differs from Masocha et al (2011) in that it explores the impacts on service delivery, though findings may be similar.

In his research on financial technology in banking operations in Nigeria in 2002, Agboola et al (2004) found out that technology improves the bank's image and leads to a wider, faster, and more efficient market. Work is made easier and more interesting and the competitive edge of banks is improved. A bank's relationship with customers improves and assists in solving basic operational and planning problems. It facilitates in production of accurate records, provides a home for banking services, ensures convenient business hours, and prompt and fair attention, enhances faster services, and improves customer service delivery. They discovered that financial technology is a main driving force in the quality of banking business in Nigeria and affect how managers decide, plan and what products and services are offered to the banking public relative to the whole market. Agboola et al (2004) concentrated on studying the impact of financial technology adoption in banking operations in Nigeria, but the present study takes a new twist by focusing on the impact of technology in the retail banking sector.

The research was carried out by Else et al (2004) on Improvement in Thai Retail banking and its management implications. They discovered that technology improves service delivery, customer satisfaction, market share, and profits. They concluded that there exists a positive relationship between technology and service delivery. Alu et al (2002) researched the effect of technology on the growth of the banking industry in Nigeria and found out that financial technology affects financial institutions by easing inquiry, saving time, and improving service delivery. It provides solutions to the needs of modern society's service providers.

In research by Moodley (2001) on the Impact of electronic commerce and small exporting firms in the South African wooden furniture manufacturing sector, the researcher observed that various obstacles such as lack of adequate e-commerce infrastructure, high cost of internet connectivity, security issues concerning payments and shortage of skills were the main challenges that are faced in adopting technology.

### 2.8.4 Gap analysis

Most of the empirical research about technology in financial institutions focused on the impact of technology on the banking sector as a whole. Some conducted similar research to the present study but their research was concentrated in Europe and India. Other research was done in Africa being conducted in Nigeria and Ghana. This research goes a step further to evaluate the financial technology and challenges in the banking sector with specific reference to the Commercial Bank of Zimbabwe, which constitutes the gap covered by the current study.

## 2.9 Chapter Summary

This chapter focused on a review of related literature by analyzing the concepts of technological advancement and challenges in the banking sector. Concepts related to the topic were explained. Previous researches or case studies related to this topic of this research were also briefly summarized and the present research was justified at the end. The next chapter discussed the research methodology.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.0 Introduction

This chapter looked at the methods used in obtaining necessary information and techniques employed to obtain, present and analyze the data to arrive at the desired objectives and purpose of the study. Much investigative work and observing were involved in the collection of data since the information needed was not written in books or anywhere but the researcher desired to discover what had not been discovered. The procedures and limitations of the methodology were also covered in this chapter. The researcher focused on the population from which a sample was chosen to carry out the research. The researcher studied and collected the information at its source to come up with the desired outcomes.

## 3.1 Research Design

Shajahan (2015) explains that a research design is the specification of methods and procedures for acquiring information needed to structure or solve problems. It is the overall operational pattern or framework of the project that stipulates what information is to be collected, from which sources, and with what procedures. The research design used was descriptive research design since it includes exploring the obstacles and the ways to tackle these obstacles. Qualitative information was made use of. It was appropriate as it allows the researcher to draw inferences about the company's workers and customers.

### 3.1.1 Case study approach

Saunders et al (2005) describe a case study as a development of detailed intensive knowledge about a single or a small number of related cases. It is appropriate when one needs to collect a great deal

of information on one individual, institution, or organization over a long period. Morris and Wood (2019) explain that it has a considerable ability to answer the questions like “what?’, “How?’’ and “why?’’, in a bid to understand the context of the research and the process being enacted.

In this study, the case study approach was applied. The researcher discovered comprehensiveness and ability to describe and analyze the full richness and variety of events and issues involved as the main advantage of using a case study approach. In a move to minimize the effects of weaknesses on the findings and to ensure the validity of the findings, the researcher used this research design together with the questionnaires, interviews, and service reports to limit the information to what the researcher is interested in collecting.

### 3.2 Target Population

According to Lancaster (2015), a research population is a full set of cases from which a sample is taken. The population is any one group aggregate of individuals, groups, organizations, and social groups for social interaction and events. The Reserve Bank of Zimbabwe report (2021) found that Commercial Bank of Zimbabwe Limited maintained a network of 66 branches in all urban centers of Zimbabwe with a total number of 923 employees. For this study, the researcher chose to work with the following Commercial Bank of Zimbabwe branches located in Chivhu, Bindura, and Harare. The study’s target population was 80 comprised of top management staff, supervisors, general staff, and clients from three branches.

### 3.3 Sample Size

Kothari (2017) and Bryman and Bell (2016) argued that a higher sample size is better because it results in a smaller sampling error. Because the goal is to make the findings generalizable, Bryman and Bell (2016) emphasize the necessity of understanding the sample and sample size. The researcher utilized the Yamane (1973) formula to determine the sample size in this investigation.

The anticipated sample size is a function of the target population and the extremely bearable margin of error, also recognized as the sampling error, according to this formula (Yamane, 1973). According to Yamane (1973), the succeeding formula was used to calculate sample size: The study's margin of error was set at 5%.

$$n = \frac{N}{1 + N(e)^2}$$

n = 80/1+80(0.05) ^2

n = 80/1+80(0.0025) ^2

n = 80/1.2

$n$ = 67

The current study's overall population comprises 80 respondents. As a result, the sample size was set at 67.

### 3.3.1 Sampling techniques

The stratification of a population into smaller groupings known as strata is known as stratified random sampling. In stratified random sampling, the strata are created based on the common qualities or traits of the participants. In accordance to the size of the stratum relative to the population, a random sample is collected from each stratum on a regular basis. The strata's subsets are then combined to create a random sample. Because they are the ones who utilize technology often, the two strata of consumers and workers were chosen for this study. The sample was more likely to be representative since the population had been divided into many pertinent strata. Its primary benefit was simplicity (Lancaster, 2015). The researcher was able to include some method or procedure into the subject selection process. The sample was ensured to be balanced. Its theoretical characteristics made it challenging to measure that precision, which was one of its drawbacks.

## 3.4 Research Instruments

Research instruments were used as a way of obtaining standardized information from all subjects in the sample. These are instruments that are used to collect data for the research to achieve the objective of the study by assisting in data presentation and analysis. The researcher used

questionnaires, interviews, Commercial Bank of Zimbabwe products and services manuals, and Commercial Bank of Zimbabwe end-of-year customer service reports to obtain the data required. Questionnaires were distributed to Commercial Bank of Zimbabwe's regular customers and employees.

### 3.4.1 Questionnaire

Saunders (2005) defines a questionnaire as a data collection technique in which respondents are asked to respond to the same set of questions in a predetermined order. In this research, 70 questionnaires were administered, 40 to the customers and 30 to the employees. They sought to find out information concerning the financial technology implementation and challenges of the Commercial Bank of Zimbabwe.

**Justification for the use of questionnaires**

Questionnaires made it easier to gather a lot of primary data within a short period. They gave room for generalizations of findings and they did not consume much time hence less expensive. Furthermore, questionnaires enabled respondents to answer questions at their convenient times and with limited bias as with face-to-face interviews and data was easier to quantify.

**Shortcomings of questionnaires.**

Jones (2016) stated that questionnaires are designed in a way that cannot accommodate probing techniques for the researcher. They were affected by a low response rate. To overcome the limitations involved in using a questionnaire, the researcher attached to the questionnaire a letter that explained the purpose of the study with a high assurance of privacy and confidentiality to reduce suspicion. The researcher also provided instructions on how questionnaires were to be completed.

In addition, these questionnaires were administered to the Commercial Bank of Zimbabwe staff and Commercial Bank of Zimbabwe customers and this helped the researcher to retrieve back all

the questionnaires administered because of the knowledge of where to get them. The respondents were also very cooperative because of the good relations that the researcher had established with the staff and the customers.

### 3.4.2 Interview

Nachmias (2018) defines an interview as a face interpersonal role situation in which an interviewer asks respondents questions designed to obtain answers pertinent to the research problem. Ten interviews were conducted with the top management. The interview guide was composed of nine questions. The researcher made appointments with the top management. The interviews sought to see the financial technology implementation and challenges. The researcher noted down interview responses.

**Justifications for the use of interviews**

Because it was a guided interview, it helped the researcher to keep track of the research objectives. It allowed the researcher to obtain non-verbal information and expressions from respondents which were very important and useful in the analysis of such data. The interview allowed for probing designed to give room for further clarification of complex ideas.

**Shortcomings of interviews**

Time was limited for the respondents to think about the answers to the asked questions. It was time-consuming since respondents were asked one at a time and it took time to finish interviewing all the respondents. Since the interviewer went in person to the targets, it was very costly.
The negative aspects or shortcomings of the interviews did not affect the reliability and validity of the data the researcher obtained. However, to allow for the time to think, the researcher used the questionnaire method of data collection to complement the interview method

### 3.5 Secondary data

These are data in the form of reports or surveys, gathered and recorded by someone else before the current project (Hair et al, 2019). It was inexpensive in terms of time and cost. Data that could not be obtained by primary data was retrieved. Their disadvantage was a lack of availability. To complement questionnaires and interviews, the researcher made use of secondary data from the organization under study. Commercial Bank of Zimbabwe products and services manuals and Commercial Bank of Zimbabwe end-of-year Customer Service Reports were made use of. Service reports contain reports on surveys done on Commercial Bank of Zimbabwe customers concerning service delivery.

### 3.6 Data Collection Procedures

In the process of gathering the required information, the researcher selected individuals from all the branches to be studied and handed over questionnaires to them and the regular customers who use the selected branches regularly and have received bank services for a long time.

Since these questionnaires were only distributed within the organization's departments and amongst the regular customers, the researcher personally distributed and collected these questionnaires to and from the subjects by hand. The researcher accessed the information from the yearly customer service reports distributed to all the Commercial Bank of Zimbabwe staff and the products and services manuals.

During the attachment tenure, the researcher made appointments with top management to do interviews with them and managed to interview those regarded as a staff members.

### 3.7 Ethical consideration

To be ethical is to conform to accepted professional practices. Before the interviews, the researcher fully explained the objectives of the study to all the respondents. In addition, their consent was sought and their right to confidentiality was assured before interviewing them. Furthermore, the researcher fully observed their right to privacy and anonymity.

### 3.8 Data Presentation and Analysis

The researcher dealt with nominal data that is data at the lowest level of data measurement. Numbers or other symbols were used to classify and organize objects into many groups and categories which were exhaustive and mutually exclusive, at this level. Due to the nature of the information, the researcher organized the information using graphs, tables, and charts. Much of the description of the data was done using non-numeric description procedures. The data obtained was analyzed by human judgment considering the categories the data were placed on depending on the financial technology implementation and challenges they were attached to.

### 3.9 Chapter Summary

This chapter described and outlined how the data was collected. Issues included were the study area description, sampling process that suits the research being undertaken, research design, describing the justification for the research design chosen and research instruments to be used. It also outlined how the data collected was to be presented and analyzed.

The next chapter was the research findings and data presentation. Data were presented, analyzed, and interpreted. To help interpret the data obtained, graphs, tables, and charts were drawn. For the analysis of quantitative data, human judgments and content analysis were used.

# CHAPTER FOUR

# DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

## 4.0 Introduction

This chapter focused on the analysis and presentation of data gathered from field research. The researcher used the circulated questionnaires and interview results as the source of data referred to in this analysis. Data were analyzed using descriptive statistics and raw data was presented utilizing pie charts, graphs, and tables. In this report, the researcher gathered information relating to the financial technology implementation challenges in the banking sector, mainly centering on CBZ.

## 4.1 Response Rate

According to Creswell (2017), the response rate is the percentage of the respondents who answered questionnaires against the overall sample size.

Response rate is calculated as:

$$Rasponse\ rate = \frac{Absolute\ frequency}{Targeted\ responses} \times 100$$

**Table 4.1 Questionnaire response rate**

Questionnaires were issued to the respondents and their response rates them is represented below

| Sample | Questionnaires Distributed | Number of Responses | Response Rate (%) |
|---|---|---|---|
| **Management** | 10 | 10 | 100 |
| **Supervisors** | 20 | 20 | 100 |
| **General staff** | 50 | 46 | 92 |
| **Total** | 80 | 76 | 95 |

***Source: Primary data***

Table 4.1 above presents the questionnaire response rate. The response rate for the general staff was excellent at 92%. This was a result of follow-ups on respondents to ensure that they responded and also the ease with which questionnaires were structured. The questionnaire response rate of both management and supervisors was very high that is at 100%. This was mainly because the researcher worked with the staff and had established a good relationship with the contacts. The overall response rate was 95%, which was a return used in the data presentation, interpretation, and analysis. A high response rate means that the data to be presented will be more accurate and reliable. This is supported by Barclay (2001) who pointed out that when a sample response rate is higher than 50%, its findings can be generalized to the whole population and he used a population of 50.

### 4.1.1 Interview response rate

Interview questions were issued to the respondents and their response rate from them is represented by table 4.2 below.

**Table 4.2 Interview response rate**

| Sample | Questionnaires Distributed | Number of Responses | Response Rate (%) |
|---|---|---|---|
| **CBZ employees** | 36 | 36 | 100 |
| **Total** | 36 | 36 | 100 |

***Source: Primary data***

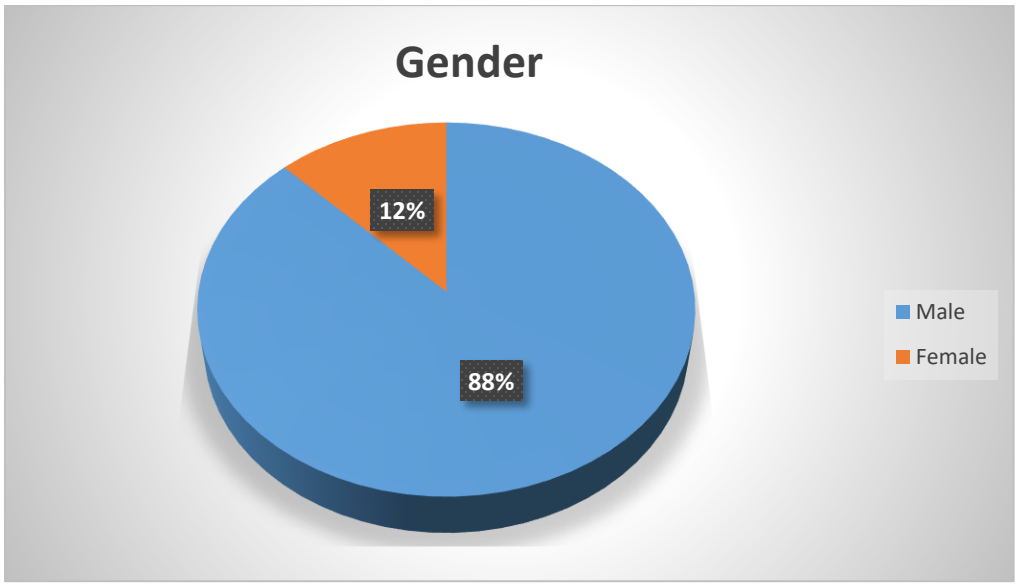
Table 4.2 above presents the interview questions' response rate. The response rate for the staff was excellent at 100%. This was mainly because the researcher worked with the staff and had established a good relationship with the contacts. The overall response rate was at 100%, which was a return used in the data presentation, interpretation, and analysis. A high response rate means that the data to be presented will be more accurate and reliable.

## 4.2 Demographic variables

### 4.2.1 Gender

The figure below indicates the respondents' demographic profile, showing that 88% are males and 12% are females. This shows a higher percentage of males than females. This was mainly because CBZ staff and customer groups are largely comprised of males than females. This is similar to the research carried out by Faith (2011) who had 70% as males and 30% as females.

**Figure 4.1 Gender Differences**

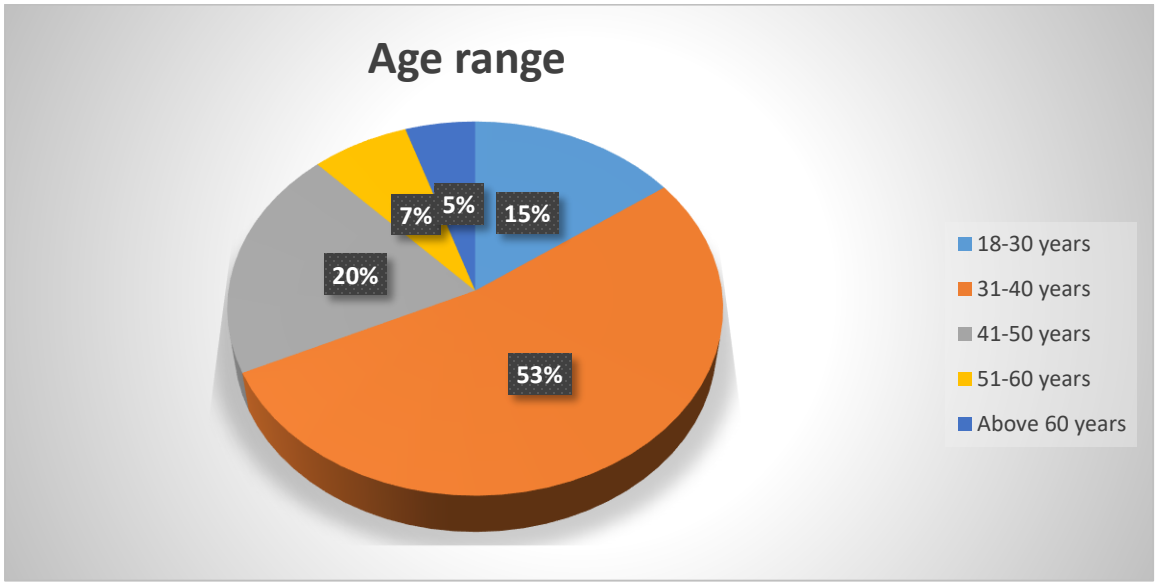


***Source: Primary data***

### 4.2.2 Age range

The figure below indicates the respondents' age distribution: 15% were between 18 and 30 years, 53% were between 31 and 40 years, 20% were between 41 and 50 years, 7% were between 51 and 60 years and 5% were above 60 years. 53%, or people between the ages of 31 and 40, represents the age group with the highest percentage. The data below demonstrates that the age group with the highest percentage of responders is where the majority of the employed population who can keep bank accounts may be located. Perhaps because they are the ones who are employed, have generally better earnings, and have more knowledge of information technology, respondents between the ages of 31 and 40 dominated the group. According to earlier research, young people are more inclined to adopt financial technology, however, this is not the case (Dixit et al, 2010). Ages 31 to 40 are less influenced by technology than younger age groups, who spend more time on social media and searching for less expensive ways to transact, making it simpler for them to adopt and use once they are persuaded by encouraging word of mouth from friends and family, which has the power to reinforce behavior.

**Figure 4.2 Ages of Respondents**

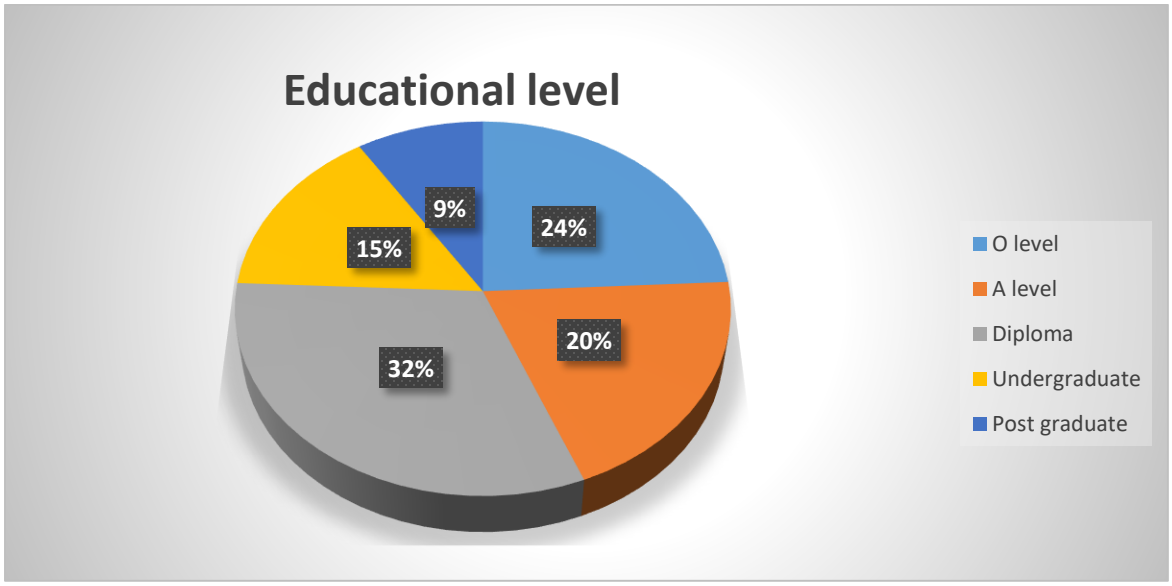


***Source: Primary data***

### 4.2.3 Educational level

The figure below indicates the respondents' age distribution. It is also shown that 24% reached an O level, 20% attained an A level, 32% attained a diploma and 15% are undergraduates and 9% indicated that they were postgraduates. Since the respondents were all learned individuals, the researcher managed to get the best responses from the sample. The high level of education is unusual in a normal scenario. The researcher attributed this to the large proportion of males than females. Taschen (1982) supports the findings who explains that there exists a direct relationship between educational level and participation rate, the better the educational level, the better the responses are given.

**Figure 4.3 Educational level of Respondents**

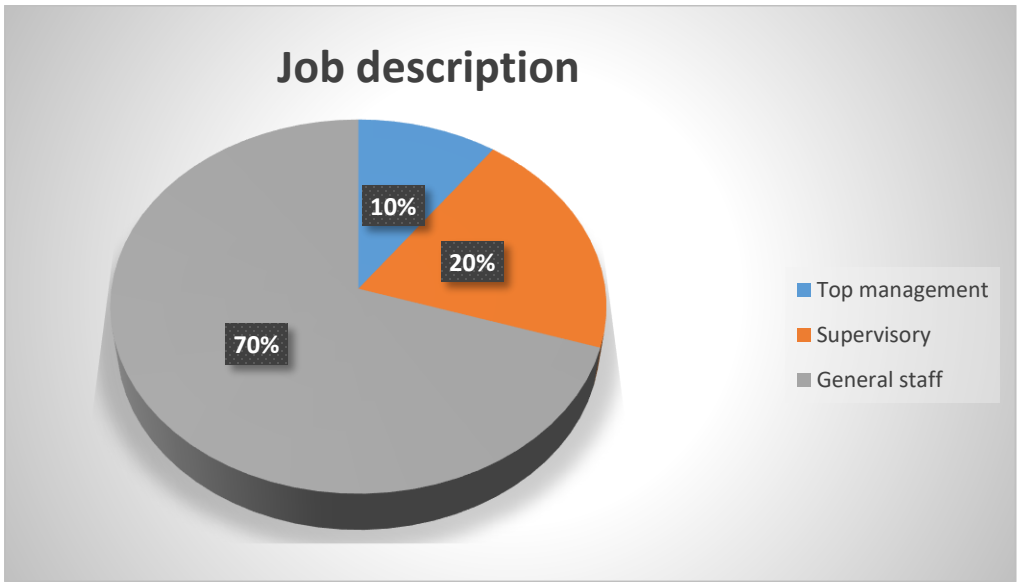



***Source: Primary data***

### 4.2.4 Employment segment

The figure below shows that 10% of CBZ employees were at the top management level, 20% were at the supervisory level, and 70% were the general staff. This data shows that a majority of the employees were the general staff. CBZ Employees' Survey Report (2021) indicated that three-quarters of employees were general staff and the remaining are supervisors and top management staff.

**Figure 4.4 Employment segment of Respondents**

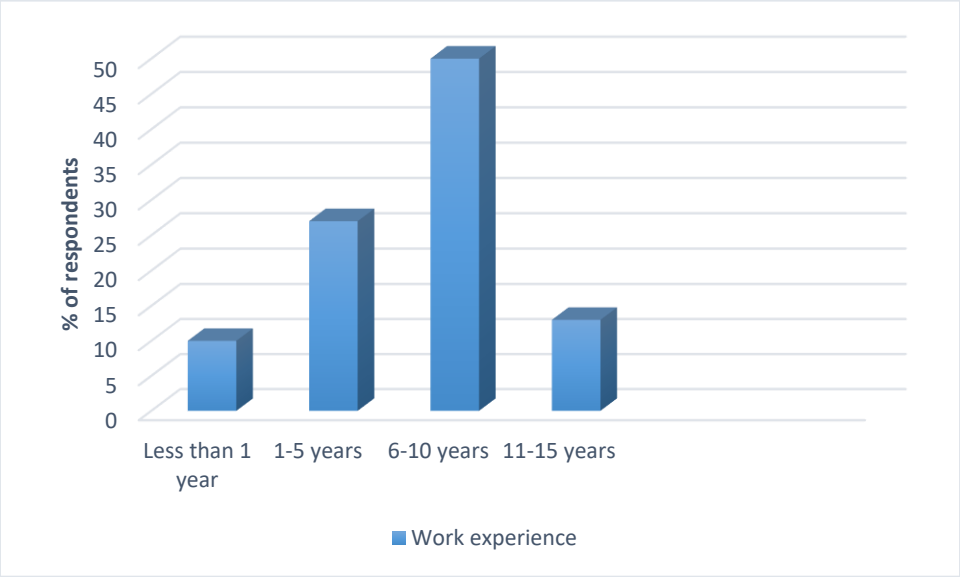



***Source: Primary data***

### 4.2.5 Work experience

The figure below indicates the respondents' work experience. The bar chart shows that 10% of employees had a work experience of less than one year, 27% ranged from 1-5 years, 50% ranged from 6-10 years, and 13% ranged from 11-15 years. This concurs with the research by Moya (2008) who used employees in his study and attributed their long stay in the organization as the reason why they gave good representative responses since a proportion of 77% had stayed for more than 1 year.

**Figure 4.5 Work experience of Respondents**

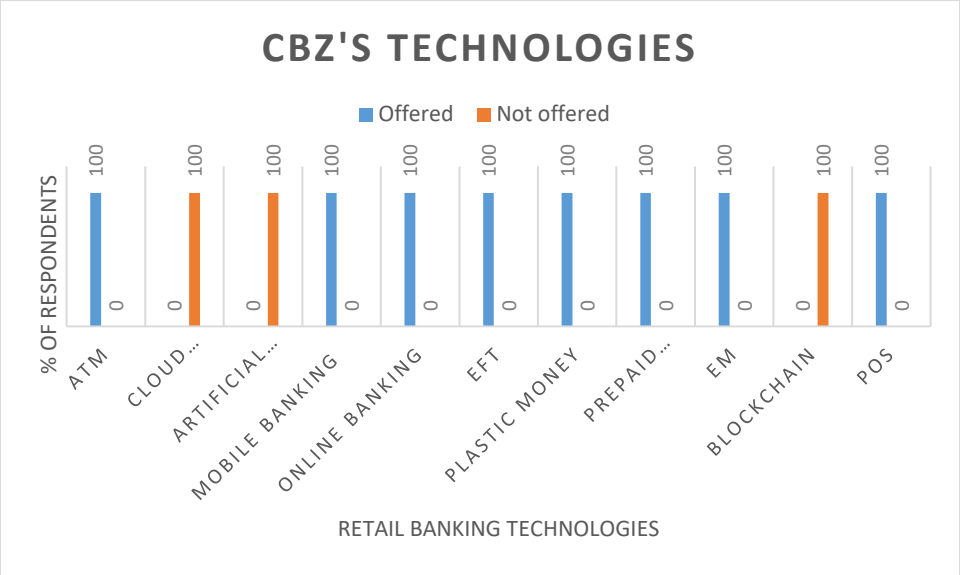



***Source: Primary data***

### 4.3 Technologies in use at CBZ

One of the main objectives of this study was to outline the technologies CBZ has in place and the results are shown in the figure below.

**Figure 4.6 Retail banking technologies**




***Source: Primary data***

The figure above shows that about 100% of customers indicated that CBZ uses ATMs, 100% of respondents indicated that cloud computing is not offered, 100% of respondents indicated that artificial intelligence is not offered also and 100% of respondents indicated the existence of mobile banking, online banking, electronic funds transfer, plastic money. Respondents who indicated prepaid payment instruments and electronic money were 100% and 100% respectively. Those who indicated that blockchain is not offered were marked at 100%, 100% indicated point of sale. From the responses, the majority were of the idea that ATMs, plastic money, POS, mobile banking and online banking, electronic funds transfer, electronic money, and prepaid payment instrument were offered by CBZ but blockchain, cloud computing, and artificial intelligence are not offered. This is supported by interview results and information in the CBZ Products and Services Manual (2022) which showed the existence of the same technologies.

The research by Joshua et al (2011) and Moya et al (2008) support the findings, they mentioned ATMs, funds transfer, online banking, electronic money, electronic mail, and bankers' automated

clearing services to be the recent technologies in banking. Based on these findings, CBZ offers the products mentioned in the research it offers.

Also considering the years customers have used the bank, most customers were of the knowledge of the existing technologies in CBZ.

### 4.4 Roles of financial technology

The researcher sought to gather information on the roles of technology in the banking sector and the following results represented in table 4.3 were obtained.

**Table 4.3 Roles of technology**

| Roles | Reduce costs | Survival and growth | Improves service delivery | Encourage innovation |
|---|---|---|---|---|
| Strongly agree | 86% | 80% | 87% | 70% |
| Agree | 13% | 14% | 12% | 26% |
| Not sure | 1% | 6% | 1% | 0% |
| Disagree | 0% | 0% | 0% | 0% |
| Strongly disagree | 0% | 0% | 0% | 4% |
| Total (%) | 100 | 100 | 100 | 100 |

***Source: Primary data***

According to the results in the table above, 86% of respondents strongly agreed that financial technology reduces costs. Furthermore, 13% of respondents agreed that technology eliminates costs in the banking sector. Also, 1% of those polled were not sure about the notion of cost reduction due to technology. These data clearly illustrate that financial technology reduces costs in the banking sector. Jones (2020) supports the findings who explain that the bank's principal benefits are increased customer retention and lower costs due to the transfer of work to customers. In addition to the questionnaires, it was discovered that the massive mainstream of respondents, 80%, strongly agreed that technology promotes the survival and growth of banks. Another 14% of respondents strongly agreed, with 6% remaining neutral on the impact of technology on the

survival and growth of banks. These conclusions support the notion that technology promotes the growth and survival of banks. Jessup et al (2003) support the findings and also asserted that IT has enabled the sophisticated development of banking products, aiding financial intermediaries, and improving market infrastructures.

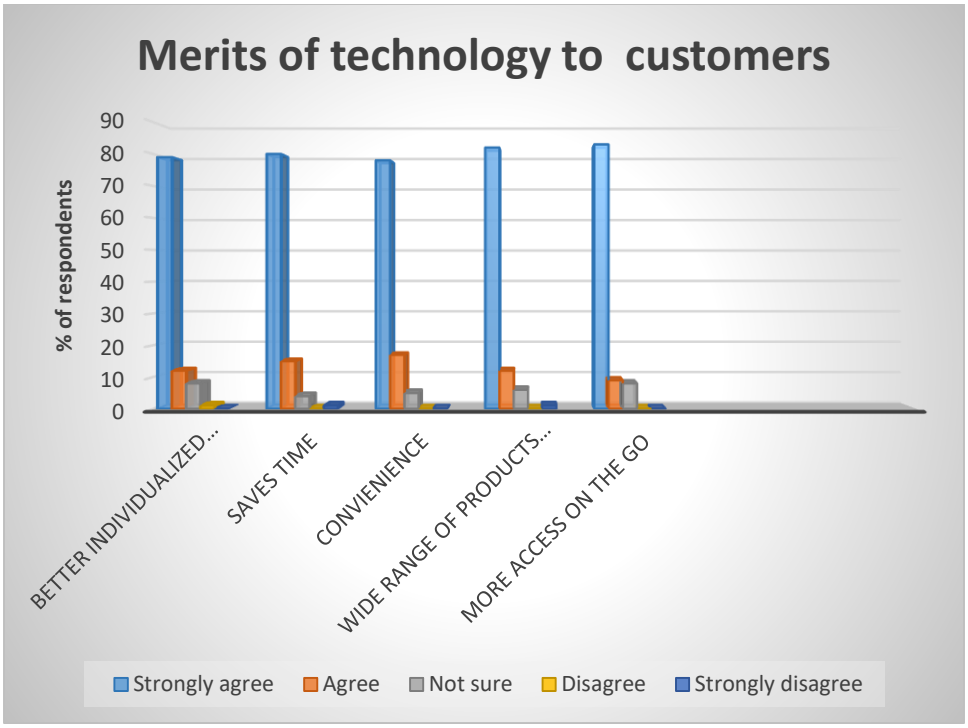
Furthermore, the results of the questionnaires revealed that technology improves service delivery in the banking sector. This is supported by the fact that 87% of respondents strongly agreed that financial technology ensures the continuous improvement of products and services. A further 12% of respondents agreed with that assessment of financial technology's impact on customer satisfaction, while only 1% were undecided. This is a strong sign that financial technology guarantees that products and services are continually improved. McLennan (2000) supports the findings that found that technology has a profound effect on the financial service sector, dramatically changing the cost and capabilities for marketing, distributing, and servicing financial products and enabling new types of products and services to be developed.

In addition, respondents to the questionnaires were asked to judge whether technology encourages innovation in the banking sector. This is demonstrated by the 70% of respondents who strongly agreed that it leads to new services and products in the banking sector, as well as the 26% who concurred. However, a small minority of only 4% disagreed, while some remained undecided. Financial technology promotes innovation of new financial products and services, as evidenced by these data on the findings. Thompson (1996) supports the findings and found that technological advancement also provides room for innovation.

### 4.5 Benefits of technology to customers

The study's other goal was to explore the merits of financial technology for clients. The study's findings are depicted in the figure below.

**Figure 4.7 Advantages of technology to customers**




***Source: Primary data***

According to the results of the graph, 79% of respondents strongly agreed that technology results in better-individualized customers. Furthermore, 12% of respondents agreed that technology increases personalization, 8% are not sure, and another 1% of respondents disagreed. These findings demonstrate that technology increases better individualism for clients. Ghaziri (1998) supports the findings explained that customers can view the accounts, get account statements, transfer funds, and purchase drafts by just punching in a few keys.

In addition to the questionnaires, it was discovered that the vast mainstream of respondents, or 80%, strongly agreed that financial technology saves time. Furthermore, 20% of respondents believed that mobile application like CBZ touch saves time for waiting for service in the queue at the bank. While no one agreed or remained neutral on the notion of time-saving by mobile banking, none of the respondents disagreed or remained neutral. These findings support the view that mobile application saves time. Gupta and Das, (2020) support the results who said that technology-related facilities including ATMs, mobile banking, and internet banking are used by customers to carry

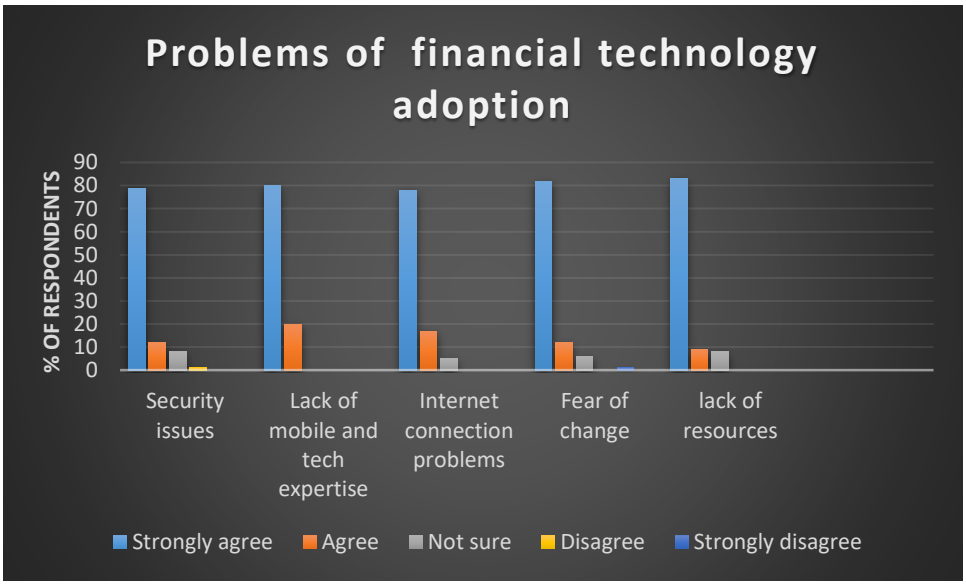
out their transactions saving time and cost to the customers since they do not need to stand in queues for their banking activities.

Furthermore, the questionnaire findings revealed that financial technology leads to convenience. This is shown by the fact that 78% of respondents strongly felt that technology improves the accessibility of clients to financial services. A further 17% of respondents agreed that technology increases convenience, while only 5% were neutral. This shows that financial technology improves the accessibility of customers to financial products and services. Ghaziri (1998) supports the findings who found that the installation of facilities like ATMs which offer non-stop cash withdrawals, remittances, and inquiry facilities enables accessibility to customers' accounts 24hrs. In addition, respondents to the surveys were also asked to rate whether technology increase or reduces the range of financial services and products. Financial technology increases a wide range of products and services. This is demonstrated by the 82% of respondents who strongly agreed, as well as the 18% who concurred. There were no responses who disagreed with or were undecided about that point of view. Financial technology stimulates financial products and services, as seen by these data on the findings. Thomp (2020) supports the findings that came up with the view that technology increases the range of financial services and products.

### 4.6 Challenges of financial technology implementation

This inquiry aimed to uncover the challenges of financial technology in the banking sector. The figure below depicts the responses to the question.

**Figure 4.8 Challenges of technology advancements**




***Source: Primary data***

The figure shows that 79% of the respondents strongly agreed, as well as 12% agreed that security concerns were drawbacks to CBZ's ability to adopt the technology. Only 8% of the respondents were not sure and 1% disagree. These findings support the view that security issues are the major concerns in the banking sector. And 80% of respondents strongly agreed and 20% of respondents agreed that lack of mobile and technology expertise were major concerns in the adoption of technology in the banking sector. The lack of mobile technology prohibits financial technology, as seen by these data on the findings.

Furthermore, the questionnaire findings revealed that internet connection problems were the major drawback of financial technology. This is shown by the fact that 79% of respondents strongly felt that internet connection problems reduce the capability of technology. A further 17% of respondents agreed that internet connection issues reduce the capability of technology, while only 5% were neutral. This shows that low internet penetration prohibits technology adoption in the banking sector.

Fear of change was a major obstacle in the adoption of financial technology. This is demonstrated by the 82% of respondents who strongly agreed, as well as the 12% who concurred and 6% who were not sure. There were no responses who disagreed about that point of view. Fear of change to

new technology advancement by customers prohibits technology adoption, as seen by these data on the findings.

In addition, respondents to the surveys were also asked to rate whether a lack of resources leads to low adoption of financial technology. This is demonstrated by the 83% of respondents who strongly agreed, as well as the 9% who concurred and 8% who were not sure. There were no responses who disagreed about that point of view. Lack of resources prohibits technology implementation in the banking sector, as seen by these data on the findings.

These results merge with interview results in which top management mentioned a lack of customer drive and customers' preference for old technologies as some of the challenges. Brown et al (2000) and Alu et al (2002) support the findings since they observed that various obstacles such as lack of adequate e-commerce infrastructure, high cost of internet connectivity, security issues concerning payments, and shortage of skills were the main challenges that are faced in adopting technology.

These results were attributed because most of CBZ's employees have long served and there are a few who managed to excel to the point of being undergraduates and postgraduates as indicated in the demographic data. This in itself makes it impossible for them to accept a change in technology since they fear being replaced by those with better qualifications than them. Das and Gupta (2011), support this, in their research on the efficiency of technology in retail banking and discovered that consumers still prefer the old technologies of having the personal touch of their branch bank which poses a challenge for banks in adopting new technologies.

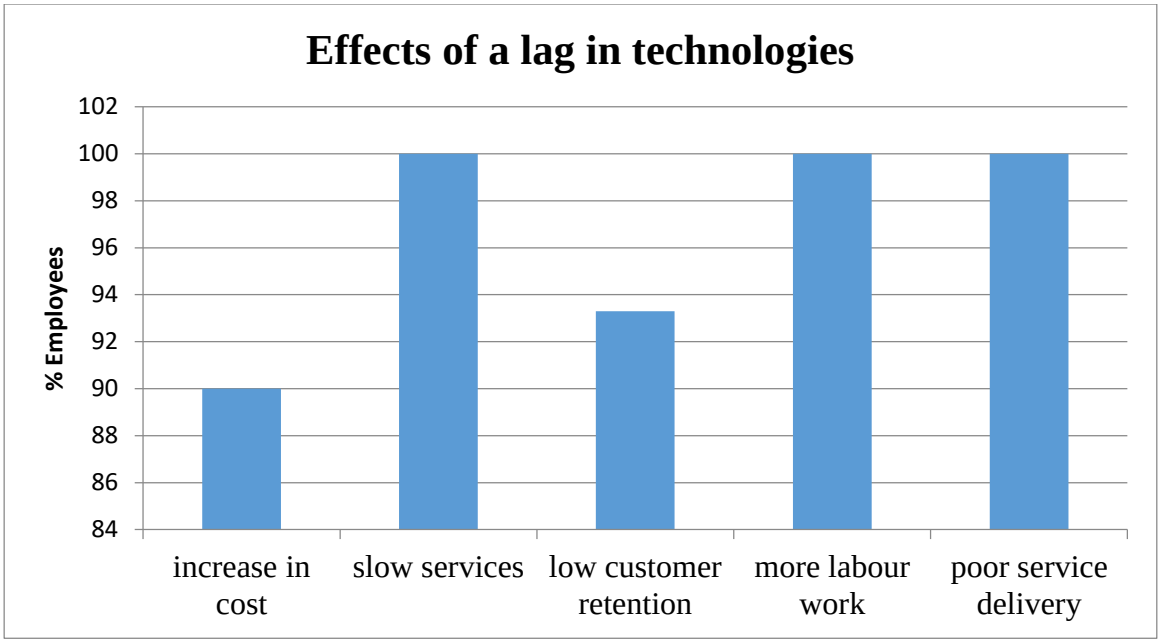
The results in the figure seem to be different from some previous research findings. Anderton (1995) who researched the impact of technology on the financial services sector came up with results that the banks that embraced new technologies have suffered from a 'backlog problem which is a carry-over effect from the early systems which evolved over the last 30 years and have been altered and fixed many times. This becomes a drawback in adopting technologies in its. Thompson (1996) also discovered that not all customers enthusiastically embrace the new delivery

systems and products, so traditional systems have to be run in parallel with new ones, perhaps for a long time. This becomes a drawback factor to the banks.

### 4.7 Effects of a lag in technologies

The data collected by the researcher showed the following effects of failing to adopt technologies.

**Figure 4.9 Effects of failing to adopt technologies**




***Source: Primary data***

The figure shows that 90% of employees indicated that a lag in technologies results in increased costs, 93.3% of them indicated low customer retention and 100% of them indicated that slow services, more labor work, and poor service delivery were a result of a lag in technology. These results concur with interview results which showed that a lag in technology was putting adverse effects on CBZ which included slow services, increased costs, and poor service delivery. The research carried out by Joseph and Stone (2006) supports the results in the figure, they concluded that technology is a relatively inexpensive way to maintain customer loyalty, whereby customers will be empowered by providing them the option of using technology-based systems. Alu et al

(2002) also concur when they found out that IT affects financial institutions by easing inquiry, saving time, and improving service delivery. It provides solutions to the needs of modern society's service providers. An inability to employ technologies results in advantages discovered by Joseph et al (2006) and Alu et al (2002) not accruing.

### 4.8 Performance of CBZ's technologies

Interview results revealed how respondents perceive the performance of CBZ's technologies. The results are shown in Table 4.4 below.

**Table 4.4 Performance of the bank's technologies**

| SAMPLE | EXCELLENT | GOOD | FAIR | POOR | TOTAL |
|---|---|---|---|---|---|
| **CUSTOMERS (%)** | 0 | 5.5 | 41.7 | 52.8 | 100 |
| **EMPLOYEES (%)** | 0 | 0 | 46.7 | 53.3 | 100 |

***Source: Primary data***

As shown in Table 4.4 above, 5.5% of customers perceived the performance of CBZ's technologies to be very good, 41.7% of them regard them to be performing fairly, and at the same time, 46.7% of employees also perceived them to be fair. The remaining 52.8% of customers and 53.3% of employees regarded the technologies to be performing poorly. None of the respondents had a perception that the technologies were excellent or perceived them good.

Results in table 4.4 clearly show that respondents regard the performance of CBZ's technologies to be fairly poor. The CBZ Customer Service Survey Report (2021) also indicated that customers commented that CBZ's service delivery is very poor and recommended the bank improve its technologies and computerize its systems. These results also merge with interview results which showed that the managers explained that most of their customers from the personal contacts they

encounter with them, regard their existing technologies to be very poor and were asking for improvements.

### 4.9 Causes of poor adoption of technology by customers

Interview results revealed the following causes of poor adoption of technology by customers. The results are shown in Table 4.5 below.

**Table 4.5 Reasons for the slow adoption of technology by customers**

| Causes | High costs | Lack of technology exposure | Integration and training concerns | Fear of failure |
|---|---|---|---|---|
| Strongly agree | 85% | 86% | 70% | 85% |
| Agree | 12% | 13% | 26% | 14% |
| Not sure | 3% | 1% | 4% | 0% |
| Disagree | 0% | 0% | 0% | 1% |
| Strongly disagree | 0% | 0% | 0% | 0% |
| Total (%) | 100 | 100 | 100 | 100 |

***Source: Primary data***

According to the results in the table above, 85% of respondents strongly agreed that high costs cause poor adoption of technology by customers. Furthermore, 12% of respondents agreed that technology eliminates the adoption of technology by customers. Also, 3% of those polled were not sure about the notion of high costs as a major cause of the slow adoption of technology by customers. These data clearly illustrate that high costs cause poor adoption of technology by customers.

According to the results in the table above, 86% of respondents strongly agreed that lack of technology exposure causes slow adoption of technology by customers. Furthermore, 13% of respondents agreed that lack of technology exposure eliminates technology adoption by customers. Also, 1% of those polled were not sure that lack of technology exposure leads to low adoption of

technology by customers. These data clearly illustrate that lack of exposure to technology leads to slow adoption of technology by customers.

Furthermore, the results of the interview revealed that integration and training concerns cause poor adoption of technology by customers. This is supported by the fact that 70% of respondents strongly agreed that training concerns lead to low adoption of technology by customers. A further 26% of respondents agreed that integration and training concerns lead to poor adoption of technology by customers, while only 4% were undecided. This is a strong sign that integration and training issues cause poor adoption of technology by customers.

In addition, respondents to the interview were asked to judge whether fear of failure leads to poor adoption of technology by customers. This is demonstrated by the 85% of respondents who strongly agreed that it leads to poor adoption of technology by customers, as well as the 14% who concurred. However, a small minority of only 1% disagreed, while some remained undecided. Fear of failure cause poor adoption of technology by customers, as evidenced by these data on the findings.

### 4.10 Chapter Summary

This chapter presented and analyzed the data collected from the field through main questionnaires, and interviews. From the above findings, it could be said that the primary data collected was a success especially given an overwhelming overall response rate of ninety-five percent (95%). The next chapter focused on the summary of this research and makes recommendations as well as conclusions to this research based on the above findings

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

## 5.0 Introduction

This chapter provides a summary of the major findings of the study, drawing conclusions, recommendations, and areas of further research based on the research findings and literature review on the assessment of financial technology implementation challenges in the banking sector.

## 5.1 Summary of the major findings

The drive of the research study was to find out the financial technology implementation challenges in the banking sector at CBZ. From the data collected and analyzed, the respondents' replies indicated that technology implementation problems include security issues, lack of mobile and technology expertise, internet connection problems, fear of change, and lack of resources.

Amongst the respondents, 88% were male while 12% were female, the majority of which were between 31-40 years. The research findings show that 24% reached an O level, 20% attained an A level, 32% attained a diploma and 15% are undergraduates and 9% indicated that they were postgraduates. 70% of respondents were general staff, 20% were supervisors and 10% were at the top management level with the majority of employees staying in the organization for 6-10 years.

The research findings show that the recent technologies in retail banking include internet banking, mobile banking, point of sale, automated teller machines, electronic funds transfer, electronic money, prepaid payment instruments, blockchain, cloud computing, artificial intelligence, and plastic money. The study reveals that CBZ only employs electronic funds transfer, electronic

money, point of sale, internet banking, mobile banking, online banking, prepaid payment instruments, and plastic money. The research shows that CBZ offers traditional technologies and lags behind relative to the whole market.

The findings show that CBZ does not offer advanced technology including blockchain, cloud computing, and artificial intelligence. The study findings reveal that technology plays the following roles which include reducing costs, facilitating survival and growth, improving service delivery, and encouraging innovation. The research findings show that technology adoption benefits customers, failure to adopt it increases costs, slow services, low customer retention, and poor service delivery.

Also research finding results reveal that 5.5% of customers perceived the performance of CBZ's technologies to be very good, 41.7% of them regard them to be performing fairly, and at the same time 46.7% of employees also perceived them to be fair. The remaining 52.8% of customers and 53.3% of employees regarded the technologies to be performing poorly. None of the respondents had a perception that the technologies were excellent or perceived them good.

## 5.2 Conclusions

This study aimed at finding out the financial technology implementation challenges in banking at CBZ. In light of the findings, the following conclusions were made:

- The financial technology implementation challenges faced at CBZ were legal and security issues, lack of mobile and technology expertise, internet connection problems, fear of change, and lack of resources.
- Recent technologies in retail banking include internet banking, mobile banking, point of sale, automated teller machines, electronic funds transfer, electronic money, prepaid payment instruments, blockchain, cloud computing, artificial intelligence, and plastic money. CBZ does not offer some of the technologies including blockchain, artificial intelligence, and cloud computing.
- Technology plays a crucial role in providing and improving competitive service delivery in retail banking. Financial technology is therefore an effective device that can be used to reduce costs and facilitates the survival and growth of banks.

## 5.3 Recommendations

Because of the above conclusions, the following recommendations were made:

### 5.3.1 Legal and Security Issues

The government must enact legislation further on internet banking and mobile banking to deal with uncertainty in the validity of some agreements formed through electronic media and law regarding customer disclosures and privacy protection leads to legal risks in internet banking thus protecting the users and suppliers from legal tussles ensuring uniformity and growth in the banking sector, the banks should put in place mechanisms to prevent hacking of systems and thus prevent loss of customer money leading to improved customer confidence.

### 5.3.2 Lack of mobile and technology expertise

Banks to put in place extensive customer awareness programs on recent retail technologies to enhance market penetration and acceptance of financial technology products and services, and reduce illiteracy among the customers. They should collaborate with internet providers to ensure faster internet speed provision and internet banking alerts to customers.

### 5.3.3 Internet connection problems

Banks should seek to collaborate with internet service providers to gain high-quality internet infrastructure to enable the banks to offer better quality services and at the same time enhance internet accessibility thus dealing with the challenge of poor internet speed.

### 5.3.4 Fear of change

The study recommends that Banks should train their employees who will, in turn, pass the knowledge to their customers therefore the issue of fear of change and lack of customer awareness is dealt with. Training will help improve confidence as well as improve innovation. By training its

employees they will realize the benefits of e-banking services both to them and to their customers hence improve on the adoption of e-banking services.

### 5.3.5 Recommendations for further study

From the general objective of the study and the research findings, the researcher suggests further studies be done on the very same topic but to cover a wider scope such as all banks in Zimbabwe to confirm if the research findings of this study will be the same further study be conducted based on the customer's perspective.

**REFERENCES**


Abor, J.A., (2005). *Technological Innovations and Banking in Ghana: An Evaluation of Customers' Perceptions*. University of Ghana. Legon.

Agboola, A.A., (2004). *Information and Communication Technology (ICT) in Banking Operations in Nigeria: An Evaluation of Recent Experiences.* Obafemi Awolowo University Ile-Ife. Nigeria.

Akoh, B., (2001). E-business in developing world Africa and Ethiopia (Ethiopia in the knowledge age).*Unpublished Report, 2001*.

Alu, A, O., (2002). The effect of technology on the growth of the banking industry in Nigeria: *The Electronic Journal on Information Systems in Developing Countries*, Volume 6: 212-221.

Al Ajlouni, A.T., & Al-Hakim, M. (2018). Financial Technology in Banking Industry: Challenges and Opportunities. *International Conference on Economics and Administrative Sciences ICEAS2018*.

Arner, D. W., Barberis, J. N., & Buckley, R. P. (2015). *The Evolution of Fintech: A New Post-Crisis Paradigm?* [Online]
Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676553.

Barclay, J, M., (2001). "*Improving selection interviews with structure: organisations' use of "behavioural" interviews"*, Personnel Review, Volume 30(1): 81 – 101.

Barney, S, S., (2000). Distributed Applications and E-Commerce: *An Introduction to Ecommerce and distributed applications, Issues and problems.*

Brown, S, W., (2000). Technology infusion in Service encounters: *Journal of the academy of M Clemons marketing Science*, Volume 28: 138-149.

Clemons, E, K., and Hitt, L, M., (2000). *The internet and the future of financial services*: Transparency, Differential Pricing and Disintermediation.

Chiemeke, S. (2006). "The adoption of internet banking in Nigeria: an empirical investigation", *Journal of Internet Banking and Commerce,* Vol. 11, issue 3, pp. 22-23.

Chen, T, J., (2003). The diffusion and impacts of the Internet and e-commerce: Taiwan I- Ways, Volume 26 (4): 185-193.

Eckerson, W. (2009). Maturity Model Adoption Curve – Six Stages. *The Data Warehousing Institute: Education and Research*.

Cuesta, C., Ruesta, M., Tuesta, D., & Urbiola, P. (2015). The digital transformation of the banking industry. *BBVA research, Digital Economy Watch.* [Online] Available at: *https://www.researchgate.net/profile/David_Tuesta/publication/291357544_The_digital_transformation_of_the_banking_industry/links/56a2cc6f08ae1b65112cbdb9/The-digitaltransformation-of-the-banking-industry.pdf* .

Dapp, T.F., Slomka, L., & Hoffmann, R. (2014). Fintech–The digital revolution in the financial sector. *Deutsche Bank Research.* [Online] Available at: https://www.dbresearch.com/PROD/RPS_ENPROD/PROD0000000000451941/Fintech The_digital_%28r%29evolution_in_the_financia.pdf.

Dorfleitner, G., Hornuf, L., Shimtt, M., & Weber, M. (2016). *The FinTech Market in Germany.* [Online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2885931.

Else, P., (2004). Improvement in Thai Retail banking and its management implications: *ABAC Journal on Service quality* Volume 3(4): 33-38.

Fichman, R.G., DOS Santos, B.L., & Zheng, Z. E (2014). *DIGITAL INNOVATION AS A FUNDAMENTAL AND POWERFUL CONCEPT IN THE INFORMATION SYSTEMS CURRICULUM. MIS QUARTERLY, 38 (2).* [Online] Available at: https://www.researchgate.net/profile/Robert_Fichman/publication/261400539.

Francis A., (2011). MBA Knowledge base research on Business Finance (2011), *Role of Information Technology (IT) in the banking sector, India*.

Gerrard, P., & Cunningham, B. J. (2003).The diffusion of internet banking among Singapore consumers. *International Journal of Bank Marketing*, Vol 21, issue 1, pp. 16-28.

Giglio, V. (2002), "Privacy in the world of cyber banking: emerging legal issues and how you are protected", *The Secured Lender*, Vol 14, issue 3, pp. 48-60.

Ghaziri, C., (1998). *Information Technology in the banking sector*: Opportunities, Threats and Strategies.

Gomber, P, and Schiereck, D., (2017). *Business and information engineering*, Prentice Hall, India.

Gupta, P, and Das, U., (2011). *Efficiency of technology in retail banking*.

Jessup, L. M. and Valacich, S. J., (2008). *Information systems today*, Prentice Hall, India.

Kapurubandara, M (2009). A framework to e-transform SMEs in Developing Countries: *Electronic Journal of Information Systems in Developing Countries*, Volume. 39(3): 44.58

Kothari, C.R. (2017) *Research Methodology. Methods and Techniques* (Revised edition)

Kuisma T, Laukkanen T, & Hiltunen M (2007). Mapping The Reasons For Resistance To Internet Banking: A means-end approach. *International Journal of Information Management. Vol* 27, pp. 75-85.

Lane, M.S. and Van, D., (2004). *An Electronic Commerce Initiative in Regional Sri Lanka: The Vision for the Central Province Electronic Commerce Portal*. University of Southern Queensland. Australia.

MacLennan, T., (2000). An investigation of the use of intranet technology in UK retail banks: *Journal of Librarianship and Information Science.*

Mattila, M. Karjaluoto, M. & Heikki, P. (2003). *Internet Banking Adoption Among Mature Customers: Early Majority or Laggards*. Working Paper.

Masocha, T., (2011). The impact of technology on competitive marketing by banks, a case study: *African journal of marketing management volume 3(3) 68-77*.

Moodley, S., (2001). Impact of electronic commerce and small exporting firms in the SouthAfrican wooden furniture manufacturing sector: *Journal of Information Technology Impact*, Volume 2(3): 89-104.

Moore, G. (2015). *The 5 Customer Segments of Technology Adoption.* Retrieved from https://ondigitalmarketing.com/learn/odm/foundations/5-customer-segments-technology adoption/.

Moya, M., (2008), *Technological Innovations in Banks, an evaluation of customers' perception,*

Makerere University Business School, Uganda. Nacmias, D. C., (1981). *Research Methods in the Social Sciences.* NY: St. Martin's.

Namchul, S., (2003). Empirical Analysis of the Impact of Information Technology on Vertical Integration: *International Journal of Sciences Technology and Management, volume. 3. No. 1.*

Nyberg, T., (2002). *First-mover advantages and disadvantages in e-commerce* – the example of Internet banking: European Integration in Swedish Economic Research

Prahalad, C. K., (2012), Article: Financial Inclusion: *Role of Information Technology, India*.

Puschmann, T. (2017). Fintech. *Spring Journals, 59 (1),* 69-76.

RBZ. (2021). *QUARTERLY BANKING SECTOR REPORT*. Harare: The Reserve Bank of Zimbabwe.

Rogers, E.M. (1962) *Diffusion of innovation*. 1st Edition. New York: Free Press.

Rogers, E. M. (1995) *Diffusion of Innovation.* 4th Edition. New York: Free Press.

Rogers, E.M., & Shoemaker, F.F. (1971), *Communication of innovations*, New York: Free Press.

Saravanaraj, M.S., (2011), technology at Indian banking sector: *European Journal of Social*.

Saunders, M., Lewis, P., and Thornhill, A., (2005). *Research Methods for Business students,* (3rd edition), Pearson Education, India.

Tashchian, A., (1982), the impact of individual differences on the validity of conjoint analysis: *Journal of advances in consumer research, volume 9 pages 363-366*, Florida state University. USA

Teo, T.S.H. and Tan, M., (1998), An empirical study of adopters and non-adopters of the Internet in Singapore: *Journal of Information & Management,* vol. 34, pp. 339-345.

Thompson.G.F, (1996). *Reserve Bank of Australia Research Bulletin, Retail Banking, Technology and Prudential Supervision.*

Wang, C, and Wang, Z., (2007). *The impact of internet on service quality in the banking sector*.

Yamane. T (1967), *Elementary Sampling Theory,* Prentice-Hall, Englewood.

Zavolokina, L., Dolata, M., & Schwabe, G. (2016). *FinTech- What's in a Name?*. Dublin, 1-20.

## APPENDIX I

## BINDURA UNIVERSITY OF SCIENCE EDUCATION


## FACULTY OF COMMERCE

## DEPARTMENT OF BANKING AND FINANCE

Dear Sir/Madam

I am a fourth year student at Bindura University of Science Education doing Bachelor of Business studies (Honours) degree in Banking and Finance. The aim of the dissertation is to **Investigate The Financial Technology Implementation Challenges in the banking sector** as per the requirement by the University.

Kindly assist by on completing the attached questionnaire. The information you provide will be kept strictly confidential and only for the purpose of the research project. I would be very much appreciative if the questionnaire could be returned at your earliest suitable time.

Thank you for your cooperation.

Yours sincerely,

Godknows Mugoniwa

**Cell: 0779805433**

**E-mail address: godknowsmugoniwa@gmail.com**

**QUESTIONNAIRE**

Please tick [ ] in the appropriate box provided to indicate your answers and fill in on the spaces provided.

**SECTION A: DEMOGRAPHICS**

1. Gender

   Male [ ]

   Female [ ]

2. Age

   18-30 years [ ]

   31-40 years [ ]

   41-50 years [ ]

   51-60 years [ ]

   Above 60 years [ ]

3. Educational level

   O level [ ]

   A level [ ]

   Diploma [ ]

   Undergraduate [ ]

   Post graduate [ ]

4. How do you classify the role you play in terms of hierarchy?

   Management level [ ]

   Supervisory level [ ]

   General staff level [ ]

5. What period have you served the organisation in that role?

   Less than 1 year [ ]

   1-5 years [ ]

   6-10 years [ ]

   11-15 years [ ]

**SECTION B: TECHNOLOGICAL ADVANCEMENTS**

Tick appropriately to show whether those technologies are offered or not.

6. Technologies offered.

| Financial Technologies | Offered | Not offered |
|---|---|---|
| Automated teller machine | | |
| Electronic funds transfer | | |
| Cloud computing | | |
| Plastic money | | |
| Point of sale | | |
| Prepaid payment instruments | | |
| Electronic money | | |
| Online banking | | |
| Blockchain | | |
| Mobile banking | | |
| Artificial intelligence | | |

Tick appropriately to show whether you, Strongly Agree (SA), Agree (AG), Not sure (NS), Disagree (D), Strongly Disagree (SD), Scale: SA=5, AG=4, NS=3, D=2, SD=1.

7. Roles of financial technology.

| Roles | SA | AG | NS | D | SD |
|---|---|---|---|---|---|
| Reduces cost | | | | | |
| Survival and growth | | | | | |
| Improves services delivery | | | | | |
| Encourages innovation | | | | | |

8. FinTech opportunities.

| Opportunities | SA | AG | NS | D | SD |
|---|---|---|---|---|---|
| Greater access to capital | | | | | |
| Better and more tailored banking services | | | | | |
| Enhancement in security | | | | | |
| Regulation technology | | | | | |
| Cost advantage | | | | | |

**SECTION C: BENEFITS OF TECHNOLOGY**

Tick appropriately to show whether you, Strongly Agree (SA), Agree (AG), Not sure (NS), Disagree (D), Strongly Disagree (SD), Scale: SA=5, AG=4, NS=3, D=2, SD=1

9. Positive impact of technology.

| Fintech benefits | SA | AG | NS | D | SD |
|---|---|---|---|---|---|
| Reduce costs | | | | | |
| Reduction in labor work | | | | | |
| Customer retention and marketing tool | | | | | |
| Enables new products and services | | | | | |
| Reduces fraud | | | | | |
| Wide range of products and services | | | | | |

10. How technology improves customer satisfaction?

| Effect of technology on customer satisfaction | SA | AG | NS | D | SD |
|---|---|---|---|---|---|
| Faster response times | | | | | |
| Better individualized attention | | | | | |
| More access on the go | | | | | |

11. How is fintech changing the face of bank sector?

| Transformation in the bank sector | SA | AG | NS | D | SD |
|---|---|---|---|---|---|
| Personalisation | | | | | |
| Cheap deals | | | | | |
| Wide range of products and services | | | | | |
| Fintech saves time | | | | | |
| Convenience | | | | | |

**SECTION D: CHALLENGES OF FINTECH IMPLEMENTATION**

Tick appropriately to show whether you, Strongly Agree (SA), Agree (AG), Not sure (NS), Disagree (D), Strongly Disagree (SD), Scale: SA=5, AG=4, NS=3, D=2, SD=1.

12. Fintech implementation challenges.

| Fintech challenges | SA | AG | NS | D | SD |
|---|---|---|---|---|---|
| Security issues and data privacy | | | | | |
| Compliance with government regulations | | | | | |
| Lack of mobile and tech expertise | | | | | |
| User retention and user experience issues | | | | | |

13. Major risks of fintech operations.

| Fintech risks | SA | AG | NS | D | SD |
|---|---|---|---|---|---|
| Unexpected market occurrences | | | | | |
| Non-compliance with regulatory requirements | | | | | |
| Personal and professional liability | | | | | |
| Data thefts and cyber attacks | | | | | |
| An increase in global rivalry | | | | | |

14. Challenges faced by e-banking customers.

| **Problems of technology to bank clients** | **SA** | **AG** | **NS** | **D** | **SD** |
|---|---|---|---|---|---|
| Non familiarity with advanced technology | | | | | |
| Internet connection problems | | | | | |
| Problems regarding security and privacy | | | | | |

## APPENDIX 2: INTERVIEW

## INTERVIEW GUIDE FOR CBZ EMPLOYEES

1. Which financial technologies do you have in your bank?
2. What are the challenges being faced by your bank due to financial technology implementation?
3. How can you assess the overall performance of Commercial Bank of Zimbabwe's technological systems?
4. What are the causes of poor adoption of technology by customers?