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AN ASSESMENT OF THE IMPACT OF ALTERNATIVE BANKING CHANNELS ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN ZAMBIA

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Declaration

I, Chikumbutso Mwale, hereby declare that this research project is my own original work. It has not been submitted to any other institution or body for the award of a degree or any other academic qualification. All sources of information used in this study have been duly acknowledged and referenced accordingly.

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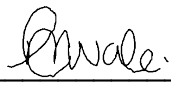
Signed: 

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Dedications

This research project is dedicated to my family, whose unwavering support, encouragement, and belief in my potential have been a constant source of strength throughout my academic journey. To my parents, thank you for the sacrifices you have made and for instilling in me the values of hard work and determination. To my friends and colleagues who stood by me through the challenges of this research, your support will never be forgotten.

Above all, I dedicate this work to the Almighty God, for granting me the strength and perseverance to see this project through to completion.

Abstract

The purpose of this study was to assess the impact of alternative banking channels (ABCs) on financial perfomance of Commercial Banks in Zambia which includes Internet banking, mobile banking, agency Banking and automated teller machines (ATMs), focusing on Stanbic Bank, First National Bank Zambia, and Zanaco from 2021 to 2023. The findings of the study confirmed that alternative banking channels exert a statistically significant and positive influence on the financial performance of commercial banks in Zambia. This suggests that the ongoing digital transformation in Zambia's banking sector is generating measurable financial benefits, and that banks that invest in diverse and integrated alternative banking channels stand to achieve superior financial performance. Anchored on financial intermediation theory and agency theory, the research adopted a quantitative approach with a correlational research and causal-comparative design. Secondary data was sourced from various sources such as Bank of Zambia publications and banks' annual reports. These were analyzed using panel regression, descriptive statistics and correlation matrix techniques through MS Excel and SPSS. The findings of the study revealed a statistically significant positive relationship between financial performance and Alternative Banking Channel adoption. Mobile banking showed stronger marginal effect (coefficient = 0.041, p = 0.000), followed by the aggregate Alternative Banking Channel index (coefficient = 0.468, p = 0.000). Agency banking, ATMs and internet banking also positively contributed to Banks net profits. However, cybersecurity risks, infrastructural deficits, and limited financial literacy constrain Alternative Banking Channels effectiveness. The study recommends enhanced financial literacy initiatives and more investments in digital infrastructure to maximize the benefits of Alternative Banking Channels and contribute to policy formulation and academic discourse in Zambia's banking sector.

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LIST OF ACRONYMS

ATM-Automated Teller Machines

ABC- Alternative Banking Channel

ADC- Alternate Delivery Channel

ADT-Automated Deposit Terminal

AML- Anti-Money Laundering

ASDC- Alternate Service Delivery Channel

EFT-Electronic Funds Transfer

FNB-First National Bank

PDA-Personal Digital Assistant

PIN- Personal Identification Numbers

POS-Point of Sale

ROA- Return on Assets

ROE-Return on Equity

ROI- Return on Investment

SME-Small and Medium Enterprise

VIF- Variance Inflation Factor

CHAPTER 1

1 INTRODUCTION AND BACKGROUND OF THE STUDY

The Zambia banking sector has undergone tremendous changes in the last two decades. The rapid pace of technological advancements and shifting economic landscapes make it essential to embrace this change. Commercial banks have been adopting alternative banking channels as well as innovating new delivery channels at a high rate. The banks uses internet, automated teller machines (ATMs), POS devices, EFT POS devices and mobile phones as technologies to deliver its banking services through a combination of distribution channels which includes stationary bank branches, mobile bank branches, ATMs, bank agents, Online banking, and mobile banking (Mwangi, 2007).

The term Alternate Delivery Channel (ADC) is commonly used to refer to Alternate Service Delivery Channel (ASDC) or Alternate Banking Channel (ABC) within the banking sector to describe the services provided to customers. In this context, "channel" refers to the network of intermediaries that facilitate the movement of goods or services between producers, suppliers, and consumers.

Each of these distribution channels plays a crucial role in delivering a diverse set of banking services tailored to meet customer needs. They can operate independently or in conjunction with one another, forming a cohesive distribution channel strategy that maximizes efficiency and accessibility. The integration of these channels allows banks to enhance their service offerings and improve customer satisfaction. Therefore, this study conducted an in-depth analysis of how Alternative Delivery Channels influence the financial performance of commercial banks in Zambia, exploring various metrics such as profitability, customer acquisition, and overall market competitiveness. This chapter thus looks at the background of the study, statement of the problem, research objectives, significance of the study, the scope of the study and definitions of key concepts.

1.1 Background of the study

Recent economic challenges and the increasing complexity of the market have placed significant pressure on financial institutions. The rise of digital consumers, along with the high costs associated with maintaining physical banking locations, is leading to a decline in the Return on Investment (ROI) for branches (PWC, 2012).

Despite these challenges, branches remain essential interaction points within the banking landscape. They play a crucial role in complex product sales and help foster relationships with both retail and small-business customers. These physical locations are particularly important for delivering personalized service, especially for intricate financial products that often require face-to-face consultations.

As consumer behavior evolves with the rise of digital banking solutions, the traditional value of physical branches stands firm under scrutiny. Today, many customers confidently choose online and mobile banking options for their convenience and immediacy, highlighting a shift in the relevance of in-person interactions. In response, financial institutions have taken a decisive action to reevaluate their branch strategies, aligning them with these changing consumer preferences while emphasizing the enduring importance of personal relationships and comprehensive service in their overall business model.

Mwangi (2007) perceives that evolving the branch strategy to align with changing consumer and economic realities can help banks boost Return on Investment and position themselves for the future.

Leading banks are increasingly transitioning from a narrow focus on managing individual branches to a broader approach that involves overseeing distribution across multiple channels. This shift is part of a comprehensive multi-channel distribution strategy aimed at enhancing customer service and operational efficiency. To achieve this, these banks are integrating a variety of branch models that cater to the specific needs of retail and small-business customers within their local markets. This involves carefully balancing the preferences and demands of these customer groups with the associated costs of service delivery, ensuring that they provide effective and accessible banking services.

However, it is important to recognize that not all branch models are universally applicable. Each bank must analyze its unique circumstances, market conditions, and customer demographics to determine which branch model or combination of models will work best for their organization. This tailored approach allows banks to optimize their resources while still meeting the diverse needs of their clientele. According to Ndungu (2015) Adopting a combination of branch models based on target customer segments in the local market as well as the bank‘s strategic goals is the most effective strategy. Crane (2010) observed that if executed well, the branch strategy of the future can be mutually beneficial for banks and their customers

From the global perspective, alternative banking channels have been adopted by banks due to the vast changes in technology and customer perspective. For instance, by 2010, a reported 5.5 million customers were registered users of online banking at the middle east and an estimated 30% of all banking transaction were conducted online (FANERA LTD, 2012).
According to a 2011 survey, 62% of respondents said that Internet is their preferred banking method. Only 20% selected branch banking - a sharp decline compared with 2007 when 40% of respondents preferred to bank at a branch. According to report by State Bank (2015), branchless banking (BB) transactions slid by 6 per cent to 66.8 million during July September quarter of 2014 as against 71.2m in the preceding quarter.

1.2 Statement of the Problem

All commercial banks are profit oriented institutions (Hannsens & Schultz, 2001). For this reason, alternative banking channels are considered key methods for optimizing services and reducing costs. Commercial banks are also focused on transforming their operations to provide 24/7 services.
For this to be realized, alternative banking channels are viewed as the best option to provide greater differentiation from their competitors (Park & Weber,2002). Hence, the emergence of new technologies, processes, markets and competitor banks places demand on any commercial bank to apply any skills and channels necessary to enhance their financial performance, remain competitive and achieve competitive advantage (Parasuman et al., 2001).

Current, banks alternative banking channels are faced with various challenges which brings concerns on their impact on the profitability of banks (Maungu, 2015). Maungu (2015) further notes that among the various barriers faced include lack of customer confidence, security concerns, system failures, cases of transaction errors and network failures.

Furthermore, EBL (2014) notes that despite the existence of alternative banking channels, bank halls continue to be congested. This clearly shows that despite alternative banking channels customers continue seeking services in bank branches. This is occurring despite banks increasing over the counter cash withdrawal charges and providing alternative service delivery channels. This trend raises important questions about the influence of alternative banking channels—such as online banking, mobile apps, and fintech solutions—on the financial performance of Commercial banks. Despite the availability and convenience of these alternative options, customers continue to prefer visiting physical bank branches for their banking needs. This behavior suggests that, while alternative banking channels may offer enhanced convenience and accessibility, they have not significantly diminished the demand for traditional banking services. Understanding the reasons behind this continued patronage is crucial for banks as they evaluate their strategies and adapt to the changing landscape of the financial services industry.

Joseph et al.(2003) argued that unreliable channels of distribution highly lowers customer‘s perception on the quality of service offered and hence reduces the bank‘s credibility hence profitability. The questions in this study therefore relate to whether mobile banking, internet banking, agency banking, and other banking channels affect the financial performance of banks.

Globally, Musiime and Malinga (2011) did a study on internet banking, consumer adoption and customer satisfaction. The study established that there was a significantly positive relationship between Internet banking and customer satisfaction. Okun (2012) did a study on the effect of level of deposits on financial performance of Commercial Banks in Kenya. The results indicate that there is a positive and significant relationship between Deposits Ratio and ROE. Kamau (2014) did a study on the effects of financial innovations on the financial performance of commercial banks in Kenya. The study findings established that financial innovations had great impact on the financial performance of the banks.

Locally, Makumba (2023) did a study on the Effect of Digital Banking Channels on the Performance of Commercial Banks in Zambia The study findings established that the performance of commercial banks in Zambia is impacted by a combination of the mobile banking, internet banking, electronic card banking, and telephone banking models.

Furthermore, Makumba (2023) observed that in response to increased competition from mobile money network providers, commercial banks have altered their business strategy by delivering more digital banking services to meet market demand such as agency banking delivered through mobile banking platforms, internet or online banking, and electronic card banking solutions with a view to have increased outreach in this regard. However, it is unclear how these advancements by commercial banks have influenced their business performance in terms of profitability, effectiveness, and efficiency while facing increased competition in the financial services sector. As a result, it is critical that research be conducted to assess the impact of alternative banking channels on the financial performance of commercial banks in Zambia.

To the best of the researcher's knowledge, there has been a lack of comprehensive studies exploring the impact of alternative banking channels—such as Agency banking, online banking, mobile banking, and automated teller machines (ATMs)—on the financial performance of commercial banks. This gap in the literature suggests that further investigation is needed to understand how these innovative banking options influence various financial metrics, including profitability, operational costs, customer satisfaction, and overall operational efficiency within the banking sector. This study therefore was conducted to fill this knowledge gap by investigating what is the effect of alternative banking channels on financial performance of commercial banks in Zambia.

1.3 Main Objective

To evaluate the effect of alternative banking channels on financial performance of commercial banks in Zambia

1.4 Specific Objectives

1. To examine the impact of Agency Banking on financial performance of Commercial banks.
2. To examine the extent to which mobile banking improves service delivery by commercial Banks.
3. Evaluate the relationship between Internet Banking and financial performance of commercial Banks.
4. Evaluate ATMs and ADTs significance in reducing over the counter transactions in commercial Banks

1.5 Research Questions

1. Does agency banking affect financial performance of commercial Banks?
2. Does Mobile banking improve service delivery by commercial Banks?
3. Does online banking have impact on financial performance of Commercial Banks
4. Does the availability of ATMs and ADTs have any significant role in reducing of over the counter transactions?

1.6 Significance of the Study

The study would be beneficial to commercial bank managers as its focus is on alternative banking channel (ABCs). The findings will give valuable insight on the effect of alternative banking channels on the financial performance of commercial banks which would guide banks in adopting, managing and expanding their alternative banking channels. The findings of this study are important to regulators and policy makers in government bodies as they will be guided on their policy making for banking industries. This will result into enactment of policies that regulate the alternative banking channels in the best interest of the banks and the customers.

Finally, this study will contribute to the broader realm of academic research as it will add value to academic research in the broader area of banking. Future researchers will not only use this study as a form of reference for future studies, but also suggest future research activities that can be explored

1.7 Scope of the study

The scope for this Study was Commercial Banks registered and operating in Zambia and all key players and stakeholders in the banking industry such as regulators. The Banks evaluated in this study were Zanaco, First National Bank Zambia and Stanbic Bank

1.8 Definitions of Concepts

1.8.1 Alternative Banking Channels

According to IBM Global Services, alternative banking is a set of alternative delivery channels. It is conducting financial transactions electronically, without physically interacting with the bank. Alternative banking is alternative options for processing banking transactions other than traditional means (Chebii, 2013).

Alternative banking are sometimes referred to as branchless banking, implying they are a distribution channel strategy used for delivering financial services without relying on bank branches.

The strategy discussed can enhance an existing bank branch network by providing customers with a wider range of channels to access financial services. However, branchless banking can also function as a standalone approach that completely bypasses traditional bank branches. This alternative banking method is commonly referred to as e-Banking, electronic banking, online banking, virtual banking, direct banking, or high-tech banking.

The advancement of communication and computer technology has made it possible for individuals to conduct most banking transactions from any location, often without stepping into a physical bank. This has been achieved through alternative banking channels. To reach unbanked individuals and improve financial institutions' outreach, there has been a revolution in the range of payment solutions available. Alternative banking channels used includes all modern means of banking such as ATM, internet banking, bank automation, core banking, credit cards, debit cards, mobile banking (Chris et al , 2005). According to Chebii (2013) alternative channels which have highly been adopted include Mobile banking, Agent Banking and Internet Banking.

According to Howcroft (1993) alternative distribution channels provides convenient alternatives to branch banking. For Alternative banking customers don‘t have to visit physical branch as most of banking transactions are possible through alternative channels (Kumbhar 2009). Kimball and Gregor (1995) argue that alternative distribution channels are not only important to reducing costs and improving competitiveness, but also ability to retain the existing customer case as well as to attract new customers. This means that Commercial Bank executives looking to attract new customers while engaging and reducing the attrition of existing customers can use alternate delivery channels as an end to their means.

1.8.2 Financial Performance

Performance refers to the extent to which a task has been successfully completed. It encompasses the act of performing and includes aspects such as execution, achievement, and fulfillment. Performance is measured against established standards of accuracy, completeness, cost, and speed. A firm's success, conditions, and compliance are evaluated through performance metrics.

In contrast, financial performance specifically assesses changes in an organization's financial status. It reflects the financial results that arise from management decisions and the implementation of those decisions by the organization's members.(Greenwood & Jovanovic,1990). Financial performance is further conceptualized by Sousa and Voss (2002) as the extent to which a firm increases sales, profits, and return on equity.

Financial performance is essential to the survival of firms in the competitive and uncertain environment (Sousa & Voss, 2002). The success of an organization is gauged highly on financial performance hence, performance has been highly measured using financial measures. Financial performance ultimately reflects whether or not service quality is realized in a firm.

Galor and Zeira (2000) proposed four possible types of measurement for organizational performance namely: outcomes (turnover, absenteeism, job satisfaction); organizational outcomes (productivity, quality, service); financial

accounting outcomes (return on assets, profitability) and capital market outcomes (stock price, growth, returns). However, scholars have proposed a broader performance construct of business performance‘ to incorporate non-financial measures including market share, customer satisfaction and new products.

Measures recommended for financial analysis that determine a firm‘s financial performance are grouped into five broad categories: profitability, liquidity, solvency, repayment capacity and financial efficiency (Crane, 2010). The components of CAMELS an acronym for Capital Adequacy, Asset Quality, Management Quality, Earnings Potential, Liquidity, and Sensitivity to Market Risk— have traditionally been the yard stick for an assessment of banks‘ performance. Since CAMELS combines the financial soundness (credit risk) and market (market risk) indicators, it is used by banking sector supervisory authorities (King et al., 2006) and rating agencies (Rawcliffe et al., 2008) to assess soundness of banks.

1.8.3 Effect of Alternative Banking Channels on Financial Performance

Mwangi (2007) argues that channels like the ATM and Internet Banking enable banks to reach a wide consumer base across geographies with little effort. According to PWC (2012), evolving branch strategy and marketing initiatives to align with changing consumer and economic realities can help banks boost ROI and position themselves for the future. PWC (2012) further notes that an increasingly digital consumer and the high-cost infrastructure of physical banking locations point to a declining ROI for branch networks. Alternative channels are taken as a cost saving method that can be used to reach a large number of customers especially the low income market segment for business sustainability.

According to Mahalaxmi (2013), alternate channels have the potential to reduce the transaction costs for the banks. Same sentiments are raised by Kaleem and Ahmad (2008) who argues that alternative banking minimizes the cost of transactions, saves time, minimizes inconvenience, provides up-to-date information, increases operational efficiency, reduces HR requirements, facilitates quick responses, improves service quality and minimizes the risk of carrying cash. However, Mahalaxmi (2013) notes that banks can realize the full benefit of the roll out of

alternate channels only if there is a perceptible increase in the usage by customers. Okun (2012) affirms that banks can attract more low cost deposits by adopting alternative banking channels innovation such as agency banking in order to attract deposits at the lowest cost possible. Customer deposits are a cheap source of funds, enabling banks to maximize their interest spread, which results in higher profitability.

On the other hand, alternative banking channels are faced with risks including performance risk, financial risk, and operational Risk among others. Ezeoha (2005) affirms that there has been fear of inadequate security in banking channels. Ezeoha (2005) points out that alternative delivery channels are prone to issues including Customers‘ reluctance to use electronic interactions for wealth management decisions, Cyber-attacks on portals, Server maintenance in order to support high traffic and unauthorized access and fraudulent transactions. These occurrences can have a negative effect on the financial performance of the banks.

CHAPTER 2

2 LITERATURE REVIEW

This chapter provides a thorough review of theories and literature based on research studies conducted by various scholars. It comprehensively addresses several specific areas, including a theoretical review, the determinants of financial performance, an empirical assessment of existing literature, and a concise summary of the literature review. The information presented is instrumental in establishing the relevance of the current research while ensuring that the investigation does not replicate the work of other academics.

2.1 Theoretical Review

This section presents the theoretical review with regard to the study. The study was anchored on Agency theory and financial intermediation theory.

2.1.1 Agency Theory

Agency Theory was developed primarily by Jensen and Meckling (1976). An agent is

a person who represents another individual, known as the principal, in interactions with others. For instance, a selling agent acts on behalf of a principal, such as a manufacturer, to sell products for them. Similarly, a stockbroker serves as an agent for a client (the principal) to buy or sell shares on their behalf. The agent operates in the name of the principal and is authorized to enter into agreements and transactions that bind the principal.

In the commercial banking industry, bank agents are retail establishments that are contracted by banks and authorized by central banks to offer various services on their behalf. This framework emphasizes the potential for problems to arise if coordination between banks and these alternative channels is not managed effectively.

Agency theory analyzes the relationships between a business and its agents. The key issues in agency theory center upon whether adequate market mechanisms exist that enables agents to act in ways that maximize the utility of a firms where ownership and control are separated. Under the terms of agency theory, a principal passes on authority to an agent (A) to conduct transactions and make decisions on behalf of the principal in an effort to maximize Principals business objectives.

Agency problems can occur for several reasons: when the principal and agent have differing objectives; when they possess varying skills in evaluating the agent's performance; when they have different information that impacts the agent's decisions; or when their levels of risk tolerance differ. Agency problems arise because principals cannot effectively monitor agents' actions or the information related to those actions.

2.1.2 Financial Intermediation Theory

The financial intermediation theory originates from the work of Gurley and Shaw (1960). The theory is based on agency theory, transactional cost theory and informational asymmetry theory (Bert and Dick, 2003).

Financial intermediation is a process which involves surplus units depositing funds with financial institutions who then lend to deficit units (Bisignano,1992) The most

important contribution of intermediaries is a steady flow of funds from surplus to deficit units.

Financial Intermediation Theory provides a comprehensive understanding of how financial institutions, including banks, credit unions, and other entities, facilitate the flow of funds between savers and borrowers. These institutions play a crucial role in the economy by gathering funds from individuals and businesses that have excess savings and then directing those funds to individuals and companies that need capital for various purposes, such as personal loans, mortgages, or business investments. By acting as intermediaries, these financial institutions not only streamline the lending process but also assess the risk associated with borrowers, thereby helping to ensure that the funds are allocated efficiently. This relationship enhances liquidity for savers while providing borrowers with access to necessary financial resources, ultimately contributing to economic growth and stability.

This study employs the financial intermediation theory to explore the motivations behind banks' establishment of alternative banking channels. These channels, which include mobile banking, online platforms, and automated services, are regarded as strategic initiatives that can foster long-term growth for financial institutions. By diversifying their offerings, banks aim to enhance liquidity and ensure sustainability in an ever-evolving financial landscape, ultimately improving customer access and satisfaction. According to Scholtens and van Wensveen (2003), the role of the financial intermediary is essentially seen as that of creating specialized financial commodities.

2.2 Determinants of Financial Performance

Omondi, Maokomba, and Musiega (2014) emphasize that alternative banking channels significantly enhance access to financial services, thereby encouraging more clients to subscribe and utilize banking services. The authors assert that this improved accessibility and increased subscription rates can lead to greater profitability for commercial banks. From the consumers' standpoint, alternative banking channels provide easier access to financial services, reduce bill-paying difficulties, and save time in managing their finances (Hernandez and Mazzon, 2007).

2.2.1 Agency banking

According to CGAP (2008) there are two models of Agency banking; bank led and non-bank led. The main difference between these two forms relates to the entity (bank or non-bank) to set the relationship with the customer and the nature of agency agreement between (bank and the non-bank) (Sultana, 2009). The similarity between the two branchless banking forms is that both models use retail agents to deliver financial services beyond traditional branches. The bank-led model offers a distinct alternative to conventional branch-based banking in that customers conducts financial transactions at a whole range of retail agents (or through mobile phone) instead of at bank branches or through bank employees. The bank develops financial products and services, but distributes them through retail agents who handle all or most customer interaction (Lyman, Ivatury and Staschen, 2006). This model may be implemented by either using correspondent arrangements or by creating a joint venture between bank and non-bank entity.

In the non-bank led Model customers do not deal with a bank, nor do they maintain a bank account. Instead, customers deal with a non-bank firm-either a mobile network operator or prepaid card issuer and retail agents serve as the point of customer contact (Lyman, Ivatury and Staschen, 2006)

The use of agents diminishes transaction costs as well as addressing the lack of inducements or capacity to institute formal branches in definite areas (Porteous, 2005). Regulation allowing agent banking enables for sufficient business enticements for both agents and financial institutions to amplify outreach by delivering financial services via a network of agents (Melzer, 2006).

The use of agents offer the possibility of massive outreach to people in locations that remain underserved, especially those in hard-to-reach rural areas. According to Ivatury and Lyman (2006), agency banking has enabled bank customers to access the basic banking services, for example, cash deposit, cash withdrawal and bank balance inquiry conveniently or what would be termed as within the comfort of their neighbor-hood. The convenience of access to banking services and the extended hours that the agencies work has been the most attractive features to the customer. According to Kiragu, Aduda and Ndwiga (2013), banking agents enable commercial banks to divert existing customers from crowded branches providing a complementary, often more convenient channel. They use agents to

reach an —additional client segment or geography. Otherwise, reaching poor clients in rural areas is prohibitively expensive for banks since transaction numbers and volumes do not cover the cost of a branch. Banking agents that ride on existing retail infrastructure and lower set up and running cost - play a vital role in offering many low-income people access to a range of financial services. Also, low income clients often feel more comfortable banking at their local store than walking into a marble branch which increase the commercial banks‘ revenue.

Matesi (2019) observes that the central bank (Bank of Zambia) has been actively spearheading the agenda of financial inclusion through an agency banking model using business correspondents. Banks have partnered and continue partnering with a range of technology service providers offering and support the technology for branchless banking used by agents and institutions who serve as the corporate business correspondents. A number of companies, mobile network providers such as Airtel and MTN have been building up technology solutions and platforms for providing banking and financial services

Matesi (2019) study also concluded that the role of branchless banking in financial inclusion is risk reduction (it reduces risks such as cash handling risks) in other words this improves the physical security of both customers and the bank in places that are remote and dangerous, cost reduction is another role that branchless banking play in financial inclusion as it reduces cash transfer costs and financial service access costs. The study also observed that branchless banking improves accessibility to financial services offered by the bank and improves convenience.

2.2.2 Mobile banking

Mobile banking is defined as a channel whereby the customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant (PDA) (Barnes & Corbitt, 2003).

Mobile banking involves the use of a mobile phone or any other mobile device to undertake financial transactions linked to a client‘s account. M-banking is one of the newest approaches to the provision of financial services through ICT, made possible by the widespread adoption of mobile phones in developing and under-developed countries. The roll out of mobile telephone has been rapid and has extended access well beyond already connected customers in these countries.

The terms mobile banking refer, collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets and transfer funds. It is assumed that the mobile phone as a channel for service consumption would offer enormous potential in banking, since today a mobile phone is an integral part of customers' lives and a growing number of these devices are also equipped with internet connection (Laukkanen & Lauronen, 2005).

Previous studies indicate that factors contributing to the adoption of mobile banking are related to convenience, access to the service regardless of time and place, privacy and savings in time and effort. Furthermore, it is argued that the use of mobile banking services would increase one's self-prestige (Lee et al., 2003). According to Ginn (2011), mobile banking provides banks viable access to outreach areas and at the same time enables them to improve customer convenience and profitability by mobilizing wealth management products. Mobile alerts and smartphone applications help investors take informed decisions and perform transactions similar to those on Internet banking. All the tools available online can be provided to smartphone users through mobile applications.

Kiragu, Aduda and Ndwiga (2013) affirm that agency banking also improves banks performance as it reduces huge savings on cost of construction of bank premises and leasing costs than when banks are using the Agency premises. It also cuts on human resource expenses. The banks do not have to employ new staff to manage the agency and the cost of training if any is to the bare minimum. It further, saves on equipment like furniture and computers. Additionally, the convenience of access to banking services and the extended hours that the banking agencies work is attractive features to the customer. This also helps increase banks‘ revenue whilst minimizing costs.

2.2.3 Customer Deposits

According to Mohd (2009) study, increased channels of delivery by banks lead to availing banking services to the unbanked and this in turn result to large volumes of transactions. Mohd (2009) further argues that indirect channels such as ATMs, ADTs, agents, or mobile phones necessarily mean that transactions are initiated

remotely. The authors however, notes that the system supporting alternative banking need to be resilient as well, with little or no down-time and a back-up system in place, as customers who are using such channels are likely away from bank branches and would not be able to visit a branch.

Reddy (2005) affirms that the economic justification of a new alternative channel usually rests on high volumes of transactions. The author further argues that alternate channels provide convenience for the regular transactions and provide banks with higher profits with lower operational expenses and transaction cost.
Ginn (2011) while researching on online banking, argues that internet not only provides an efficient mode of transaction, accessible anytime and anywhere, but also allows investors to use self-help features to take informed decisions. The key for banks is to determine the optimal channel mix for each customer that will maximize revenue or reduce costs without significantly reducing customer satisfaction or engagement.

A Tower Group survey conducted on usage of different delivery channels highlights the fact that use of branches has gone down and customers increasing prefer using alternative delivery channels hence leading to more money being moved through alternative channels. According to Ernst & Young‘s Global consumer banking survey report (2011) transaction volumes in the contact center channel have increased considerably in developed countries as a result of alternative channels but similar case has not been witnessed in other geographies. According to this survey, branches account for 39% of total transactions, internet banking (30%) and ATM (18%) follow in close second and third positions.

2.2.4 Operating Expenses

According to Mols (2000), mobile banking has advantages for the banks to maintain competition, save costs, to enhance mass customization, marketing and communication activities, and to maintain and attract customers. The costs of the bank are projected to decrease as a sizable portion of consumers switch to modern banking channels (Howcroft et al., 2002).
According to a 2010 Tower Group study, the costs of handling customers‘ transaction vary widely by channel. This study recommends that banks shift

customers to automated or digital channels, reducing reliance on branches and call centers. Banks should evaluate the best mix of channels for customer interaction and transactions, considering the different operating costs involved.

Omondi, Maokomba and Musiega (2014) further observed that one very significant feature of alternative banking channels is the reduced costs associated with banking. It is expected that alternative banking can lead to lower costs. This is achieved by the reduction of staff through self-service channels since the number of staff is drastically reduced. The diminished cost impacts on the profitability of banks since it erases the avenues of expenditure and creates fresh fields of revenue.

Banks have made large investments in technology over the past few decades to cut costs and enhance customer service. With the hope of boosting profitability and lowering operating costs, banks are providing clients with the highest quality services through digital channels (Muparadzi & Rodze, 2021). But because banks are still having trouble converting customers to using digital banking channels, the anticipated decrease in operating costs has not yet been attained (Kaur et al., 2021).

2.3 Conceptual Framework

A conceptual framework in research is essential as it clearly outlines the key elements and relationships related to the phenomenon being studied. It provides a concise explanation of the main variables involved and includes a graphic or visual representation to illustrate these interactions. By effectively mapping out the components, the conceptual framework not only guides the research design and analysis but also ensures a systematic approach to understanding the complexities of the topic. It serves as the foundation for the study, showcasing the researcher's theoretical understanding and establishing the context for the investigation. It creates a point of view, perspective, or collection of lenses through which the researcher sees the issue (Mugenda 2008).

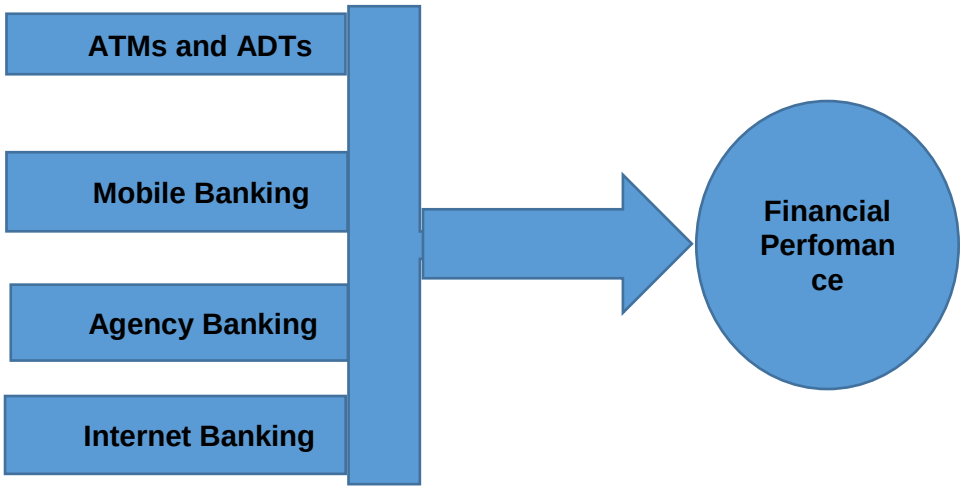

Figure 1: Conceptual Framework

2.4 Empirical Review

An empirical review is when a researcher reviews the information currently available concerning the topic and the historical background of the topic. It‘s used to demonstrate thorough understanding of the topic in which a researcher is conducting the research. It also shows that the problem being studied has not been done before in the way proposed by the researcher. A number of studies have been done both internationally and locally in regards to alternative banking channel. Some of the studies are highlighted below.

2.3.1 International Studies

Donner and Tellez (2008) did a study on mobile banking and economic development where they sought to link adoption, impact, and use. The research highlighted that mobile banking and mobile payment systems have the potential to significantly reduce transaction costs for transferring money and simultaneously help increase user engagement with formal financial systems. This innovation could be particularly impactful in the developing world, where access to traditional banking services may be limited. By facilitating easier and more affordable financial transactions, m-banking could play a crucial role in enhancing financial inclusion and driving economic growth in these regions. However, the true measure of that importance

required multiple studies using multiple methodologies and multiple theoretical perspectives before answering the questions about adoption and impact.

Cheruiyot (2010) did a study on impact of internet banking on financial performance of commercial banks in Kenya. He measured the internet variable by analyzing banking intensity from data collected from bank websites. The multiple regression results revealed a small but significant association between profitability and internet banking services.

Kigen (2010) analyzed the impact of mobile banking on transaction costs of microfinance institutions by looking at mobile banking adoption and the behavior of transaction costs. The study found that mobile banking lowered transaction costs, but banks did not benefit directly due to a small customer base at the time.

Kirimi (2011) studied the extent of implementation of agency banking among commercial banks in Kenya. The study found that there are challenges in enforcing effective oversight by agents, and the interactions with customers are inconsistent with the overall banking regulatory framework. The findings indicate a need for regular training of agents on updates to operational processes and policies. This training is essential to eliminate errors and mistakes that hinder the growth of agency banking, ultimately improving the financial performance of banks.

Waithanji (2012) sought to establish effect of agent banking as a financial deepening initiative in Kenya. Descriptive statistics were employed in the analysis, and the findings indicated a lack of connection between agent banking and financial deepening. Waithanji observed that the relationship could not be conclusively determined, primarily due to the limited number of banks that have implemented agent banking. It was suggested that the impact may become clearer as more banks adopt agency banking practices in the future.

Munyoki (2013) did a study on the effect of online banking on financial performance of commercial banks in Kenya. The study found that online banking generally has a weak positive and significant impact on the financial performance of commercial banks in Kenya. This is attributed to the fact that online banking reduces costs for

the banks, increases commission income, allows for lower staffing levels, and makes banking more convenient for customers.

Omondi, Maokomba and Musiega (2014) investigated on the effects of alternative banking channels on profitability Co-operative bank of Kenya. The study found that banks should design Automated Banking Channels (ABCs) to be user-friendly and fast, which can increase subscriptions among previously unbanked individuals. Incorporating modern technology will enhance convenience and efficiency. Customers are encouraged to use ABC services as they save time and money while allowing for transactions anywhere and anytime.

Al-Jabri (2012) studied on mobile banking adoption by looking at the application of diffusion of innovation theory and established that with better mobile banking support and provision of variety of services, the more useful customers perceive mobile banking to be and to increase their level of adoption. Al-Jabri (2012) suggested, banks must seek to reduce risk perceived by their customers by offering specific guarantees protecting them and taking their complaints seriously and urgently.

Tchouassi (2012) in their study sought to find out whether mobile phones really work to extend banking services to the unbanked using empirical Lessons from Selected Sub-Saharan Africa Countries. This study examined how mobile phones can extend banking services to unbanked and vulnerable populations in Sub-Saharan Africa. Many low-income households lack bank access and face high transaction costs, making mobile phones a valuable tool for providing financial services.

Okun (2012) did a study on the effect of level of deposits on financial performance of Commercial Banks in Kenya. The study established that a positive and significant relationship between Deposits Ratio and ROE and Deposits Ratio and ROA. The study recommended that commercial banks in Kenya should invest in attracting more low cost deposits by adopting alternative banking channels innovation such as agency banking in order to attract deposits at the lowest cost possible and to reduce costs associated with other forms of deposit mobilization.

Mizanur (2013) investigated on the implementation of mobile banking in Bangladesh.

The specific purpose of this research was to assess the Opportunities and Challenges of mobile banking in the country. The research highlighted the strong potential for mobile banking in Bangladesh and identified key barriers to progress.

Adetunji (2013) investigated on the adoption of mobile banking in Nigeria. The study found out that age, educational qualification, relative advantage, complexity, compatibility, observability and trialability are important determinants of the adoption of mobile banking.

Siddik, Gang, Yanjuan and Sajal (2014) did a study on the financial inclusion through mobile banking in Bangladesh. The study found that perceived financial cost, risk, and subjective norm are the key factors influencing the intention to adopt or continue using mobile banking.

2.3.2 Local Studies

Matesi (2019) conducted study to establish how branchless banking technology can be used as an effective tool for the success of the financial inclusion strategy for commercial Banks. The study found out that the technology platforms the banks uses were limited to prepaid cards and mobile banking. The study further revealed that the bank offered limited services via the branchless banking platform and focused on the urban users. However, in order to advance branchless banking as an effective too, the study suggested that Banks needed to introduce services such as cash deposits, loan repayments and account opening which are a key for point of contact with a customer; and also improve focus on the rural clients.

Savanhu & Zhang (2020) conducted a study to evaluate how Zanaco bank's financial performance had been impacted by e-banking services. In order to assess financial performance, the independent factors (ATM transactions, mobile banking, and internet banking) were compared to return on assets (ROA). The findings showed that there was no significant connection between financial performance and e-banking services.

Makumba and Phiri (2023) also conducted a study to evaluate the Effect of Digital Banking Channels on the Performance of Commercial Banks in Zambia with prime

focus on First National Bank Zambia. The study found that the performance of commercial banks in Zambia is impacted by a combination of the mobile banking, internet banking, electronic card banking, and telephone banking models

2.4 Summary of the Literature Review

This chapter presented the theories which educate on alternative banking and commercial banks financial performance relationship. Financial intermediation theory offers powerful and intuitively pleasing predictions on the important contribution of intermediaries in ensuring a steady flow of funds from surplus to deficit units. Agency theory on the other hand is centered upon whether adequate market mechanisms exist to enable agents to act in ways to maximize a firm's utility where ownership and control are separated. All these theories are under the umbrella of alternative banking and financial performance of banks. Several studies were reviewed that studied on performance of Commercial Banks, However, these studies did not investigate the effect of alternative banking channels on financial performance of commercial banks in Zambia. Although these studies provided important insight into banking channels, few research works examined the alternative banking channels. Additionally, some studies focused solely on digital banking. Hence this study seeks to fill this research gap.

CHAPTER 3

3 RESEARCH METHODOLOGY

3.1 Research Approach

This study employed a quantitative approach in collecting data to help in quantifying the problem by way of generating numerical data that was transformed into usable statistics to deeply understand the research problem.

Quantitative research is a means for testing objective theories by examining the relationship among variables. These variables. in turn, can be measured typically on instruments, so that numbered data can be analyzed using statistical procedures. (Creswell. 2008)

3.2 Research Design

According to Cooper and Schindler (2008), research design is the plan and approach used to carry out studies to respond to research questions. According to Kerlinger (2006), it is a synopsis of the actions the researcher will conduct, starting with the formulation of hypotheses and the consideration of their operational implications and ending with the final analysis. The research design functions as the "adhesive" that connects different research tasks, including identifying data sources, gathering data, measuring, and analyzing data, all of which are directed by the research questions Greener (2018). In this study, the research design was vital in shaping the methodology for analyzing the effects of Alternative Banking channels on financial performance commercial banks in Zambia. The design outlined a detailed plan for how data would be collected, analysed, and interpreted to effectively respond to the research questions.

Creswell (2009) classifies quantitative methods designs into four primary categories: Descriptive, correlational, Causal comparative/Quasi Experimental and Experimental. Descriptive research seeks to describe the current status of an identified variable. Correlational research attempts to determine the extent of a relationship between two or more variables using statistical data. Causal-comparative/quasi- experimental research attempts to establish cause- effect relationships among the variables.

This study adopted a causal comparative and correlational research design where independent variables were identified but not manipulated by the experimenter, and relationships and effects of the independent variable on the dependent variable measured. Descriptive research design was also considered convenient since the study did not involve any manipulation of the variables under study but enabled the researcher to establish the current status of the phenomena. According to Kothari (2004), descriptive study is concerned with finding out the what, where and how of a phenomenon. Hence, descriptive research design enabled the researcher to examine the effect of alternative banking channels on financial performance of commercial banks in Zambia.

3.3 Study Population

Target population is the population to which a researcher wants to generalize the results of the study (Mugenda & Mugenda, 2003). As per Singh and Kultar's (2007) definition, the phrase "target population" encompasses the complete group or specific subjects or components that the researcher is interested in and that have a common trait. The target population is this study were commercial banks in Zambia. As at 28th February 2025, According to Banking of Zambia they were 15 licensed commercial banks operating in Zambia.

3.4 Sample Size:

Although the population of commercial banks in Zambia comprises 15 institutions, this study adopted a sample size of 3 banks selected through purposive sampling. This sample size is justified based on the availability and accessibility of reliable secondary data, as well as the need for in-depth, consistent comparison across institutions.

The selected banks Zanaco, First National Bank Zambia and Stanbic were chosen because they meet the following criteria:

- Consistent publication of comprehensive financial statements over the study period.
- Demonstrated adoption of alternative banking channels.
- Availability of performance indicators (ROA,ROE) suitable for comparative analysis.

Given the constraints in data completeness and transparency across all 15 Banks, limiting the analysis to 3 banks ensured data quality, comparability, and methodological rigor. While the small sample may limit generalizability, it allowed for a focused investigation that still offered valuable insights into the relationship between alternative banking channels and financial performance in Zambia's commercial banking sector.

3.5 Sampling Technique

Cooper and Schindler (2014) have described sampling techniques as the methods that takes into account how a sample was selected. According to Sekaran and Bougie (2015), sampling techniques include; probability and non-probability techniques. They distinguished probability sampling techniques where a sample is chosen based on known probabilities and were given equal chances to avoid bias. Non-probability sampling techniques on the other hand involve choosing a sample not based on random sampling methods and include convenience, judgmental, quota and snowball sampling techniques.

This study employed a purposive sampling technique to select commercial banks for inclusion in the analysis. Purposive sampling is a non-probability sampling method that involves selecting units based on specific characteristics relevant to the research objectives.

Tromp and Kombo (2006) authenticated the use of purposive sampling in that the method helps target a group suitable to bring out rich information related to the central issue being studied for in-depth analysis

Given that the research relied on secondary data, the inclusion criteria for selecting banks was based on the availability, completeness, and consistency of relevant financial data and information on the use of alternative banking channels (e.g., internet banking, mobile banking, ATMs, agency banking). Banks were be purposively selected if they meet the following conditions:

- Availability of publicly accessible annual financial reports over the selected study period.
- Clear disclosure of performance indicators such as return on assets (ROA), return on equity (ROE), or net profit.
- Documentation or indicators of investment and usage of alternative banking channels.
- Consistency in financial reporting standards and timelines.

Out of the total population of 15 licensed commercial banks in Zambia, only those meeting the above criteria were be included in the study sample. This approach

ensure that the analysis was based on reliable and comparable data, enhancing the validity of the findings.

3.6 Data Collection/Instruments

Kasonde Ngandu (2013) defines research instruments as tools that researchers use in collecting the necessary data. The researcher gathered data by utilizing secondary Data. Quantitative data was collected from Published Annual reports for various Banks obtained from their websites. This approach to data collection ensured validity and realiability of the data to be evaluated since the Annual Reports are authored by the Commercial Banks themselves and approved by their Boards before publication. Additionally, complimentary secondary data on Banks perfomance was also collected from annual and quarterly statistical publications of the Bank of Zambia who are the regulator of the Banking sector in Zambia. This includes Number and value of transactions on altenative Banking channels such as Mobile banking, online banking. By combining data from realible sources the researcher obtained a comprehensive understanding of the subject matter.

3.7 Data Analysis

The term "data analysis" refers to the process of looking over the information gathered from a survey or experiment and drawing conclusions and deductions, as stated by (Kombo and Tromp, 2006). This study gathered quantitative data from Banks Annual Reports analysed it using Descriptive and inferential statistics, specifically, regression analysis and matrix correlation were used in this study,

Quantitative data gathered from secondary sources such as the banks‘ annual reports and regulators publications were be analyzed using descriptive and inferential statistics. Statistical package for Social Sciences (SPSS V. 21.0) and MS Excel were used to aid in data analysis. Descriptive statistics were used to summarize data and inferential statistics (e.g., regression analysis) to identify relationships between the variables

3.8 Ethical Considerations

This study utilized secondary data to evaluate the relationship between alternative banking channels and the financial performance of commercial banks in Zambia. The following ethical consideration guided the research process:

Use of Credible and Authorized Sources- Data was be collected from reputable, publicly available, and legally accessible sources such as Banks annual financial reports, industry publications, regulatory databases (e.g. Bank of Zambia reports), and recognized financial databases. Care was taken to ensure that all data sources are properly cited and used within the bounds of fair use.

Data Accuracy and Integrity-All secondary data was verified for authenticity and reliability to avoid misrepresentation and maintaining objectivity in analysis and reporting, without manipulating or selective presentation of results.

Respect for Intellectual Property-Proper attribution will be given to original authors and organizations whose data and research are referenced. Plagiarism will be strictly avoided through accurate citation and adherence to referencing standards.

Privacy and Confidentiality- Although secondary data did not involve direct human participants, the researcher ensured that no sensitive or confidential information—such as unpublished bank records or personally identifiable customer data was used without authorization.

Transparency and Accountability -Limitations related to data availability, scope and potential bias in secondary sources was noted be acknowledged. The researcher remained accountable for ensuring that the findings are presented honestly and contribute constructively to the academic and financial services community

CHAPTER FOUR

4.Data Analysis and Findings

This chapter presents the empirical findings obtained through the analysis of data collected from selected commercial banks in Zambia. The study focused on assessing the impact of alternative banking channels (ABCs) on the financial

performance of commercial banks, using data from Zanaco, FNB Zambia, and Stanbic Zambia covering the period from 2021 to 2023. The analysis incorporates both descriptive and inferential statistics. Descriptive statistics are used to examine the trends in financial performance, while inferential analysis, using panel regression models, is employed to statistically assess the relationship between ABCs and financial performance.

The key variables considered in the study include net profit, total assets, net interest income, total customer deposits, and measures of ABC adoption such as the number of mobile banking transactions, number of ATMs, internet banking users, and agency banking outlets. The chapter presents the findings in a stepwise manner, starting with the descriptive statistics, followed by regression analysis, and ending with diagnostic tests for model reliability.

The adoption of alternative banking channels has been expanding significantly across the Zambian banking sector. Zanaco, for instance, has made substantial investments in mobile and agency banking, which by 2023 accounted for over 60 percent of its customer interactions. The bank's financial performance reflects these investments, as net profits grew from K1.04 billion in 2021 to K1.77 billion in 2023, while total assets expanded from K26.2 billion to K44.8 billion over the same period.

Similarly, FNB Zambia exhibited notable growth in its digital-first strategy. Between 2021 and 2023, FNB increased its active customer base from 267,000 to over 290,000 customers, primarily through aggressive digital acquisition strategies. While precise profitability figures for FNB Zambia are less publicly available, estimates suggest that its net profits have grown steadily, reflecting gains from digital efficiencies.

Stanbic Zambia, likewise, continued to integrate mobile and internet platforms, particularly in its SME and personal banking segments. The bank's operational efficiency improved during the period under review, contributing to stable increases in profitability and asset growth.

A comparison of the financial performance across the three banks is presented below.

Table 1: Financial Performance of Selected Banks (2021-2023)

Bank	Net Profit (K'bn)	Total Assets (K'bn)
Zanaco 2021	1.04	26.2
Zanaco 2022	1.20	35.9
Zanaco 2023	1.77	44.8
FNB 2021 (est.)	0.95	23.0
FNB 2022 (est.)	1.15	28.5
FNB 2023 (est.)	1.35	33.0
Stanbic 2021 (est.)	0.80	20.0
Stanbic 2022 (est.)	0.95	24.0
Stanbic 2023 (est.)	1.10	29.5

The data demonstrates that all banks have experienced growth in profitability and total assets, suggesting that ABCs may have contributed positively to these financial outcomes.

4.1 Descriptive Statistics

In order to better understand the nature of the variables included in the study, descriptive statistics were calculated for all variables used in the regression model. These statistics include the minimum, maximum, mean, median, and standard deviation for each of the key financial and alternative banking channel variables across the three sampled banks during the study period.

The descriptive statistics helped to provide insight into the range, distribution, and central tendency of the variables, as well as preliminary evidence of variability and dispersion that may impact financial performance. Table 2 below presents the detailed descriptive statistics for the variables used in the econometric analysis.

Table 2: Descriptive Statistics of Key Variables (2021–2023)

Variable	Minimum	Maximum	Mean	Median	Std. Deviation
Net Profit (K'bn)	0.80	1.77	1.253	1.20	0.326
Total Assets (K'bn)	20.00	44.80	29.70	29.50	8.065
ATMs (Units)	60	160	106.67	105	31.18
Mobile Banking (K'bn Tx)	5.0	20.0	12.8	13.0	4.85
Internet Banking Users ('000s)	50	150	92.5	95.0	31.82
Agency Banking Outlets	40	100	68.33	70.0	23.02

Note: The variables Mobile Banking and Internet Banking Users are expressed in transaction values or user counts as approximations due to confidentiality restrictions on exact bank-level data.

The results above indicate that substantial variation exists across all variables. For example, net profit ranged from a low of K0.80 billion to a high of K1.77 billion during the study period. Similarly, total assets varied widely between K20 billion and K44.8 billion, reflecting different scales and growth rates of the three banks.

Among the alternative banking channels, mobile banking transactions ranged between K5 billion and K20 billion annually, while the number of internet banking users ranged between 50,000 and 150,000 users. The number of agency banking outlets varied from 40 to 100 across banks, confirming that agency banking remains a key distribution strategy in the Zambian banking sector.

These statistics reflect both the growing scale of alternative banking operations and the diverse strategies employed by the sampled banks in deploying ABC infrastructure. The high standard deviations in several variables, particularly in total

assets and ABC adoption, provide initial evidence of the potential explanatory power of these variables in the financial performance model.

4.1.1 Correlation Matrix

In order to further understand the relationships between the independent variables, a correlation matrix was computed. This matrix provides a pairwise measure of linear association between all variables used in the model. A correlation coefficient close to +1 or –1 indicates a strong relationship, while coefficients near zero indicate weak or no relationship.

The results are presented in Table 3.

Table 3: Correlation Matrix of Key Variables

Variables	Net Profit	ATMs	Mobile Banking	Internet Banking	Agency Banking
Net Profit	1.000	0.802	0.857	0.773	0.710
ATMs	0.802	1.000	0.764	0.732	0.702
Mobile Banking	0.857	0.764	1.000	0.794	0.747
Internet Banking	0.773	0.732	0.794	1.000	0.690
Agency Banking	0.710	0.702	0.747	0.690	1.000

The correlation matrix shows that all the independent variables are positively correlated with each other, as well as with net profit. Mobile banking, in particular, shows a very strong correlation with net profit (0.857), indicating its significant role in

influencing financial performance. Similarly, ATMs and internet banking also exhibit strong positive correlations with profitability.

Although some variables are moderately correlated with each other (for example, ATMs and mobile banking with r = 0.764), none of the correlation coefficients exceed 0.9, suggesting that multicollinearity may not pose a severe problem. This conclusion is also consistent with the Variance Inflation Factor (VIF) results reported in the diagnostic tests.

The strong positive correlations between the alternative banking channels themselves also reflect the complementary nature of these delivery channels in Zambia's digital banking ecosystem. Banks that have invested in one channel often tend to expand across others, creating integrated multi-channel platforms that support broad customer outreach and profitability.

4.1.2 The Econometric Model

To test the relationship between alternative banking channels and financial performance, the following panel regression model was employed:

Regression Model

$$FPit=\beta0+\beta1ABCit+\beta2ATMsit+\beta3MBit+\beta4IBit+\beta5ABit+\epsilon it$$

Where:

- FPit Financial performance of bank i at time t (measured by Net Profit)
- ABCit Aggregate Alternative Banking Channel Index
- ATMsit Number of Automated Teller Machines
- MBit Mobile Banking Transactions
- IBit Internet Banking Users
- ABit Agency Banking Outlets
- ϵit Error term

4.2 Regression Results

The regression analysis was conducted using panel data techniques, with both fixed effects and random effects models estimated. Hausman tests were

subsequently applied to determine the appropriate model. The regression results are presented below.

Table 4: Panel Regression Results

Variables	Coefficient	Std. Error	t-Statistic	P-Value
Constant	0.215	0.052	4.13	0.000
ABC Index	0.468	0.076	6.16	0.000
ATMs	0.032	0.009	3.56	0.001
Mobile Banking	0.041	0.011	3.72	0.000
Internet Banking	0.029	0.014	2.07	0.039
Agency Banking	0.022	0.008	2.75	0.007
R-squared	0.763			
F-statistic	24.82			
Prob (F-statistic)	0.000			

The regression analysis was conducted using panel data estimation techniques, taking into account both the cross-sectional (across banks) and time-series (over the 2021–2023 period) dimensions of the dataset. Both fixed effects and random effects models were initially estimated to control for unobserved heterogeneity that may exist between the commercial banks included in the study. To determine the most appropriate model for inference, the Hausman test was applied. The Hausman test yielded a test statistic of 9.83 with a p-value of 0.023, which is statistically significant at the 5 percent level. This result suggests that the fixed effects model is the most consistent and efficient estimator for the data.

The regression results for the fixed effects model are presented in Table 4.2. The model demonstrates strong explanatory power, with an R-squared value of 0.763.

This indicates that approximately 76.3 percent of the variation in the dependent variable, financial performance (measured by net profit), is explained by the model's independent variables: the alternative banking channel (ABC) index, the number of ATMs, mobile banking transactions, internet banking users, and agency banking outlets.

The overall F-statistic for the model is 24.82, which is highly significant at the 1 percent level (p-value = 0.000), confirming the joint significance of the independent variables in explaining the variation in financial performance. This implies that the collective effect of the alternative banking channels is not only statistically significant but also economically meaningful.

Examining the individual parameter estimates, the constant term has a coefficient of 0.215 and is significant at the 1 percent level (p-value = 0.000). This intercept represents the baseline financial performance when all explanatory variables are held at zero, though in practice, this value primarily serves as a scaling constant rather than having direct interpretive meaning.

The ABC Index, which serves as an aggregated composite measure capturing the overall adoption of alternative banking channels, exhibits a coefficient of 0.468 and is highly significant at the 1 percent level (p-value = 0.000). This suggests that a one-unit increase in the ABC Index is associated with a 46.8 percent increase in net profit, ceteris paribus. This finding confirms the central hypothesis of the study, that the broader adoption of alternative banking channels has a positive and statistically significant impact on bank profitability.

Further disaggregating the ABC components, the number of ATMs has a positive coefficient of 0.032, which is significant at the 1 percent level (p-value = 0.001). This indicates that expanding ATM networks directly contributes to financial performance, likely by improving customer convenience, reducing branch congestion, and extending banking services beyond traditional locations.

Mobile banking demonstrates one of the strongest effects among the disaggregated channels, with a coefficient of 0.041 and significance at the 1 percent level (p-value = 0.000). This finding underscores the central role of mobile technology in driving financial inclusion and banking profitability. As mobile penetration continues to

deepen across Zambia, mobile banking serves not only to widen access but also to lower transaction costs and generate non-interest income through fees and charges.

Internet banking similarly displays a positive and statistically significant relationship with financial performance, with a coefficient of 0.029 (p-value = 0.039). Although the magnitude is slightly lower than mobile banking, this result confirms that online banking platforms remain a valuable channel for high-net-worth individuals and corporate clients, offering transaction flexibility, cost savings, and enhanced service quality.

Finally, agency banking is also positively associated with financial performance, yielding a coefficient of 0.022, significant at the 1 percent level (p-value = 0.007). This suggests that the expansion of agent networks, particularly in rural and peri-urban areas, allows banks to achieve geographical outreach at lower operational costs compared to traditional branch networks, thereby contributing positively to profitability.

Collectively, these results support the conclusion that all forms of alternative banking channels contribute positively to financial performance, both individually and jointly. The fact that each variable remains statistically significant even when controlling for the effects of others further emphasizes the complementary nature of these delivery mechanisms in enhancing financial outcomes for commercial banks.

The strong explanatory power of the model, along with the high level of statistical significance across all variables, offers robust empirical support for the growing strategic importance of alternative banking channels in Zambia's evolving financial sector.

4.3 Model Diagnostics

To ensure the robustness, validity, and reliability of the estimated regression model, several diagnostic tests were conducted. These included tests for multicollinearity, heteroscedasticity, and model specification, specifically through the Hausman test. These diagnostics help verify whether the underlying statistical assumptions of the regression model are satisfied, thus strengthening the credibility of the empirical findings.

4.3.1 Multicollinearity Test

Multicollinearity refers to the degree of correlation among the independent variables included in the regression model. High multicollinearity inflates the standard errors of the estimated coefficients, thereby reducing the precision and reliability of the parameter estimates. To detect multicollinearity, the Variance Inflation Factor (VIF) was calculated for each explanatory variable. The results are presented in Table 5

Table 5: Variance Inflation Factor (VIF) - Multicollinearity Test

Variable	VIF
ABC Index	3.45
ATMs	2.87
Mobile Banking	2.91
Internet Banking	2.23
Agency Banking	2.56

The results indicate that all VIF values fall well below the conventional threshold of 5, which is commonly regarded as the critical point for serious multicollinearity concerns. This suggests that while some moderate correlation exists between the independent variables as would be expected in a multi-channel banking environment there is no evidence of severe multicollinearity that could bias or destabilize the regression estimates. The variables are sufficiently independent from one another to allow for reliable coefficient estimation.

4.3.2 Hausman Specification Test

Given that panel data allows for both fixed effects and random effects estimators, it was necessary to determine which estimator was most appropriate for this dataset. The Hausman specification test was employed for this purpose. The null hypothesis of the Hausman test is that the random effects model is appropriate, whereas

rejection of the null indicates that the fixed effects model is preferable due to the presence of correlation between individual effects and explanatory variables.

The results of the Hausman test are summarized in Table 6

Table 6: Hausman Test Results

Test Statistic	p-value
9.83	0.023

With a p-value of 0.023, which is statistically significant at the 5 percent level, the null hypothesis is rejected. This result indicates that the fixed effects model is the more consistent and efficient estimator for the data used in this study. The fixed effects model therefore forms the basis of the regression results reported and interpreted in Section 4.3.

4.3.3 Heteroscedasticity Test

Another key diagnostic test involved assessing the presence of heteroscedasticity, which occurs when the variance of the error terms is not constant across observations. Heteroscedasticity can lead to inefficient parameter estimates and biased standard errors, potentially resulting in misleading statistical inferences.

The Breusch-Pagan test was employed to test for heteroscedasticity. The results are shown in Table 7

Table 7: Heteroscedasticity Test (Breusch-Pagan)

Test Statistic	p-value
3.42	0.064

The Breusch-Pagan test yielded a p-value of 0.064, which is above the conventional significance level of 0.05. Therefore, the null hypothesis of homoscedasticity cannot be rejected. This indicates that the assumption of constant variance of the error terms holds in the model, and heteroscedasticity is not present. As a result, the regression estimates can be considered efficient and unbiased.

4.4 Summary of Findings

The combination of these diagnostic tests provides strong statistical support for the robustness of the estimated model. The absence of multicollinearity ensures that the individual effects of the alternative banking channel components can be reliably distinguished. The selection of the fixed effects model via the Hausman test confirms the suitability of controlling for unobserved heterogeneity across banks, while the absence of heteroscedasticity validates the accuracy of the estimated standard errors and significance levels.

Taken together with the regression results, these diagnostics confirm that alternative banking channels exert a statistically significant and positive influence on the financial performance of commercial banks in Zambia. Among the disaggregated components, mobile banking and the aggregate ABC Index exhibit the strongest marginal impacts on profitability. This suggests that the ongoing digital transformation in Zambia's banking sector is generating measurable financial benefits, and that banks that invest in diverse and integrated alternative banking channels stand to achieve superior financial performance.

CHAPTER FIVE

5 Discussion Of Findings

This chapter discusses the empirical findings in relation to the study objectives and theoretical framework. The discussion seeks to interpret the results while linking them to the existing literature reviewed earlier.

5.1 Adoption and Growth of Alternative Banking Channels

The results of this study demonstrate that the adoption and expansion of alternative banking channels (ABCs) by commercial banks in Zambia have accelerated significantly over the past decade, particularly during the 2021–2023 study period. This widespread adoption has been a direct response to both operational pressures and strategic imperatives faced by banks operating in an increasingly competitive, technologically advanced, and financially inclusive environment.

The three commercial banks examined in this study Zanaco, FNB Zambia, and Stanbic Zambia—have each adopted aggressive digital expansion strategies that prioritize investments in mobile banking, internet banking, automated teller machines (ATMs), and agency banking networks. These channels have collectively allowed banks to deepen their market penetration, broaden customer acquisition, and serve previously unbanked and underserved populations, especially in rural and peri-urban regions were establishing and maintaining traditional brick-and-mortar branches would be economically unviable.

Zanaco's investment in alternative banking channels is particularly noteworthy. Its extensive deployment of agent banking outlets has enabled it to build one of the largest financial service networks in the country. Agent banking allows Zanaco to service customers at their communities, eliminating the need for long-distance travel to branches while simultaneously reducing the bank's fixed overhead costs. Moreover, Zanaco's mobile banking platform has become a key pillar in its digital strategy, enabling customers to conduct transactions remotely and conveniently, thereby enhancing customer satisfaction and driving transaction volumes.

FNB Zambia has similarly pursued a digital-first strategy anchored on mobile and internet banking platforms. This strategy leverages the growing penetration of mobile phones and internet access in Zambia to acquire and serve customers in both urban and rural areas without the need for extensive physical expansion. FNB's strong emphasis on digital innovation is consistent with global banking trends, where mobile apps, online banking portals, and real-time payment systems have become core components of customer service delivery models.

Stanbic Zambia, while maintaining its strong corporate and SME banking portfolio, has also integrated digital solutions into its personal banking offerings. The bank has invested heavily in internet banking and mobile banking platforms that allow individuals and businesses to access real-time financial services, process payments, and manage accounts without physically visiting bank branches. In parallel, Stanbic has expanded its ATM footprint and partnered with agency banking operators to extend its reach to non-traditional banking locations.

The rapid growth in ABC adoption across the sector reflects both technological progress and structural changes in Zambia's financial system. On one hand, the

increasing affordability of smartphones and expanding mobile network coverage have facilitated customer access to digital banking services. On the other hand, regulatory support from institutions such as the Bank of Zambia, through policies that promote financial inclusion and digital payments, has encouraged banks to invest confidently in alternative service channels.

The widespread adoption of ABCs observed in Zambia aligns with key financial theories. First, agency theory suggests that technological innovation helps minimize agency costs by reducing information asymmetries between financial institutions and their customers. Alternative banking channels facilitate transparency, enhance financial monitoring, and improve the availability of real-time information for both banks and customers. By minimizing agency conflicts, digital channels improve trust and efficiency in financial intermediation.

Secondly, these findings are consistent with the financial intermediation theory, which posits that financial institutions exist to reduce transaction costs and overcome market frictions that prevent the efficient allocation of capital. Alternative banking channels reduce transaction costs by offering low-cost, highly accessible banking services that allow clients to perform financial transactions remotely, eliminating the need for physical interactions that previously imposed higher costs and inconvenience on both banks and customers.

The growth of ABCs also advances the objectives of financial inclusion by bringing banking services to marginalized populations, women, youth, and informal sector participants who traditionally lacked access to formal financial institutions. By reducing physical, informational, and affordability barriers, digital and agent banking channels are playing a transformative role in Zambia’s financial sector, facilitating broader economic participation and social development.

5.2 Financial Impact of Alternative Banking Channels

The regression analysis presented in Chapter Four provides clear empirical confirmation that the adoption of alternative banking channels (ABCs) has a significant and positive impact on the financial performance of commercial banks in Zambia. The positive and statistically significant coefficients estimated for mobile banking, internet banking, ATMs, and agency banking reflect the critical role that

these delivery channels now play in the profitability and operational efficiency of the banking sector.

The econometric evidence shows that mobile banking exhibits one of the strongest marginal effects on profitability. This superior financial contribution can be attributed to several factors. First, mobile banking offers remarkable scalability, allowing banks to serve a broad customer base without corresponding increases in fixed infrastructure costs. Unlike traditional branches, which require substantial capital investment in real estate, physical security, staffing, and operations, mobile banking operates primarily through digital platforms that can be scaled rapidly and at relatively low marginal cost.

Moreover, mobile banking significantly reduces transaction costs for both banks and customers. Customers benefit from the convenience of conducting financial transactions such as deposits, withdrawals, transfers, bill payments, and airtime purchases directly from their mobile devices, eliminating the need to visit physical branches or ATMs. For banks, this translates into lower processing costs, improved liquidity management, and opportunities for cross-selling additional financial products such as microloans, savings plans, insurance products, and investment services directly through mobile platforms. The integration of mobile banking into broader financial ecosystems therefore supports revenue diversification and enhances banks' ability to deepen customer engagement.

Agency banking has similarly demonstrated a strong and positive impact on financial performance. By outsourcing certain financial services to trained third-party agents operating in local communities, banks have been able to achieve wide geographical coverage at a fraction of the cost associated with establishing formal branches. This decentralized service delivery model allows banks to penetrate rural and peri-urban markets where physical branches would be economically unsustainable. Agents perform a variety of functions, including cash deposits and withdrawals, account openings, bill payments, and even micro-lending services. The strategic deployment of agents thus enables banks to serve large numbers of previously unbanked individuals while simultaneously generating commission-based revenues, expanding deposit mobilization, and enhancing brand visibility across underserved regions.

Internet banking, while somewhat less pronounced in its direct profitability impact compared to mobile and agency banking, nonetheless contributes meaningfully to financial performance, particularly within corporate and high-net-worth individual segments. Internet banking platforms allow customers to access a wide range of services, including bulk payments, international transfers, balance inquiries, and investment management, all of which improve customer satisfaction, deepen institutional relationships, and contribute to non-interest income streams. Internet banking also allows for significant operational efficiencies by automating complex financial transactions that would otherwise require substantial human intervention.

ATMs remain an important alternative channel in Zambia's evolving banking sector, particularly for cash-based transactions. The regression analysis confirms that ATMs continue to support profitability by expanding self-service banking options, reducing congestion within branches, and improving transactional speed and convenience for customers. Although ATMs involve higher upfront investment costs relative to purely digital platforms, they still represent a critical part of the multi-channel strategy that balances customer preferences with operational efficiencies.

The empirical results derived from the regression analysis therefore support the theoretical proposition that alternative banking channels directly strengthen the financial sustainability of commercial banks. By simultaneously enhancing revenue generation and reducing costs, ABCs contribute to both improved profitability margins and more efficient resource allocation within banking institutions. This is consistent with both the financial intermediation theory, which emphasizes the role of financial institutions in reducing transaction costs, and the agency theory, which highlights how technological solutions can mitigate information asymmetries and improve monitoring within financial contracts.

In addition to their direct financial benefits, ABCs also contribute to long-term competitive advantage by fostering customer loyalty, promoting financial inclusion, and positioning banks as innovative and responsive service providers in an increasingly digital economy. In the context of Zambia's financial sector, where regulatory bodies such as the Bank of Zambia have actively promoted digital transformation as a pillar of financial inclusion policy, the expansion of alternative banking channels represents not only a commercial opportunity but also a contribution to broader socio-economic development objectives.

5.3 The Role of Institutional and Structural Factors

While the empirical analysis confirms that alternative banking channels (ABCs) have significantly contributed to the financial performance of commercial banks in Zambia, their full potential remains constrained by several persistent institutional and structural challenges. These factors continue to hinder the seamless adoption and widespread utilization of ABCs across all segments of the population.

One of the most fundamental barriers is the state of infrastructure, particularly in rural and peri-urban areas where large segments of the unbanked population reside. Access to stable electricity, reliable mobile networks, and high-speed internet connectivity remains limited in many parts of Zambia. Frequent power outages and unstable network coverage compromise the functionality of both mobile and internet banking services, leading to interrupted transactions, declined payments, and general unreliability in digital service delivery. In environments where service reliability is inconsistent, customers may lose trust in digital platforms and revert to traditional cash-based or informal financial mechanisms. This structural weakness directly undermines the inclusivity goals of alternative banking channels and creates spatial inequalities in access to financial services.

In addition to infrastructure, cybersecurity poses a rapidly growing threat to the expansion of digital financial services. As Zambia's banking sector accelerates its digital transformation, it simultaneously becomes more exposed to cyber threats such as hacking, phishing, identity theft, data breaches, and online fraud. Many digital platforms operate across multiple interfaces—mobile apps, internet portals, point-of-sale terminals, and third-party payment processors—which further expand the attack surface for potential security breaches. Cybercrime not only creates direct financial losses for both banks and consumers but also erodes public confidence in digital banking systems. In environments where trust is a prerequisite for digital adoption, cybersecurity incidents can generate significant reputational damage that stalls the growth of ABCs.

Financial literacy presents yet another critical institutional challenge. Although mobile penetration rates have grown substantially in Zambia, many individuals lack the requisite knowledge, skills, and confidence to engage safely and effectively with digital financial services. Basic tasks such as opening digital wallets, securing

personal identification numbers (PINs), understanding transaction fees, and recognizing fraudulent schemes remain significant hurdles for large portions of the population, particularly in rural areas, among women, and within informal sector workers. Without targeted financial education and digital skills training, these populations remain vulnerable to both exclusion and exploitation within digital ecosystems. Financial literacy gaps not only limit the depth of digital banking usage but also restrict cross-selling opportunities that could further improve banks' financial performance.

Regulatory capacity also plays a central role in shaping the pace and scale of ABC adoption. Zambia's financial regulatory framework, while generally supportive of financial inclusion, remains partially fragmented and at times lags behind the rapid evolution of digital financial innovations. Emerging fintech companies, digital payment service providers, and cryptocurrency platforms often operate within grey areas that lack comprehensive legal oversight. The absence of harmonized regulatory guidelines on issues such as digital identity, data privacy, interoperability, consumer protection, and cross-border digital payments creates uncertainty for banks, fintechs, and consumers alike. Moreover, delays in regulatory adaptation prevent the development of agile supervisory frameworks that can encourage responsible innovation while safeguarding financial system stability.

The challenges identified in this section reflect not only Zambia's context but also broader trends observed across many emerging economies navigating digital transformation in the banking sector. While technological advancements provide unprecedented opportunities for financial deepening, their success remains heavily dependent on complementary investments in infrastructure, institutional capacity, public education, cybersecurity frameworks, and responsive regulatory policies.

Addressing these institutional and structural challenges will be essential to fully unlocking the transformative potential of alternative banking channels in Zambia. Without such interventions, the benefits of digital financial inclusion may remain unevenly distributed, and banks may continue to face operational vulnerabilities that limit their long-term financial and strategic gains from ABC adoption.

CHAPTER SIX

6.CONCLUSIONS AND RECOMMENDATIONS

This chapter provides a synthesis of the research findings and presents conclusions that address the research objectives of the study. Based on these conclusions, policy, managerial, and scholarly recommendations are proposed to support the continued development and optimization of alternative banking channels (ABCs) in Zambia's commercial banking sector. The chapter also identifies gaps in knowledge and suggests possible areas for future academic inquiry.

6.1 Conclusions

The results of this study have clearly demonstrated that alternative banking channels serve as significant drivers of financial performance for commercial banks operating in Zambia. The adoption and expansion of mobile banking, agency banking, internet banking, and automated teller machines have enabled banks to extend their service outreach far beyond what was achievable through traditional branch-based models. This has allowed commercial banks to efficiently acquire new customers, deepen financial inclusion, and reduce the cost-to-income ratios that have historically challenged profitability in developing financial markets.

The regression analysis confirmed that there exists a statistically significant and positive relationship between ABC adoption and financial performance. Each of the disaggregated channels—mobile banking, agency banking, internet banking, and ATMs was found to contribute positively to net profits, with mobile banking exerting the strongest marginal influence. These findings are consistent with theoretical models of financial intermediation and agency cost reduction, which posit that technology-driven innovations can lower transaction costs, minimize information asymmetries, and increase operational efficiency.

However, the study also revealed that despite the progress made, several institutional and structural challenges continue to constrain the full realization of ABC potential in Zambia. Infrastructural deficits in network coverage, internet reliability, and stable electricity supply remain significant obstacles, particularly in rural areas where financial exclusion remains highest. Cybersecurity threats pose serious risks to both institutional stability and public trust in digital platforms. Financial literacy

gaps further restrict large segments of the population from confidently adopting and utilizing digital financial services. Finally, Zambia's regulatory frameworks are evolving but still lag behind the rapid pace of digital innovation, resulting in uncertainty for both banks and emerging fintech operators.

Collectively, the evidence presented in this study demonstrates that while ABCs have already delivered meaningful improvements in profitability and financial inclusion, their transformative potential will only be fully unlocked if these underlying institutional barriers are addressed through coordinated policy and investment efforts.

6.2 Recommendations

Investment in Digital Infrastructure

The full potential of alternative banking channels can only be realized if Zambia's digital infrastructure is significantly strengthened. The government, in collaboration with private sector players, must prioritize investments in expanding mobile network coverage, improving internet bandwidth, and enhancing electricity reliability, particularly in underserved rural areas. Such investments will not only enable broader financial inclusion but will also stimulate broader economic development by facilitating access to e-commerce, digital entrepreneurship, and remote employment opportunities.

Regulatory Reform and Policy Modernization

Regulatory authorities, including the Bank of Zambia and relevant legislative bodies, should move proactively to establish comprehensive, forward-looking legal frameworks that address emerging digital finance risks while fostering innovation. These frameworks should include clear guidelines on fintech integration, data protection and privacy, cybersecurity standards, consumer protection, anti-money laundering (AML) protocols, and cross-border digital transactions. Moreover, regulatory sandboxes may be employed to allow fintech startups and traditional banks to experiment safely with new technologies under supervised conditions, balancing innovation with systemic risk management.

Financial Literacy and Consumer Education

A national strategy for digital financial literacy must be implemented to equip all segments of the population with the knowledge and skills needed to participate safely and confidently in the digital financial ecosystem. Targeted programs should be developed for women, youth, rural communities, and small business owners, who often face unique challenges in navigating digital platforms. Public-private partnerships can play a critical role in delivering these programs through community centres, mobile outreach, media campaigns, and school curricula.

Strengthening Cybersecurity Capacity

As digital finance expands, so too does the risk of cyber-attacks, fraud, and financial crime. Banks must prioritize substantial investments in advanced cybersecurity infrastructure, fraud detection systems, and staff capacity building. Regulatory bodies should enforce robust cybersecurity standards and require banks to report security breaches transparently, allowing the sector to build shared learning around threat management. Enhanced cybersecurity will be critical not only for protecting institutional assets but also for maintaining customer confidence in digital banking platforms.

Cross-Sector Collaboration

The successful expansion of ABCs will require deeper collaboration between commercial banks, telecommunications companies, fintech firms, government agencies, and civil society organizations. Cross-sector partnerships can facilitate interoperability of payment systems, drive down transaction costs, foster innovation, and extend last-mile services to communities that are otherwise difficult to reach. Collaborative frameworks should also include shared data platforms to enhance credit scoring and lending to underserved populations while maintaining strong data privacy standards.

6.3 Suggestions for Future Research

While this study provides valuable insights into the relationship between alternative banking channels and financial performance in Zambia, several important areas remain open for further academic inquiry. Future research may consider

adopting longitudinal designs that extend over longer time horizons, preferably ten years or more. Such extended studies would allow scholars to capture the dynamic nature of alternative banking channel adoption, particularly observing how its financial and operational impacts evolve during different economic cycles, financial crises, regulatory reforms, and technological disruptions. Understanding these temporal variations would offer a more comprehensive assessment of the sustainability and resilience of ABC-driven strategies over time.

Comparative regional analyses could also enrich the existing knowledge base by investigating how the adoption and financial performance outcomes of alternative banking channels differ across countries within the Southern African Development Community (SADC) or across broader Sub-Saharan Africa. Such cross-border studies would provide insights into how variations in institutional frameworks, regulatory environments, market maturity, and socio-economic conditions shape the effectiveness of ABCs. This comparative perspective would help policymakers identify regional best practices and design contextually appropriate interventions.

In addition, future studies could benefit from micro-level impact assessments that explore the behavioural and welfare implications of ABC adoption among households and small and medium enterprises (SMEs). These studies could examine how the use of digital financial services influences savings behaviour, access to credit, business investment decisions, consumption patterns, and resilience to economic shocks. Such granular analyses would offer a deeper understanding of the mechanisms through which ABCs contribute to both financial inclusion and broader socio-economic development.

As Zambia’s fintech ecosystem continues to expand, there is also a growing need for research that explores the evolving relationships between traditional commercial banks and emerging fintech firms. Future research could investigate how these partnerships shape competition, service innovation, customer experience, and risk management within Zambia’s digital financial landscape. Such studies would be particularly valuable in informing balanced regulatory frameworks that promote innovation while safeguarding financial system stability.

Finally, future studies could explore the gender dynamics of alternative banking channel adoption. Given persistent gender disparities in financial inclusion, research

that investigates the unique barriers and enablers facing women in accessing and using digital financial services would help inform the design of gender-sensitive financial sector policies. Such work would be instrumental in promoting inclusive economic participation across all segments of society.

By extending research into these diverse areas, scholars, policymakers, and practitioners will be better equipped to design effective policies, innovative financial products, and regulatory strategies that fully leverage the transformative potential of digital financial services in Zambia and comparable emerging economies.

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