ADDIS ABABA UNIVERSITY

FACULTY OF BUSINESS AND ECONOMICS

Financial Technology in Ethiopia: The Strategies of Development and How It Has Challenged The Status Quo Focusing on Commercial Bank of Ethiopia.

A Thesis Submitted to Addis Ababa University in Partial Fulfilment of The Requirements for The Award of The Degree of Master of Business Administration (Finance)

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Statement of Declaration

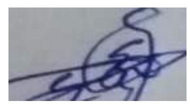
I, Hanna Kimemu, hereby declare that this thesis work, titled "Financial Technology in Ethiopia: The Strategies of Development and How It Has Challenged The Status Quo Focusing on Commercial Bank of Ethiopia" submitted to the College of Business and Economics, Business Administration Department, is my personal work, conducted under the supervision of my advisor, Dr. Takele Fufa. This work has never previously been submitted or presented at this or any other university or institution.

Name: Hanna Kimemu Biruk

Signature: ____________ Date: May, 2024

Statement of Certification

This is to certify that Hanna Kimemu's thesis, " Financial Technology in Ethiopia: The Strategies of Development and How It Has Challenged The Status Quo Focusing on Commercial Bank of Ethiopia," which was submitted in partial fulfillment of the requirements for the award of a master's degree in business administration to the College of Business and Economics at Addis Ababa University, is an authentic work and suitable for submission.



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Master Thesis Examination Approval Sheet

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Abstract

This thesis explores the development and implications of financial technology (FinTech) in Ethiopia, with a focus on the strategies employed by the Commercial Bank of Ethiopia (CBE). FinTech involves innovative technologies that enhance and automate financial services using specialized software and smartphone algorithms. The study examines how FinTech has disrupted traditional banking practices and evaluates the strategies CBE has adopted to navigate and leverage these changes. Key objectives include identifying significant FinTech strategies, understanding the challenges they pose to the existing banking system, and assessing the role of digital payment systems such as mobile banking. The research also considers the impact of infrastructure, connectivity, cybersecurity, financial literacy, and the dominance of conventional banking on FinTech development within CBE. Utilizing a qualitative methodology with purposive and snowball sampling, the findings demonstrate FinTech's potential to boost customer satisfaction, financial inclusion, and operational efficiency. The study highlights critical issues such as technological infrastructure gaps, inadequate financial literacy, cybersecurity threats, and resistance from traditional banking sectors. It provides practical recommendations for decision-makers and financial institutions to effectively harness FinTech's benefits while mitigating associated risks. Ultimately, this research aims to contribute to the modernization and efficiency of financial services in developing countries by offering insights for developing robust FinTech strategies in Ethiopia and similar contexts.

Key Words: Financial Technology (FinTech), Strategies, Challenges, Commercial Bank of Ethiopia (CBE)

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Acronyms

CBE – Commercial Bank of Ethiopia

EFTPOS – Electronic Fund Transfer at the Point of Sale

ATM – Automated Teller Machine

SWIFT – Society for Worldwide Interbank Financial Telecommunication

EDI – Electronic Data Interchange

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CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Globalization is a common term which indicates how almost every country is keeping up with the other and communicating with all the innovations and technologies in centuries. Digital transformation creates challenges in all industries and business sectors. The development of digital transformation has also clearly triggered the emergence of fintech (financial technology) initiatives, which are recognized as some of the most important innovations in the financial industry (Suryono et al, 2020). Financial Technology is a term which emerged in the 21st century derived from two words: financial services and digital technology. It is used to describe new technology that seeks to improve and automate the delivery and use of financial services (Abad-Segura et al., 2020). It is composed of specialized software and algorithms that are used on computers and smartphones. Financial Technology is also described as FinTech. FinTech was initially applied to the technology employed at the backend systems of established financial institutions, such as banks. Kagan (2023) stated that from 2018 or so to 2022 and till now, there was inclusion of consumer-oriented services. FinTech now includes different sectors and industries such as education, retail banks, fundraising & non-profits, and investment management to name a few of them globally

Fintech supports growth and poverty alleviation by strengthening financial development, inclusion, and efficiency by providing the financial services that are required for the digital economy to flourish. To reap these benefits, authorities will need to shape regulatory and supervisory approaches to harness these opportunities while ensuring that core policy objectives such as stability, integrity, consumer protection, and competition continue to be met as the digital transformation of the financial sector continues. (Feyen et al., 2023). FinTech is seen as one of the technologies that would revolutionize the banking industry. It has received global attention as the challenging technology that would empower firms to compete effectively in the 21st century. Governments around the world have paid attention to this challenge and devised policies and regulations to support FinTech development (Wonglimpiyarat, 2019).

For many decades, banks have invested heavily in technology in attempts to improve the efficiency of the financial innovation system. The banking landscape has witnessed the development of various FinTech-based innovations like electronic fund transfer at the point of sale (EFTPOS), automated teller machine (ATM cash dispenser), internet banking, Society for Worldwide Interbank Financial Telecommunication (or SWIFT) international electronic fund transfer, electronic data interchange (EDI), mobile banking, Bitcoin wallet, blockchain banking, and crowd funding (Wonglimpiyarat, 2019).

An internet-based bank is faced with the same types of banking risk as its traditional counterparties. In some ways, the internet may heighten these risks. For example, the ability to transfer funds between different bank accounts may increase deposit volatility and could, in extreme situations, lead to "virtual bank runs". Banks will need to build this possibility into their liquidity management policies (Buckley et al., 2016).

Ethiopia is one of Africa's developing countries trying to keep up with world in many economic and social aspects. Digital transformation is also a major change that we have been observing over the past decade in Ethiopia. Ethiopia is becoming more used to these technologies and adapting them in the finance sector. Financial technology adoption in Ethiopia just like other parts of the world has both its good aspects and challenges. There are many financial technology-based startup firms which emerged recently and existing firms that are adapting fintech in their systems both at the backend and even from customers perspective. In Ethiopia, as there are many financial sectors of the business that use fintech in their systems, Banks are among the top financial institutions that influence the country's economy. There have not been much research papers found by the researcher conducted on the general financial technology adoption and challenges in Ethiopia, but only a few stating some ideas around financial innovation, it's adoption and challenges, which makes this paper aim to address the gap from previous studies.

In previous studies, research was conducted assessing the impact of financial technologies on the performance of Banks. El-Chaarani & El Abiad (2018) from another country, have examined the impact of technological innovation factors on the performance of Lebanese banks and employed return on assets (ROA) and return on equity (ROE) as proxies to measure performance level, and included the technological factors like internet banking, mobile banking, automated teller machines and investment in computer software, and it was concluded that technological innovation investment in ATMs and internet banking has positive impact on the performance of the Lebanese banks while mobile banking and investments in computer software revealed a non-significant impact.

On another study conducted in Ethiopia, Jerene & Sharma (2020) studied the adoption of financial technology in Ethiopia with bank customers perspective by using a model called Technology Acceptance Model to measure the factors influencing the acceptance intention of customers, which lead to the findings that bank customers' intention to adopt financial technology was influenced by customer awareness and subjective norm.

This paper is conducted focusing on one of the leading financial institutions in Ethiopia among Banks, Commercial Bank of Ethiopia and tried to see the strategies of developing fintech in the bank so far and the challenges it has brought up on the status quo. Even though much research has been conducted on the Financial Technology area, there are some knowledge gaps in indicating how financial institutions in Ethiopia have developed the FinTech and what strategies are important to be used and learn from for the next institution working in the FinTech sector. This paper intends to create a better understanding of FinTech development strategies, and the challenges faced in the current situation to learn from.

1.2. Statement of the Problem

The rapid advancement of financial technology (FinTech) has brought significant changes to the global banking sector, offering new opportunities to enhance financial inclusion, efficiency, and accessibility. However, in the context of Ethiopia, where traditional banking systems have long been the dominant players, the impact of FinTech and its strategies of development on the status quo, particularly focusing on the Commercial Bank of Ethiopia (CBE), which is one of the financial institutions with wide range of usage in the country, remains relatively unexplored.

Developing countries like Ethiopia in Africa are highly striving to adopt financial technologies to modernize the financial system. However, the acceptance of financial technologies from consumers' side faces many challenges. Financial technologies include electronic-based platforms that are designed by bankers to allow their customers to access financial services whenever they demand it without time and distance barriers. (Jerene et al., 2020). The problem at hand is the lack of comprehensive research examining the strategies employed by CBE in response to the

FinTech revolution and the challenges faced by traditional banking systems and the current situation in the country. Although the adoption of FinTech solutions in Ethiopia shows promise for transforming the financial landscape, there is limited understanding of how these strategies have been implemented and their actual effects on the status quo.

The existing literature primarily focuses on discussing the acceptance of FinTech among customers, or the effect of technological innovation on the performance of banks and financial sectors. However, there is a scarcity of empirical studies that specifically analyze the strategies of FinTech development in the context of Ethiopia and their impact on traditional banking systems, such as the Commercial Bank of Ethiopia.

The findings of this research contribute to the existing body of knowledge by providing insights into the specific strategies adopted by the Commercial Bank of Ethiopia to leverage FinTech and the challenges faced in the process.

While existing studies have explored different topics on FinTech in the Commercial Bank of Ethiopia like the adoption of these technologies by customers and the impact of FinTech on the bank's performance, there is a gap in understanding the strategies of developments used by the Commercial Bank of Ethiopia and how these new adoption strategies are affecting the status quo or the current situation.

By addressing the above problem, the research aims to inform policymakers, financial institutions, and other stakeholders about the strategies and challenges associated with FinTech implementation and guide the development of effective strategies to mobilize the benefits of FinTech while addressing and minimizing potential risks in CBE and similar sectors.

1.3. Research Questions

The major research questions developed for this study are stated below.

1. What strategies does the Commercial bank of Ethiopia employ to develop and implement FinTech solutions?
2. In what ways has the adoption of FinTech by Commercial Bank of Ethiopia challenged the existing norms and practices/ status quo?
3. How significant are the effects of mobile banking and payments on the development of FinTech in Commercial Bank of Ethiopia?

4. To what extent do infrastructure and connectivity, financial literacy, cybersecurity, and traditional banking dominance impact the development of FinTech in Commercial Bank of Ethiopia?
5. What are the impacts of FinTech on customer experience, financial inclusion, and operational efficiency of Commercial Bank of Ethiopia?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study is to identify and assess the strategies of financial technology development used at Commercial Bank of Ethiopia and to analyze the extent to which FinTech has challenged the existing status quo.

1.4.2. Specific Objectives

The specific objectives in this study are:

1. To describe the key strategies employed by Commercial Bank of Ethiopia in the development and implementation of FinTech solutions.
2. To describe the challenges faced in the status quo because of the adoption of FinTech by Commercial Bank of Ethiopia.
3. To assess how mobile banking and payment systems have influenced the development and implementation of FinTech solutions at the Commercial Bank of Ethiopia.
4. To examine how infrastructure and connectivity, financial literacy, cybersecurity, and the dominance of traditional banking influence the development of FinTech solutions at the Commercial Bank of Ethiopia.
5. To analyze how FinTech innovations affect customer experience, enhance financial inclusion, and improve operational efficiency at the Commercial Bank of Ethiopia.

1.5. Significance of the Study

This study's significance lies in its possible contributions to the overall field of Finance, technology, and Banking in Ethiopia. It can provide important insights and benefits to various stakeholders, such as policy makers, financial institutions, researchers, and users. Some of the major potential significances of the study are:

Enhancing Financial Inclusion: FinTech is a technology that can provide society with innovative financial solutions to their day-to-day financial activities. Understanding the strategies employed by Commercial Bank of Ethiopia to embrace FinTech can help identify best practices and inform the design and implementation of initiatives to expand financial inclusion in Ethiopia, as a result improving the financial well-being and inclusion of individuals and businesses in the society.

Improving Efficiency and Customer Experience: This study can give some insights on the impact of FinTech strategies on efficiency of the financial services given and customer experience. By understanding the opportunities presented and the challenges faced by FinTech solutions, financial institutions, including Commercial Bank of Ethiopia, can provide a more effective and efficient service which is to the liking of the users and easy access to their FinTech systems.

Informing Policy and Regulation: Policy makers and regulatory bodies in Ethiopia can get insights from this study about the strategies of development in Fintech in Ethiopia and the challenges faced by the status quo guiding the policy makers and regulatory bodies to facilitate the adoption and implementation of FinTech widely in Ethiopia by making the environment more convenient for innovation and innovators' new ideas.

Guiding Future Research and Development: Conducting this comprehensive study on the strategies of FinTech development and the challenges faced by the status quo in Ethiopia can establish a foundation for future research on the topic. The findings from this study can inspire further investigations into specific aspects of FinTech, such as digital payments, mobile banking, ATMs, and digital lending services, leading to advancement in knowledge and more innovation in the financial sector.

1.6. Scope of the Study

The scope of this study is limited to one of the financial institutions leading the economy of the country, the Commercial Bank of Ethiopia. The study focuses on the general concept of Financial Technology and the strategies of development of FinTech in Ethiopia along with the challenges it brought up on the status quo. However, since there are several types of Financial Institutions in Ethiopia using and contributing to the FinTech solutions, the researcher limited the scope to focus on Commercial Bank of Ethiopia which is the biggest operating financial institution as per the 2021 annual report of CBE which states that CBE holds a dominant position in the Ethiopian financial sector solidifying its status as the largest operating financial institution in the country. As of 2021, the bank has over 1,400 branches and more than 17,000 ATMs with extensive coverage and accessibility to customers across Ethiopia. (CBE, annual report 2021).

1.7. Limitations of the Study

The possible limitations to this study are that it was not able to address all the financial institutions using FinTech in their operations since they may have different types of operational systems that differ from the entity being studied here, the Commercial bank of Ethiopia. And another limitation is the researcher did not find adequate related research papers and data on the strategies of development and challenges of the status quo regarding FinTech solutions in Ethiopia since Ethiopia is a developing country and in the enfant stage of using technologies and FinTech solutions in the financial sector operations.

1.8. Organization of the Study

This study contains five chapters. The first chapter is constructed to give an overall introduction of the study, and consists of the background of the study, statement of the problem, research questions, the general and specific objectives of the study, significance of the study, limitations and scope of the study, and the organization of the study. The next chapter discusses and gives insight into the theoretical and empirical literature on the general concept of Financial Technology and related area of studies, and the research gap and conceptual framework are stated. The third chapter covers the methodologies to be used for conducting the study. The fourth chapter provides the analysis of the study based on the results obtained. The last and final chapter, chapter five, presents the summary of the findings, conclusion, and recommendations.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Introduction

This chapter focuses on theoretical and empirical literature reviews, research gaps and conceptual framework. The researcher conducted a thorough literature review to understand the existing scholarly articles and research on financial technology and FinTech in the banking sector. The researcher also tried to explore reports, articles and studies that discuss the strategies employed by Banks to develop and implement FinTech solutions both in the context of the world and in Ethiopia.

2.2. Theoretical Literature

2.2.1. Financial Technology

'FinTech', a contraction of 'Financial technology', refers to technology enabled financial solutions. It is often seen today as the new marriage of financial services and information technology. However, the interlinkage of finance and technology has a long history and has evolved over three distinct eras, during which finance, and technology have evolved together: first in the analogue context then with a process of digitalization of finance from the late twentieth century onwards. (Buckley et al., 2016). The evolution of financial technology is made up of a series of events in innovations at the intersection of finance and technology (Abad-Segura et al, 2020).

Technological advances and digital transformation imply a paradigm shift in the financial sector. The basis of this revolution is innovation in business models based on emerging technologies at customer service. Furthermore, the value proposition of financial technologies is based on creativity and the ability to focus on the client with more flexible financial services than those offered by the traditional model (Abad-Segura et al, 2020).

Suryono, Budi & Purwandari (2020) stated in their review that every industry and business sector has issues as a result of the digital transition. Fintech (Financial Technology) initiatives have emerged in response to the rise of digital transformation, and it is widely acknowledged that these initiatives represent some of the most significant breakthroughs in the financial industry. These projects are evolving quickly, partly because to information technology, legislation, and the sharing economy.

The digitization and connection of devices have allowed the expansion of the global financial system with an increase in banking websites and companies dedicated to digital payments, online loans and crowdfunding, online brokers, and electronic transfers. From this perspective, the connection of the terms finance and technology has meant the Fintech term to refer to the new technologies that have revolutionized and transformed the financial sector. Therefore, financial technology applies technological innovations to financial processes, products, and services (Abad-Segura et al,.2020).

2.2.2. FinTech in Banking Sector

The initial competitiveness between banking and financial technology has evolved into collaboration. The development of financial technology proposes: (i) Multichannel assistance for users: smartphones, tablets, PCs, laptops, or smartwatches; (ii) cloud technology, which allows decentralized storage and facilitates financial information and services without the need for physical space; (iii) the use of cryptocurrency, which offers global transactions, fewer intermediaries, or transparency in payments; and (iv) mobile payment, which offers security, speed, and is a new way of doing business and managing money (Abad-Segura et al,.2020).

The growth of FinTech means consumers and businesses with ready access to the internet have more choices than ever for deciding where, when and with whom they will bank. For many customers, especially younger ones, activities associated with banking- deposits, loans, payments, and investments- will likely be split among many different types of bank and non-bank firms. Some may never enter a bank lobby or speak to a banker (Neely, 2021).

2.2.3. Strategies to develop and implement Financial Technology

The development and implementation of Fintech involves various strategies aimed at driving and achieving successful adoption. Scholars have explored different dimensions of these strategies to shed light on effective approaches. For instance, Akhtar, Akhtar, and Hussain (2019) conducted a systematic literature review on FinTech implementation strategies in developing countries. They emphasized the value of cooperation and partnerships between Fintech businesses, well-known financial institutions, IT companies, and government agencies. By working together, fintech companies may take advantage of the resources, knowledge, and legal frameworks already in place to lower entry barriers and establish their credibility. Additionally, user centered design has emerged as a crucial strategy in Fintech development. By prioritizing user needs and preferences, companies can create intuitive and user-friendly interfaces, personalized services, and seamless customer experiences. This approach enhances user adoption and engagement with FinTech solutions (Akhtar et al., 2019).

In the realm of FinTech development and implementation, another scholar shares the same idea that an essential strategy could be the adoption of open innovation approaches. Open innovation involves engaging external stakeholders, such as customers, partners, and developers, in the innovation process to foster collaboration and co-creation. The research by Wessel et al. (2020) emphasizes the significance of open innovation in FinTech. By leveraging external expertise, resources, and ideas, FinTech companies can accelerate their innovation cycles, reduce development costs, and gain access to diverse perspectives. Furthermore, open innovation allows Fintech companies to establish strong relationships with external stakeholders, fostering trust, loyalty, and advocacy. By embracing open innovation practices, Fintech firms can harness the power of collaboration and collective intelligence to drive the development and implementation of innovative and impactful solutions (Wessel et al., 2020).

Scalability and interoperability are additional strategies employed in FinTech. Companies focus on developing scalable solutions that can handle increasing volumes of transactions and users. Emphasizing interoperability allows seamless integration with existing infrastructure and collaboration with other FinTech platforms (Akhtar et al., 2019). Furthermore, the application of data analytics and artificial intelligence (AI) technologies has become instrumental in FinTech development. These technologies enable data-driven insights, personalized recommendations, fraud detection, risk assessment, and improved decision-making (Akhtar et al., 2019).

2.2.4. Disrupting Norms: The Impact of FinTech Adoption

The adoption of FinTech has presented numerous challenges to the established norms and practices in the financial sector. One area of disruption lies in payment systems and banking services. Traditional payment methods and banking practices have been confronted by the rapid rise of mobile banking and digital payment solutions (Grinblatt et al., 2020). The convenience, speed, and accessibility offered by Fintech innovations have not only changed customer expectations but also challenge the dominance of traditional banking models and infrastructure (Bharati et al., 2020).

Furthermore, the emergence of peer-to-peer lending platforms and crowdfunding has disrupted the traditional lending landscape (Mollick, 2019). The use of blockchain technology and smart contracts has the potential to revolutionize traditional financial transactions, such as securities trading and cross-border payments (Swan, 2015). In addition to payment systems and lending, the adoption of Fintech has also impacted wealth management and investment practices. Robo-advisors, powered by algorithms and artificial intelligence, have gained popularity as low-cost alternatives to traditional financial advisors (Barber et al., 2020).

Moreover, Fintech has played a pivotal role in promoting financial inclusion by reaching underserved populations and providing them with access to financial services (Demirguc-Kunt et al., 2018) Mobile banking and digital wallets have enabled individuals in remote areas to engage in financial transactions and participate in the formal economy (World Bank Group, 2017).

2.2.5. Significance of Mobile Banking and Payments in the development of FinTech

Mobile banking and mobile payments are two trending terms that encapsulate a huge portion of the FinTech space. These technologies are driving innovation in the financial services sector, opening access to vital financial products. (Szakiel, 2019). Mobile banking is a service provided by a bank that allows its customers to conduct financial transactions remotely using a mobile device and can perform online banking tasks at anytime and anyplace. It can involve a communication through USSD, Internet, or an application designed for the bank services (Commercial Bank of Ethiopia, 2023).

Mobile banking started out as an offering from traditional banking institutions to their customers. Traditional banks created mobile applications, which customers could use to make deposits, transfer money and more. Since then, the proliferation of mobile technology, specifically internet-connected phones, has created an environment ripe for innovation. Mobile banking is more convenient for customers and eliminates the need to have physical locations. Mobile payments differ from mobile banking**.** While mobile banking typically includes person to person (P2P) payments as a feature, mobile payments allow point of sale (POS) transactions to be carried out through mobile devices. Initially, individuals used mobile money services for P2P transfers and airtime top-ups. Today, mobile money includes mobile payments, which can be used for cross-border remittances, P2P payments, micropayments, bill payments and merchant payments (Szakiel, 2019).

2.2.6. Factors Influencing FinTech development

2.2.6.1 Connectivity and FinTech

Connectivity, particularly through the widespread use of the internet and mobile devices, has been instrumental in shaping the growth of FinTech (Bharati et al., 2020). Studies have shown that increased connectivity facilitates access to FinTech services, allowing individuals and businesses to engage in online transactions, mobile banking, and digital payments. (Bharati et al., 2020; World Bank Group, 2017). Enhanced connectivity also enables FinTech companies to develop innovative solutions and reach a broader customer base (Bharati & Chaudhury, A., 2020)

2.2.6.2 Financial Literacy and FinTech

In today's world, financial processes are becoming more and more complicated, involving investment funds, a wide range of banking products, insurance systems, reforms of pension systems and so on, which creates a pressing need for educators to introduce financial literacy courses at all levels of modern education. On the one hand, modern financial services improve our quality of life (bank cards, mobile banking applications, insurance and so on); on the other, people are generally not ready to use these services responsibly because they lack the necessary knowledge and skills. Financial literacy is a set of competencies that enable an individual to take informed and effective decisions to improve their welfare and to minimize their time and money losses (Sudakova, 2018).

From different definitions taken, financial literacy includes both the knowledge and the behaviors regarding the use and management of money. The digitalization of financial industries has created a series of new products and services, including but not limited to virtual financial advisors, peer-to-peer lending, crowdfunding, mobile wallets and various blockchain applications (for example Bitcoin, Ethereum and many other types of crypto assets). Now, all these new digital financial applications constitute a remarkable and increasing share of retail banking client business model worldwide which we refer to as "fintech". However, although the rapid developments and evolutions of fintech were designed to make our life easier and to widen our choices of services, they also demand users to possess an increased degree of responsibility and autonomy in making decisions. For instance, borrowers and lenders can now directly be matched via P2P lending platforms but they must be responsible for taking care of their own cyber security because there is no financial intermediary between the transactions (Dinh, 2022).

2.2.6.3 Cyber security and Fintech

The security of digital financial transactions is a critical concern in the FinTech ecosystem. Cybersecurity measures are essential to protect user information, prevent fraud, and maintain trust in Fintech platforms (Bharati & Chaudhury, A., 2020). Research suggests that robust cybersecurity practices and regulations are necessary to mitigate risks associated with data breaches, identity theft, and unauthorized access (Bharati et al., 2020; Swan, 2015). Public confidence in Fintech services is closely tied to the effectiveness of cybersecurity measures employed by the industry (Swan, 2015).

2.2.6.4 Traditional banking dominance

The rise of FinTech has both affected and threatened traditional financial institutions' dominant position. Established banks compete with FinTech companies that provide innovative solutions and customer-centric experiences (Bharati & Chaudhury, 2020). Research indicates that the presence of traditional banking incumbents affects the adoption of FinTech, as customers may be reluctant to switch from familiar banking relationships to emerging FinTech players (Bharati & Chaudhury, 2020). However, partnerships between traditional banks and FinTech firms have emerged as a strategy to leverage the strengths of both sectors and drive innovation (Bharati & Chaudhury, 2020).

2.2.7. Fin Tech impact on Customer experience, Financial Inclusion, and operational efficiency

FinTech has transformed the customer experience within the financial sector. Studies have shown that the adoption of FinTech solutions, such as mobile banking apps and digital payment platforms, has significantly enhanced convenience, accessibility, and personalization for customers (Barber et al., 2020; Grinblatt et al., 2020). FinTech companies leverage advanced technologies, such as artificial intelligence and machine learning, to deliver tailored financial services and improve the overall customer journey (Barber et al., 2020).

FinTech offers great promise in its potential to democratize financial services by expanding access to previously unbanked or underserved groups and individuals. The process of integrating economic agents into the financial system by providing them with useful and affordable financial products and services delivered in a responsible and sustainable way is known as financial inclusion (Alexander & Karametaxas, 2020).

The benefits from financial inclusion can be wide ranging. For example, studies have shown that mobile money services which allow users to store and transfer funds through a mobile phone can help improve people's income earning potential and thus reduce poverty. And digital technology alone is not enough to increase financial inclusion. To ensure that people benefit from digital financial services requires a well-developed payment system, good physical infrastructure, appropriate regulations, and vigorous consumer protection safeguards. And whether digital or analogue, financial services need to be tailored to the needs of disadvantaged groups such as women, poor people, and the first-time users of financial services, who may have low literacy and numeracy skills (Demirgüç-Kunt et al., 2018).

The emergence of fintech has influenced consumer behavior in the financial sector. Research suggests that Fintech adoption is driven by factors such as perceived usefulness, ease of use, trust, and compatibility with existing financial habits (Bharati & Chaudhury, A., 2020). Moreover, consumer preferences are shifting towards digital financial experiences, with customers increasingly seeking personalized, user-friendly, and innovative Fintech solutions (Barber et al., 2020).

As Bharati & Chaudhury (2020) stated, brand research and customer satisfaction play crucial roles in the success of fintech companies. Building a strong brand reputation that instills trust and reliability is essential for attracting and retaining customers. Additionally, studies from Barber et al., (2020) have shown that customer satisfaction with Fintech services is influenced by factors such as ease of use, security, responsiveness, and the level of customization provided.

FinTech has also contributed to operational efficiency within the financial industry. Automation and digitization of financial processes, enabled by FinTech solutions, have streamlined operations and reduced costs for financial institutions (Iain et al., 2020; Barber et al., 2020).

2.3. Empirical Literature

2.3.1 Strategies to develop and implement FinTech solutions.

One major factor in the development of FinTech solutions is the establishment of technological infrastructure. Lee and Shin (2018) found that financial institutions that invest in advanced IT systems and innovative technologies, such as blockchain and artificial intelligence, are better equipped to develop seamless and secure FinTech solutions. Their study highlights the importance of continuous technological upgrades to maintain competitive advantage and operational efficiency. These findings by Lee and Shin (2018) align with the study's objective to determine the strategies of developing FinTech for CBE which is to invest in advanced IT systems and continuous technological upgrades. This strategy is crucial for developing secure and efficient FinTech solutions that can enhance customer experience and operational efficiency.

Hornuf and Schwienbacher (2017) demonstrated that partnerships between traditional banks and FinTech startups lead to the creation of innovative financial products and services. These collaborations leverage the technological expertise of startups and the customer base and regulatory experience of established banks, resulting in mutually beneficial outcomes. This emphasis on partnerships suggests that CBE could benefit from collaborating with FinTech startups to leverage their technological expertise and innovative capabilities. Such collaborations can lead to the development of cutting-edge financial products that meet the evolving needs of customers.

Wonglimpiyarat (2019) had conducted a study that focuses on the systematic characteristics of FinTech based innovations in the banking sector and has analyzed the findings to have shown that the diffusion of FinTech-based innovations has different levels of systemic characteristics. According to the empirical analyses based on the systemic innovation model used in the study, the systemic nature of innovation influences the need for collaboration and the process of technology diffusion. Considering the trend of FinTech in the future banking industry, it is argued that the effectiveness of FinTech-based innovations needs high systemic characteristics since the ownership of networks and externalities seems to be an important factor in the diffusion process. The study concluded that FinTech needs systemic characteristics in order to realize the value of technology and achieve wide market acceptance.

Empirical research by Gomber et al. (2018) underscores the significance of designing FinTech solutions with a customer-centric approach. Their findings suggest that understanding customer needs and preferences is crucial for developing user-friendly and accessible FinTech applications. This approach not only enhances customer satisfaction but also drives higher adoption rates of digital financial services. By understanding and addressing customer preferences, CBE can develop user-friendly

FinTech solutions that drive higher adoption and satisfaction rates which can be considered as one strategy to develop the Fintech system.

Zetzsche et al. (2017) explored how regulatory frameworks influence the deployment of FinTech services. They came to the conclusion that innovation is stimulated and consumer interests and financial stability are safeguarded by a transparent and encouraging regulatory framework. Strong cybersecurity protections and other effective risk management techniques are necessary to reduce potential risks and win over customers. These results highlight the necessity of risk management and regulatory compliance in order to guarantee the safe and secure deployment of FinTech solutions.

The importance of financial literacy and education in the successful implementation of FinTech solutions is highlighted in the work of Lusardi and Mitchell (2014). Their research indicates that educating customers about digital financial services and their benefits enhances financial inclusion and adoption rates. Financial literacy initiatives help bridge the knowledge gap, enabling more individuals to utilize FinTech services effectively.

Studies by Puschmann (2017) reveal that integrating FinTech solutions into existing banking operations requires a strategic approach to ensure operational efficiency. This involves reengineering business processes, training staff, and adopting new technologies that streamline operations and reduce costs. Successful integration leads to improved service delivery and operational performance. This research on operational integration highlights the need for strategic implementation to achieve operational efficiency. For CBE, one strategy to develop and implement Fintech can be this system involving reengineering business processes, training staff, and adopting new technologies that streamline operations and reduce costs.

In Ethiopia, The Commercial Bank of Ethiopia (CBE) is a pioneer in installing ATM cash dispensers and other e-payment systems and providing Visa branded card payment service; in giving nationals incoming transfer worldwide through Western Union Money Transfer in early 1990s and introducing new and innovative bank services and products that attract many customers who were not users due to their belief and demographic reason. The devotion CBE displays in fulfilling its strategic objectives and creating a pioneering role in technology-based products and services has been impressive. In a few years, it has introduced Card Banking, ATM and POS terminals which have won the acceptance of customers. Interest in CBE's Internet and Mobile banking services and the subsequent subscriptions are also growing remarkably (Mehari, 2019).

In conclusion, the empirical literature on the strategies for developing and implementing FinTech solutions provides valuable insights and different alternatives the bank could implement in its system to better understand and develop strategies for FinTech advancement.

2.3.2 Challenges Fintech brought about to the status quo.

Vives (2017) discusses how FinTech innovations have introduced new business models that challenge traditional banking practices, such as peer-to-peer lending and robo-advisors. These innovations reduce the need for physical banking infrastructure and human intermediaries, pressuring traditional banks to evolve their service delivery models.

Gomber et al. (2017) found that customers increasingly demand digital and mobile banking solutions, which traditional banks must provide to stay competitive. The shift towards a customer-centric approach has challenged banks to rethink their service delivery strategies and invest heavily in digital transformation.

Vives (2017) and Gomber et al. (2017) emphasize the need for traditional banks to adapt to technological disruptions and meet evolving customer expectations. For CBE, to overcome this challenge that it could face, this means they have to invest in digital transformation and developing mobile and online banking solutions that enhance customer experience and broaden financial inclusion.

On another study conducted, developing countries like Ethiopia in Africa are highly striving to adopt financial technologies in order to modernize the financial system. However, the acceptance of financial technologies from consumers' side faces many challenges. Financial technologies include the electronic based platforms that are designed by bankers to allow their customers for accessing financial services whenever they demand it without time and distance barriers (Jerene & Sharma, 2020). Among all other, the customer acceptance of the new systems is one of the main challenges that FinTech brought about to the existing norms and practices of society.

Arner et al. (2017) explored how the regulatory landscape struggles to keep pace with rapid technological changes. Traditional financial institutions face the dual challenge of complying with existing regulations while adapting to new rules designed to govern FinTech activities. This creates a complex regulatory environment that can hinder innovation and increase compliance costs.

Kshetri (2016) highlighted that FinTech companies are prime targets for cyberattacks due to the sensitive financial data they handle. Traditional banks, in response, must enhance their cybersecurity measures to protect against data breaches and cyber fraud, which requires significant investment in technology and expertise.

Zetzsche et al. (2017) examined the implications of data-driven finance, noting that the collection and analysis of vast amounts of personal data pose significant privacy risks. Traditional financial institutions must navigate these challenges while ensuring compliance with data protection regulations, such as the General Data Protection Regulation (GDPR) in Europe.

Puschmann (2017) found that many banks struggle with the compatibility of new technologies with their outdated IT infrastructure. This integration issue can lead to inefficiencies and increased operational costs, hindering the full potential of FinTech adoption.

Gai et al. (2018) pointed out that traditional banks often face internal resistance to change, as employees and management are accustomed to established practices. Overcoming this resistance requires a strategic emphasis on change management and fostering a culture of innovation.

Arner et al. (2017) and Zetzsche et al. (2017) highlight the regulatory challenges associated with FinTech. CBE must navigate a complex regulatory environment while ensuring compliance with existing and new regulations. This involves adopting robust risk management and compliance frameworks to mitigate regulatory risks and build customer trust.

The significance of cybersecurity and data privacy is highlighted by the research conducted by Kshetri (2016) and Zetzsche et al. (2017). For CBE, resolving these problems is essential to safeguarding client information and preserving confidence in online financial services. Adherence to data protection standards and a substantial investment in cybersecurity infrastructure are necessary for this.

Puschmann (2017) and Gai et al. (2018) discuss the operational and strategic challenges of integrating FinTech with legacy systems and managing organizational change. CBE must strategically manage the integration of new technologies and foster a culture of innovation to overcome internal resistance and realize the benefits of FinTech adoption.

2.3.3 Impact of Mobile Banking on Fintech development

Numerous studies highlight the role of mobile banking in expanding financial services to underserved populations. Aker and Mbiti (2010) found that mobile banking significantly increased access to financial services in Sub-Saharan Africa, where traditional banking infrastructure is limited. This expansion has been crucial in promoting financial inclusion, especially in rural and remote areas.

Jack and Suri (2014) demonstrated that mobile money services, such as M-PESA in Kenya, have created comprehensive digital financial ecosystems. These ecosystems facilitate not only basic transactions but also savings, credit, and insurance services, thereby fostering greater economic participation among previously unbanked populations.

Jack and Suri (2014) further explored the economic impacts of mobile money, showing that it reduces transaction costs and increases the efficiency of financial transactions. This efficiency is particularly beneficial in developing economies, where traditional banking services are often costly and inaccessible.

According to an article published by Lakew and Azadi (2020) on Financial Inclusion in Ethiopia, it is implied that the formal financial system in Ethiopia is extremely underdeveloped and confined mainly to cities and larger towns while making the strong efforts of banks to offer financial products to clients not very fruitful. Two of the most important informal financial institutions in Ethiopia, Iqub and Edir, have remained at the heart of anthropologists and sociologists' analysis. In Ethiopia, small and medium-sized enterprises routinely raise funds from the informal financial sector. Most notably, the informal financial sector is dominated by Iqub schemes (indigenous financial associations in which financial contributions are routinely collected from fellow members at regular intervals and paid out as a lump sum, interest-free, to one member of the scheme at a time). Formal saving and lending institutions are not used to most of

the Ethiopian people. The few banks and credit organizations currently in operation in the country are restricted to urban areas, while over 80% of the population lives in rural areas. In addition, these banks are not much used by even the urban population. Finally, the findings regarding individuals' access to and use of financial services identified physical, bureaucratic, and financial barriers. Therefore, this paper suggests that some networks can facilitate access, including the use of local banks such as trucks and transportation to provide connectivity to remote regions and the establishment of mobile banking infrastructure. Such instances were introduced in other countries and helped extend the access of formal financial services to remote communities, without easy access to public or formal financial institutions (Lakew & Azadi, 2020).
The studies by Aker and Mbiti (2010) and Jack and Suri (2014) emphasize the role of mobile banking in promoting financial inclusion. For CBE, leveraging mobile banking solutions can significantly expand access to financial services, particularly in rural and underserved areas as Lakew and Azadi (2020) implied in their findings.

Research by Shaikh and Karjaluoto (2016) indicates that mobile banking enhances customer convenience by providing 24/7 access to financial services. This accessibility is particularly important for enhancing customer satisfaction and loyalty, as users can conduct transactions anytime and anywhere.

Research by Shaikh and Karjaluoto (2016) highlights the efficiency gains from mobile banking. For CBE, implementing mobile banking solutions can streamline financial operations, reduce transaction costs, and improve customer convenience, leading to enhanced operational efficiency and customer satisfaction.

Laukkanen (2017) found that mobile banking apps enable banks to offer personalized services and engage with customers more effectively. Through data analytics and machine learning, banks can tailor their offerings to individual customer needs, enhancing the overall user experience and fostering deeper customer relationships.

The rise of mobile banking has spurred innovation and competition within the FinTech sector. Gomber et al. (2017) noted that mobile banking platforms have become a launching pad for numerous FinTech startups, driving innovation in areas such as peer-to-peer lending, digital wallets, and blockchain-based solutions. This competition encourages continuous improvement and diversification of financial products and services.

Mobile banking is increasingly integrated with emerging technologies such as artificial intelligence (AI) and blockchain. Lee and Shin (2018) discussed how AI-powered chatbots and robo-advisors are enhancing mobile banking services by providing instant customer support and personalized financial advice. Similarly, blockchain technology is being used to enhance the security and transparency of mobile transactions.

The research conducted by Lee and Shin (2018) and Gomber et al. (2017) shows how mobile banking stimulates competition and innovation. In order to promote creativity, incorporate cutting-edge technologies, and maintain its competitiveness in the quickly changing FinTech market, CBE can make use of mobile banking platforms.

Puschmann (2017) highlighted the synergies between mobile banking and traditional banking services. Banks are increasingly adopting mobile banking solutions to complement their existing services, creating a hybrid model that leverages the strengths of both traditional and digital platforms. This synergy is crucial for banks to stay competitive in the evolving financial landscape.

2.3.4 Factors influencing Fintech development

The development of FinTech is influenced by a variety of factors, including infrastructure and connectivity, financial literacy, cybersecurity, and the dominance of traditional banking institutions. This review evaluates existing empirical research on these topics, highlighting the major findings and relationships between various studies, and connects these findings to broader research objectives.

Ndung'u (2018) emphasized that robust digital infrastructure, including widespread internet and mobile network penetration, is essential for the adoption of FinTech services. Countries with well-developed digital infrastructure tend to see higher levels of FinTech activity.

Aker and Mbiti (2010) found that mobile connectivity plays a significant role in the proliferation of mobile banking services, particularly in developing countries. Mobile phones serve as a primary access point for financial services, making mobile connectivity crucial for FinTech development.

Ndung'u (2018) and Aker and Mbiti (2010) emphasize the importance of digital infrastructure and mobile connectivity for FinTech adoption. For CBE, investing in digital infrastructure and expanding mobile network reach, especially in rural areas, is crucial for enhancing financial inclusion and promoting FinTech services.

In regions with poor connectivity, the adoption of mobile banking remains limited. Allen et al. (2016) pointed out significant disparities between urban and rural areas. This indicates that CBE could focus on building infrastructures both in the Urban and Rural areas for better accessibility of Fintech services.

Implications for CBE on infrastructure from some reviewed literatures are expanding mobile network coverage, especially in rural areas, can help CBE reach a wider audience. Implementing mobile banking solutions that work efficiently on basic mobile devices can also enhance accessibility.

Financial literacy is another key determinant of FinTech adoption. Lusardi and Mitchell (2014) found that individuals with higher financial literacy are more likely to use digital financial services. Financial literacy helps users understand and effectively utilize FinTech products, enhancing their financial decision-making.

CBE should integrate financial literacy programs into its service offerings. Workshops, online courses, and community outreach can educate consumers on using digital financial services effectively.

The rise of FinTech has brought about significant cybersecurity challenges. Kshetri (2016) highlighted that FinTech companies are frequent targets of cyberattacks due to the sensitive financial data they handle. Ensuring robust cybersecurity measures is essential for protecting consumer data and maintaining trust.

Arner et al. (2017) discussed how regulatory frameworks are evolving to address cybersecurity risks. They emphasized the need for comprehensive regulations that balance innovation with security to foster a safe FinTech environment.

Studies by Romanosky et al. (2014) show that data breaches and cybersecurity incidents can significantly undermine consumer trust in FinTech services. Maintaining strong cybersecurity protocols is crucial for sustaining user confidence and promoting adoption.

The dominance of traditional banking institutions can pose significant barriers to the entry and growth of FinTech firms. Gomber et al. (2018) noted that established banks have substantial resources and customer bases, making it challenging for new FinTech entrants to compete.

Puschmann (2017) highlighted the potential for collaboration between traditional banks and FinTech companies. Such collaborations can lead to hybrid models that leverage the strengths of both traditional and digital platforms, driving innovation and expanding service offerings.

2.3.5 FinTech solutions and their impact on customer experience, financial inclusion, and operational efficiency of the bank

Research by Gomber et al. (2018) shows that FinTech innovations significantly enhance customer experience by providing more personalized, convenient, and faster services. Mobile banking apps, AI-driven chatbots, and personalized financial advice are some examples of how FinTech improves user interaction.

A study by Deloitte (2018) found that banks integrating FinTech solutions reported higher customer satisfaction scores. For example, JPMorgan Chase's mobile banking app saw a 20% increase in user engagement after incorporating AI features.

Jack and Suri (2016) documented how mobile money services like M-PESA in Kenya significantly increased financial inclusion, especially among the unbanked population. FinTech solutions lower barriers to entry by providing accessible financial services through mobile platforms. The success of M-PESA has been replicated in other regions. For example, Bangladesh’s bKash has dramatically increased the number of people with access to financial services, particularly in rural areas. These findings from research imply that implementing similar mobile-based financial services can enhance financial inclusion, helping underserved communities gain access to banking services.

Studies by Kshetri (2016) indicate that FinTech platforms offering microfinance and peer-to-peer (P2P) lending have expanded access to credit for individuals and small businesses that traditional banks often overlook.

Zhang et al. (2017) found that P2P lending platforms in China have significantly increased credit availability, particularly in rural areas where traditional banking infrastructure is limited.

Philippon (2016) showed that FinTech innovations can substantially reduce operational costs for banks. Automation of processes, reduction in physical branch requirements, and improved data analytics contribute to cost savings.

A study by McKinsey & Company (2017) reported that banks adopting robotic process automation (RPA) saw a 30-50% reduction in processing costs. This implies that identifying specific areas where FinTech can reduce operational costs can help CBE achieve greater efficiency and allocate resources more effectively.

According to Dahlberg et al. (2015), mobile payments reduce the need for physical cash handling and decrease the operational costs associated with traditional banking. This streamlining is essential for banks to enhance their efficiency and provide better customer service.

2.4. Research Gaps

In Ethiopia, the FinTech sector is at its early stages and the need for it is gradually increasing. There have been research papers conducted around FinTech assessing the effect technological innovations have on the performance of institutions, and some research papers addressing the acceptance of these new technologies by the customers of the financial institutions or banks applying these technologies. The use of financial technologies, the adoption and challenges faced are major points discussed in previous research papers. This implies that the financial technology area is yet to be explored by more researchers on the topic of assessing the development strategies to use in Ethiopia for enhancing the FinTech and the challenges that come with it. The research gap in this paper is the lack of research which focuses on identifying the strategies used by financial institutions to employ and develop FinTech solutions, particularly by Commercial Bank of Ethiopia and additionally how the general users/the status quo is being challenged by these new financial technologies adopted and the factors that play significant roles in enhancing and challenging the fintech system. This paper aims to address this gap in literature by identifying the strategies of development used in Commercial Bank of Ethiopia to strengthen FinTech and the challenges faced by the status quo to learn from these challenges and turn them into opportunities for future start-ups on Fintech.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

The third chapter discusses the methods used in the research to achieve its general and specific objectives. It includes the research methodology, Research design, Research Method, and Ethical Considerations, which are explained in detail below.

3.2. Research Design

The researcher used an exploratory design which is appropriate as the main aim of the study is to explore and describe the strategies of development used in CBE to enhance Fintech and to assess the challenges in the status quo.

3.3. Research Approach

For the topic financial technology in Ethiopia: the strategies of development and how it has challenged the status quo in commercial bank of Ethiopia, the exploratory research involved gathering non-numerical data to gain deep insights and an understanding of FinTech by conducting interviews with key stakeholders available such as the bank executives in different departments to understand their perspectives, experiences and strategies related to FinTech development in Ethiopia and these interviews helped analyze their specific strategies, challenges and outcomes resulting from FinTech implementation.

3.4. Research Method

The detailed research methods are listed out below:

3.4.1. Sources of Data

This study used Primary data to achieve its objectives. The Primary data was collected from interviews, which followed a structured approach, with key stakeholders and individuals involved directly in the implementation of strategies for developing FinTech. A total of 5 interviewees participated, which were deemed sufficient to achieve data saturation and provide a comprehensive understanding of the FinTech implementation in the bank. The Digital Banking Division in the Commercial Bank of Ethiopia is the main department that is directly involved in implementing and overseeing the whole FinTech operation in the institution. CBE operates with a head office in the country with departments in different sectors of the business. According to

CBE's official website, the organizational structure of CBE looks like the below diagram.

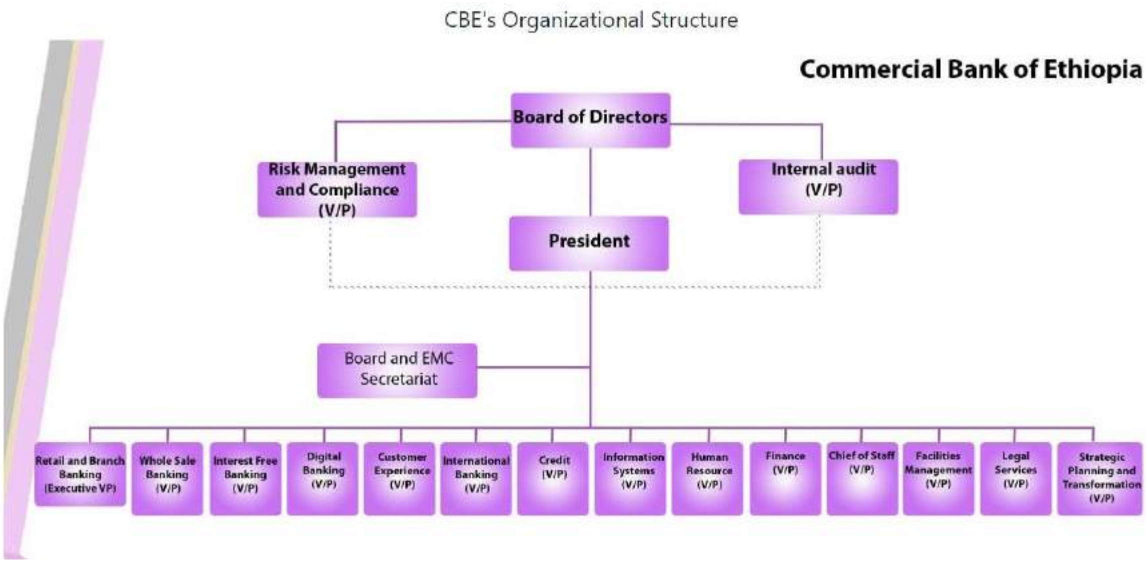

Figure 3.1 Organizational Structure of CBE

The Researcher was able to gather information in person from the head office's Research and Development office in the Legal Services department that the Digital Banking Division is the main body in the bank that works and implements FinTech solutions.

3.4.2. Sample Design

The research employed a combination of purposive and snowball sampling techniques to select the participants for the interviews. The purposive sampling approach was deemed appropriate as it allowed the researcher to intentionally choose individuals who possess the necessary knowledge, experience, and involvement in the Fintech implantation process within the Commercial Bank of Ethiopia. To ensure diverse and representative sample, the researcher first identified key stakeholder groups within the Main Branch of the bank operating in the head office and the department of Digital Banking Division under different levels of professions. 1 manager of 2 managers from the Main Branch and 1 Director from the Digital Division were selected. The researcher then utilized a snowball sampling method, where initial participants were asked to recommend other relevant individuals who could provide valuable insights for the study. 3 professionals (1 manager and two technical professionals) were recommended to be working directly with FinTech related activities in the bank under the Digital Partners Relationship which is in the Digital Banking Division. A total of 5 participants were selected as mentioned in the source of data taking into consideration that the sample size selected would be sufficient to achieve data saturation.

3.4.3 Data analysis method

The data analysis for this exploratory research is a detailed analysis where the researcher analyzed the responses collected from the interviews of the key stakeholders and concerned bodies in line with the stated research questions.

The researcher employed a simple coding method to differentiate the respondents and to generate some major topics and subtopics that aligned with the interview questions and the research objectives. This approach allowed for a more structured analysis of the responses and the presentation of findings.

Table 3.1: Topics and Subtopics for Data Analysis

No	Topic	Subtopics
1	Strategies to develop and implement FinTech Solutions	- The strategic approaches or tactics used by the bank. - how technology investments and partnerships to drive fintech are prioritized - what the bank considers during its product development process for fintech solutions.
2	Challenges Fintech brought about to the existing norms and practices/ status quo	- Fintech impacting customer behavior and preferences - Disruptions to traditional banking models resulting from Fintech adoption. - Stakeholders' response to changes brought about by FinTech
3	Significances of mobile banking and payments on the	- The role of mobile banking and payments on Fintech development

	development of FinTech solutions	- Impact of mobile banking and payment on customer accessibility, convenience, and financial inclusion - Challenges with the integration of mobile banking and payment in the Fintech system
4	Factors Influencing FinTech Development	- Infrastructure and connectivity impacting the development of Fintech. - Cybersecurity and data privacy issues - Dominance of traditional banking institutes affecting the acceptance of Fintech solutions
5	FinTech solutions and their impact on customer experience, financial inclusion, and operational efficiency of the bank	- Initiatives that have enhanced financial inclusion through fintech solutions. - How Fintech has improved operational efficiency.

3.5. Ethical Considerations

The ethical considerations considered in this study are described in detail below.

- Informed consent: The researcher has ensured that participants including bank executives, and fintech involved officers have been informed and given consent before participating in the interview. They have understood the purpose of the study, their role, and the potential risks and benefits involved. The researcher protects the confidentiality and privacy of participants by anonymizing their responses when reporting findings.
- Data privacy and confidentiality: The researcher has considered protecting the personal and sensitive information collected during the research.

- Respect and non-harm: The research is conducted in a manner that shows respect for the dignity, perspectives, and the rights of all participants.
- Research bias and impartiality: Any potential biases that may influence the research process or outcomes were acknowledged and managed. The researcher aims for impartiality and objectivity in data collection, analysis, and interpretation. Transparency about any potential conflicts of interest was considered and steps were taken to minimize it.
- Compliance with the ethical guidelines of the institution was also considered.

CHAPTER FOUR

4. DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

In this chapter of the research, a detailed data analysis of the findings is presented and discussed. The objective of this research is to describe and state the current situation in the Commercial Bank of Ethiopia's Fintech development and used strategies to enhance FinTech along with the challenges faced by the status quo.

The data was collected from primary sources mainly executives, leaders, and professionals in the institution working directly on the research topic Financial Technology, by one-on-one interviews. The interviewees were carefully selected from among the bank's departments and those directly involved in implementing FinTech. A total of Five interviewees participated, while one was a manager selected from the main branch of the bank which had a total of two managers and four professionals; director, manager and two officers were selected from the banks digital banking division department through snowball sampling method.

As the researcher used a simple coding method to differentiate the respondents and to generate some major topics which align with the interview questions and the research objectives, below are the coded details. A total of Five general topics were generated and discussed accordingly in the below data analysis section.

Table 4.1: Respondent's Coding

Interviewee Job title and department	**Code**
Branch Manager from the Main Branch	A
Director from Digital Banking Division	B
Manager of Digital Partners Relationship from Digital Banking Division	C
Digital Partners relationship officer from Digital Banking Division	D
Digital Partners relationship officer from Digital Banking Division	E

4.2 Data Analysis

4.2.1 Topic 1 - Strategies to develop and implement FinTech Solutions

To describe well the key strategies employed by CBE in the development and implementation of FinTech solutions, the topic was elaborated into subtopics questioning the specific approaches or tactics used by the bank, how the bank prioritizes technology investments and partnerships to drive fintech, and what the bank considers during its product development process for fintech solutions.

(Interviewee A) – the strategic approaches or tactics used by the bank.

- "The first step was to assess the technology demand level in society by the bank's research and development department. They received a positive response through their assessment and the bank is usually first in line to adopt such technologies. So, for the day-to-day activities related to HR, and a traditional bank's routine activities like deposit and withdrawal, FinTech was implemented widely."

(Interviewee A) – how technology investments and partnerships to drive fintech are prioritized.

- "Currently the bank is moving aggressively on Fintech. As it is seen, mobile banking and card banking are transitioning from the usual ways to becoming more technologically advanced. For example,
    - We don't have to insert our cards in the ATM anymore, we can use it with just a touch or swipe on the machine,
    - There is also a new technology called e-band used for payment by sense,
    - Mobile banking limits are being upgraded frequently for customers to make transactions,
    - CBE birr is added in the technological system which gives service such as a cash withdrawal without any card needed by just ordering to the ATM with a security number,
    - When ATM cards are issued now, PIN is not given with a paper, as used before, but with the customer's choice at the POS machine."

(Interviewee A) – what the bank considers during its product development process for fintech solutions.

- One is the Security issue, whether the systems are secure enough both to the bank and the customers.
- The second is Simplicity. Is the system understandable and easy to use?
- The third consideration is whether this technology can reduce activity or different operational things, and can it generate income?"

(Interviewee B) – answered for the main topic in general.

*"*CBE has a digital strategy and under that making payments digital is the main aim and to do that CBE introduced different channels like Mobile banking, internet banking, CBE birr wallet, POS machine, and ATM. These were put to work by creating awareness step by step."

(Interviewee C) – the strategic approaches or tactics used by the bank.

- *"*Up until sometime, regarding any payments using technologies were being fully implemented by the banks because there were no directives or policies which allowed other private companies to get in the fintech system. But then after the NBE has allowed entry of other parties, and these parties who are working on fintech solutions needed banks to work with. And once they approached CBE, the bank was hesitant at first but then saw the ideas and approaches these companies brought and thought about making them partners. There are two types of models, one is technology providers will give the bank technologies that it can take to market branded under CBE and second is partnering parties that were granted license to operate as agents by the NBE.
- The second action that CBE took was to establish a company with a joint venture that can provide these technologies to the Bank."

(Interviewee C) – how technology investments and partnerships to drive fintech are prioritized.

- *"*Does the company's idea align with CBE's vision and goals and does the team can do the work for making them partners with CBE.
- There is an in-house digital factory that develops ideas and digitalization solutions to be implemented."

(Interviewee C) – what the bank considers during its product development process for fintech solutions.

- "The alignment with the Banks vision, mission and goal is the main thing taken into consideration."

(Interviewee D) – the strategic approaches or tactics used by the bank.

- "FinTech solutions can be brought about from different perspectives one is from vendors (local or international) the second in house developed solutions within the company (there is a digital factory department which is currently getting started) and the third one is partnering with Fintech companies. They usually come up with innovative solutions and CBE chooses the most suitable one among the three."

(Interviewee D) – how technology investments and partnerships to drive fintech are prioritized.

- "To see the focus that the bank is giving to technology, we can look at the bank's structure, strategy and normally the vision of CBE is to become a world class commercial bank by 2025. In relation to this, different strategic objectives are implemented which are focused on digital systems (Digital Banking Division department with its own VP established). So, we can see the attention the bank is giving to technological investments.
- Fintech companies too are allowed in the system, payment operators through them are given license and the bank is focusing on supporting them and partnering with these companies while aiming for digitalization more than profit making."

(Interviewee D) – what the bank considers during its product development process for fintech solutions.

- "We normally start with market assessment by identifying gaps and providing solutions to them. And secondly, we see experiences from other countries and try to see if it would be feasible to implement some solutions to our country. We also try to identify and see experiences from the customer journey."

(Interviewee E) – the strategic approaches or tactics used by the bank.

- "National Bank is the main party that allows CBE to implement fintech or any other solutions. CBE saw this proactively and communicated with multinational organizations. Integration works like POS. And Mobile banking is more in-house."

(Interviewee E) – how technology investments and partnerships to drive fintech are prioritized.

- "Investments are given more attention even at board level. The system itself is going to be a bank in the future and millions of moneys are invested in it to transform the digital banking."

(Interviewee E) – what the bank considers during its product development process for fintech solutions.

- "Customer needs and wants.
- The Feasibility study and the product development team will see if a product can be realized. Not only customer needs and wants but the main necessities are taken into consideration by prioritizing the most important one."

To understand the key strategies employed by CBE in the development and implementation of FinTech solutions, the data from interviews with various stakeholders provide valuable insights. The analysis of these interviews reveals a multi-faceted approach, focusing on strategic approaches, prioritization of technology investments and partnerships, and considerations during the product development process.

Strategic Approaches and Tactics: CBE's strategic approach begins with assessing the demand for technology in society. According to Interviewee A, the bank's research and development department conducts thorough assessments to gauge the level of demand. Positive responses from these assessments have prompted CBE to be proactive in adopting new technologies for daily operations, including HR activities and traditional banking tasks like deposits and withdrawals.

Interviewee C highlighted that initially, CBE was the sole implementer of FinTech solutions due to regulatory constraints that restricted private company involvement. However, once the National Bank of Ethiopia (NBE) allowed other parties to participate, CBE began partnering with these companies, leveraging their innovative approaches to enhance its FinTech offerings. Additionally, CBE established a joint venture company to provide technological solutions.

Interviewee D emphasized that FinTech solutions at CBE could originate from three sources: vendors (both local and international), in-house development (via the digital factory department), and partnerships with FinTech companies. The bank evaluates these sources to select the most suitable solutions.

Prioritization of Technology Investments and Partnerships: CBE prioritizes technology investments and partnerships by aligning them with its vision and goals. As Interviewee C noted, the alignment of a partner company's idea with CBE's vision and goals is crucial. The bank also has an in-house digital factory dedicated to developing digitalization solutions.

Interviewee D pointed out that CBE's focus on technology is evident in its organizational structure and strategic objectives. The establishment of the Digital Banking Division and the appointment of a dedicated VP underscore the bank's commitment to technological investments.

Interviewee E added that significant investments in technology are prioritized even at the board level, with substantial funds allocated to transform digital banking. This focus on technology is seen as essential for CBE's future growth and competitiveness.

Considerations During Product Development: Security, simplicity, and operational efficiency are key considerations during CBE's product development process. Interviewee A highlighted the importance of ensuring that systems are secure for both the bank and customers. The simplicity of use and the potential to streamline operations and generate income are also critical factors.

Interviewee D mentioned that market assessments, identifying gaps, and learning from international experiences are integral to CBE's product development process. The bank also considers the customer’s journey to ensure the feasibility and relevance of new products.

Interviewee E emphasized that customer needs and wants are central to the development process. Feasibility studies and the product development team play a vital role in evaluating the viability of new products, prioritizing those that meet essential customer requirements.

The approaches taken by CBE in the creation and application of FinTech solutions show a thorough methodology that incorporates careful evaluation of product development requirements, strategic alliances, and market demand analysis. CBE guarantees that its FinTech solutions are not just inventive but also satisfy the changing demands of its clients by giving priority to technological investments and coordinating them with its mission.

CBE has a forward-thinking approach as seen by its openness to work with private FinTech startups and its proactive communication strategy with international enterprises. With the help of these tactics, CBE has been able to maintain its competitiveness in the quickly changing FinTech market and establish itself as an industry leader in digital banking in Ethiopia.

The bank's focus on security, simplicity, and operational efficiency ensures that its FinTech solutions are user-friendly and reliable, fostering customer trust and satisfaction. By learning from international experiences and continuously assessing market needs, CBE remains adaptable and responsive to technological advancements and customer expectations.

In conclusion, CBE's strategic approaches, prioritization of technology investments, and meticulous product development process are key factors driving the successful development and implementation of FinTech solutions. These strategies not only enhance the bank's operational efficiency but can also contribute to its goal of becoming a world-class commercial bank by 2025.

4.2.2 Topic 2- Challenges Fintech brought about to the status quo.

The challenges FinTech has brought to the status quo, or the existing norms and practices is one of the topics this research aims to address. And it was divided into three subtopics to be able to have a detailed view on the matter. It was divided into assessing how fintech is impacting customer behavior and preference, how the fintech adoption created disruptions to the traditional banking models, and the stakeholders' response to changes brought about by fintech in the bank.

(Interviewee A) – Fintech impacting customer behavior and preferences.

- "Currently, technology brings about dual things. Positive and negative ones. The positive one is that it reduces transactions and paperwork, which makes life easier and simplified. It also reduces customer presence, making things more convenient for both sides. On the other side, some security issues might arise like fraud."

(Interviewee A) – Disruptions to traditional banking models resulting from Fintech adoption.

- "As a society, we don't easily adapt to technology and there was resistance at first.
- Trust issues were there because of the changes in authority when making money transactions, now the customers can do it themselves and found it hard to accept they had made the transaction themselves without the previous traditional way of depositing and receiving money at the bank and familiarizing themselves with technology was also one issue or disruption.
- Some customers had honesty issues at first like denying receiving money either from ATMs or other transfers to their accounts."

(Interviewee A) – Stakeholders' response to changes brought about by FinTech.

- "From competitors' side, the common response we have had is copying the fintech systems we built after building confidence from CBE. They learn with CBE's first attempt at these technologies and try to create a more advanced Fintech system.
- From regulators' side, like the National bank, advice we receive is, if possible, not to expand many branches but focus and base on technologies and use latest technologies."

(Interviewee B) –

- "Some of the challenges to mention are awareness, infrastructure, directive, and IT capacity."

(Interviewee C) – Fintech impacting customer behavior and preferences.

- "The customer was satisfied and preferred the use of these new technologies over the old because there was 24/7 service provided and it was easier to manage their money. At first because of understanding, it was difficult to accept these new techs, but after understanding it well and the pilot was successful, it was good practice.”

(Interviewee C) – Disruptions to traditional banking models resulting from Fintech adoption.

- *“*Payments have been started to be made even at a small scale outside of CBE’s technologies even. Like at local small shops even, people have started making mobile payments instead of the traditional cash payment.”

(Interviewee C) – Stakeholders’ response to changes brought about by FinTech.

- *“*Making regulators understand the system had been very challenging. NBE has just allowed us banks to get into the system, but there were no specific directives put forward. Even though the regulators had made the market open, there were not ready for the solution.”

(Interviewee D) – Fintech impacting customer behavior and preferences.

- “In my opinion, normally the customer preference has started to shift to digital just recently. And at branch levels, there is still the cash-based transaction but shifting gradually. We see peer to peer transactions and transfers, balance checks, and other services being used by customers via mobile banking app. And there are merchant transactions at some places, and I believe the people are adapting to it gradually. Right now, even though we can’t say completely, almost half of our transactions are changing to digital.”

(Interviewee D) – Disruptions to traditional banking models resulting from Fintech adoption.

- *“*Customers’ day to day activities are shifting from going to branch to phone usage. And Digital banking personnel are getting hired and being more engaged in the organization. Completely digital branches are also being opened.”

(Interviewee D) – Stakeholders’ response to changes brought about by FinTech.

- *“*Most organizations are shifting to digital system because of the directives from the government’s regulators. The regulators are also giving licenses to work on digital systems both for inside companies and others. Banks are also aggressively working on it. Ethio Telecom is also entering the payment market as a competitor. Other banks are also coming up with new technologies with competition."

(Interviewee E) –

- *"*CBE is a policy implementor and tries to serve the needs in the community. And local FinTech come holding many questions without much knowledge which created a challenge for CBE.
- New Fintech solutions are coming and choosing who came with the best proposal is the task of CBE and the bank will work with them. Even the number of them to screen out all of them. Unknown products.*"*

The adoption of FinTech by CBE has brought significant changes to traditional banking models, impacting customer behavior and preferences, and creating various challenges. The insights from the interviews with stakeholders shed light on these challenges, which include security concerns, resistance to change, trust issues, infrastructural limitations, and regulatory hurdles.

Security Concerns: One of the primary challenges highlighted by Interviewee A is the emergence of security issues such as fraud. While technology simplifies transactions and reduces paperwork, it also introduces vulnerabilities. This dual nature of technology adoption necessitates robust security measures to protect both the bank and its customers.

Resistance to Change and Trust Issues: Adapting to new technologies has not been straightforward for CBE and its customers. Interviewee A noted societal resistance to technology and initial trust issues. Customers found it difficult to accept the shift from traditional banking methods to self-service digital transactions. There were also instances of customers denying receipt of money, indicating a lack of trust and familiarity with the new systems.

Interviewee C echoed these sentiments, mentioning the initial difficulty customers faced in understanding and accepting new technologies. However, once customers became familiar with the systems and the pilot programs proved successful, they began to prefer these technologies for their convenience and 24/7 availability.

Infrastructural and Capacity Challenges: Interviewee B pointed out several challenges, including awareness, infrastructure, directives, and IT capacity. These challenges hinder the seamless adoption and implementation of FinTech solutions. Adequate infrastructure and technical capabilities are essential to support the digital transformation envisaged by CBE.

Regulatory Issues: Regulatory challenges are significant, as highlighted by Interviewee C. The National Bank of Ethiopia (NBE) opened the market for digital banking but did not provide specific directives, creating uncertainty. Making regulators understand and support the new systems has been challenging. Interviewee D also mentioned that regulators are now more actively giving licenses for digital systems, but this process requires continuous adaptation.

Competitive and Strategic Challenges: CBE faces competition from other banks and organizations such as Ethio Telecom, which are entering the payment market. As noted by Interviewee D, competitors often replicate CBE's FinTech systems, pushing CBE to innovate continuously. Interviewee E highlighted the difficulty in selecting the best proposals from numerous local FinTech companies, which often come with limited knowledge and many questions.

The adoption of FinTech by CBE has brought about several challenges that need addressing to ensure a smooth transition from traditional banking models. The primary issues revolve around security, resistance to change, infrastructural limitations, regulatory hurdles, and competitive pressures.

Security Concerns: The introduction of FinTech solutions has brought about security challenges, primarily fraud. Ensuring robust security measures is critical to maintaining customer trust and safeguarding financial transactions.

Resistance to Change: Resistance to adopting new technologies is a significant barrier. Customers' initial distrust and difficulty in accepting self-service transactions highlight the need for extensive education and support programs to ease the transition.

Infrastructural and Capacity Limitations: Adequate infrastructure and IT capacity are crucial for the successful implementation of FinTech solutions. Addressing these limitations requires substantial investments and strategic planning.

Regulatory Obstacles: Regulators' ambiguous directives present difficulties. Navigating this complicated terrain requires proactive adaptation to developing legislation and ongoing communication with regulatory organizations.

Competitive Pressures: In order to keep ahead of rivals that frequently copy CBE's FinTech solutions, the company must constantly innovate. This calls for a deliberate focus on R&D as well as efficient partnership-building with regional FinTech businesses.

In conclusion, while FinTech adoption by CBE has the potential to revolutionize banking in Ethiopia, addressing the outlined challenges is crucial. By focusing on security, customer education, infrastructure, regulatory alignment, and strategic innovation, CBE can overcome these hurdles.

4.2.3 Topic 3- Significances of mobile banking and payments on the development of FinTech solutions

The third objective of this research is to assess the significance of mobile banking and payments on the development of Fintech solutions. And to better understand the details of the mentioned technologies, mobile banking and payments, another three subtopics were developed under the topic which are the role of mobile banking and payments on Fintech development, impact of mobile banking and payment on customer accessibility, convenience and financial inclusion, and the challenges with the integration of the systems in FinTech.

(Interviewee A) – The role of mobile banking and payments on Fintech development

- "In general, technology's task is simplifying, and these solutions have created that.
- Using mobile payments, utility payments of most types in society are made possible.
- Mobile payments and mobile banking have a printout system for the service you used as evidence of the transaction and mini statements are also made available."

(Interviewee A) – Impact of mobile banking and payment on customer accessibility, convenience, and financial inclusion

- “There is no doubt about the convenience of the mobile banking app of CBE, we have received positive feedback from most customers, even other private bank users prefer the CBE mobile banking because of its simplicity.
- Mobile banking services are available in any branch of CBE and there is no limitation on the type of phone or language a customer uses. The Mobile banking system is inclusive of everyone. We can use the app if we have a smartphone, and there is also an option to use a USSD code for non-smartphone users including different languages preference in the country.
- It is also possible to make transfers to other private banks.*”*

(Interviewee A) – Challenges with the integration of mobile banking and payment in the Fintech system

- *“*The main challenges we have incurred after the system has been integrated into the core banking system of CBE, is during implementation, trust from customers was not obtained easily. They had doubts whether that system really does payments and transactions and there was resistance to understanding the system. They did not think that the system records and stores every transaction and some dishonest behaviors were also observed then.*”*

(Interviewee B) –

- *“*They have a huge significance. In CBE, the mobile banking transaction is vast and since it is user friendly, most of our customers use it as a digital solution.*”*

(Interviewee C) – The role of mobile banking and payments on Fintech development

- *“*Up until now what FinTech’s have brought about is usage of Mobile based gadgets. They also have web-based solutions, but customers prefer to use mobile access. CBE had previously started Mobile banking within its working system and then these financial solution providing companies came and enhanced the system more integrating it with more advanced technologies like making it compatible with all devices and other banks connection was open.*”*

(Interviewee C) – Impact of mobile banking and payment on customer accessibility, convenience, and financial inclusion

- "Financial inclusion normally applies to remote areas. We try to deploy agents to these areas to include the society in the usage of mobile banking and it is accessible and user friendly in any type of mobile device."

(Interviewee C) – Challenges with the integration of mobile banking and payment in the Fintech system

- "The only challenge that I say has occurred in mobile banking is that it has become a payment tool before we have integrated it and it created some taxation issues. And sometimes the system may not work flawlessly, it may deduct double or doesn't generate the electronic payment confirmation. But we have fixed these challenges now."

(Interviewee D) – The role of mobile banking and payments on Fintech development

- "When we are currently shifting from traditional banking service to digitalization, In Ethiopia, the first dominating solution is Mobile Banking, and next is Card and next the recently introduced mobile money which is CBE birr, Tele birr basing on phone numbers. Most almost half of the digital transactions are currently being used via mobile banking and CBE birr."

(Interviewee D) – Impact of mobile banking and payment on customer accessibility, convenience, and financial inclusion

- "Mobile banking can be accessed 24/7 anywhere where there is network coverage, and it is very convenient to access it wherever you are. The need for hard currency is minimized. And more banking service users created. Mobile money has played a big role in financial inclusion, for example anyone who doesn't have a bank account probably has a mobile phone and they can have a mobile account to store their cash electronically."

(Interviewee D) – Challenges with the integration of mobile banking and payment in the Fintech system

- "There is an awareness creation challenge. And at some places outside the urban city, literacy issues and even some very few literacy issues in the urban area. On some areas, infrastructure issue causes challenges to integrate FinTech."

(Interviewee E) –

- "People want more technological advancements and with these solutions, time and money can be preserved. And simplicity of life. Even for CBE, costs would be high, paper, reduced. Companies making salary payments avoided hectic."

The adoption of mobile banking and payments has had a profound impact on the development of FinTech within CBE. The insights from the interviews with stakeholders provide a comprehensive view of this impact across several dimensions, including technological advancement, customer accessibility and convenience, financial inclusion, and the challenges faced during integration.

Technological Advancement and FinTech Development: Interviewee A emphasized that technology's primary task is simplification, and mobile banking solutions have successfully achieved this. The ability to make utility payments and other transactions via mobile devices has significantly streamlined banking processes. Interviewee C highlighted that while web-based solutions are available, customers predominantly prefer mobile access, indicating the pivotal role mobile banking plays in FinTech development. Moreover, Interviewee D noted that mobile banking is the dominant digital solution, surpassing other digital transaction methods like card payments and mobile money.

Interviewee C further elaborated that FinTech companies have enhanced CBE's mobile banking system, integrating advanced technologies to ensure compatibility with all devices and enabling inter-bank transactions. This integration has bolstered CBE's capacity to offer comprehensive digital banking services.

Customer Accessibility, Convenience, and Financial Inclusion: The convenience of mobile banking is a recurring theme. Interviewee A mentioned that CBE's mobile banking app has received positive feedback due to its simplicity and usability, even attracting customers from other banks. The system's inclusivity is notable, as it supports transactions in multiple languages and can be accessed via USSD codes for non-smartphone users. This inclusivity ensures that mobile banking services are accessible to a broad demographic, regardless of their technological proficiency or device type.

Interviewee D highlighted that mobile banking's 24/7 availability and ease of access have minimized the need for physical currency and increased the number of banking service users. This has had a significant impact on financial inclusion, particularly in remote areas. Interviewee C added that deploying agents in remote areas has further extended mobile banking services, making financial inclusion more achievable.

Challenges with Integration: Despite the benefits, integrating mobile banking with CBE's core system has not been without challenges. Interviewee A pointed out initial trust issues among customers, who were skeptical about the system's reliability and transaction recording capabilities. This resistance underscores the importance of customer education and trust-building in the adoption of new technologies.

Interviewee C mentioned technical challenges such as double deductions and issues with generating electronic payment confirmations, although these have since been resolved. Interviewee D identified challenges related to awareness creation and infrastructural limitations, particularly in rural areas where literacy levels can also pose a barrier.

The integration of mobile banking and payments has significantly contributed to the development of FinTech at CBE, aligning well with the research objective of assessing its impact. The advancements in technology have simplified banking processes and enhanced customer experiences, reinforcing CBE's position as a leader in digital banking in Ethiopia.

Technological Advancement: The role of mobile banking in simplifying transactions and integrating advanced technologies has been crucial in driving FinTech development at CBE. The preference for mobile access over web-based solutions highlights the importance of mobile banking in the FinTech ecosystem.

Customer Accessibility and Convenience: Mobile banking has made financial services more accessible and convenient, catering to a diverse customer base. The system's ability to support multiple languages and non-smartphone users ensures broad inclusivity, which is essential for financial inclusion.

Financial Inclusion: The use of agents to deliver mobile banking services to outlying areas has greatly increased financial inclusion. More people, including those without traditional bank accounts, are now able to engage in the financial system because to the simplicity of using mobile devices to access banking services.

Challenges: The difficulties encountered during integration, such as problems with consumer trust and technological hiccups, emphasize the necessity of ongoing development and customer education. For mobile banking to be widely used, it is also essential to address literacy and infrastructure issues.

In conclusion, while mobile banking has positively impacted FinTech development at CBE, addressing the associated challenges is crucial for sustaining this progress. By focusing on technological enhancements, customer education, and infrastructural improvements, CBE can continue to leverage mobile banking and mobile payments as a key driver of FinTech development and financial inclusion.

4.2.4 Topic 4- Factors influencing FinTech development

This topic has also been sub divided into three categories to have clear and specified insights about the factors impacting the development of Fintech. Infrastructure and connectivity, financial literacy, cybersecurity, and the dominance of traditional banking institutions, which are all discussed below according to the responses of the respondents.

(Interviewee A) – Infrastructure and connectivity impacting the development of Fintech.

- “As a bank, CBE has its own demands like bandwidth and server that can hold its customers’ data and demands. And even though CBE prepares a suitable database and server for its services from its side, there are some drawbacks as a country on the connectivity issue. And these issues sometimes bring customer complaints and CBE is working to resolve this connection issue by simply creating awareness, upgrading its systems, and providing other alternative options.”

(Interviewee A) – Cybersecurity and data privacy issues

- “First and foremost, securing customers’ privacy is the bank’s main goal and objectives. Since it is known that any cyber security attach is possible, the bank tries to protect itself and customers with advanced security systems. For this, CBE has its own IS department who are active and working 24/7 dodging and following up every attack or attempts done.
- CBE also uses updated systems, and every staff is given mandatory trainings on cyber security issues like awareness creating and caution on some malicious links, and not to share customers’ info to anyone else except with the request of

the customers themselves or requests from the police, legally from customs or the court.

- There is a segregation of duty within the bank to avoid any power abuse over customers' data or money transfers and CBE is accessible for any questions that arise either at the branches or via its call centers."

(Interviewee A) – Dominance of traditional banking institutes affecting the acceptance of Fintech solutions.

- "It has influenced it positively. Since we can't say every customer is automatically a technology user, but gradually transformed to being a tech user, the window services are important to create awareness of the system in person to the customers. And we can have a hybrid service at the traditional banking institutions."

(Interviewee B) –

- "Infrastructure impacts FinTech in the unbanked society where there is no telecom services. And cybersecurity is also a challenge and has risks but now the risk is minimizing now a days."

(Interviewee C) – Infrastructure and connectivity impacting the development of Fintech.

- "Infrastructure is still impacting the development like the connectivity, and all are some issues that are not well developed in the country in terms of accessibility.

(Interviewee C) – Cybersecurity and data privacy issues

- "Cybersecurity also impacts the development on a big scale like. Security issues and related systems are updated yearly or even monthly sometimes and there are different frauds happening. It could be internal or external fraud. It is not very enhanced the cybersecurity. We have not yet deployed AI into the system yet."

(Interviewee C) – Dominance of traditional banking institutes affecting the acceptance of Fintech solutions.

- In case of CBE, as of today, 68% of transactions are being digitized and we are migrating to digital usage and next steps are probably involving minimizing branches."

(Interviewee D) – Infrastructure and connectivity impacting the development of Fintech.

- "Up until now Fintech is being implemented and adopted in areas where infrastructures are developed. Even back to recent years, ATM does not work because of network issues and POS machines used to work with a 2G network SIM Card and it had been challenging before and gradually when 3G and 4G networks were available, the system started to improve more. In addition, customer behavior has been changing through the widening of the network infrastructure like the accessibility of internet was better and all.

(Interviewee D) – Cybersecurity and data privacy issues

- "All customer's data in CBE are found in the premises. Nothing is stored in Cloud. For example, to get mobile banking access, a person must be present in the office and everything is checked and done to the person holding the account only with the requested phone number."

(Interviewee E) –

- "Infrastructure is a very important aspect which needs investment and commitment. CBE is a pioneer. Communication issues and awareness shall be worked on more. CBE invests in security more. Infrastructure for security is highly worked on.
- technology acceptance and usage tendency have a big impact."

The insights from the interviews with stakeholders provide valuable perspectives on how infrastructure and connectivity, cybersecurity, and the dominance of traditional banking impact the development of FinTech at CBE. The discussion is structured around these key themes, reflecting on both the challenges and the strategies adopted by CBE to navigate these issues.

Infrastructure and Connectivity: Interviewee A highlighted that despite CBE's efforts to create a robust internal infrastructure, the broader connectivity issues within the country pose significant challenges. This concern was also mentioned by Interviewee C, who pointed out that connectivity issues are not well-developed in terms of accessibility, impacting FinTech development. Interviewee D added that FinTech adoption has been limited to areas with developed infrastructure, with historical connectivity issues affecting the functionality of ATMs and POS machines. However, the gradual improvement in network infrastructure (e.g., transition from 2G to 3G and 4G networks) has started to enhance system performance and customer behavior.

Interviewee E emphasized that infrastructure requires substantial investment and commitment. CBE is pioneering in this regard, but ongoing communication and awareness efforts are necessary to address these connectivity issues fully.

Cybersecurity and Data Privacy: Securing customer data is a top priority for CBE, as highlighted by Interviewee A. The bank employs advanced security systems and has a dedicated Information Security (IS) department that operates 24/7 to counter cyber threats. Additionally, mandatory cybersecurity training for staff and strict protocols around customer data handling are in place to prevent internal and external fraud.

Interviewee C noted that cybersecurity remains a significant challenge, with regular updates to security systems and the ongoing threat of fraud. The lack of advanced technologies like AI in the current system indicates room for improvement in enhancing cybersecurity measures. Interviewee D mentioned that CBE keeps all customer data on-premises, avoiding cloud storage to mitigate risks. This approach ensures stringent control over data access and integrity.

Interviewee E highlighted CBE's substantial investment in security infrastructure, underscoring its importance in the bank's FinTech strategy.

Dominance of Traditional Banking: The traditional banking model still plays a crucial role in FinTech adoption at CBE. Interviewee A pointed out that traditional banking services are essential for creating awareness and gradually transforming customers into tech users. This hybrid service model leverages the familiarity of traditional banking to introduce and integrate digital solutions.

Interviewee C provided a quantitative insight, stating that 68% of CBE's transactions are now digitized, indicating significant progress in migrating to digital usage. This shift suggests that while traditional banking remains influential, the acceptance and integration of FinTech solutions are steadily increasing. The bank's strategy of minimizing physical branches further supports this digital transition.

Aligning with the research objective, the discussion reveals the multifaceted impact of infrastructure, connectivity, cybersecurity, and traditional banking dominance on FinTech development at CBE.

Infrastructure and Connectivity: The development of FinTech is heavily influenced by the state of national infrastructure and connectivity. Persistent connectivity issues hinder the seamless functioning of digital banking services. However, improvements in network infrastructure have positively influenced system performance and customer behavior. Continued investment and commitment to enhancing infrastructure are crucial for the sustained growth of FinTech at CBE.

Cybersecurity and Data Privacy: Cybersecurity is a critical component of FinTech development. While CBE has robust measures in place, including a dedicated IS department and comprehensive staff training, the evolving nature of cyber threats necessitates continuous updates and improvements. The bank's decision to keep data on-premises reflects its cautious approach to data privacy and security, but future advancements like AI could further bolster its cybersecurity framework.

Traditional Banking Dominance: The dominance of traditional banking institutions has both positive and transitional impacts on FinTech acceptance. Traditional banking serves as a bridge, helping customers gradually adapt to digital solutions. The significant percentage of digitized transactions at CBE indicates successful integration of FinTech, with ongoing efforts to further reduce reliance on physical branches.

In conclusion, while CBE faces challenges related to infrastructure, connectivity, and cybersecurity, its proactive strategies and hybrid service model are driving the development of FinTech. Addressing these challenges through continuous investment, technological enhancements, and customer education will be pivotal in sustaining and expanding FinTech innovation at CBE.

4.2.5 Topic 5- Fintech solutions and their impact on customer experience, financial inclusion, and operational efficiency of the bank

Fintech solutions have been mentioned above in different aspects as in what impacts these solutions, how to develop them and integrate them in the system and some challenges faced because of Fintech, and in this final topic, the researcher tries to see the change these Fintech solutions have brought upon the customer experience, the financial inclusion and operational efficiency of the bank.

(Interviewee A) – Initiatives that have enhanced financial inclusion through fintech solutions.

- “Different options were provided by CBE for customers to use. But first by explaining the use and selling the products to make customers believe how easy and convenient it is. CBE considers every phone type and technology available for customers to use mobile banking. Its system is inclusive of every type if there is a phone at hand sometimes even not needing network internet connections.
- Long queues and waiting around for a long time even for small transactions are avoided to get a service.
- To transfer money to different parts of the city or area, customers used to must be present at the bank, but now no presence is required.”

(Interviewee A) – How Fintech has improved operational efficiency.

- “Since using these technological solutions, customers are making their own transactions at their own, there is reduced costs in the need of additional branches for giving service and additional manpower, HR costs are reduced.
- With the recent developments, the Bank is generating income with the services provided to the customers, there is a commission cost which goes to the bank as an income.”

(Interviewee B) –

- “CBE’s around 60% transaction is becoming digital, and it promotes financial inclusion by allowing customers to use services through different channels.”

(Interviewee C) – Initiatives that have enhanced financial inclusion through fintech solutions.

- “Utility payments can be given as one example. Since this is also fintech and customers can access the system and make payments for electricity and water usage.

- On customer experience, it is positively viewed like customers have been using it to access many services like making educational payments, purchasing flight tickets, and related things and customers are very happy. And one feature is the fuel payment system that generated, there is over 21 million transactions per day and while using this system more customers are included, more accounts are being opened."

(Interviewee C) – How Fintech has improved operational efficiency.

- "The cost of establishing a branch and ATM is very high and FinTech has greatly reduced this cost and there are also costs arising from branch operations like stationery and human resources too. When these change to fintech usage, it is cost minimizing and operational efficiency is achieved."

(Interviewee D) –

- "In the bank, almost 65% of transactions are going through digital channels. If one transaction is to be done via branch, there could be many costs associated with it like stationery, HR, and all manual work expenses. These costs were reduced greatly. And efficiency has grown at this rate. And recently they are also becoming a revenue generation source."

(Interviewee E) – Initiatives that have enhanced financial inclusion through fintech solutions.

- "Fintech created operational efficiency and excellence, fast and very accessible."

The insights from multiple interviewees provide a comprehensive overview of how FinTech initiatives have transformed customer experience, enhanced financial inclusion, and improved operational efficiency at CBE. This discussion will incorporate these perspectives to align with the research objective.

Enhancing Financial Inclusion: Interviewee A emphasized that CBE offers various FinTech solutions tailored to different types of phones and technologies, ensuring inclusivity even for customers without internet access. By educating customers on the ease and convenience of these solutions, CBE has significantly improved financial inclusion. The ability to perform transactions without physically visiting the bank has been a key factor in this enhancement.

Interviewee B corroborated this by stating that around 60% of CBE's transactions are now digital, promoting financial inclusion through multiple service channels. Interviewee C added that utility payments via FinTech have made essential services more accessible. The introduction of systems for educational payments, flight ticket purchases, and fuel payments (with over 21 million transactions daily) has not only facilitated more convenient transactions but also increased the number of accounts opened, thereby broadening the customer base. Interviewee E highlighted the operational efficiency and accessibility brought about by FinTech, noting that these improvements have contributed to financial inclusion by making banking services faster and more accessible.

Improving Customer Experience: The shift to digital transactions has markedly improved customer experience. Interviewee A noted that long queues and waiting times for small transactions have been eliminated. Customers can now transfer money without needing to visit the bank, enhancing convenience and satisfaction.

Interviewee C echoed this sentiment, explaining that customers have positively received the ability to make payments for utilities, education, and travel through FinTech solutions. This wide range of accessible services has led to high customer satisfaction levels.

Enhancing Operational Efficiency: Interviewees consistently highlighted the operational efficiencies gained through FinTech adoption. Interviewee A pointed out that self-service transactions by customers have reduced the need for additional branches and manpower, leading to significant cost savings in HR and branch operations. The bank also benefits from revenue generated through service commissions.

Interviewee C emphasized the high costs associated with establishing and operating physical branches and ATMs. The transition to FinTech solutions has minimized these costs, achieving greater operational efficiency. Interviewee D added that approximately 65% of transactions now occur through digital channels, significantly reducing costs related to stationery, HR, and manual processes.

Interviewee E confirmed that FinTech has created operational efficiency and excellence within CBE, making banking services faster and more accessible.

Aligning with the research objective, the discussion reveals the substantial positive impacts of FinTech on customer experience, financial inclusion, and operational efficiency at CBE.

Customer Experience: The transition to digital banking has greatly enhanced customer convenience and satisfaction. The elimination of long queues and the ability to perform transactions remotely have positively transformed the customer experience. The broad range of services accessible through FinTech further contributes to customer satisfaction.

Financial Inclusion: FinTech solutions have significantly broadened financial inclusion at CBE by making banking services accessible to a wider population, including those without internet access. The variety of digital channels and services offered has increased customer engagement and account openings, demonstrated inclusivity, and reached of these initiatives.

Operational Efficiency: The adoption of FinTech has led to substantial cost savings and operational efficiencies. Reduced reliance on physical branches and manual processes has minimized costs related to HR, stationery, and branch operations. The shift to digital transactions has also enabled CBE to generate additional revenue through service commissions.

In conclusion, the implementation of FinTech at CBE has had a profound impact on improving customer experience, enhancing financial inclusion, and achieving operational efficiency. These advancements highlight the strategic importance of FinTech in modernizing banking operations and expanding access to financial services.

The literature review highlighted several strategies for developing and implementing FinTech solutions, such as investment in technological infrastructure, partnerships with technology firms, and customer-centric innovation (Wonglimpiyarat, 2019). The data analysis from the Commercial Bank of Ethiopia (CBE) supports these strategies, showing that CBE has invested significantly in technological infrastructure and collaborated with technology partners to enhance their FinTech offerings. However, the data also revealed unique, context-specific strategies not extensively covered in the literature, such as leveraging local mobile network operators to expand digital payment systems.

The literature also identifies several challenges posed by FinTech, including cybersecurity threats, regulatory hurdles, and resistance from traditional banking sectors (Buckley et al., 2016; Feyen et al., 2023). The data analysis confirms these challenges within the Ethiopian context, particularly the issues of cybersecurity and regulatory compliance. Moreover, the analysis uncovered additional challenges specific to Ethiopia, such as infrastructural gaps and lower levels of financial literacy, which exacerbate the difficulties highlighted in the literature.

Mobile banking and digital payment systems are emphasized in the literature as critical components of FinTech, significantly enhancing financial inclusion and operational efficiency (Suryono et al., 2020). The data analysis aligns with these assertions, showing that CBE's mobile banking initiatives have indeed improved financial inclusion and customer satisfaction. The empirical evidence from CBE supports the literature, affirming that mobile banking is a pivotal strategy for FinTech development in Ethiopia.

Another literature review stresses the importance of robust infrastructure, financial literacy, and cybersecurity for the successful adoption of FinTech (Wonglimpiyarat, 2019). The data analysis corroborates this, indicating that infrastructural deficiencies and low financial literacy are significant barriers to FinTech adoption at CBE. Additionally, cybersecurity remains a critical concern, aligning with the literature's emphasis on the need for stringent security measures.

Empirical studies in the literature suggest that FinTech improves customer experience, financial inclusion, and operational efficiency (El-Chaarani & El Abiad, 2018). The data analysis from CBE supports these findings, showing measurable improvements in customer satisfaction and operational efficiency due to FinTech adoption. However, the analysis also highlights ongoing challenges in achieving widespread financial inclusion, suggesting that while progress has been made, there is still work to be done to fully realize the potential benefits of FinTech in Ethiopia.

Overall, the triangulation of literature review ideas and data analysis findings reveals a strong alignment between theoretical concepts and empirical evidence in the context of FinTech development at the Commercial Bank of Ethiopia. While the data supports many of the strategies, benefits, and challenges outlined in the literature, it also provides additional insights specific to the Ethiopian context, emphasizing the importance of local adaptations in FinTech implementation. This comprehensive understanding underscores the need for tailored strategies to overcome unique challenges and leverage opportunities for FinTech advancement in Ethiopia.

CHAPTER FIVE

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

The study was conducted to assess and state the strategies of financial technology development used at Commercial Bank of Ethiopia and to analyze the extent to which fintech has challenged the existing status quo. Interviews were conducted to be able to obtain the key information which was described in the findings of the study. The data for this study was collected through one-on one interviews with executives, leaders, and professionals directly involved in implementing Fintech within the bank. The general research findings are summarized below.

The Commercial Bank of Ethiopia (CBE) has adopted several strategies to develop and implement Fintech solutions, which are investing in digital infrastructure and technologies, collaborating with fintech startups and technology providers, developing mobile banking applications and online banking platforms to give access to the wider population. These findings from the respondents of the research align with the findings of Wonglimpiyarat (2019), who emphasized the importance of technological investments and collaborations in the fintech sector.

Lusardi and Mitchell (2014) and Puschmann (2017) have indicated in their findings that providing awareness of fintech and the new technology like training staff, educating customers could be a valuable strategy for developing and implementing Fintech for the wider population. It is also indicated in the findings that CBE tries to make the use of these fintech solutions easy, manageable, and accessible to the users as this is considered a strategy for fintech development and implementation in the Bank.

The implementation of Fintech by CBE has presented several obstacles to the status quo, such as reluctance to change among employees and clients used to conventional banking practices, problems with new technology-related regulations and compliance, cybersecurity risks, and certain infrastructure constraints. Studies by Buckley et al. (2016) and Jerene & Sharma (2020) show that regulatory obstacles and resistance to change are common barriers to Fintech adoption. The focus on cybersecurity and infrastructure constraints is especially pertinent in Ethiopia, where digital infrastructure is still developing. The study's results, which were consistent with earlier research, show that the bank is cognizant of these issues and is making efforts to improve and resolve them to effectively utilize and integrate Fintech solutions in its systems.

Mobile banking and payments have significantly contributed to the development of Fintech at CBE through many solutions like, increasing accessibility to banking services for unbanked and underserved populations, enhancing convenience and efficiency in financial transactions, and promoting financial inclusion and literacy through user-friendly mobile platforms. These findings are seen in the conclusion of Aker and Mbiti (2010) who have found that mobile banking significantly increased access to financial services in Sub-Saharan Africa, where traditional banking infrastructure is limited. The Commercial bank of Ethiopia is also integrating this solution in FinTech as a big driver of inclusiveness and development of FinTech.

The development of Fintech in CBE is influenced by infrastructure and connectivity in which limited internet and mobile coverage restricts the reach of Fintech solutions, financial literacy among the population which possibly hinders the adoption of digital financial services while people choosing the traditional system over these technologies, cybersecurity increasing the concern of customers for data privacy issues and cyber threats, and the traditional banking dominance which poses a challenge to widespread adoption of fintech. It is also stated in the findings that the dominance of traditional banking institutions can impact the development of Fintech positively by giving awareness to customers of the digital system through these traditional in person banking systems.

Fintech solutions have had a positive impact on CBE by increasing financial inclusion by offering accessible banking options, particularly mobile banking, and payments, by improving customer experience through personalized, convenient, and effective services, and by increasing operational efficiency through digitalization. cutting associated expenses, transaction times, and HR expenditures. The study's observations and findings about improvements in customer experience and operational efficiency are consistent with global trends that highlight how Fintech solutions improve service delivery while cutting costs (Buckley et al., 2016).

Overall, the Commercial Bank of Ethiopia implemented various strategies to develop and implement FinTech solutions, focusing on technology assessment, investment, in-house development, and partnerships. The strategies employed by CBE provide valuable insights for other financial institutions aiming to leverage FinTech in similar contexts. Mobile banking and payments were found to have a significant impact on FinTech development. However, challenges such as infrastructure limitations, financial literacy, cybersecurity, and the dominance of traditional banking institutions needed to be addressed.

5.2 Conclusion

In conclusion, this research paper has explored the development and challenges of financial technology (FinTech) in Ethiopia, with a specific focus on the Commercial Bank of Ethiopia (CBE). The study aimed to address the knowledge gaps regarding the strategies employed by CBE in response to the Fintech revolution and the impact of these strategies on the traditional banking system in Ethiopia while addressing the challenges brought about by the integration of this Fintech.

CBE has employed several strategic initiatives to develop and implement FinTech solutions, including the integration of mobile banking, adoption of electronic funds transfer systems, and investment in advanced cybersecurity measures. These strategies have been crucial in enhancing the bank's operational efficiency and customer service capabilities.

The adoption of Fintech in the Commercial Bank of Ethiopia has indeed challenged traditional banking norms and practices. Significant challenges include resistance to change from both employees and customers accustomed to traditional banking methods, regulatory hurdles, and the need for substantial investment in technology infrastructure.

Mobile banking and payments have been pivotal in the development of FinTech at CBE. These technologies have not only broadened financial inclusion by reaching unbanked populations but also enhanced convenience and accessibility for existing customers. The success of mobile banking initiatives underscores their critical role in the broader FinTech strategy of CBE.

Infrastructure and connectivity, financial literacy, cybersecurity, and the dominance of traditional banking all have a big impact on how FinTech develops at CBE. FinTech services require a sufficient infrastructure and connectivity to function smoothly, and financial literacy initiatives are required to guarantee that consumers can utilize these technologies to their full potential. Since cyberattacks are becoming more and more common, cybersecurity is still crucial for protecting against them. FinTech adoption is faced with both opportunities and challenges due to the longstanding dominance of traditional banking.

The integration of FinTech solutions has positively impacted customer experience, financial inclusion, and operational efficiency at CBE. Customers benefit from more convenient, faster, and secure banking services. Financial inclusion has improved as more people, especially in remote areas, gain access to banking services through mobile platforms. Furthermore, operational efficiency has increased due to the automation of many banking processes, reducing the need for manual intervention, and decreasing processing times.

The findings of this research highlight the transformative potential of FinTech in the banking sector of Ethiopia. The strategies adopted by CBE serve as a valuable blueprint for other financial institutions aiming to leverage FinTech. Despite the challenges, the benefits of FinTech in enhancing financial inclusion, customer satisfaction, and operational efficiency are clear. Future research should focus on long-term impacts and explore additional FinTech innovations to further advance the financial sector in Ethiopia.

5.3 Recommendations

Based on the obtained findings and insights of this study, it is overall recommended that the Commercial Bank of Ethiopia and other financial institutions of Ethiopia take strong strategic actions to embrace and harness the potential of financial technology for sustainable growth and to achieve competitiveness.

It is recommended that the Commercial Bank of Ethiopia (CBE) persist in allocating resources towards the enhancement of its digital infrastructure. To ensure greater access to FinTech solutions, this includes extending internet and mobile network coverage, particularly in rural areas. Additionally, efforts to collaborate with telecommunication companies to improve connectivity should be further pushed, as this is essential for the successful implementation of mobile banking and other digital services.

CBE should further work on establishing innovation hubs or labs within the bank to foster the development of new FinTech solutions by encouraging a culture of innovation among employees.

CBE should Implement advanced cybersecurity protocols to protect customer data and financial transactions. Regularly updating security systems and conducting security audits to identify and mitigate potential threats can reduce the risk tremendously. In addition, educating customers on best practices for online security is helpful to reduce the risk of cyber fraud and enhance trust in digital banking services.

The results of the empirical literature reviews imply and suggest that financial technology integration requires training and awareness, and as a result, developing financial education programs can be advised. To inform clients about the advantages and applications of FinTech technologies, CBE might create and carry out financial literacy initiatives. Workshops, online guides, and educational efforts might all fall under this category. It is also advised that the bank concentrate on reaching underprivileged communities, especially those in rural areas, to make sure they are aware of and capable of utilizing digital financial services.

To facilitate the transition from traditional banking methods to digital solutions, it is essential to implement change management strategies, including staff training and informational sessions for customers. Incentivizing adoption through discounts, rewards, and enhanced features can encourage both staff and customers to embrace FinTech solutions. Engaging with regulatory bodies to ensure compliance and advocate for supportive policies is crucial, as is promoting the establishment of a regulatory sandbox where new FinTech solutions can be tested safely. Designing inclusive FinTech products that are user-friendly and accessible, particularly for unbanked and underbanked populations, is vital. Additionally, conducting community outreach programs can raise awareness about the benefits of FinTech and demonstrate how these solutions can improve financial well-being.

By implementing these recommendations, CBE can position itself as a leader in the Ethiopian financial industry's digital transformation journey, driving financial inclusion, improving operational efficiency, and providing innovative solutions to meet the evolving demands of its customers.

5.4 Further research

This study mainly focused on and addressed only the gap in knowledge of fintech strategies used and how it has challenged the status quo focusing on CBE, which is so far from the biggest operating financial institution integrating fintech in its systems.

There are many interesting and important topics to be addressed for further researchers that this study was not able to cover due to resource and time constraints. One of the main further research recommendations is doing a study on customer perception and adoption. This research focused and gave insights from the bank's or service developers point of view and it would be advised to investigate the factors influencing customer perception and adoption of Fintech solutions in Ethiopia if possible, or on the same bank if it is still the biggest operating fintech institution. Exploring customers' attitudes, preferences, and concerns regarding the use of digital financial services and identifying barriers to adoption and strategies to enhance customer trust, confidence and engagement with Fintech will help the bank and other institutions greatly to develop their Fintech solutions and make them more accessible to the customers.

Since the research area is vast, there are many other possible and feasible further research areas to add like doing a study focused on regulatory frameworks of Fintech in Ethiopia; assessing its adequacy in addressing the challenges and risks associated with Fintech adoption and a Comparative analysis study could be more insight giving. Conducting an analysis comparing CBE and other prominent banks in Ethiopia to evaluate their strategies and approaches in adopting and implementing financial technology.

By addressing the above-mentioned research areas, further insights can be gained into the specific challenges, opportunities, and strategies related to financial technology in Ethiopia, contributing to the knowledge base and informing future developments in the sector.

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Appendices

Interview Questions

What strategies does Commercial Bank of Ethiopia employ to develop and implement FinTech solutions?

a. Can you describe the specific approaches or tactics used by the bank in developing and implementing FinTech solutions?
b. How does Commercial Bank of Ethiopia prioritize technology investments and partnerships to drive FinTech development?
c. What considerations are taken into account during the product development and innovation process for FinTech solutions?

In what ways has the adoption of FinTech by Commercial Bank of Ethiopia challenged the existing norms and practices?

a. How has the adoption of FinTech solutions impacted customer behavior and preferences in banking services?
b. Can you provide examples of specific changes or disruptions to traditional banking models resulting from the adoption of FinTech?
c. How have other stakeholders, such as regulators or competitors, responded to the changes brought about by FinTech adoption?

How significant are the effects of mobile banking and payments on the development of FinTech in Commercial Bank of Ethiopia?

a. What role has mobile banking and mobile payment solutions played in the growth and expansion of FinTech within Commercial Bank of Ethiopia?
b. Can you discuss the specific impacts of mobile banking and payments on customer accessibility, convenience, and financial inclusion?
c. Have there been any challenges or limitations associated with the integration of mobile banking and payments into the FinTech ecosystem of Commercial Bank of Ethiopia?

To what extent do infrastructure and connectivity, financial literacy, cybersecurity, and traditional banking dominance impact the development of FinTech in Commercial Bank of Ethiopia?

a. How does the existing infrastructure and connectivity in Ethiopia influence the development and adoption of FinTech solutions by Commercial Bank of Ethiopia?
b. How does Commercial Bank of Ethiopia prioritize and address cybersecurity concerns and data privacy issues in the context of FinTech development?
c. In what ways has the dominance of traditional banking institutions affected the acceptance and integration of FinTech solutions within Commercial Bank of Ethiopia?

What are the impacts of FinTech on the customer experience, financial inclusion, and operational efficiency of Commercial Bank of Ethiopia?

a. Can you discuss any specific initiatives or features that have enhanced financial inclusion through FinTech solutions?
b. In what ways has FinTech improved operational efficiency for Commercial Bank of Ethiopia, and what measurable benefits have been observed?