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LUSAKA

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**THE EFFECT OF FINTECH ADOPTION ON OPERATIONAL EFFICIENCY  
AND CUSTOMER SATISFACTION IN ZAMBIA'S BANKING SECTOR**

A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE  
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BY

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**DECLARATION**

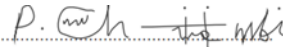
I, Dorothy Ng'andu, solemnly declare that this research work, "The Effect of Fintech Adoption on the Digital Transformation of Financial Services," is entirely my own. It has complied with the rules and guidelines set by the University of Lusaka.

I confirm this research's information, data, and references are properly acknowledged. Additionally, I affirm that this work has not been presented to any other institution for academic qualification or other purposes.

I accept full responsibility for any mistakes or oversights in this research and pledge to uphold the highest ethical standards throughout the study.

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## DEDICATION

I dedicate this work to my late mum, **GETRUDE CHIKWEPE**. Your unwavering love and strength continue to guide me even in your absence. Though I didn't know my dreams back then, I now strive to live a life that would have made you proud. This achievement is a testament to God's faithfulness and your enduring influence in my life. Thank you for everything. This is for you, Mum.

To Dad, **DAVID NG'ANDU**, Thank you for the support and care you have always shown me. Your dedication to being a father to us has made us who we are today. I love you, Dad

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## **Abstract**

This study aimed to explore the impact of fintech adoption on operational efficiency and customer satisfaction. The main objective was to assess the effect of fintech adoption on these two key areas, while the specific objectives included evaluating the extent of fintech adoption, assessing its impact on operational efficiency, examining its effect on customer satisfaction, and identifying associated challenges and opportunities. The study employed a mixed-methods research design, targeting commercial banks, fintech companies, regulatory agencies, bank customers, and bank executives. Stratified random sampling was used to ensure representation across different stakeholder groups. Data was collected through structured questionnaires and semi-structured interviews, and analyzed using descriptive statistics and thematic analysis. This approach allowed for a comprehensive understanding of fintech adoption and its implications in Zambia's banking sector. The findings revealed that mobile banking is the most widely adopted fintech service, with 46.7% of institutions reporting very high adoption. Process automation (30%) and enhanced mobile banking platforms (23.3%) were the most prominent digital transformation initiatives, significantly improving operational efficiency. Fintech adoption also enhanced customer satisfaction, particularly through mobile money and digital payments, which expanded financial inclusion. However, challenges such as cybersecurity risks, low digital literacy, and uneven adoption in rural areas were identified. Key drivers of fintech adoption included demand for faster services (20%), increased mobile phone penetration, and supportive government policies. The study concluded that while fintech adoption has positively impacted operational efficiency and customer satisfaction in Zambia's banking sector, significant gaps remain, particularly in rural areas and advanced technology adoption. Recommendations include investing in advanced technologies, enhancing digital infrastructure, strengthening cybersecurity measures, promoting financial literacy, and fostering collaboration between stakeholders. The study also identified areas for future research, such as rural fintech adoption, cybersecurity, regulatory frameworks, and behavioral factors influencing adoption.

**Keywords:** Fintech adoption, operational efficiency, customer satisfaction, digital transformation, mobile banking, financial inclusion, cybersecurity, Zambia, banking sector, emerging markets.

# **CHAPTER ONE INTRODUCTION AND BACKGROUND**

## **1.0. Introduction**

The rapid adoption of financial technologies (fintech) is revolutionizing Zambia's banking sector, driving operational efficiency and reshaping customer experiences. Innovations such as mobile banking platforms, digital payment systems, and AI-driven automation have streamlined banking processes, reduced transaction costs, and improved accessibility for underserved populations. Despite these advancements, there is limited empirical research examining how fintech adoption specifically impacts operational efficiency and customer satisfaction in Zambia—a gap that hinders stakeholders from fully optimizing its potential. This study addresses this void by investigating the relationship between fintech adoption, operational efficiency, and customer satisfaction in Zambia's banking sector. Guided by four research objectives and corresponding questions, the study evaluates the extent of fintech adoption, identifies its impacts, and explores challenges such as digital literacy gaps and regulatory constraints. Focusing on Lusaka, Zambia's financial hub, the research provides actionable insights for banks, policymakers, and fintech providers to harness fintech's transformative power while mitigating risks. By bridging the knowledge gap, this study contributes to fostering financial inclusion and sustainable growth in Zambia's evolving digital economy.

## **1.1 Background**

The global banking sector has undergone a seismic shift over the past decade, fueled by fintech innovations such as blockchain, mobile money, and AI-driven analytics. In Africa, fintech adoption has surged, with platforms like Kenya's M-Pesa and Nigeria's Flutterwave revolutionizing financial inclusion. Zambia, while slower to adopt fintech compared to regional peers, has seen notable progress since the mid-2010s, driven by mobile network operators like Airtel Money and MTN Mobile Money. These platforms now serve millions of unbanked Zambians, particularly in rural areas, while banks increasingly integrate AI chatbots and automated loan approval systems to enhance service delivery.

Theoretical frameworks such as the Technology Acceptance Model (TAM) and Diffusion of Innovations Theory provide a lens to understand fintech adoption. TAM emphasizes perceived usefulness and ease of use as drivers of technology acceptance, while

Diffusion of Innovations highlights the role of social systems and communication channels in spreading technological advancements. Globally, studies link fintech adoption to improved operational efficiency (e.g., reduced processing times) and higher customer satisfaction (e.g., personalized services). However, research in Sub-Saharan Africa, particularly Zambia, remains sparse.

Zambia's unique context presents both opportunities and challenges. While fintech promises financial inclusion for its largely rural population, barriers such as low digital literacy (only 35% of Zambians use the internet), regulatory fragmentation (e.g., outdated laws for digital transactions), and cybersecurity vulnerabilities (e.g., rising mobile fraud cases) threaten sustainable adoption. This study situates itself within this context, arguing that addressing these challenges is critical for Zambia to leverage fintech as a catalyst for equitable economic growth.

## **1.2 Statement of the Problem**

The rapid adoption of financial technologies (fintech) has the potential to revolutionize Zambia's banking sector by improving operational efficiency, enhancing customer satisfaction, and fostering financial inclusion. Innovations such as mobile money platforms, digital payment systems, and AI-driven automation have streamlined banking processes, reduced transaction costs, and expanded access to financial services, particularly for underserved populations. However, the full impact of fintech adoption on Zambia's banking sector remains underexplored, with limited empirical research focusing on how these technologies specifically affect operational efficiency and customer satisfaction within the country's unique socio-economic and regulatory context (Choi & Kim, 2020). While some studies have highlighted the benefits of fintech in other African countries, such as Kenya's M-Pesa and Nigeria's Flutterwave (Aker & Mbiti, 2010; Oji-Okoro et al., 2021), there is a significant gap in research regarding Zambia's adoption of these technologies, leaving policymakers, financial institutions, and fintech providers with insufficient information to make data-driven decisions.

Zambia faces several challenges that hinder the effective implementation and optimization of fintech solutions, including low digital literacy, limited internet access (with only 35% of the population using the internet), and regulatory constraints due to outdated

legal frameworks (Chavula, 2020; Ndung'u, 2021). Additionally, cybersecurity threats, such as mobile fraud, further complicate the widespread adoption of fintech services (Bank of Zambia, 2022). These barriers threaten to undermine the potential of fintech to drive operational efficiency and improve customer satisfaction in Zambia's banking sector. Given the increasing reliance on digital platforms for financial transactions, addressing these challenges is essential for ensuring the sustainable adoption of fintech and maximizing its benefits for the banking sector and broader economy.

This study seeks to address the gaps in knowledge by investigating the relationship between fintech adoption, operational efficiency, and customer satisfaction in Zambia's banking sector. It will explore how fintech adoption has influenced banking operations, identify the challenges hindering its optimal use, and evaluate how these technologies can improve customer satisfaction. In doing so, the study aims to provide valuable insights that will guide banks, fintech providers, and policymakers in making informed decisions to harness fintech's transformative potential, improve service delivery, and foster inclusive economic growth in Zambia.

### **1.3 Research Objectives**

#### **1.3.1 Main Objective**

The effect of Fintech adoption on Operational efficiency and customer satisfaction.

#### **1.3.2 Specific Objectives**

- i. To evaluate the extent of fintech adoption in Zambia's banking sector.
- ii. To assess the impact of fintech adoption on operational efficiency.
- iii. To examine the effect of fintech adoption on customer satisfaction.
- iv. To identify the challenges and opportunities associated with fintech adoption in the banking sector.

### **1.4 Research Questions**

To achieve the research objectives, the study addresses the following questions:

- i. What is the current state of fintech adoption in Zambia's banking sector?
- ii. How does fintech adoption enhance operational efficiency in banking operations?
- iii. How does fintech adoption affect customer satisfaction in the banking sector?

- iv. What challenges and opportunities exist in the adoption of fintech in Zambia's banking sector?

### **1.5 Scope of the Study**

This study focused on the banking sector in Lusaka, Zambia, as the geographical area of investigation, targeting bank employees, customers, and fintech providers to comprehensively assess the impact of fintech adoption on operational efficiency and customer satisfaction. Lusaka was selected due to its status as the financial hub of Zambia, where fintech adoption was most concentrated, and where the majority of commercial banks and fintech companies were headquartered. The city's high banking penetration, advanced technological infrastructure, and diverse range of fintech services made it an ideal case study for understanding the dynamics of fintech integration in the banking sector. Additionally, Lusaka's accessibility ensured efficient data collection from key stakeholders, enhancing the feasibility and reliability of the study. While the findings were primarily focused on Lusaka, they were expected to provide valuable insights that could be extrapolated to other urban areas in Zambia and similar emerging markets, where fintech adoption was growing but faced comparable challenges such as regulatory constraints, infrastructure limitations, and varying levels of customer readiness. By examining the extent of fintech adoption, its impact on operational efficiency and customer satisfaction, and the associated challenges and opportunities, this study aimed to contribute actionable recommendations for policymakers, banks, and fintech providers in Zambia and beyond.

### **1.6 Significance of the Study**

This research holds substantial value for a wide range of stakeholders, each of whom can gain meaningful insights and benefits from its findings. Below are the key groups that will benefit from this study:

#### **1.6.1 Academia**

For academic researchers and scholars, this study contributes to the growing body of knowledge on fintech adoption, particularly in emerging markets. It adds to the understanding of how fintech is transforming the banking landscape in Sub-Saharan Africa, with a specific focus on Zambia. The findings of this research can serve as a

foundation for future studies, offering both theoretical insights and empirical evidence on the adoption of technology in the financial sector. Additionally, the research can inspire further academic exploration into the challenges and opportunities fintech presents in similar contexts across the region.

### **1.6.2 Banking Institutions**

For banking institutions in Zambia and the broader Sub-Saharan African region, this study provides actionable insights into how fintech adoption can enhance operational efficiency and improve customer satisfaction. By understanding the direct effects of fintech on their operations, banks can optimize their digital transformation strategies, streamline processes, reduce costs, and improve service delivery. The study also identifies areas where fintech innovations can help banks stay competitive, attract new customers, and build stronger relationships with existing ones. In an increasingly digital world, these findings offer valuable guidance on staying relevant in a rapidly evolving financial landscape.

### **1.6.3 Policymakers**

Policymakers and regulatory authorities in Zambia will benefit from the study's insights into the current regulatory environment and its impact on fintech adoption. The research emphasizes the need for adaptive and forward-thinking regulatory frameworks that support fintech innovation while ensuring consumer protection and financial stability. Additionally, it highlights the importance of investing in digital infrastructure, which is crucial to the broader adoption of fintech across the country, particularly in underserved and rural areas. By understanding the challenges and regulatory gaps, policymakers can craft more informed policies that foster a conducive environment for fintech growth, boosting the financial sector's overall development.

### **1.6.4 Fintech Companies**

For fintech companies operating in Zambia or considering entry into the market, this research offers valuable information about the unique needs and preferences of Zambian customers. By identifying gaps in the existing market and understanding the pain points faced by customers and banks, fintech providers can develop more targeted, innovative

solutions. The study also sheds light on key opportunities for growth, such as providing affordable and accessible services to underserved populations, enhancing digital literacy, and offering solutions that improve operational efficiency for banks. These insights can help fintech companies design products and services tailored specifically to the Zambian market and ensure that their solutions align with the country's digital transformation goals.

### **1.6.5 Customers**

For customers, particularly in Zambia's underserved and rural areas, this study highlights the importance of digital literacy and cybersecurity awareness in navigating fintech-driven banking services. It emphasizes the need for customers to be informed about the benefits and risks of using digital banking platforms and fintech services. By addressing these issues, banks and fintech companies can work together to empower consumers to make informed decisions and maximize the benefits of fintech, such as increased access to financial services, enhanced convenience, and improved security in transactions. Moreover, the research underscores the significance of inclusive service delivery to ensure that all customer segments, regardless of their location or socio-economic status, can access and benefit from fintech innovations.

### **1.6.6 Overall Impact**

Ultimately, this study aims to support the sustainable growth of Zambia's banking sector by providing a clear understanding of the challenges and opportunities associated with fintech adoption. By leveraging these insights, stakeholders can foster a more inclusive financial ecosystem, driving broader financial inclusion and helping to ensure that the benefits of fintech reach all segments of the population, including those in remote or rural areas. Furthermore, the findings can help Zambia's financial sector compete more effectively on the global stage, attracting investments, fostering innovation, and improving overall economic growth.

## **1.7. Definition of Key Terms**

- a) Johnson (2023) defines fintech adoption as the integration of financial technologies into activities, products, purchases, and sales.

- b) Smith et al. (2022) define digital transformation as using digital technology to restructure an organization's operations and customer value delivery.
- c) Gupta et al. (2020) define financial services as a wide range of economic services provided by financial institutions to consumers, businesses, and governments.
- d) Regulatory Frameworks: Rules and regulations govern both traditional financial institutions and emerging Fintech enterprises to ensure compliance. to bring efficiency and stability to the Fintech systems and so preserve those of the consumers. They underline that they are essential to lessen cyber dangers in a study done by Bertino et al. (2022).
- e) Firms aim to improve the efficiency and stability of Fintech systems, protecting customer interests. Bertino et al.'s (2022) study emphasizes the importance of reducing cyber dangers.
- f) Dennis and McDonald (2020) define operational efficiency as "the degree to which financial institutions can align and deploy their internal processes, resources, and work within the shortest time possible to yield the best results.
- g) Business Models: These frameworks help firms create value for both themselves and their clients. The Financial Brand (2024) utilized an article to demonstrate the internationalization of the banking system in terms of finances by startups.

## **1.8 Organization of the Research**

This report is structured into six chapters, each designed to provide a thorough exploration of the study on the effect of fintech adoption on operational efficiency and customer satisfaction in Zambia's banking sector. Chapter 1 provides an introduction to the research, outlining the background, statement of the problem, research objectives, and scope of the study, while also highlighting its significance and contribution to the existing body of knowledge.

Chapter 2 presents the literature review, which includes the theoretical framework and an empirical review of relevant studies from global, regional, and local perspectives. It also introduces the conceptual framework that underpins the study. Chapter 3 details the research methodology, including the design, data collection methods, and analytical

techniques used. Chapter 4 focuses on the data analysis and results, followed by a discussion of the findings in Chapter 5, which examines the impact of fintech adoption on operational efficiency and customer satisfaction. The final chapter, Chapter 6, concludes the report with recommendations for stakeholders and addresses the limitations and delimitations of the research.

### **1.9 Chapter Summary**

This chapter introduced the study by highlighting the growing role of fintech in Zambia's banking sector, emphasizing its potential to enhance operational efficiency and customer satisfaction. The background provided an overview of global and regional fintech adoption trends, positioning Zambia within this broader context while identifying key theoretical frameworks such as the Technology Acceptance Model (TAM) and the Diffusion of Innovations Theory. The statement of the problem outlined the research gap regarding fintech's impact on operational efficiency and customer satisfaction in Zambia. The research objectives and questions were defined to assess the extent of fintech adoption, its effects, and associated challenges. The scope of the study was delimited to Lusaka due to its financial prominence, ensuring data relevance and feasibility. Finally, the chapter underscored the study's significance for academia, banking institutions, policymakers, fintech providers, and customers while providing key definitions of essential terms

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.0. Introduction**

This chapter synthesizes existing research, theoretical frameworks, and empirical evidence on fintech adoption in the banking sector, with a focus on operational efficiency, customer satisfaction, and Zambia's unique context. It identifies gaps in the literature and positions the study within the broader academic discourse.

### **2.1. Theoretical Framework**

The study is grounded in three pivotal theories that collectively provide a comprehensive understanding of fintech adoption and its implications: the Diffusion of Innovation Theory (Rogers, 2003), the Technology Acceptance Model (TAM), and the Disruptive Innovation Theory (Christensen, 1997). These theories are instrumental in explaining how fintech innovations are adopted, the factors influencing user acceptance, and the transformative effects on traditional banking systems. Each theory offers unique insights, and their application to Zambia's banking sector reveals both opportunities and challenges, given the country's socio-economic and infrastructural context.

#### **2.1.1 Diffusion of Innovation Theory**

The Diffusion of Innovation Theory, developed by Everett Rogers in 2003, is a foundational framework for understanding how new technologies and innovations spread within a society. The theory posits that the adoption of innovations is influenced by five key factors: relative advantage, compatibility, complexity, trialability, and observability. These factors determine the rate and extent to which an innovation is adopted by individuals and organizations. The theory is particularly important because it provides a systematic approach to analyzing the adoption process, highlighting the social and psychological factors that influence decision-making (Rogers, 2003).

In the context of fintech adoption in Zambia, the relative advantage of fintech solutions over traditional banking methods is a critical driver. Fintech platforms, such as mobile banking and mobile money services, offer significant benefits, including convenience, cost-effectiveness, and accessibility, particularly in a cash-heavy economy like Zambia. For instance, the success of Airtel Money and MTN Money in serving unbanked populations demonstrates how fintech can address financial inclusion challenges

(Finscope Zambia, 2022). These platforms have enabled users to conduct financial transactions without the need for physical bank branches, which is particularly beneficial in rural areas where banking infrastructure is limited. However, the adoption of these innovations is often hindered by low digital literacy and limited access to fintech demonstrations, especially in rural areas. These barriers reduce the perceived compatibility and trialability of fintech solutions, slowing their diffusion (Munyanyi & Mapfumo, 2021).

The observability of fintech's benefits is another crucial factor. In Zambia, the visibility of fintech's advantages, such as reduced transaction costs and increased financial access, has been limited by infrastructure gaps and regulatory challenges. For example, while mobile money platforms like M-Pesa have revolutionized financial services in Kenya (Suri & Jack, 2016), similar successes in Zambia have been constrained by inadequate infrastructure and low internet penetration (World Bank, 2021). This underscores the importance of addressing infrastructural and regulatory barriers to enhance the observability and trialability of fintech solutions, thereby accelerating their adoption (Chitimira & Ncube, 2020).

### **2.1.2 Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM), developed by Fred Davis in 1989, is a widely used framework for understanding user acceptance of new technologies. TAM posits that the adoption of technology is driven by two key factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which a user believes that a technology will enhance their performance, while perceived ease of use refers to the degree to which a user believes that using the technology will be free of effort. These factors are critical in determining user acceptance and are often mediated by trust and other contextual factors (Davis, 1989).

In Zambia, the perceived usefulness of fintech is evident in the tangible benefits it offers, such as faster transaction speeds, lower costs, and increased access to financial services. Mobile money platforms, for example, have significantly reduced the time and cost associated with financial transactions, making them highly useful for both urban and rural populations (Finscope Zambia, 2022). However, the perceived ease of use of fintech

solutions is often compromised by clunky interfaces and cybersecurity concerns, which reduce user confidence and hinder adoption (Munyanyi & Mapfumo, 2021). Trust plays a mediating role in this context, as users are more likely to adopt fintech solutions if they perceive them to be secure and reliable. Studies in India have shown that trust in fintech platforms significantly influences their adoption (Singh et al., 2020), suggesting that similar dynamics are at play in Zambia (Chitimira & Ncube, 2020).

The importance of TAM lies in its ability to identify the specific factors that influence user acceptance of technology. By addressing issues related to usability and trust, fintech providers can enhance the perceived ease of use and usefulness of their platforms, thereby driving adoption. This is particularly relevant in Zambia, where low digital literacy and limited exposure to technology exacerbate the challenges associated with fintech adoption (World Bank, 2021).

### **2.1.3 Disruptive Innovation Theory**

The Disruptive Innovation Theory, introduced by Clayton Christensen in 1997, provides a framework for understanding how new technologies disrupt existing markets and industries. According to this theory, disruptive innovations initially target underserved or overlooked market segments, offering simpler, more affordable, or more accessible solutions than those provided by established players. Over time, these innovations improve in quality and functionality, eventually displacing traditional players and reshaping the industry. This theory is particularly important because it explains how new entrants can challenge and transform established industries, often leading to significant societal and economic impacts (Christensen, 1997).

In Zambia, fintech platforms such as Airtel Money, MTN Money, and eWallet by FNB have disrupted the traditional banking sector by offering low-cost, accessible financial services that cater to the needs of underserved populations. These platforms have forced traditional banks to innovate and adapt, but the process has been slowed by legacy systems and regulatory inertia (Finscope Zambia, 2022). Legacy systems, which are deeply entrenched in traditional banking institutions, are often difficult to adapt to new technologies, creating a barrier to innovation (Munyanyi & Mapfumo, 2021). Regulatory frameworks in Zambia have also struggled to keep pace with the rapid development of

fintech, creating uncertainty for both fintech providers and traditional banks (Chitimira & Ncube, 2020).

The importance of the Disruptive Innovation Theory lies in its ability to explain the transformative potential of fintech. By targeting underserved markets and offering innovative solutions, fintech platforms have the potential to drive financial inclusion and economic growth. However, realizing this potential requires addressing the challenges posed by legacy systems and regulatory frameworks. Studies in Nigeria have highlighted similar challenges, emphasizing the need for agile regulation that can adapt to the rapidly evolving fintech landscape (Ogedengbe & Adegbite, 2021). This suggests that Zambia's regulatory environment must evolve to support fintech innovation while ensuring consumer protection and financial stability (World Bank, 2021).

## **2.2. Empirical Review**

The empirical literature on fintech adoption and its impacts on operational efficiency and customer satisfaction provides a comprehensive understanding of global, regional, and local trends. This section critically reviews key findings from global, regional, and local studies, highlighting the progress, challenges, and opportunities associated with fintech adoption in the banking sector. The review is structured to align with the specific objectives of the study, which include evaluating the extent of fintech adoption in Zambia's banking sector, assessing its impact on operational efficiency, examining its effect on customer satisfaction, and identifying associated challenges and opportunities.

### **2.2.1 Global Review**

Globally, fintech adoption has been shown to significantly enhance operational efficiency and customer satisfaction in the banking sector. Singh, Malik, and Jain (2021) conducted a study on the impact of fintech adoption on the profitability of Indian banks, using return on assets (ROA) and return on equity (ROE) as key performance indicators. Their findings revealed a significant positive relationship between fintech adoption and bank profitability, particularly when banks leveraged technologies such as blockchain, artificial intelligence, robotic process automation, and cloud computing. The study emphasized that financial institutions offering tailored products and services, combined with agility and flexibility, outperformed traditional banks. This highlights the transformative potential of fintech in

improving operational efficiency and customer satisfaction by enabling faster, more personalized services. However, the study also noted that the benefits of fintech adoption are not uniform across all banks, as smaller banks with limited resources often struggle to compete with larger institutions that can afford to invest heavily in fintech infrastructure.

The risks associated with fintech adoption are another critical area of focus in the global literature. Al-Shari and Lokhande (2023) explored the relationship between fintech adoption risks and bank performance in Yemen, identifying four key risks: systemic risks, operational risks, outsourcing risks, and cyber risks. Their study found that operational and cyber risks negatively impacted bank performance, while outsourcing risks had a positive effect. This underscores the importance of managing risks associated with fintech adoption to ensure its benefits are fully realized. The study also highlighted the need for robust regulatory frameworks to mitigate these risks, a finding that is particularly relevant for Zambia's banking sector, where cybersecurity and operational risks remain significant challenges. The authors argued that without adequate risk management strategies, the potential benefits of fintech adoption could be overshadowed by increased vulnerabilities, particularly in developing economies with weaker regulatory environments.

Sajid et al. (2023) further examined the role of fintech in reducing bank risk-taking behavior through improved operational efficiency. Their study, which focused on commercial banks in emerging markets such as China, India, Pakistan, and Bangladesh, found that fintech adoption enhanced operational efficiency, which in turn reduced risk-taking behavior. This suggests that fintech not only improves operational performance but also contributes to financial stability by minimizing risks. The study's findings are particularly relevant for Zambia, where operational inefficiencies and risk management remain critical issues in the banking sector. However, the authors also cautioned that the relationship between fintech adoption and risk reduction is not linear, as the complexity of fintech systems can sometimes introduce new risks, particularly in the absence of adequate oversight and governance.

Chowdhury (2023) provided additional insights into the impact of fintech adoption on operational performance, focusing on commercial banks in Bangladesh. The study found a moderate positive correlation between fintech adoption and return on assets (ROA),

indicating that fintech adoption enhances profitability. However, the study also noted that the benefits of fintech adoption are contingent on the availability of robust digital infrastructure and supportive regulatory frameworks. This finding is particularly relevant for Zambia, where low internet penetration and regulatory gaps pose significant barriers to fintech adoption. The study emphasized that while fintech has the potential to drive operational efficiency, its success depends on the broader ecosystem in which it operates, including the availability of skilled labor, reliable internet connectivity, and supportive government policies.

### **2.2.2 Regional Review**

In Africa, fintech adoption has been a key driver of financial inclusion and operational efficiency, particularly in countries like Kenya and South Africa. Amal (2020) conducted a study on the impact of financial technology on the operational efficiency of licensed commercial banks in Kenya. The study found that internet banking had a significant negative relationship with operational performance, contrary to expectations. However, the study also highlighted the importance of fintech components such as mobile banking, mobile loans, and agency banking in enhancing operational efficiency. The findings suggest that while fintech adoption can improve operational performance, its impact varies depending on the specific technology and context. The study recommended that banks focus on integrating multiple fintech solutions to achieve a more balanced impact on operational efficiency, rather than relying on a single technology.

Nyabuto (2023) explored the effect of fintech on the operational performance of investment firms in Kenya, focusing on innovations such as peer-to-peer (P2P) lending, robo-advisors, crowdfunding platforms, and blockchain-based investment models. The study found a strong correlation between fintech adoption and operational performance, with fintech innovations contributing to revenue growth, customer satisfaction, and market positioning. The study emphasized the importance of a supportive regulatory environment in fostering fintech adoption, a finding that is particularly relevant for Zambia, where regulatory gaps remain a significant challenge. The authors argued that without clear and consistent regulatory frameworks, the potential of fintech to drive operational efficiency and customer satisfaction could be undermined by uncertainty and inefficiency.

In South Africa, Mugabe (2022) examined the relationship between fintech adoption and banking performance, using financial ratios such as return on equity (ROE), return on assets (ROA), and net interest margin (NIM) as performance indicators. The study found that fintech adoption had a significant positive impact on banking performance, particularly in terms of operational efficiency and profitability. However, the study also noted that fintech adoption could lead to increased competition, which may negatively impact traditional banks' profitability. This highlights the need for banks to innovate and adapt to the changing financial landscape, a challenge that is also relevant for Zambia's banking sector. The authors recommended that banks adopt a proactive approach to fintech adoption, focusing on innovation and customer-centric solutions to remain competitive in a rapidly evolving industry.

### **2.2.3 Local Review**

In Zambia, the adoption of fintech has been driven by the need to improve financial inclusion and operational efficiency, particularly in underserved rural areas. Malambo (2022) conducted a study on the challenges of digital innovation on customer satisfaction at Stanbic Bank Zambia. The study found that system timeouts, network problems, and delays in transaction reversals were major challenges that led to customer dissatisfaction. The study recommended that banks invest in robust digital infrastructure and automate key processes to improve service delivery and customer satisfaction. These findings are particularly relevant for Zambia, where low internet penetration and unreliable digital infrastructure remain significant barriers to fintech adoption. The study also highlighted the importance of customer education and awareness in driving fintech adoption, as many customers remain hesitant to adopt digital banking solutions due to a lack of understanding and trust.

Chibwe (2024) examined the effect of digitalization on customer satisfaction at Standard Chartered Bank Zambia, using the Unified Theory of Acceptance and Use of Technology (UTAUT) as a theoretical framework. The study found that factors such as convenience, accessibility, speed, and real-time feedback were critical determinants of customer satisfaction in a digitized banking environment. The study also highlighted the importance of internet security and the integration of mobile and online banking platforms in

enhancing customer satisfaction. These findings underscore the need for Zambian banks to prioritize customer-centric fintech solutions to remain competitive in a rapidly evolving industry. The study recommended that banks focus on improving the user experience of digital platforms, particularly for customers in rural areas who may have limited access to digital infrastructure.

Banda (2022) explored the effects of mobile money banking on the financial performance of micro and small enterprises (MSEs) in Lusaka, Zambia. The study found that mobile money banking had a weak relationship with financial performance, primarily due to challenges such as limited access to loans, low education levels, and inadequate management skills among MSE owners. The study recommended that financial institutions increase loan amounts and remove loan ceilings to support the growth of MSEs. These findings highlight the potential of fintech to drive financial inclusion in Zambia, but also underscore the need for targeted interventions to address the unique challenges faced by MSEs. The study also emphasized the importance of financial literacy programs to help MSE owners better understand and utilize fintech solutions.

#### **2.2.4 Synthesis of Findings**

The global, regional, and local literature reviewed in this section highlights the transformative potential of fintech adoption in improving operational efficiency and customer satisfaction in the banking sector. However, the findings also underscore the challenges associated with fintech adoption, including cybersecurity risks, regulatory gaps, and inadequate digital infrastructure. These challenges are particularly pronounced in Zambia, where low internet penetration, unreliable digital infrastructure, and a reliance on cash-based transactions limit the potential of fintech to drive financial inclusion and operational efficiency. The literature also highlights the importance of customer-centric fintech solutions in enhancing customer satisfaction. Factors such as convenience, accessibility, speed, and real-time feedback are critical determinants of customer satisfaction in a digitized banking environment. However, challenges such as system timeouts, network problems, and delays in transaction reversals can undermine customer satisfaction, highlighting the need for banks to invest in robust digital infrastructure and automate key processes. Therefore, while fintech adoption has the potential to transform

Zambia's banking sector, realizing this potential will require targeted investments in digital infrastructure, regulatory reforms, and customer-centric fintech solutions. The findings of this review provide valuable insights for policymakers, regulators, and banking practitioners in Zambia, highlighting the need for a coordinated approach to fintech adoption that addresses the unique challenges and opportunities in the Zambian context.

### **2.3. Gaps in Reviewed Literature**

While the reviewed literature provides valuable insights into the impact of fintech adoption on operational efficiency and customer satisfaction, several gaps and weaknesses remain. These gaps highlight areas where further research is needed to fully understand the dynamics of fintech adoption, particularly in the context of Zambia's banking sector. This section critically analyzes the findings of the reviewed studies, identifies their limitations, and outlines the research gaps that need to be addressed.

#### **2.3.1 Geographic and Contextual Gaps**

One of the most significant gaps in the reviewed literature is the limited focus on Zambia and other similar low-income, cash-dominant economies. Most studies, particularly those at the global and regional levels, focus on countries with relatively advanced digital infrastructure and regulatory frameworks, such as India, Kenya, and South Africa. For example, Singh, Malik, and Jain (2021) and Sajid et al. (2023) provide valuable insights into fintech adoption in emerging markets like India and Bangladesh, but their findings may not be fully applicable to Zambia, where internet penetration is low (48%) and cash-based transactions dominate (World Bank, 2023). Similarly, while Amal (2020) and Nyabuto (2023) offer important perspectives on fintech adoption in Kenya, their findings may not account for Zambia's unique challenges, such as regulatory hesitancy and a collectivist culture that influences trust in digital systems. This geographic and contextual gap limits the applicability of existing research to Zambia's banking sector. There is a need for more localized studies that examine fintech adoption in Zambia's specific socio-economic and cultural context. For instance, while studies like Malambo (2022) and Chibwe (2024) provide insights into customer satisfaction and digitalization in Zambia, they are limited in scope, focusing on individual banks rather than the sector as a whole. This highlights the need for broader, sector-wide studies that explore the impact of fintech

adoption on operational efficiency and customer satisfaction across Zambia's banking sector.

### **2.3.2 Theoretical Gaps**

Another critical gap in the reviewed literature is the limited application of theoretical frameworks to explain fintech adoption in low-income, cash-dominant economies like Zambia. While studies such as Singh, Malik, and Jain (2021) and Sajid et al. (2023) use quantitative approaches to measure the impact of fintech adoption, they often lack a strong theoretical foundation to explain the underlying mechanisms driving adoption. For example, the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (Rogers, 2003) are rarely applied in the Zambian context, despite their potential to explain how and why customers adopt fintech solutions.

Chibwe (2024) is one of the few studies that applies a theoretical framework (UTAUT) to examine fintech adoption in Zambia. However, the study's focus on a single bank limits its generalizability. There is a need for more studies that apply robust theoretical frameworks to explain fintech adoption in Zambia, particularly in light of the country's unique challenges, such as low digital literacy and a reliance on informal financial systems. Theoretical frameworks could help identify the key drivers and barriers to fintech adoption, providing valuable insights for policymakers and practitioners.

### **2.3.3 Methodological Gaps**

The reviewed literature also reveals methodological gaps, particularly in terms of research design and data collection. Many studies, such as Amal (2020) and Nyabuto (2023), rely on secondary data and quantitative approaches, which, while useful, often fail to capture the nuanced experiences of customers and bank employees. For example, Amal's (2020) finding that internet banking has a negative impact on operational performance contradicts much of the existing literature, suggesting that the study's reliance on secondary data may have overlooked important contextual factors. Similarly, while Malambo (2022) and Chibwe (2024) use mixed-methods approaches to examine customer satisfaction, their focus on individual banks limits the generalizability of their findings. There is a need for more comprehensive, mixed-methods studies that combine quantitative and qualitative data to provide a holistic understanding of fintech adoption in

Zambia. Such studies could explore the perspectives of both customers and bank employees, providing valuable insights into the challenges and opportunities associated with fintech adoption.

#### **2.3.4 Empirical Gaps**

The reviewed literature also highlights several empirical gaps, particularly in terms of the impact of fintech adoption on operational efficiency and customer satisfaction. While studies such as Singh, Malik, and Jain (2021) and Sajid et al. (2023) provide evidence of the positive impact of fintech adoption on operational efficiency, they often fail to explore the specific mechanisms through which fintech drives these improvements. For example, while Sajid et al. (2023) find that fintech adoption reduces risk-taking behavior by improving operational efficiency, the study does not explore how different fintech solutions (e.g., mobile banking, blockchain) contribute to these outcomes. Similarly, while studies such as Malambo (2022) and Chibwe (2024) examine the impact of fintech adoption on customer satisfaction, they often focus on specific challenges, such as system timeouts and network problems, without exploring the broader implications for customer loyalty and retention. There is a need for more empirical studies that explore the long-term impact of fintech adoption on customer satisfaction, particularly in terms of customer loyalty, trust, and retention.

#### **2.3.5 Policy and Regulatory Gaps**

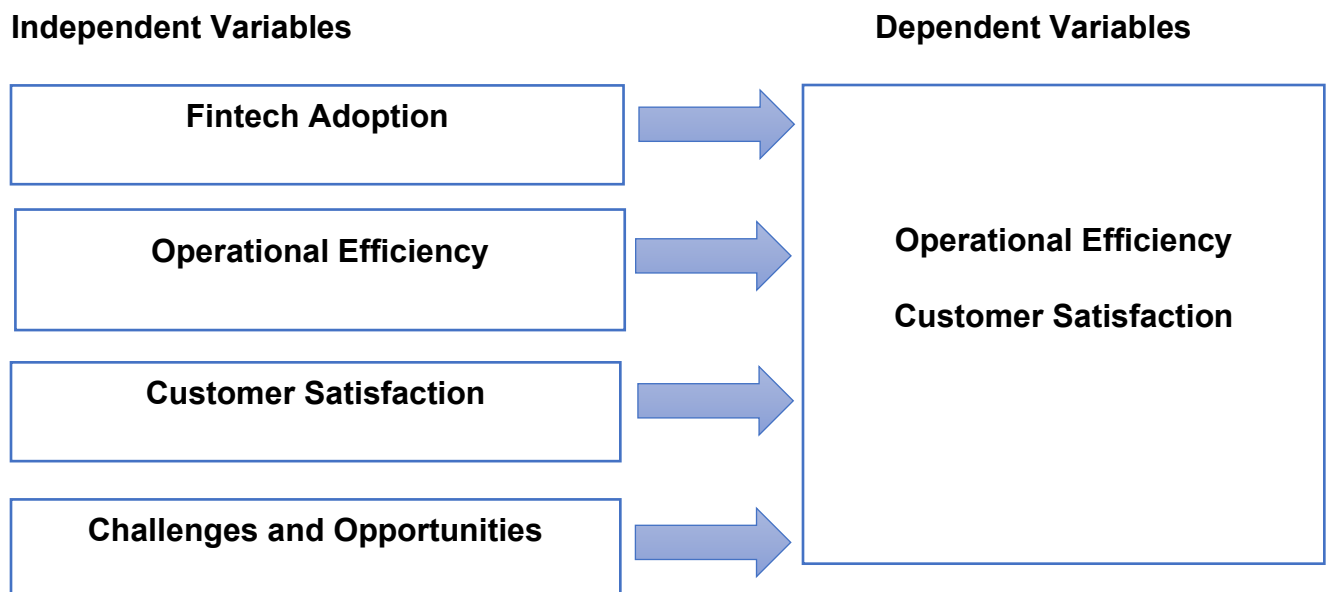
Finally, the reviewed literature highlights significant gaps in terms of policy and regulatory frameworks for fintech adoption. While studies such as Al-Shari and Lokhande (2023) and Nyabuto (2023) emphasize the importance of supportive regulatory environments, they often fail to provide specific recommendations for policymakers. For example, while Nyabuto (2023) highlights the importance of a supportive regulatory environment for fintech adoption in Kenya, the study does not explore how similar frameworks could be adapted to the Zambian context. Similarly, while Mugabe (2022) examines the impact of fintech adoption on banking performance in South Africa, the study does not explore the role of regulatory frameworks in driving these outcomes. There is a need for more research that explores the role of policy and regulatory frameworks in fostering fintech adoption, particularly in low-income, cash-dominant economies like Zambia. Such

research could provide valuable insights for policymakers, helping them design regulatory frameworks that balance innovation with consumer protection and financial stability.

## 2.4 Conceptual Framework

This conceptual framework (figure 2.1) is designed to explore the relationship between Fintech adoption and its impact on operational efficiency and customer satisfaction in Zambia's banking sector. The framework identifies Fintech adoption as the independent variable, which is further broken down into specific dimensions derived from the study's objectives. Operational efficiency and customer satisfaction are the dependent variables, which are influenced by the extent and nature of Fintech adoption. The framework also considers the challenges and opportunities associated with Fintech adoption, as these factors may moderate or mediate the relationship between Fintech adoption and the dependent variables.

**Figure 2.1: Conceptual Framework**



### 2.4.1 Independent Variables

The independent variable in this study is Fintech Adoption, which is operationalized through the following dimensions, each linked to a specific objective:

**2.4.1.1 Extent of Fintech Adoption (Specific Objective 1):** This refers to the level of integration and usage of Fintech solutions (e.g., mobile banking, digital

payments, blockchain, AI-driven services) in Zambia's banking sector. A higher extent of Fintech adoption is expected to streamline banking processes, reduce manual interventions, and enhance service delivery, thereby improving operational efficiency and customer satisfaction.

**2.4.1.2 Impact on Operational Efficiency (Specific Objective 2):** This dimension evaluates how Fintech adoption influences key operational metrics such as transaction processing time, cost reduction, error rates, and resource allocation. Fintech solutions like automation and data analytics can optimize workflows, reduce operational costs, and improve accuracy, leading to enhanced operational efficiency.

**2.4.1.3 Effect on Customer Satisfaction (Specific Objective 3):** This dimension assesses how Fintech adoption affects customer experience, including accessibility, convenience, service quality, and responsiveness. Fintech tools such as mobile apps, chatbots, and personalized services can improve customer engagement, reduce wait times, and provide tailored solutions, thereby increasing customer satisfaction.

**2.4.1.4 Challenges and Opportunities (Specific Objective 4):** This dimension identifies barriers (e.g., regulatory constraints, cybersecurity risks, lack of infrastructure) and enablers (e.g., government support, technological advancements) associated with Fintech adoption. Addressing challenges and leveraging opportunities can enhance the effectiveness of Fintech adoption, indirectly influencing operational efficiency and customer satisfaction.

## **2.4.2 Dependent Variables**

The dependent variables in this study are:

**2.4.2.1 Operational Efficiency:** This refers to the ability of banks to deliver services in a cost-effective, timely, and accurate manner. It is measured through metrics such as transaction speed, cost per transaction, error rates, and resource utilization. Fintech solutions like automation, AI, and blockchain can streamline processes, reduce manual errors, and optimize resource allocation, thereby improving operational efficiency.

**2.4.2.2 Customer Satisfaction:** This refers to the level of contentment customers experience with the services provided by banks. It is measured through factors such as ease of use, accessibility, responsiveness, and overall service quality. Fintech tools like mobile banking, digital wallets, and personalized services enhance convenience, reduce wait times, and improve service delivery, leading to higher customer satisfaction.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.0. Introduction**

This chapter outlines the research design, population, data collection methods, and analytical procedures used to investigate the impact of fintech adoption on operational efficiency and customer satisfaction in Zambia's banking sector.

### **3.1 Research Approach**

The study adopted a mixed-methods research approach, which combines both quantitative and qualitative research methods to provide a comprehensive understanding of the research problem. This approach was chosen because it allows for the triangulation of data, enabling the researcher to validate findings by cross-verifying results from different methods (Creswell & Plano Clark, 2018). The quantitative component of the study provided measurable data on the extent of fintech adoption, its impact on operational efficiency, and customer satisfaction, while the qualitative component offered deeper insights into the challenges and opportunities associated with fintech adoption in Zambia's banking sector. The mixed-methods approach was particularly suitable for this study because it addressed the complexity of the research objectives, which required both numerical data and contextual understanding (Johnson & Onwuegbuzie, 2004). The use of mixed methods was further justified by the need to explore the research problem from multiple perspectives. For instance, while quantitative data could measure the extent of fintech adoption and its impact on operational efficiency, qualitative data was necessary to understand the experiences and perceptions of bank employees and customers regarding fintech adoption. This approach ensured that the study captured both the breadth and depth of the research problem, providing a more holistic understanding of the effect of fintech adoption on operational efficiency and customer satisfaction in Zambia's banking sector (Tashakkori & Teddlie, 2010).

### **3.2 Research Design**

The study employed a sequential explanatory research design, which involved collecting and analyzing quantitative data first, followed by qualitative data to explain or elaborate on the quantitative findings (Creswell, 2014). This design was chosen because it allowed the researcher to first identify patterns and relationships through quantitative analysis and

then use qualitative data to provide context and deeper insights into these findings. The sequential explanatory design was particularly appropriate for this study because it aligned with the research objectives, which required an initial assessment of the extent of fintech adoption and its impact, followed by an exploration of the underlying challenges and opportunities.

In the first phase, quantitative data was collected through structured surveys distributed to bank employees and customers. This phase aimed to evaluate the extent of fintech adoption, assess its impact on operational efficiency, and examine its effect on customer satisfaction. The quantitative data provided measurable indicators of fintech adoption, such as the percentage of banks using specific fintech solutions, changes in operational efficiency metrics (e.g., transaction processing times, cost reductions), and customer satisfaction scores (Bryman, 2012). In the second phase, qualitative data was collected through semi-structured interviews with key stakeholders, including bank managers, fintech providers, and customers. This phase aimed to explain the quantitative findings by exploring the challenges and opportunities associated with fintech adoption. For example, while the quantitative data might show a high level of fintech adoption, the qualitative interviews could reveal challenges such as cybersecurity risks, regulatory gaps, or resistance to change among bank employees (Creswell & Plano Clark, 2018). The qualitative phase also provided insights into the contextual factors influencing fintech adoption, such as Zambia's low internet penetration and collectivist culture.

The sequential explanatory design was justified because it allowed the researcher to build on the strengths of both quantitative and qualitative methods while minimizing their limitations. For instance, while quantitative methods provided generalizable data, they often lacked depth in explaining why certain patterns or relationships existed. Conversely, qualitative methods provided rich, detailed insights but were limited in terms of generalizability. By combining these methods sequentially, the study was able to provide a more comprehensive and nuanced understanding of the research problem (Tashakkori & Teddlie, 2010).

## 3.2 Population and Sampling

### 3.2.1 Target Population

The study targeted five key stakeholder groups within Zambia's financial services ecosystem: commercial banks, fintech companies, regulatory agencies, bank customers, and bank executives. This approach ensured a comprehensive examination of the varying impacts of fintech adoption on operational efficiency, customer service, regulatory frameworks, and strategic decision-making across the banking sector.

- **Commercial Banks:** Banks at different stages of fintech adoption were included to allow for comparative analysis. This enabled the study to explore how varying levels of fintech integration influence digital transformation outcomes.
- **Fintech Companies:** These firms provided insights into innovation, service delivery, and the practical implementation of mobile banking, digital payments, and blockchain.
- **Regulatory Agencies:** Institutions like the Bank of Zambia were consulted to assess the role of regulations as both enablers and potential barriers to fintech innovation and adoption.
- **Bank Customers:** End-users of fintech services were included to capture their perceptions, satisfaction levels, experiences with digital banking tools, and overall trust in these services.
- **Bank Executives:** Senior decision-makers from commercial banks were included to provide strategic insights into adopting fintech, the challenges faced, and the overall impact on digital transformation within their institutions.

This multi-stakeholder approach ensured a general understanding of the fintech ecosystem and its impact on the Zambian banking sector.

### 3.2.2 Sampling Techniques

To ensure a balanced and representative dataset, the study employed stratified random sampling for the collection of survey data. This method was chosen to include banks of varying sizes—small, medium, and large—within Zambia, with diverse levels of fintech

integration. By stratifying the sample, the study captured a comprehensive view of the fintech landscape in Zambia's banking sector, enabling meaningful comparisons and insights into how different levels of fintech adoption influence outcomes. A target population of 5 banks and 32 clients was selected for the survey. This sample size was deemed sufficient to draw reliable conclusions and make reasonable generalizations about the broader banking environment in Zambia. The inclusion of banks at different stages of fintech adoption ensured a nuanced understanding of the sector's digital transformation.

For the qualitative component of the study, purposive sampling was utilized to identify key stakeholders with relevant expertise and experience. Participants included senior managers from the selected banks, managers from fintech firms, and representatives from regulatory authorities. This targeted approach ensured that the qualitative data reflected the perspectives of individuals deeply involved in fintech adoption and its implications. To gather in-depth insights, five semi-structured interviews were conducted. These interviews provided rich, detailed perspectives on the challenges, opportunities, and strategic considerations associated with fintech adoption. Thematic saturation was achieved, indicating that the interviews yielded sufficient depth and variation in responses to address the research questions comprehensively.

### **3.3 Data Collection Methods**

#### **3.3.1 Quantitative Data Collection**

Quantitative data were collected using structured questionnaires administered to bank employees and customers. The questionnaires were designed to capture key variables such as fintech utilization levels, organizational efficiency, and customer satisfaction, which are critical for understanding the impact of fintech on Zambia's banking sector. The questions were structured using a Likert scale to facilitate robust statistical analysis, providing a standardized measure of respondents' attitudes and perceptions. This approach allowed for easier quantification and comparison of responses, enhancing the reliability of the collected data.

Given the geographical dispersion of the sample and the need for high response rates, the study employed a dual data collection approach: online and face-to-face methods.

The online method ensured broader reach and convenience, particularly for tech-savvy respondents, while face-to-face administration was used to ensure higher engagement and response accuracy, especially for participants with limited access to digital platforms. This mixed approach balanced efficiency and inclusivity, ensuring a representative dataset for analysis.

### **3.3.2 Data with Qualitative Characteristics**

The qualitative data collection process focused on capturing the experiences, perspectives, and insights of key stakeholders, including senior managers from selected banks, fintech firm managers, and regulatory authorities. These participants provided rich, detailed accounts that supplemented the study's understanding of the strategic imperatives, risks, and opportunities associated with fintech adoption in Zambia's banking sector. Interviews were conducted either in person, over the phone, or via teleconference, depending on the availability and logistical constraints of the participants. Each interview typically lasted between 45 and 60 minutes, allowing sufficient time for an in-depth exploration of the participants' experiences and perspectives. To ensure the credibility and accuracy of the data, the study employed reciprocity and member checking, where participants were allowed to review and validate their responses. In cases where participants consented, interviews were recorded to facilitate accurate transcription and ensure that their accounts were faithfully represented in the final analysis.

## **3.4 Data Analysis**

### **3.4.1 Analysis of Collected Quantitative Data**

The analysis of quantitative data began with the use of descriptive statistics to summarize demographic information and key variables related to fintech adoption. This provided a clear overview of the sample characteristics and the distribution of critical factors such as fintech utilization levels, organizational efficiency, and customer satisfaction.

To examine the relationship between fintech adoption and digital transformation, particularly focusing on parameters like operating efficiency and customer satisfaction, regression analysis was employed. This statistical technique helped determine the strength and direction of the relationship between these variables, offering

robust insights into how fintech adoption influences the digital transformation process in Zambia's banking sector.

The collected data was entered into the Statistical Package for the Social Sciences (SPSS), a powerful tool for statistical analysis. The data was meticulously cleaned to ensure accuracy and reliability before being analyzed. SPSS facilitated efficient data processing, enabled the handling of large datasets, and provided a comprehensive platform for performing various statistical tests to validate the research objectives.

### **3.4.2 Qualitative Data Analysis**

The qualitative data analysis process involved coding and thematic analysis to identify patterns and themes related to the drivers of fintech adoption, the role of regulations, and the developments arising from digital transformation and digitalization. The analysis began with the systematic coding of interview transcripts to extract relevant insights, which were then categorized into key themes.

Initially, manual coding was used to develop an understanding of the data and identify preliminary themes. This process was later supported by NVivo software, which enhanced the depth and rigor of the thematic analysis. NVivo allowed for more efficient management of large volumes of qualitative data, enabling a comprehensive exploration of the complex themes that emerged from the interviews. The software facilitated the identification of recurring patterns, key drivers, and regulatory challenges, enriching the overall interpretation of the data.

## **3.5 Validity and Reliability**

### **3.5.1 Validity**

The study ensured content validity by subjecting the research instruments—including the questionnaires and interview schedules—to an expert review. This process confirmed that the instruments accurately measured the intended constructs, such as fintech adoption, operational efficiency, and customer satisfaction. Additionally, pilot tests were conducted on the questionnaires and interview schedules to assess their clarity, relevance, and effectiveness in capturing the required data. Feedback from the pilot tests was used to refine the instruments, further enhancing their validity.

To establish construct validity, the study compared its findings with prior research on fintech adoption and digital transformation. This comparison confirmed that the constructs under investigation aligned with those identified in existing literature, reinforcing the validity of the study's measurements. By grounding the research in established theoretical frameworks and empirical evidence, the study ensured that its findings were both credible and consistent with broader academic discourse.

### **3.5.2 Reliability**

The reliability of the quantitative data was assessed using Cronbach's Alpha, a statistical measure of internal consistency. A Cronbach's Alpha score of  $\geq 0.7$  was considered satisfactory, as recommended by Tavakol and Dennick (2011). This threshold ensured that the items within the questionnaire were consistent and reliable, reflecting the stability of the data collected.

For the qualitative data, member checking was employed to enhance reliability. This process involved sharing interview transcripts with participants, allowing them to verify the accuracy of their responses. By involving participants in this validation process, the study ensured that their views were faithfully represented, thereby strengthening the reliability of the findings. Member checking not only improved the accuracy of the data but also reinforced the credibility of the research by aligning the interpretations with participants' perspectives.

### **3.6 Ethical Considerations**

The study adhered to strict ethical standards to protect the rights, privacy, and well-being of all participants. Written informed consent was obtained from each participant before their involvement in the research. This process ensured that participants were fully aware of the study's purpose, procedures, and their rights, including the right to withdraw at any time without consequences. By maintaining transparency and respecting participants' autonomy, the study upheld ethical principles of voluntary participation and informed decision-making.

To safeguard participant confidentiality, all responses were anonymized. Each participant was assigned a unique identifier, and all data were securely stored to prevent

unauthorized access. This approach ensured that participants' identities and responses remained confidential throughout the research process.

Additionally, the study obtained ethical approval from relevant institutional review boards before data collection. These boards evaluated the research design, procedures, and ethical considerations to ensure compliance with established ethical standards. By adhering to these protocols, the study maintained the integrity of the research process and prioritized the protection of participants' privacy and well-being.

### **3.7 Limitations of the Study**

While the study provides valuable insights into fintech adoption in Zambia's banking sector, it is not without limitations. One key limitation is the potential urban bias in the data. The study's focus on urban banks, which are typically more advanced in fintech adoption, may underrepresent the perspectives and experiences of rural banks. Rural banks often face unique challenges and operate at earlier stages of digital transformation, and their exclusion could skew the findings, limiting the generalizability of the results to the entire banking sector. Another limitation stems from the reliance on self-reported data, which introduces the risk of self-selection bias. Participants may consciously or unconsciously provide responses that portray themselves or their organizations in a favorable light, potentially affecting the reliability and objectivity of the data. This bias could lead to an overestimation of positive outcomes or an underrepresentation of challenges associated with fintech adoption.

Additionally, the rapidly evolving nature of the fintech and financial services industries poses a challenge to the study's long-term relevance. Technological advancements and changes in regulatory frameworks occur frequently, and the findings of this study may not fully capture the dynamic and future impact of fintech adoption. As new technologies emerge and regulations evolve, the conclusions drawn from this research may require revisiting to remain accurate and applicable. These limitations highlight the need for cautious interpretation of the results and suggest areas for future research to address these gaps, such as incorporating rural perspectives, minimizing self-reporting biases, and conducting longitudinal studies to capture the evolving fintech landscape.

## **CHAPTER FOUR: PRESENTATION OF FINDINGS**

### **4.0 Introduction**

This chapter presents the results of the study, which examined the impact of fintech adoption on the digital transformation of financial services within Zambian banks. As outlined in the methodology chapter, the results are based on data gathered through both qualitative and quantitative questionnaires. The findings are organized according to the specific research objectives, offering valuable insights into the extent of fintech adoption within Zambian banks, the initiatives that have been implemented for digital transformation, and the overall impact of fintech adoption on the banks' digital evolution. Additionally, the chapter explores the primary factors driving these developments.

Quantitative results are presented using descriptive and inferential statistics, providing a clear picture of trends, correlations, and patterns in the data. These statistical analyses help in understanding the relationship between fintech adoption and key outcomes such as operational efficiency and customer satisfaction. On the other hand, qualitative findings are summarized through thematic narratives, which capture the insights and perspectives of stakeholders, such as bank employees, fintech service providers, and regulators. The purpose of this chapter is to provide a comprehensive and organized presentation of the data, laying the foundation for the subsequent discussion and interpretation. The results will be analyzed in relation to the research questions and theoretical framework, offering a deeper understanding of the role of fintech in shaping the digital transformation of Zambia's banking sector.

### **4.1 Demographics of the Respondents**

This section presents the demographic details of the survey and interview participants, offering crucial background information for understanding the participants' profiles and assessing whether demographic variables influenced their opinions on fintech adoption and its impact on the digital transformation of Zambian banks. The demographic details include respondents' gender, age, educational attainment, years of experience in the financial industry, and current positions. These factors provide essential context for interpreting the results and understanding how various participant characteristics might shape their perspectives.

Descriptive statistics are used to summarize the demographic data, with the results outlined as follows: The study reveals a gender disparity among the respondents, with male participants outnumbering female participants. Although both male and female respondents were randomly selected for participation, this gender imbalance may influence the external validity of the findings, particularly regarding gender-related perspectives on fintech adoption. It is important to acknowledge this imbalance when considering the broader applicability of the results (see Figure 1). Further analysis could explore how gender differences, if any, might impact attitudes towards fintech adoption and its role in digital transformation within Zambia's banking sector.

**4.1.1 Gender Distribution**

The table 4.1 displays the gender distribution of the respondents. Among the total sample, male respondents comprised 60% of the participants, while female respondents made up 40%. This distribution indicates a higher representation of male participants in the study, which may have implications for understanding potential gender-related differences in perspectives on fintech adoption and its influence on digital transformation in Zambian banks.

*Table 4.1: Gender Distribution*

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	18	60.0	60.0	60.0
	Female	12	40.0	40.0	100.0
	Total	30	100.0	100.0	

With a larger percentage of male respondents than female respondents, this distribution provides a relatively balanced perspective on gender representation within the sample. While the sample is not perfectly equal, the 60% male and 40% female split offers an

adequate representation of both genders, allowing for a meaningful comparison of perspectives on fintech adoption and its impact on digital transformation in Zambian banks. However, it is important to consider that this gender disparity may influence the findings, particularly when exploring gender-specific attitudes or preferences regarding financial technology.

#### 4.1.2 Age Distribution

The table below provides a summary of the respondents' age distribution. The largest group of respondents, making up 46.7%, were between the ages of 25 and 34, followed by those in the 35 to 44 age range, who comprised 40% of the sample. Respondents in the 45 to 54 years category represented 10%, while the smallest group, those aged 55 years and older, and made up 3.3%. This distribution highlights a strong representation of younger professionals, which may reflect the increasing interest and involvement of younger generations in fintech adoption and digital transformation within the banking sector.

*Table 4.2: Age Distribution*

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25 - 34 years	14	46.7	46.7	46.7
	35 - 44 years	12	40.0	40.0	86.7
	45 - 54 years	3	10.0	10.0	96.7
	55 years and above	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

According to this age distribution, the majority of respondents were between the ages of younger and middle-aged, which may have influenced their understanding of and use of fintech services.

### 4.1.3 Education level

Table 4.3 summarizes the respondents' educational backgrounds. The majority of responders (60%) had a master's degree, indicating a well-educated group. Twenty-six percent of respondents had a bachelor's degree, whereas a lesser proportion had a diploma (10%) or had only completed high school (3.3%). This educational distribution indicates that respondents are generally well-versed in their fields, with a higher proportion of individuals holding advanced degrees, which may provide useful insights into their perspectives on fintech adoption and digital transformation in the banking sector.

Table 4.3: Education level

Education Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School	1	3.3	3.3	3.3
	Diploma	3	10.0	10.0	13.3
	Bachelor's Degree	8	26.7	26.7	40.0
	Master's Degree	18	60.0	60.0	100.0
	Total	30	100.0	100.0	

Given that the majority of the sample holds advanced degrees, this distribution reflects a highly educated populace that is aware of and actively interested in fintech services.

### 4.1.4 Current Role in the Banking/Financial Sector

Table 4.4 summarizes the respondents' affiliations within the financial services ecosystem. The majority of respondents (50%) identified as bank clients, highlighting the importance of consumer perspectives in the study. Bank workers made up 13.3% of the sample, while those who selected "Other" comprised 23.3%. A smaller portion of the respondents were financial regulators (10%) or fintech experts (3.3%). This distribution offers a diverse view of the sector, incorporating both end-users (bank clients) and industry professionals, which provides a holistic perspective on fintech adoption and digital transformation in Zambia's banking sector.

Table 4.4: Current Role in the Banking/Financial Sector

Current Role in the Banking/Financial Sector					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bank workers	4	13.3	13.3	13.3
	Fintech Expert	1	3.3	3.3	16.7
	Financial regulator	3	10.0	10.0	26.7
	Bank Clients	15	50.0	50.0	76.7
	Other	7	23.3	23.3	100.0
	Total	30	100.0	100.0	

With significant participation from both consumers (bank customers) and industry professionals (bank employees, fintech professionals, and financial regulators), this distribution reflects a diverse range of employment.

**4.1.5 Years of Experience in the Financial Sector**

Table 4.5 summarizes the years of experience of the respondents in the financial sector. The majority of respondents have significant experience, with 33.3% having more than 10 years of experience. This is followed by 30% of respondents who have between 6 and 10 years of experience. A smaller proportion, 20%, have between 2 and 5 years of experience, while 16.7% have less than 2 years of experience. This distribution indicates a generally experienced sample, which enhances the reliability of the findings regarding fintech adoption and its impact on digital transformation in the banking sector.

Table 4.5: Years of Experience in the Financial Sector

Years of Experience in the Financial Sector					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 2 years	25	16.7	16.7	16.7
	2 - 5 years	6	20.0	20.0	36.7
	6 - 10 years	9	30.0	30.0	66.7
	Over 10 years	10	33.3	33.3	100.0
	Total	30	100.0	100.0	

The respondents' experience in the financial sector varied, with the majority having over 6 years of experience. Specifically, 33.3% had more than 10 years of experience, 30% had 6–10 years, 20% had 2–5 years, and 16.7% had less than 2 years. This indicates a well-experienced sample, which strengthens the reliability of the study's findings on fintech adoption and digital transformation in Zambia's banking sector.

#### 4.2 Level of Fintech Adoption

Based on the survey responses, this section presents the findings regarding the level of fintech adoption in Zambia's banking industry. Descriptive statistics were employed to analyze the frequency and distribution of adoption across various fintech services, including digital wallets, blockchain, mobile banking, and digital payments. The findings

provide a clear understanding of how banks and their clients have integrated these technologies. Key trends, patterns, and potential areas for further growth in fintech adoption within Zambia’s financial system are highlighted, offering valuable insights into the future trajectory of digital innovation in the country’s banking sector.

#### 4.2.1 Familiarity with Fintech Adoption

The findings in table 4.6 illustrates the varying levels of familiarity with fintech services among respondents. The majority (63.3%) of participants reported being very familiar with fintech services, suggesting a high level of awareness and potential engagement with these financial technologies. Another 30.0% indicated they were somewhat familiar, implying a basic understanding but possibly limited direct experience or usage. Only 6.7% of respondents stated they were not familiar with fintech, indicating a relatively low level of fintech unawareness in the sample.

These findings suggest that fintech awareness is relatively high among respondents, which may influence perceptions of fintech adoption and its effects on operational efficiency and customer satisfaction in Zambia’s banking sector. A high familiarity level could indicate an increased likelihood of fintech usage, shaping customer expectations and satisfaction levels. Conversely, the presence of a smaller segment with limited or no familiarity suggests that while fintech adoption is progressing, there may still be gaps in outreach or education, particularly among certain demographics.

Table 4.6: Familiarity with Fintech Adoption

Familiarity with fintech services					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Familiar	2	6.7	6.7	6.7
	Somewhat Familiar	9	30.0	30.0	36.7
	Very familiar	19	63.3	63.3	100.0
	Total	30	100.0	100.0	

The results support the premise that fintech adoption is gaining traction, but further investigation is needed to determine whether familiarity translates into actual usage and how it affects banking operations and customer experiences.

#### 4.2.2 Fintech Services Directly Used or Familiar With

The findings highlight the dominance of mobile banking (31.6% of responses, 82.8% of cases) as the most widely used fintech service, indicating that the majority of respondents actively engage with it. Digital payments follow closely (27.6% of responses, 72.4% of cases), suggesting that while many respondents are aware of these services, not all use them regularly. Digital wallets (21.1% of responses, 55.2% of cases) show moderate adoption, implying growing but not widespread use compared to mobile banking and digital payments. Investment apps (9.2% of responses, 24.1% of cases) and online lending platforms (7.9% of responses, 20.7% of cases) have lower adoption rates, indicating that while some respondents engage with these services, they are not yet mainstream. Blockchain and cryptocurrency services (1.3% of responses, 3.4% of cases) show minimal usage, likely due to regulatory constraints or lack of awareness. The total case percentage (262.1%) confirms that respondents use multiple fintech services, reflecting the expanding fintech ecosystem in Zambia. However, the lower adoption of advanced financial services suggests potential gaps in awareness, accessibility, or trust, which could present growth opportunities for fintech providers.

Table 4.7: Fintech Services Directly Used or Familiar With

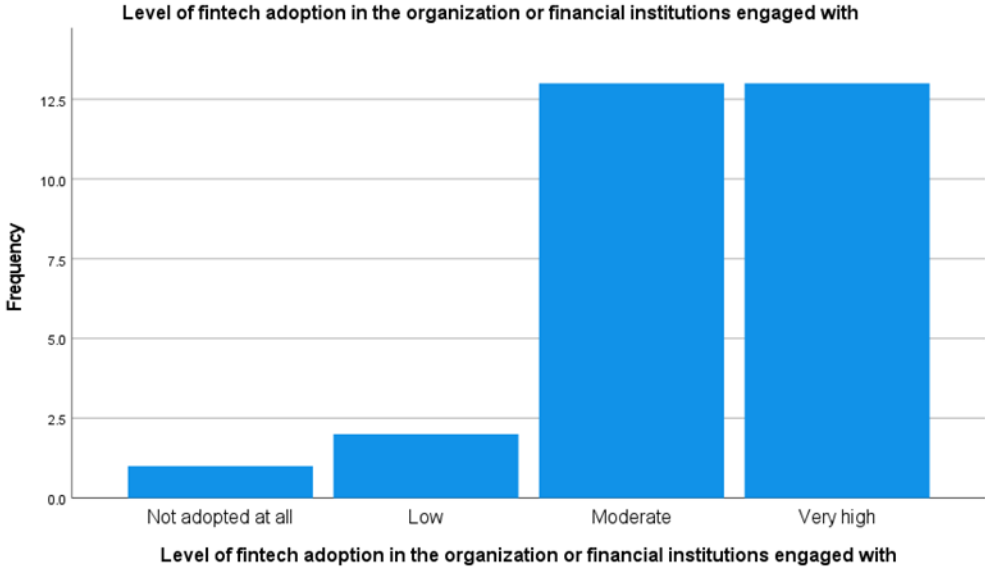
Fintech Services Used Frequencies				
		Responses		Percent of Cases
		N	Percent	
Fintech Services Familiar With	Mobile Banking	24	31.6%	82.8%
	Digital Payments	21	27.6%	72.4%
	Block-chain Crypto	1	1.3%	3.4%
	Online Lending	6	7.9%	20.7%
	Investment Apps	7	9.2%	24.1%
	Digital Wallets	16	21.1%	55.2%
	Other	1	1.3%	3.4%

Total	76	100.0 %	262.1%
a. Dichotomy group tabulated at value 1.			

**4.2.3 Level of Fintech Adoption in the Organization or Financial Institutions Engaged With.**

The results indicate that fintech adoption is generally perceived positively among respondents, with the majority reporting moderate to very high levels of integration. Both moderate and very high adoption levels account for 44.8% each (13 respondents), suggesting that while some institutions are still in the process of integrating fintech, others have fully embraced it. Minimal adoption was reported by 6.9% (2 respondents), indicating that fintech is still in its early stages in a few institutions. Only 3.4% of respondents reported no fintech adoption, showing that complete non-adoption is rare.

Figure 4.2: Level of Fintech Adoption in the Organization or Financial Institutions Engaged With.



These findings highlight a strong trend toward fintech adoption, with most organizations incorporating digital financial solutions to some extent. The relatively high percentage of institutions with very high adoption levels suggests that fintech is becoming a key component of banking and financial services in Zambia. However, the presence of

institutions with minimal or no adoption indicates that some barriers to full integration may still exist, such as regulatory challenges, infrastructure limitations, or institutional resistance to change.

#### 4.2.4 Importance of Fintech Adoption for the Survival and Growth of Banks in Zambia

The results in table 4.8 demonstrate a strong consensus on the critical role of fintech adoption in the survival and growth of banks in Zambia. A significant majority (86.7%, 26 respondents) consider fintech adoption "Very important," indicating widespread recognition of its necessity in maintaining competitiveness and driving innovation. Meanwhile, 13.3% (4 respondents) view it as "Moderately important," suggesting that while they acknowledge its relevance, they may see other factors as equally crucial for banking sector growth.

Table 4.8: Importance of Fintech Adoption for the Survival and Growth of Banks in Zambia

Importance of fintech adoption for the survival and growth of banks in Zambia					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderately important	4	13.3	13.3	13.3
	Very important	26	86.7	86.7	100.0
	Total	30	100.0	100.0	

Notably, no respondents rated fintech adoption as "Not important," highlighting a universal agreement on its value. This suggests that fintech is widely perceived as essential for enhancing operational efficiency, improving customer experience, and ensuring long-term sustainability in Zambia's banking sector. The strong emphasis on fintech's importance further reinforces the growing reliance on digital financial solutions to meet evolving market demands and customer expectations.

### **4.3 Digital Transformation Initiatives**

The results of the digital transformation projects carried out by Zambian financial institutions are shown in this section. These programs show the attempts to improve client experiences, update banking operations, and adjust to the changing financial technology environment. The findings shed light on the kinds of initiatives implemented and how common they are in the industry, giving insight into the degree of digital transformation occurring throughout the banking sector.

#### **4.3.1 Digital Transformation Initiatives Implemented**

The findings reveal a strong emphasis on digital transformation in Zambia's banking sector, with a particular focus on mobile banking, online payments, and automation. The most widely implemented initiative is the enhancement of mobile banking platforms (30.3%, 27 mentions), cited by 90% of respondents, underscoring the high demand for convenient and accessible banking services. The introduction of online payment systems follows closely (22.5%, 20 mentions), with 66.7% of respondents acknowledging efforts to support cashless transactions through mobile wallets and other digital payment solutions. Additionally, the automation of banking processes (21.3%, 19 mentions) is a key priority for 63.3% of respondents, highlighting banks' drive to improve efficiency, reduce costs, and streamline operations.

Cloud computing integration (10.1%, 9 mentions) is also gaining traction, with 30% of respondents recognizing its role in enhancing scalability, security, and accessibility. AI-powered customer service tools (7.9%, 7 mentions) have been adopted by 23.3% of respondents, suggesting a growing interest in improving customer interactions through chatbots and virtual assistants. Meanwhile, big data analytics for customer insights (5.6%, 5 mentions) is utilized by 16.7% of respondents, reflecting an emerging focus on data-driven decision-making. However, blockchain implementation (1.1%, 1 mention) remains limited, with only 3.3% of respondents acknowledging its adoption, indicating that while blockchain is on the horizon, its integration into banking operations is still in its infancy.

Other initiatives (1.1%, 1 mention) account for a small portion, hinting at niche projects or emerging trends that are yet to gain widespread recognition.

Table 4.9: Digital Transformation Initiatives Implemented

<b>Digital Transformation Initiatives Frequencies</b>				
		Responses		Percent of Cases
		N	Percent	
Digital transformation initiatives	Automation of Banking Processes	19	21.3%	63.3%
	Enhanced Mobile Banking Platforms	27	30.3%	90.0%
	Use of AI for Customer Service	7	7.9%	23.3%
	Implementation of Blockchain	1	1.1%	3.3%
	Integration of Cloud Computing Services	9	10.1%	30.0%
	Introduction of Online Payment Systems	20	22.5%	66.7%
	Big Data Analytics for Customer Insights	5	5.6%	16.7%
	Other	1	1.1%	3.3%
<b>Total</b>		<b>89</b>	<b>100.0 %</b>	<b>296.7%</b>
a. Dichotomy group tabulated at value 1.				

### 4.3.2 Effectiveness of Digital Transformation Initiatives in Improving Banking Services

The findings indicate a largely positive perception of digital transformation initiatives in Zambia's banking sector. A majority (66.7%, 20 respondents) rated these initiatives as "Very Effective," suggesting that they have significantly enhanced banking services, operational efficiency, and customer experience. This strong endorsement highlights the success of digital innovations in streamlining processes and improving service delivery. Meanwhile, 33.3% (10 respondents) considered the initiatives "Somewhat Effective," implying that while improvements are evident, there are still areas requiring refinement or further investment. Notably, no respondents rated the initiatives as "Not Effective," reinforcing the consensus that digital transformation efforts have positively contributed to the sector, despite potential challenges in achieving their full potential.

Table 4.10: Effectiveness of Digital Transformation Initiatives in Improving Banking Services

<b>Effectiveness of digital transformation initiatives in improving banking services</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat effective	10	33.3	33.3	33.3
	Very Effective	20	66.7	66.7	100.0
	Total	30	100.0	100.0	

#### 4.3.3 Extent to Which Digital Transformation Initiatives Have Improved Customer Experience

The findings indicate a largely favorable perception of the impact of digital transformation initiatives on customer experience in Zambia's banking sector. A majority (66.7%, 20 respondents) reported a "Significant Improvement," suggesting that digital solutions have greatly enhanced customer service, convenience, and overall satisfaction. This highlights the effectiveness of digital banking innovations in meeting customer needs and improving service delivery. Meanwhile, 33.3% (10 respondents) acknowledged "Some Improvement," indicating that while progress has been made, there is still room for further enhancements. Notably, no respondents reported "No Improvement" or a "Worsened Experience," reinforcing the consensus that digital transformation initiatives have had a positive impact, even if some areas may require further refinement.

Table 4.11: Extent to Which Digital Transformation Initiatives Have Improved Customer Experience

<b>Extent to which digital transformation initiatives have led to improved customer experience in your organization</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some improvement	10	33.3	33.3	33.3
	Significant improvement	20	66.7	66.7	100.0
	Total	30	100.0	100.0	

#### 4.3.4 Challenges in Implementing Digital Transformation in Zambian Banks

The findings highlight multiple challenges faced by Zambian banks in implementing digital transformation, with cybersecurity risks (27.3%, 18 responses, 60.0% of cases) being the most prominent. This highlights concerns about data protection, fraud prevention, and the overall security of digital banking systems. Additionally, the high costs of technology adoption (22.7%, 15 responses, 50.0% of cases) emerged as a major barrier, pointing to financial constraints that limit the ability of banks to invest in advanced fintech solutions. Resistance to change (21.2%, 14 responses, 46.7% of cases) was also a notable challenge, suggesting that both employees and customers may be hesitant to embrace digital banking innovations. Other issues included a lack of necessary infrastructure (12.1%, 8 responses, 26.7% of cases), skills and training gaps (10.6%, 7 responses, 23.3% of cases), and regulatory hurdles (3.0%, 2 responses, 6.7% of cases). Notably, no respondents selected the “Other” category, indicating that the listed challenges comprehensively capture the key obstacles to digital transformation in Zambia’s banking sector.

Table 4.12: Challenges in Implementing Digital Transformation in Zambian Banks

Challenges Frequencies				
		Responses		Percent of Cases
		N	Percent	
Challenges	High costs of technology adoption	15	22.7%	50.0%
	Resistance to change from employees or customers	14	21.2%	46.7%
	Lack of necessary infrastructure	8	12.1%	26.7%
	Regulatory hurdles	2	3.0%	6.7%
	Cybersecurity risks	18	27.3%	60.0%
	Skills and training gaps	7	10.6%	23.3%
	Other	0	0.0%	0.0%
Total		64	100.0%	213.4%
a. Dichotomy group tabulated at value 1.				

### 4.3.5 Impact of Fintech Adoption on Digital Transformation

Zambian banks have undertaken various digital transformation initiatives, particularly the automation of banking processes and enhancement of mobile banking platforms. These findings are consistent with global trends where automation and mobile banking enhancements are central to the digital transformation of banks.

Table 4.13: Impact of Fintech Adoption on Digital Transformation

How would you describe the level of fintech adoption in your organization or by financial institutions you engage with?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	2	6.7	6.7	6.7
	Moderate	13	43.3	43.3	50.0
	Not adopted at all	1	3.3	3.3	53.3
	Very high	14	46.7	46.7	100.0
	Total	30	100.0	100.0	

The results suggested that the amount of fintech adoption in the enterprises or financial institutions engaged by the participants varied. A big fraction, 46.7%, described the level of fintech adoption as extremely high, showing significant integration of fintech technologies. A further 43.3% of respondents deemed the adoption level to be moderate, suggesting some but not significant use of fintech services. Just 3.3% of respondents said that fintech had not been adopted at all in their company or by the financial institutions they deal with, while a small percentage (6.7%) thought the adoption was low. According to the results, fintech adoption is generally strong, with a sizable percentage of respondents stating that their institutions have extremely high adoption rates. However, there are still some organizations with lesser or no uptake, suggesting a possible weakness in the broad application of fintech in all industries.

### 4.4 Improvements due to Fintech adoption

The adoption of fintech in Zambia's banking sector has led to numerous improvements in both customer experiences and banking operations. From table 4.14, one of the most notable improvements, cited by 16.7% of participants, is the faster processing of

transactions. Fintech has significantly reduced the time required to complete transactions, which not only improves operational efficiency but also enhances customer satisfaction by providing quicker access to financial services. This shift toward faster transactions reflects a broader trend of banks leveraging technology to streamline processes and better serve customers. Another key improvement is enhanced customer support, with 6.7% of respondents recognizing the positive impact of fintech tools on customer service. By enabling more efficient and responsive communication, fintech adoption has allowed banks to address customer inquiries and resolve issues more effectively. This, in turn, has led to higher levels of customer satisfaction and trust. Additionally, 6.7% of participants noted improvements in data management and insights. Fintech allows banks to harness large volumes of data, which can be analyzed to better understand customer behavior and financial trends. This enables banks to offer more personalized services and tailored products, thereby enhancing the overall banking experience.

The adoption of fintech has also contributed to greater financial inclusion, particularly in underserved regions. With mobile banking platforms and other fintech tools, individuals in remote or rural areas now have more access to banking services that were once out of reach. This development is crucial for promoting financial inclusion, as it helps integrate previously excluded populations into the formal financial system. Additionally, 3.3% of respondents mentioned that fintech has led to reduced operational costs. The automation of many banking processes has made operations more efficient, helping banks cut costs while improving service delivery.

Table 4.14: Improvements Due to Fintech Adoption

<b><i>Improvement</i></b>	<b><i>Frequency</i></b>	<b><i>Percent (%)</i></b>	<b><i>Cumulative Percent (%)</i></b>
<i>Faster transaction processing</i>	5	16.7	16.7
<i>Enhanced customer support</i>	2	6.7	23.3
<i>Better data management and insights</i>	2	6.7	30.0
<i>Faster transaction processing, Enhanced customer support</i>	1	3.3	33.3
<i>Faster transaction processing, Enhanced customer support, Better data management and insights</i>	1	3.3	36.7

<i>Faster transaction processing, Enhanced customer support, Greater financial inclusion</i>	2	6.7	43.3
<i>Faster transaction processing, Enhanced customer support, Increased market reach, Better data management and insights</i>	1	3.3	46.7
<i>Faster transaction processing, Greater financial inclusion</i>	1	3.3	50.0
<i>Faster transaction processing, Increased market reach</i>	1	3.3	53.3
<i>Faster transaction processing, Increased market reach, Greater financial inclusion</i>	2	6.7	60.0
<i>Faster transaction processing, Reduced operational costs</i>	1	3.3	63.3
<i>Faster transaction processing, Reduced operational costs, Better data management and insights</i>	1	3.3	66.7
<i>Faster transaction processing, Reduced operational costs, Enhanced customer support, Better data management and insights, Greater financial inclusion</i>	1	3.3	70.0
<i>Faster transaction processing, Reduced operational costs, Enhanced customer support, Increased market reach</i>	1	3.3	73.3
<i>Faster transaction processing, Reduced operational costs, Enhanced customer support, Increased market reach, Better data management and insights</i>	1	3.3	76.7
<i>Faster transaction processing, Reduced operational costs, Enhanced customer support, Increased market reach, Better data management and insights, Greater financial inclusion</i>	2	6.7	83.3
<i>Faster transaction processing, Reduced operational costs, Increased market reach, Greater financial inclusion</i>	2	6.7	90.0
<i>Reduced operational costs</i>	1	3.3	93.3
<i>Reduced operational costs, Enhanced customer support, Greater financial inclusion</i>	1	3.3	96.7

<i>Reduced operational costs, Enhanced customer support, Increased market reach, Better data management and insights, Greater financial inclusion</i>	1	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100</b>	<b>-</b>

The increased market reach is another important improvement identified by 6.7% of participants. By adopting fintech, banks have been able to expand their customer base beyond their traditional geographic boundaries. The digital nature of fintech services enables banks to reach a larger pool of customers, both locally and internationally, removing many of the logistical barriers that previously hindered market expansion. Lastly, 3.3% of respondents noted that fintech adoption has enhanced transparency in transactions. This has contributed to a greater sense of trust in financial dealings, as customers feel more confident knowing that their transactions are secure and clearly documented.

#### **4.5 Role of Bank of Zambia**

The findings provide a comprehensive understanding of respondents' perceptions about the role of government regulation, specifically the Bank of Zambia, in facilitating the adoption of fintech in the country. The data reveals that the majority of respondents (93.3%) perceive government regulation as having a positive impact, with 50% of them rating it as having a "strong positive impact" and 43.3% rating it as having a "moderate positive impact." This indicates that most participants believe the Bank of Zambia's regulatory measures have been conducive to the growth and development of the fintech sector. However, despite the general positive outlook, there is a small minority (3.3%) who feel that the regulatory impact has been negative, suggesting that a few respondents are dissatisfied with the current regulatory framework or perceive it as insufficient for fostering fintech innovation. Additionally, 3.3% of participants indicated that they believe government regulation has no impact, which could suggest uncertainty or a lack of awareness regarding the role of regulation in fintech adoption.

*Table 4.15: Role of Bank of Zambia*

<b>What role do you believe government regulation plays in the adoption of fintech in Zambia?</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3.3	3.3	3.3
Moderate positive impact	13	43.3	43.3	46.7
Negative impact	1	3.3	3.3	50.0
Strong positive impact	15	50.0	50.0	100.0
Total	30	100.0	100.0	

The strong belief in the potential for fintech to drive the digital transformation of Zambia's banking sector is clearly evident. Respondents emphasized that innovations such as mobile banking, artificial intelligence (AI), blockchain technology, and digital payments could play significant roles in reshaping Zambia's financial landscape. They also pointed out the importance of enhancing customer experience, with suggestions such as the adoption of automated lending systems and the development of more user-friendly platforms. This focus on innovation underlines the demand for continued improvements in the fintech sector to meet the growing needs of both businesses and consumers.

Furthermore, there is a consensus among respondents that the government and regulators need to create more supportive policies to enable the continued growth of the fintech ecosystem. Many respondents expressed the need for more refined regulatory frameworks and incentives that would encourage further fintech development while ensuring that these advancements are safe, secure, and sustainable. This feedback signals a clear opportunity for the Bank of Zambia and other stakeholders to bolster the regulatory environment to support a vibrant fintech sector that benefits both consumers and the broader economy.

## **CHAPTER FIVE: DISCUSSION OF FINDINGS**

### **5.0 Introduction**

This chapter presents the findings from the study and compares them with existing research from the reviewed empirical literature. It aims to provide a clear understanding of fintech adoption and its role in transforming Zambia's banking sector.

### **5.1 Current Level of Fintech Adoption in Zambia**

The study found that mobile banking is the most widely used fintech service in Zambia. Many participants use it either alone or alongside other services like digital payments and wallets. These findings align with global trends, where mobile banking and digital payments lead fintech adoption (Deloitte, 2022). In Africa, platforms like Kenya's M-Pesa have made financial services accessible to marginalized populations (Suri & Jack, 2016). While fintech adoption in Zambia is growing, it remains less widespread compared to countries like Kenya, where mobile money has revolutionized financial access (Beck et al., 2016). The study revealed that 6.7% of participants reported low or no fintech adoption, highlighting the need for further efforts to integrate these services. This gap in adoption presents both challenges and opportunities. Challenges include limited internet connectivity in rural areas, lack of awareness about available services, and cybersecurity concerns. Addressing these barriers will require coordinated efforts from stakeholders, including government, financial institutions, and fintech companies. Opportunities, on the other hand, lie in expanding mobile network coverage, creating targeted awareness campaigns, and developing more user-friendly fintech platforms tailored to the needs of Zambian users. Furthermore, the study highlighted generational differences in fintech usage. Younger participants were more likely to adopt mobile banking and digital wallets, while older individuals tended to rely on traditional banking methods. This suggests that future strategies should include educational programs to bridge the digital divide and encourage broader adoption across all age groups.

### **5.2 Digital Transformation Initiatives in Zambian Banks**

Zambian banks have embraced several initiatives to modernize their operations, including automating processes and improving mobile banking platforms. These efforts align with global trends where automation is a critical part of banking transformation (KPMG, 2021).

The success of mobile banking platforms in Zambia mirrors advancements in Europe, where open banking connects traditional banks with fintech services (Zavolokina et al., 2016). However, while some Zambian banks use advanced technologies like AI and big data, challenges persist, such as the need for broader implementation.

These changes have improved customer experience, consistent with global studies highlighting fintech's ability to boost efficiency and satisfaction (Dennis & McDonald, 2020). The study further revealed that customers are increasingly drawn to banks offering seamless and user-friendly digital experiences. Zambian banks can leverage this trend by expanding their investment in customer-centric technologies such as chatbots, personalized financial recommendations, and real-time transaction analytics. Despite these advancements, gaps remain in digital transformation, particularly in integrating rural branches and underserved regions into the digital banking framework. Addressing these gaps will require prioritizing inclusive technologies that can operate effectively even in areas with limited internet connectivity. Initiatives like offline-capable mobile banking applications and USSD-based solutions can bridge this divide and ensure greater accessibility for all demographics.

### **5.3 Effects of Fintech Adoption on Digital Transformation**

Fintech adoption in Zambia has positively impacted financial inclusion and customer experiences. The findings align with global research showing fintech's ability to expand access to financial services, particularly in underserved regions (Beck et al., 2016). Mobile money and digital payments have provided easier financial access for people in remote areas, similar to M-Pesa's success in Kenya (Suri & Jack, 2016). Additionally, the study highlights fintech's role in reducing transaction costs and delivering real-time results, consistent with global observations (Philippon, 2016). However, challenges like cybersecurity risks and low digital literacy remain significant barriers to fully realizing fintech's potential (Zavolokina et al., 2016).

The study further identified that fintech adoption has encouraged traditional banks to modernize their operations by integrating digital solutions. This has led to improvements in efficiency, reduced operational costs, and enhanced customer satisfaction. For instance, the introduction of mobile banking applications and digital wallets by traditional

banks has provided customers with greater convenience and accessibility, fostering a competitive financial landscape.

Moreover, fintech adoption has stimulated innovation within Zambia's financial sector. Entrepreneurs and startups are leveraging fintech to develop tailored financial solutions that address local challenges, such as access to credit and payment processing for small businesses. This entrepreneurial drive has the potential to accelerate digital transformation by creating a more inclusive and dynamic financial ecosystem. Despite these advancements, the study noted that more efforts are needed to overcome existing barriers. Strategies such as enhancing digital literacy programs, improving cybersecurity frameworks, and fostering public-private partnerships can help address these challenges. By doing so, Zambia can unlock the full potential of fintech to drive digital transformation and contribute to sustainable economic growth.

#### **5.4 Factors Driving Fintech Adoption in Zambia**

Several factors drive fintech adoption in Zambia, including the demand for faster banking services, increased mobile phone use, and supportive government policies. These trends mirror global observations, where customer demand for efficiency is a significant motivator (Deloitte, 2022). In Africa, mobile phone access has played a key role in fintech growth, as seen with mobile money (Beck et al., 2016). However, Zambia is still in the early stages of fintech adoption compared to countries like Kenya, where mobile money services like M-Pesa are deeply integrated into the financial system (Suri & Jack, 2016). Challenges such as limited competition and weak digital infrastructure hinder broader adoption (Philippon, 2016).

In addition, the lack of financial literacy and trust in digital platforms presents barriers to fintech growth in Zambia. Although mobile money services are gaining traction, there is a need for improved education on their benefits and security features. The study also identified that government policies supporting financial technology innovation and investments in digital infrastructure could significantly influence adoption rates. Partnerships between banks and fintech companies to create integrated solutions could further enhance accessibility and usability. Moreover, consumer awareness campaigns that highlight the convenience and security of fintech platforms can play a pivotal role in

overcoming skepticism. Targeted programs aimed at equipping users with the knowledge to navigate digital platforms safely could bolster trust and encourage more widespread use. With better infrastructure and increased awareness, fintech adoption could accelerate, driving economic inclusion and innovation in the sector.

### **5.5 Recommended Strategies for Fintech and Digital Transformation**

To strengthen the connection between fintech adoption and digital transformation in Zambia, this study recommends adopting advanced technologies, improving digital infrastructure, and enhancing customer trust. Lessons from global markets, such as Europe's open banking, show that collaboration between banks and fintech firms improves services (Zavolokina et al., 2016). Promoting financial literacy and reducing transaction costs are essential to building trust, as seen with M-Pesa in Kenya (Suri & Jack, 2016). Additionally, improving cybersecurity measures and addressing ethical concerns in fintech algorithms will ensure inclusivity and sustainability (Dennis & McDonald, 2020; Zavolokina et al., 2016).

The study emphasizes the importance of fostering public-private partnerships to bridge the digital divide and create an enabling environment for innovation. Investments in research and development can help local fintech companies develop solutions tailored to the unique needs of Zambian consumers. Moreover, regulatory frameworks should evolve to support innovation while safeguarding consumer interests. Finally, financial institutions should prioritize customer-centric strategies, leveraging data analytics and AI to enhance service delivery and personalize customer experiences. By adopting these strategies, Zambia can achieve a balanced approach to fintech adoption, meeting security requirements and customer needs while fostering sustainable growth in the financial sector.

## **CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS**

### **6.0 Introduction**

This chapter synthesizes the findings of the study and provides actionable recommendations to enhance the synergy between fintech adoption and digital transformation in Zambia's banking sector. The conclusions are drawn from the analysis of fintech adoption levels, digital transformation initiatives, and the impact of fintech on the banking industry. The recommendations aim to address the challenges identified and leverage the opportunities for growth and innovation.

### **6.1 Conclusions**

This section synthesizes the findings of the study, demonstrating how the research objectives have been achieved and highlighting the contributions made to the understanding of fintech adoption and its impact on Zambia's banking sector. The findings are structured to align with the study's specific objectives, providing a clear narrative on the current state of fintech adoption, its effects on operational efficiency and customer satisfaction, and the strategies needed to enhance its integration into the banking sector. Each segment concludes with a definitive statement that ties the findings to the study's objectives and broader implications.

#### **6.1.1 The Current Level of Fintech Adoption in Zambia's Banking Sector**

The study achieved its first objective by evaluating the extent of fintech adoption in Zambia's banking sector. Mobile banking emerged as the most widely adopted fintech service, with 13.3% of participants using it exclusively and 26.7% combining it with other services like digital payments and wallets. Digital payment platforms, such as MTN Money and Airtel Money, were also prevalent, while advanced services like digital wallets, online lending, and blockchain remain in their infancy. Adoption levels varied significantly across institutions, with 46.7% reporting very high adoption, 43.3% moderate adoption, and 6.7% low adoption. A small percentage (3.3%) reported no fintech adoption, indicating untapped potential for growth. These findings underscore the need for targeted efforts to address barriers such as limited internet connectivity, cybersecurity concerns, and low awareness, particularly in rural areas. In conclusion, while fintech adoption is growing in

Zambia, significant gaps remain, particularly in rural and underserved regions, highlighting the need for inclusive and accessible solutions to drive broader adoption.

### **6.1.2 Digital Transformation Initiatives in Zambian Banks**

The second objective, assessing the impact of fintech adoption on operational efficiency, was addressed by examining the digital transformation initiatives undertaken by Zambian banks. The study found that process automation (30%) and enhanced mobile banking platforms (23.3%) were the most prominent initiatives, with advanced technologies like AI, big data analytics, and cloud computing also being adopted, albeit to a lesser extent. These efforts have significantly improved operational efficiency, with 66.7% of respondents reporting notable enhancements in service delivery and 33.3% observing some progress. However, gaps remain, particularly in integrating rural branches and underserved regions into the digital banking framework. This highlights the need for inclusive technologies, such as offline-capable mobile banking applications, to ensure broader accessibility. In conclusion, while digital transformation initiatives have improved operational efficiency, further investment in inclusive technologies is essential to bridge the gap between urban and rural banking services.

### **6.1.3 The Impact of Fintech Adoption on Digital Transformation**

The third objective, examining the effect of fintech adoption on customer satisfaction, was achieved by analyzing how fintech has transformed customer experiences. The study revealed that fintech adoption has significantly enhanced financial inclusion, particularly through mobile money and digital payments, which have made financial services more accessible to remote and underserved populations. These findings align with global trends, such as the success of M-Pesa in Kenya. However, challenges such as cybersecurity risks and low digital literacy persist, limiting the full potential of fintech in improving customer satisfaction. Addressing these barriers through targeted interventions, such as digital literacy programs and robust cybersecurity frameworks, is critical to sustaining these gains. In conclusion, fintech adoption has positively impacted customer satisfaction and financial inclusion, but overcoming persistent challenges is essential to maximize its potential.

#### **6.1.4 Key Drivers of Fintech Adoption and Digital Transformation**

The study achieved its fourth objective by identifying the factors driving fintech adoption in Zambia. Key drivers include the demand for faster and more efficient services (20%), increased mobile phone penetration, improved internet access (6.7%), competitive pressures (3.3%), and supportive government policies. The availability of skilled labor in the fintech sector further supports innovation and implementation. These findings highlight the importance of fostering an enabling environment through public-private partnerships, investments in digital infrastructure, and policies that promote financial inclusion. In conclusion, the interplay of customer demand, technological advancements, and supportive policies is driving fintech adoption in Zambia, but sustained efforts are needed to address infrastructure and skill gaps.

#### **6.1.5 Strategies to Enhance Synergy between Fintech Adoption and Digital Transformation**

The study concluded by offering actionable strategies to strengthen the connection between fintech adoption and digital transformation, addressing the final objective. Respondents emphasized the need for banks to adopt advanced technologies (40%), improve digital infrastructure (3.3%), and develop user-friendly platforms. Other recommendations included reducing transaction costs, providing free Wi-Fi, and promoting financial literacy programs. Addressing ethical concerns, such as algorithmic biases, and enhancing cybersecurity measures were also highlighted as critical for building trust and ensuring inclusive service delivery. These strategies provide a roadmap for policymakers, banks, and fintech providers to leverage fintech for sustainable growth in Zambia's banking sector. In conclusion, a multi-faceted approach that combines technological innovation, infrastructure development, and customer-centric strategies is essential to fully realize the benefits of fintech adoption in Zambia's banking sector.

#### **6.2 Contribution of the Study**

This study makes significant contributions to both academic knowledge and practical applications in the field of fintech adoption, particularly within Zambia's banking sector and similar emerging markets. Firstly, it provides the first comprehensive empirical

assessment of fintech adoption in Zambia, quantifying adoption levels and identifying mobile banking as the most widely used service. The study reveals that 46.7% of institutions report very high adoption, while 6.7% report low or no adoption, highlighting untapped potential for growth. It also identifies key drivers, such as demand for faster services (20%) and increased mobile phone penetration, as well as barriers like limited internet connectivity and low digital literacy. These findings fill a critical gap in the literature, offering a detailed case study from an under-researched context and providing actionable insights for policymakers and stakeholders aiming to accelerate fintech adoption in similar regions.

Secondly, the study contributes practical strategies for enhancing the synergy between fintech adoption and digital transformation in Zambia's banking sector. It highlights the impact of fintech on operational efficiency, with process automation (30%) and enhanced mobile banking platforms (23.3%) leading to significant improvements in service delivery. Additionally, it underscores fintech's role in improving customer satisfaction, particularly through mobile money and digital payments, which have expanded financial inclusion in underserved areas. The study proposes specific strategies, such as adopting advanced technologies (40%), improving digital infrastructure (3.3%), and promoting financial literacy programs, while addressing ethical concerns and cybersecurity risks. These recommendations provide a practical roadmap for policymakers, banks, and fintech providers, not only in Zambia but also in other emerging markets facing similar challenges. By bridging the gap between theory and practice, this study offers valuable insights for leveraging fintech to drive sustainable growth and financial inclusion.

## **6.2 Recommendations**

Based on the study's findings, the following recommendations are proposed to strengthen the alignment between fintech adoption and digital transformation in Zambia's banking sector:

### **6.2.1 Invest in Advanced Technologies**

Banks should prioritize adopting cutting-edge technologies such as artificial intelligence (AI), big data analytics, and cloud computing. These innovations can enhance operational efficiency, improve customer service, and ensure competitiveness in the evolving fintech

landscape. For example, AI-powered chatbots can streamline customer support, while big data analytics can provide insights into customer behavior, enabling personalized services.

### **6.2.2 Enhance Digital Infrastructure**

Banks should focus on developing user-friendly mobile apps and reducing transaction costs to make digital services more accessible and affordable. Partnerships with telecom companies can also help expand internet access in rural areas, enabling more customers to use digital banking services.

### **6.2.3 Strengthen Cybersecurity Measures**

To build customer trust, banks should invest in robust cybersecurity protocols to protect sensitive data and ensure the integrity of financial transactions. Regular security audits, encryption technologies, and multi-factor authentication can help mitigate risks and enhance customer confidence.

### **6.2.4 Promote Financial Literacy Programs**

Banks should implement financial literacy initiatives to educate customers, especially in rural areas, on the benefits and usage of fintech services. Workshops, mobile tutorials, and partnerships with community organizations can help deliver these programs effectively, boosting confidence and encouraging broader adoption of digital banking solutions.

### **6.2.5 Ensure Ethical and Inclusive Service Delivery**

Banks must address ethical concerns, such as biases in fintech algorithms, to ensure fair and inclusive service delivery. Establishing ethical guidelines and conducting regular audits of algorithms can help prevent discrimination and ensure equitable access to services.

### **6.2.6 Foster Collaboration Between Stakeholders**

Collaboration between banks, fintech firms, and regulatory authorities is essential for creating a conducive environment for fintech innovation. Regular dialogues, public-private

partnerships, and industry forums can facilitate knowledge sharing and collective problem-solving to address challenges such as regulatory gaps and cybersecurity threats.

### **6.2.7 Expand Access to Digital Services in Rural Areas**

Banks should focus on extending digital services to rural and underserved areas by leveraging mobile money platforms and improving internet connectivity. Mobile banking vans or kiosks can be deployed in remote areas to provide access to financial services where traditional branches are unavailable.

### **6.2.8 Monitor and Adapt to Technological Changes**

Given the rapid evolution of fintech, banks must continuously monitor technological advancements and adapt their strategies accordingly. Establishing innovation labs or dedicated teams to explore emerging technologies can help banks remain agile and responsive to changes, ensuring long-term relevance and competitiveness.

### **6.2.9 Develop Customized Fintech Solutions**

Banks should design customized fintech solutions tailored to the unique needs of different customer segments, such as small businesses, farmers, and low-income households. For instance, agricultural lending platforms or microloan apps can address the specific financial needs of rural communities.

### **6.2.10 Leverage Regulatory Support**

Banks should work closely with regulatory authorities to ensure compliance while advocating for policies that support fintech innovation. Engaging in policy dialogues and piloting regulatory sandboxes can help test new fintech solutions in a controlled environment, fostering a supportive regulatory framework that accelerates digital transformation.

## **6.4 Areas of Future Study**

While this study provides valuable insights into fintech adoption and its impact on Zambia's banking sector, it also identifies several areas that warrant further research to improve understanding and address emerging challenges.

**6.4.1 Rural Fintech Adoption:** This study highlights the limited adoption of fintech in rural areas. Future research could focus on developing and testing innovative solutions tailored to rural populations, such as offline-capable mobile banking apps or USSD-based services. Understanding the unique barriers and opportunities in rural areas is critical for achieving inclusive financial inclusion.

**6.4.2 Cybersecurity and Data Privacy:** As fintech adoption grows, cybersecurity risks and data privacy concerns become increasingly significant. Future studies could investigate the effectiveness of current cybersecurity measures in Zambia's banking sector and propose strategies to mitigate risks while building customer trust.

**6.4.3 Regulatory Frameworks and Policy Implications:** Research into the regulatory environment governing fintech in Zambia could provide insights into how policies can be optimized to support innovation while safeguarding consumer interests. Comparative studies with other African countries could offer lessons on best practices for regulatory frameworks.

**6.4.4 Behavioral and Cultural Factors:** Future research could explore the behavioral and cultural factors influencing fintech adoption, such as customer trust, digital literacy, and generational differences. Understanding these factors could help design more effective awareness campaigns and user-friendly fintech solutions.

## **6.5 Limitations of the Study**

While this study offers significant contributions, it is not without limitations, which should be acknowledged to provide context for the findings and guide future research.

**6.5.1 Geographical Scope:** The study focused primarily on Lusaka, Zambia's financial hub, which may not fully represent the fintech adoption landscape in rural or less-

developed regions. Findings from urban areas may not be generalizable to the entire country.

**6.5.2 Sample Size and Representation:** The sample size, while adequate for this study, may not capture the full diversity of perspectives across Zambia's banking sector. A larger and more geographically diverse sample could provide more comprehensive insights.

**6.5.3 Reliance on Self-Reported Data:** The study relied on self-reported data from bank employees, customers, and fintech providers, which may be subject to biases such as overestimation of adoption levels or underreporting of challenges.

**6.5.4 Limited Focus on Advanced Technologies:** The study highlighted the limited adoption of advanced technologies like blockchain and AI. However, it did not delve deeply into their potential due to their nascent stage in Zambia. Future research could explore these technologies in greater detail.

**6.5.5 Temporal Constraints:** The study provides a snapshot of fintech adoption at a specific point in time. Given the rapid evolution of fintech, the findings may not fully capture ongoing developments or future trends.

### **6.3 Chapter Conclusion**

The study highlights the significant progress made in fintech adoption and digital transformation within Zambia's banking sector. However, challenges such as cybersecurity risks, low digital literacy, and uneven adoption levels persist. By implementing the recommendations outlined above, banks can strengthen the synergy between fintech adoption and digital transformation, driving greater financial inclusion, improving customer experiences, and ensuring sustainable growth in the digital era.

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## Appendices

### Questionnaire

Title: Investigating the Effect of Fintech Adoption on the Digital Transformation of Financial Services in Zambia

### Introduction

Dear Participant,

This survey aims to explore the effects of financial technology (fintech) adoption on digital transformation within Zambia's banking sector. Your participation is entirely voluntary, and your responses will be kept confidential. This study is for academic purposes only, and your honest responses are greatly appreciated.

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### Section A: Demographic Information

#### Gender

- Male
- Female
- Prefer not to say

#### Age

- 18–24 years
- 25–34 years
- 35–44 years
- 45–54 years
- 55 years and above

#### Education Level

- High School
- Diploma
- Bachelor's Degree
- Master's Degree
- Doctorate

Current Role in the Banking/Financial Sector (*Select the most applicable*)

- Bank employee
- Fintech professional
- Financial regulator
- Bank customer
- Other (please specify): \_\_\_\_\_

Years of Experience in the Financial Sector

- Less than 2 years
- 2–5 years
- 6–10 years
- Over 10 years

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## Section B: General Understanding and Adoption of Fintech

How familiar are you with fintech services?

- Very familiar
- Somewhat familiar
- Not familiar

Which of the following fintech services have you directly used or are familiar with? (*You may select more than one*)

- Mobile banking
- Digital payments (e.g., PayPal, mobile money)
- Blockchain and cryptocurrency
- Online lending platforms
- Investment and wealth management apps
- Digital wallets
- Other (please specify): \_\_\_\_\_

How would you describe the level of fintech adoption in your organization or by financial institutions you engage with?

- Very high
- Moderate
- Low
- Not adopted at all

In your opinion, how important is fintech adoption for the survival and growth of banks in Zambia?

- Very important
  - Moderately important
  - Not important
- 

### Section C: Digital Transformation Initiatives

Which digital transformation initiatives have been implemented in your organization or in  
Zambian banks you are familiar with? *(You may select more than one)*

- Automation of banking processes
- Enhanced mobile banking platforms
- Use of artificial intelligence for customer service (e.g., chatbots)
- Implementation of blockchain for transactions
- Integration of cloud computing services
- Introduction of online payment systems (e.g., mobile wallets)
- Big data analytics for customer insights
- Other (please specify): \_\_\_\_\_

How would you rate the effectiveness of digital transformation initiatives in improving  
banking services?

- Very effective
- Somewhat effective
- Not effective

To what extent have digital transformation initiatives led to improved customer experience in your organization?

- Significant improvement
- Some improvement
- No improvement
- Customer experience has worsened

Have there been any challenges in implementing digital transformation in your organization or in Zambian banks? (*You may select more than one*)

- High costs of technology adoption
  - Resistance to change from employees or customers
  - Lack of necessary infrastructure
  - Regulatory hurdles
  - Cybersecurity risks
  - Skills and training gaps
  - Other (please specify): \_\_\_\_\_
- 

#### Section D: Impact of Fintech Adoption on Digital Transformation

In your view, how has fintech adoption influenced digital transformation in Zambia's banking sector? (*Open-ended*)

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What specific improvements have you noticed in banking operations due to fintech adoption? *(You may select more than one)*

- Faster transaction processing
- Reduced operational costs
- Enhanced customer support
- Increased market reach
- Better data management and insights
- Greater financial inclusion
- Other (please specify): \_\_\_\_\_

What changes have occurred in the customer experience due to fintech adoption in Zambian banks?

- Easier access to financial services
- Reduced waiting times
- Increased convenience and accessibility
- Greater transparency in financial transactions
- Other (please specify): \_\_\_\_\_

Have there been any adverse effects on customer experience or bank operations due to fintech adoption? If yes, please explain. *(Open-ended)*

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Section E: Drivers of Fintech Adoption

What factors do you believe drive fintech adoption in Zambia? *(You may select more than one)*

- Demand for faster, more efficient services
- Increased internet and mobile phone penetration
- Competitive pressures from other financial institutions
- Government policy and regulation
- Consumer demand for financial inclusion
- Availability of skilled labor in the fintech space
- Other (please specify): \_\_\_\_\_

What role do you believe government regulation plays in the adoption of fintech in Zambia?

- Strong positive impact
- Moderate positive impact
- No impact
- Negative impact

How would you rate the role of financial regulators in ensuring that fintech adoption is safe and effective in Zambia?

- Very effective
- Somewhat effective
- Not effective

Not sure

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#### Section F: Barriers to Fintech Adoption and Digital Transformation

What do you consider to be the main barriers to fintech adoption in Zambia's banking sector? (*You may select more than one*)

- Limited access to internet and mobile networks
- Regulatory and compliance issues
- Lack of consumer trust in digital platforms
- Insufficient digital literacy
- Cybersecurity risks
- High cost of implementation for banks
- Other (please specify): \_\_\_\_\_

How can these barriers be overcome to enhance fintech adoption in Zambia's banking sector? (*Open-ended*)

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#### Section G: Future Outlook and Recommendations

What further digital transformation initiatives do you believe should be prioritized by Zambian banks to improve fintech adoption? (*Open-ended*)

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How do you see the future of fintech in Zambia's banking sector in the next 5–10 years?

- Significant growth and adoption
- Moderate growth and adoption
- Limited growth
- No significant change

What additional recommendations do you have for enhancing the synergy between fintech adoption and digital transformation in Zambian banks? (*Open-ended*)

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#### Closing Statement

Thank you for your valuable input. Your responses will significantly contribute to understanding the role of fintech in transforming the banking sector in Zambia. Your insights are appreciated, and they will inform policy and decision-making in the future development of Zambia's financial ecosystem

#### Interview Guide

Title: Investigating the Effect of Fintech Adoption on the Digital Transformation of Financial Services in Zambia

Introduction to interviews:

Thank you for agreeing to participate in this interview. The purpose of this study is to understand the role of fintech adoption in the digital transformation of the banking sector in Zambia. Your insights will contribute to a better understanding of how fintech is reshaping the financial landscape in Zambia. This interview is expected to take about 30–45 minutes. Please feel free to express your thoughts openly, and rest assured that your responses will be confidential.

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## Section A: Background and Role

Could you please briefly describe your role and experience in the banking or fintech sector?

Follow-up: How long have you been working in this sector?

Can you provide a brief overview of your organization and its involvement with fintech solutions?

Follow-up: What role does fintech play in your organization's overall strategy?

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## Section B: Fintech Adoption in Zambia

How would you describe the current state of fintech adoption within Zambia's banking sector?

Follow-up: Do you think banks in Zambia are keeping up with global fintech trends? Why or why not?

Which specific fintech services or technologies has your organization adopted (e.g., mobile banking, digital payments, blockchain, AI, etc.)?

Follow-up: How have these technologies been integrated into your operations?

What factors do you believe are driving fintech adoption in Zambia's banking sector?

Follow-up: Are there particular market demands, regulatory changes, or technological developments that have accelerated fintech adoption?

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## Section C: Digital Transformation Initiatives

How do you define digital transformation in the context of your organization and the banking sector in Zambia?

Follow-up: What specific digital transformation initiatives has your organization undertaken in the last 3–5 years?

What has been the impact of these digital transformation initiatives on your organization's operations, efficiency, and service delivery?

Follow-up: Are there specific examples of improvements you can point to (e.g., faster transactions, reduced costs, enhanced customer experience)?

How has the adoption of fintech contributed to these digital transformation initiatives?

Follow-up: Has fintech adoption directly led to improvements in areas like operational efficiency, customer service, and overall competitiveness?

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#### Section D: Impact on Customer Experience

From your perspective, how has fintech adoption affected the customer experience in the Zambian banking sector?

Follow-up: Do you think the customer experience has improved, and if so, how?

Can you provide examples of how your organization has utilized fintech to enhance customer satisfaction or accessibility?

Follow-up: What role does mobile banking, digital payments, or other fintech innovations play in improving customer experience?

Have there been any challenges or obstacles in maintaining customer trust in digital banking services?

Follow-up: How does your organization address customer concerns about issues like cybersecurity, data privacy, and digital literacy?

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#### Section E: Challenges and Barriers

What are the major challenges your organization faces in adopting and integrating fintech solutions?

Follow-up: Are these challenges more related to technological, regulatory, or market factors?

In your opinion, what are the key barriers preventing greater fintech adoption in Zambia's banking sector?

Follow-up: How could these barriers be addressed by banks, regulators, or other stakeholders?

How does your organization navigate regulatory requirements when adopting new fintech technologies?

Follow-up: Do you find that existing regulations support or hinder innovation in the banking sector?

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## Section F: The Future of Fintech in Zambia

What do you see as the future of fintech in Zambia's banking sector?

Follow-up: How do you expect fintech to evolve in Zambia over the next 5 to 10 years?

What further innovations or digital transformation initiatives do you believe are needed in Zambia's banking sector?

Follow-up: Are there specific areas where you think fintech could further enhance the banking experience for customers or improve operational efficiency?

What role should the government and financial regulators play in encouraging or guiding fintech adoption in Zambia?

Follow-up: Do you believe more supportive policies are needed to facilitate the growth of fintech in Zambia?

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## Section G: Recommendations and Strategic Insights

What strategies would you recommend for banks in Zambia to maximize the benefits of fintech adoption?

Follow-up: Are there any best practices that your organization has implemented that could be beneficial for others?

How can banks and fintech companies collaborate to drive digital transformation in Zambia's financial services sector?

Follow-up: What types of partnerships or joint ventures would be most beneficial?

In conclusion, what are the most important lessons learned from fintech adoption and digital transformation in Zambia that other emerging markets could benefit from?

Follow-up: Do you have any advice for other stakeholders in Zambia's financial ecosystem (e.g., regulators, consumers, or fintech startups)?

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#### Closing Statement

Thank you for your time and valuable insights. Your input will contribute significantly to understanding the role of fintech in the digital transformation of Zambia's banking sector. If you have any further thoughts or comments, please feel free to

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## Report #24469465

9 21 CHAPTER ONE INTRODUCTION AND BACKGROUND 1.0. Introduction The

Zambian banking business is not immune to the global developments that have occurred and continue to occur as a result of changing trends in financial technology, or fintech. Mobile banking, digital payments, and blockchain technology have transformed the way people conduct business by providing efficient, convenient, and customer-centric solutions. Of these, digital transformation can be defined more narrowly as the active process of implementing these technologies in the banking context, hence transforming the entire paradigm of how value is delivered to clients (Tapscott & Bates, 2022). The Zambian banking sector is increasingly integrating with fintech services to cope with the growing environment in the banking industry. Some of these technologies can assist raise operational efficiency, improve customer satisfaction, and offer disruption of standard business methods; nevertheless, there is scant study on the Zambian experience. This understanding is critical for determining how the adoption of fintech affects the



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## **UNILUS-RESEARCH ETHICS COMMITTEE**

Ref no: FWA00033228-2112/24

Date: 1<sup>st</sup> December 2024

**STUDENT NAME:** Dorothy Ng'andu

**THE EFFECT OF FINTECH ADOPTION ON THE DIGITAL TRANSFORMATION OF FINANCIAL SERVICES**

The above research was submitted to the research ethics committee for review.

The study has no major ethical problems and is approved subject to the following:

1. The study cannot be changed without express permission of the UNILUS research ethics committee.

2. Approval from the necessary authority should be sought.

**The committee wishes you success in your work.**

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**Professor Kasonde Bowa**

MSc(Glasgow),M.Med(UNZA),FRCS(Glasgow),FACS,FCS,DPH(LSTMH),MPH(UCL)

Chairman- UNILUS REC

Professor of Urology and Consultant Urologist

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Executive Dean - School of Medicine and Health Sciences