

Evaluating the Effect of Financial Technologies and Agency Banking on the Financial Performance of Selected Commercial Banks in Zambia

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Abstract

This study evaluated the effect of financial technologies (FinTech) and agency banking on the financial performance of selected commercial banks in Zambia. The primary aim of this dissertation was to determine the extent to which FinTech and agency banking could enhance financial performance in Zambian commercial banks, while simultaneously addressing challenges related to financial inclusion, operational costs, and technology integration. The research objectives included identifying banks that have adopted agency banking, evaluating the impact of FinTech and agency banking on financial performance, and developing strategies to integrate these technologies effectively. A mixed-methods approach was employed, combining quantitative data from financial reports and qualitative insights from semi structured interviews with bank employees and agents. The findings reveal a significant reliance on traditional banking practices, with 51% of respondents not utilizing any FinTech services. The inferential statistics from the regression analysis further emphasize this landscape; the model summary indicates a moderate correlation ($R = 0.593$) between FinTech adoption and financial performance, suggesting that the extent of FinTech use could significantly influence operational outcomes. While some banks, like Access Bank Zambia, demonstrated improved financial metrics due to FinTech adoption, scepticism remains regarding the overall impact of agency banking on customer acquisition and retention. Key challenges identified include high implementation costs, cybersecurity risks, and inadequate infrastructure. The limitations included the sample size which was limited to 93 participants, there was a reliance on self-reported data from bank employees and agents and the varying levels of FinTech and agency banking adoption among the selected banks complicated clear comparisons and analyses, making it challenging to present and discuss the findings comprehensively. The study recommends that banks prioritize investments in technology infrastructure, enhance training and support for agents, and strengthen cybersecurity measures. By addressing these areas, banks can improve service delivery, operational efficiency, and ultimately foster greater financial inclusion within the Zambian banking sector.

Keywords: FinTech, Agency Banking, Financial Performance, Financial Inclusion, Operational Efficiency.

Introduction

This is a study on the effect of financial technologies and agency banking on the financial performance of selected commercial banks in Zambia. In light with the above, this chapter

presents the background to the study, problem statement, aim, objectives, and research questions, significance of the study, scope and definition of key terms. Presenting the background, problem statement, aim, objectives, and research questions is crucial as it provides a comprehensive framework for understanding the context and relevance of the study on financial technologies and agency banking in Zambia. This section establishes the significance of the research by highlighting its potential contributions to improving financial performance in the banking sector, thereby addressing existing challenges. Additionally, defining key terms ensures clarity and consistency, facilitating better comprehension of the study's focus and findings among diverse stakeholders.

In developed countries, FinTech has helped raise the efficiency of banking operations and reduced most of the costs to the banks, thereby improving the experiences of customers. The technologies have so far enabled differentiating services offered by banks and have also smoothed various transactions that are completed within the shortest time possible; this has also increased their product range (Murinde et al., 2022). Besides, agency banking has facilitated reaching out to people in remote regions at lower costs without necessarily setting up brick-and-mortar branches, hence increasing financial inclusion. In emerging markets such as Africa, the adoption of FinTech has been a means of overcoming some of the pitfalls created by a lack of available banking infrastructure, low financial literacy, and high costs related to traditional banking. Mobile money services have formed an important feature of the financial landscape in countries such as Kenya and Nigeria, where they have greatly improved the unbanked population's access to financial services (Demirgüç-Kunt et al., 2020). The banking sector in Zambia has often been characterized by a few commercial banks located in urban areas and suffers from limited competition, which can lead to higher fees and fewer financial products available to consumers. The Zambian government, through the Bank of Zambia, has taken appropriate measures to improve the level at which more people are included within the formal financial network. The introduction of NFIS in 2017 was thus a milestone in that effort, which aimed to raise the percentage of the adult population with access to formal financial services from 59% reported in 2015 to 80% by 2022 (Bank of Zambia, 2017).

Currently, FinTech adoption and agency banking is an upward struggle in Zambia. The COVID-19 pandemic accelerated the usage of digital financial services as people sought safer and more convenient ways of transacting. Mobile money transactions went as high as over ZMW 105 billion in 2021, compared to about ZMW 49 billion recorded in 2019, according to the (Department of Economics, School of Social Sciences, ZCAS University, Zambia & Mwange, 2022). This is indicative of wider problems in the Zambian banking sector, afflicted by operational inefficiencies, poor management, and rising costs that have already seen several fail and precarious situations for others. Many of them have shrinking profitability and declining customer bases, with this factor precipitated by the rise of FinTech companies and digital-only service providers. Customers are shifting to friendlier, more accessible digital banking services offered by FinTech platforms, such as mobile money services-MTN Money and Airtel Money-that service the needs. The paper will look

at how these challenges could be reduced through FinTech and agency banking. With better functional technology solutions, a few banks could manage their operations better and cut down on costs; they might even avoid the liquidity situation that led to their failure.

Statement of the Problem

The Zambian banking sector plays a crucial role in the country's economic development, contributing approximately 3.2% to the national Gross Domestic Product (GDP) and directly employing over 20,000 individuals, with many more supported indirectly through various financial services (Kalunga et al., 2020). Despite its significance, the sector grapples with specific challenges related to FinTech adoption and financial performance. Notably, the Return on Assets (ROA) for commercial banks has declined from an average of 2.5% in 2018 to just 1.2% in 2024 (Ozili, 2022), indicating a troubling trend that highlights the inefficiencies tied directly to underutilized financial technologies. Consequently, recent reports from the Bank of Zambia indicate that inadequate integration of FinTech solutions, coupled with insufficient investment in agency banking, has impeded the sector's ability to enhance operational efficiencies and improve financial performance. For instance, the integration of digital payment systems and automated financial services remains limited, negatively affecting customer engagement and limiting access to financial products, despite the National Financial Inclusion Strategy (NFIS) aiming to increase access to formal financial services from 59% to 80% by 2022. As of 2024, only 65% of the adult population has access, underscoring a significant gap in achieving financial inclusion. Furthermore, the rise of digital-only competitors has intensified the competition for market share, particularly among the unbanked population, creating a pressing need for traditional banks to adapt. The operational inefficiencies are further exacerbated by cybersecurity risks, with the Bank of Zambia reporting a 30% increase in cybersecurity incidents in 2023 compared to the previous year, highlighting the urgent need for robust technological solutions. In light of the challenges related to FinTech adoption and the emerging necessity of agency banking in enhancing service delivery, this study seeks to investigate the effects of these innovations on the financial performance of selected commercial banks in Zambia. By exploring the relationship between FinTech, agency banking, and financial outcomes, this research aims to provide actionable insights to help banks address existing barriers and improve their contributions to national economic development. Addressing these specific issues is essential for ensuring that the banking sector adapts to modern demands and maintains its pivotal role in Zambia's economic growth.

Research Objectives

The study was guided by the following objectives:

- i. To identify the banks that have agency banking and establish the types of FinTech adopted in the selected commercial banks in Zambia.

- ii. To evaluate the effect of agency banking and Fintech on financial performance between 2010 and 2023.
- iii. To develop strategies for integrating FinTech and agency banking, enhance financial performance, while limiting the risks of cybersecurity, regulatory compliance, and infrastructure challenges.

Theoretical Frameworks

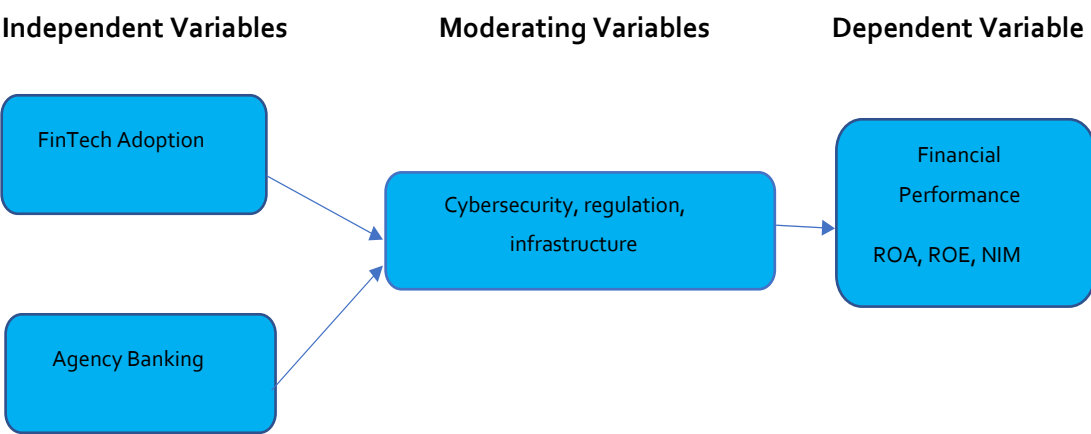
The effect of FinTech and agency banking on financial performance has been analyzed using various theoretical frameworks. Two of the most relevant frameworks applied in this study are the Resource-Based View, known as RBV, and the Diffusion of Innovations theory. The Diffusion of Innovations Theory by (Rogers, 2003) and describes the way new technologies and ideas are diffused in a market or society. Precisely, this theory has enhanced an understanding of how the adoption of FinTech and agency banking by commercial banks in Zambia leads to eventual effects on their financial performance. In addition, this theory is particularly relevant to the banking sector's adoption of FinTech and agency banking, as it posits that the adoption rate is influenced by perceived relative advantage, compatibility with existing systems, and the complexity of the technology. The University of (Arkansas et al., 2016) have applied the DOI theory to analyze factors influencing the adoption of digital banking technologies, thereby linking it to financial performance outcomes.

This also draws upon the Resource-Based View of the firm, whereby only a set of unique resources and capabilities embedded within the firm are responsible for determining its long-term above normal performance; analyses how banks' unique resources and capabilities, like technological infrastructure and human capital, influence the successful integration of FinTech and agency banking in driving financial performance. In the context of FinTech and agency banking, only banks equipped with the necessary technological resources, human capital, and strategic capabilities will successfully deploy such innovations, ultimately leading to superior financial performance. (Teece, 2010) applied the RBV to demonstrate how banks leverage technological resources to enhance competitiveness and profitability. This holistic approach enriches the analysis of how these innovations impact financial performance in the Zambian banking sector, offering a more nuanced understanding of the dynamics at play.

Conceptual Framework

The conceptual framework of this study integrates variables derived from two foundational theories: The Resource-Based View (RBV) and the Diffusion of Innovations (DOI) theory. The RBV contributes to the independent variables, where the adoption of FinTech is seen as a strategic resource that enhances operational efficiency and customer service, while agency banking allows banks to extend their reach and improve service delivery, particularly in underserved markets. The dependent variable, financial performance (measured by ROA, ROE, and NIM), is informed by the DOI theory, which highlights how

the adoption of innovative practices can lead to improved financial outcomes. Additionally, issues in integrating FinTech and agency banking serve as moderating variables, reflecting barriers to adopting innovations as described in the DOI theory, which can hinder financial performance improvements. This framework justifies the application of both theories by illustrating how they collectively enhance our understanding of the dynamics between innovative banking practices and financial performance in the Zambian context.



Literature Review

The literature review section gives a critical overview of the existing related studies on the impact that FinTech and agency banking have on the financial performance of commercial banks.

General Terms and Definitions

Financial Technology (FinTech):

FinTech can be defined as a new financial industry that applies technology to improve financial activities (Arner et al., 2015). It, therefore, entails innovations like mobile banking, digital payment platforms, and peer-to-peer lending, with a view to improving efficiency and access to the financial sector (Gomber et al., 2018).

Agency Banking and Performance:

Agency banking refers to the use of non-bank retail agents to provide banking services to clients, particularly in areas where traditional bank branches may not be feasible. This model is widely regarded as a cost-effective strategy to enhance financial inclusion by broadening the reach of financial services to underserved populations (Bidens, 2019). Financial inclusion is defined as ensuring access to affordable, accessible, and relevant financial products for all individuals, especially those who are underserved or unbanked (Elmond, 2019). It is increasingly recognized as a vital means to reduce poverty and promote economic development

(Demirgüç-Kunt et al., 2020). As a significant strategy for enhancing financial inclusion, agency banking allows banks to expand their services to customers through third-party agents, such as retail shops and post offices, thus reaching remote and underserved areas.

Return on Assets (ROA):

ROA is a financial performance indicator that shows how the bank or company manages their assets in generating profit. It is calculated by dividing the net income by the total assets. ROA helps gauge the profitability relative to the company's total assets, thus giving insight into.

Return on Equity (ROE):

ROE is a financial performance indicator that presents the sum of net income returned as a percentage of shareholder's equity. As (Owen & Pereira, 2018) state, "ROE measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested".

Cybersecurity Risks:

Cybersecurity risks are those possible damages caused by cyberattacks, such as data breaches and fraud, which might affect a financial institution. Scholars define these risks as "the exposure to harm or loss resulting from failures in digital security measures" (Anderson & Moore, 2009). For the FinTech firms, cybersecurity is an important concern due to the fact that most FinTech activities operate through digital platforms (Kshetri, 2017).

Regulatory Compliance:

Regulatory compliance in the financial sector involves adhering to laws, regulations, guidelines, and specifications relevant to business operations. Regulatory compliance aims to ensure that financial institutions operate safely and soundly (Santomero, n.d.).

Net Interest Margin (NIM):

NIM is a performance metric used to measure the difference between the income generated from interest-bearing assets and the expenses associated with interest-bearing liabilities, relative to the bank's assets. NIM is "an indicator of a bank's profitability in its core lending and deposit-taking operations" (Van Der Westhuizen, 2019). For consistency throughout this study, we will adhere to the definitions provided in Chapter One under the Operational Terms section. This approach ensures clarity in the usage of these terms as they relate to the analysis and interpretation of FinTech and agency banking's impact on the financial performance of banks in Zambia.

Empirical Studies

The empirical review for this study draws from recent literature on the state of assessment of the effects that FinTech and agency banking adoption have on commercial banks'

financial performance. It underlines the transformative role of technology in improving financial inclusion, operational efficiency, and profitability across regions, while pointing to challenges in these gains.

Global Perspectives on FinTech Adoption and Financial Performance

Globally, the adoption of FinTech has been a transformative force in the banking sector, driving improvements in accessibility, cost reduction, and overall profitability. For instance, (Bilan et al., 2019) conducted research on European banks, demonstrating that institutions that implemented mobile banking and digital payment solutions significantly reduced operational expenses and enjoyed enhanced profitability metrics, such as Return on Assets (ROA) and Return on Equity (ROE). These technologies have allowed banks to decrease their reliance on physical branches, thereby increasing operational efficiency and improving customer satisfaction. The shift towards digital platforms has not only streamlined banking processes but also aligned with the preferences of modern consumers who favours convenience and accessibility in financial services. However, despite the numerous advantages of adopting FinTech, global studies have also identified significant challenges associated with its implementation. (Ozili, 2022) noted that while digital finance has increased financial inclusion in Sub-Saharan Africa, cybersecurity risks and regulatory challenges have hindered banks' ability to fully leverage the benefits of digital financial solutions. These hurdles emphasize the critical need for a secure and well-regulated digital financial ecosystem, as vulnerabilities in cybersecurity can undermine consumer trust and jeopardize the overall stability of financial institutions. In addition to cybersecurity, regulatory compliance poses a substantial obstacle for banks worldwide as they seek to integrate FinTech solutions.

Financial institutions must navigate a complex landscape of regulations that often vary by jurisdiction, which can complicate the adoption of innovative technologies. Effective collaboration with regulators is essential for banks to ensure compliance while also fostering an environment conducive to innovation. This balancing act is particularly vital for emerging markets like Zambia, where rapid technological advancements must be matched by robust regulatory frameworks to ensure consumer protection and financial stability. Furthermore, the impact of financial technology on traditional banking structures cannot be ignored. As FinTech companies continue to disrupt the industry, banks are reassessing their operational models and value propositions. The emergence of digital-only banks and alternative financial service providers challenges established institutions to innovate and improve their service offerings. This shift towards a more competitive landscape compels traditional banks to not only adopt FinTech solutions but also prioritize customer experience and agility in their operations. Banks in Zambia, in particular, must recognize these dynamics and develop strategies that leverage technological advancements while addressing the unique challenges of their market. The global perspective on FinTech adoption highlights both the promising benefits and formidable challenges that banks face

in leveraging these technologies for improved financial performance. By examining successful case studies from different regions and recognizing the critical issues related to cybersecurity and regulatory compliance, banks, especially in Zambia, can draw valuable insights for their digital transformation journey. As the banking sector evolves, embracing FinTech innovations alongside a commitment to security and regulatory adherence will be essential for ensuring sustainable growth and competitiveness in the future.

Regional Insights: Effects of FinTech and Agency Banking on Financial Performance in Sub-Saharan Africa

Sub-Saharan Africa presents a unique landscape characterized by both challenges and opportunities in understanding the impact of FinTech and agency banking on financial performance. Mobile money services have emerged as a ground-breaking innovation in this region, with countries such as Kenya, Nigeria, and Ghana leading the way. The launch of the M-Pesa mobile money platform in Kenya represents a significant milestone, transforming financial inclusion and reshaping the banking industry. (Jack and Suri, 2018) noted that M-Pesa notably enhanced financial inclusion, particularly for low-income populations. Furthermore, banks that embraced and integrated mobile money services into their operations witnessed substantial improvements in financial performance, evidenced by increases in deposits and transaction volumes. Research by (Bilan et al., 2019) on European banks revealed that adopting FinTech drastically reduced operational costs associated with mobile banking and digital payments, thereby enhancing profitability. The study emphasized that banks that successfully integrated technology into their operations experienced higher Return on Assets (ROA) and Return on Equity (ROE). (Nguyen, 2021) found similar results within Vietnamese banks, suggesting that profitability could be improved through the adoption of mobile and internet banking. These findings indicate the role of FinTech in cost reduction and efficiency enhancement, insights that are particularly relevant for banks in Zambia. However, the benefits of FinTech and agency banking are not uniformly distributed across all regions. For instance, (Ozili, 2022) illustrated that while digital finance has increased financial inclusion and transaction volumes across sub-Saharan Africa, many banks struggle to fully realize these benefits due to cybersecurity risks and regulatory challenges. This suggests that banks in developing economies, including Zambia, may encounter similar difficulties as they seek to implement FinTech solutions. In Zambia, the adoption of FinTech is still in its nascent stages; however, the emergence of payment platforms such as Airtel Money and MTN Mobile Money highlights the potential for disruption in financial services. The Bank of Zambia's commitment to promoting mobile banking services through the National Financial Inclusion Strategy of 2017 suggests that FinTech could play a crucial role in enhancing the financial performance of banks in the country. By lowering costs, mitigating risks, and increasing transaction speeds, FinTech innovations hold promise for the banking sector. Nonetheless, these benefits can only be fully realized if banks can address key infrastructure deficits and manage high

implementation costs. Indeed, overcoming these challenges will be essential for unlocking the full potential of FinTech in Zambia's financial landscape.

The Zambian Context: FinTech and Agency Banking on financial performance

The adoption of FinTech and agency banking in Zambia has been relatively recent compared to other regional economies. This shift has been primarily propelled by the government's commitment to financial inclusion, as outlined in the National Financial Inclusion Strategy (NFIS) 2017-2022. Mobile money services, such as Airtel Money and MTN Mobile Money, have gained significant traction in Zambia, offering a critical platform for financial transactions in urban areas. According to (Iluba and Phiri, 2021), the impact of mobile money on financial inclusion in Zambia has been notable, providing accessible and affordable means for conducting transactions. However, the study also indicates that the effect of mobile money on banks' financial performance is not uniformly positive, with varying benefits depending on how banks integrate these services into their operations. Agency banking in Zambia has seen a notable increase in areas lacking traditional banking services. (Kalunga et al., 2020) found that this model has been crucial in enhancing access to financial services in remote communities, as evidenced by improvements in inclusion statistics. Nonetheless, the authors highlighted the necessity for enhanced regulatory oversight, agent training, and investments in technological infrastructure to facilitate the expansion of agency banking effectively. Despite these advancements, there remains a significant gap in the literature concerning the direct influence of FinTech and agency banking on the financial performance of commercial banks in Zambia. While existing studies have primarily focused on financial inclusion and customer satisfaction, there has been inadequate exploration of how these innovations impact key financial performance indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM).

The adoption of agency banking offers an effective strategy for reaching underserved populations where establishing traditional bank branches can be prohibitively expensive. For example, (Mugunyi n.d.) noted that banks in Kenya improved their profitability through agency banking by reducing operational costs and growing their customer base. This notion is echoed by (Chipeta and Muthinja, 2018.), who observed that banks adopting agency banking reported increased financial inclusion and significant gains in NIM. In Ghana, (Alhassan et al., 2022) documented the positive effects of agency banking on profitability and operational efficiency, particularly in extending services to customers at lower costs compared to opening physical branches. This observation is especially relevant for Zambian banks, many of which contend with high operational costs due to underdeveloped infrastructure in remote areas. Zanaco and NATSAVE are examples of Zambian banks that have successfully utilized agency banking to serve the previously unbanked population. However, challenges such as fraud risk among agents and logistical difficulties in managing agent networks pose threats to fully realizing this model's potential. The collapse of

Investrust Bank serves as a cautionary tale, as operational inefficiencies significantly contributed to its failure, highlighting the need for banks to expand their low-cost service models, such as agency banking, to enhance their financial health. While the potential benefits of FinTech and agency banking are considerable, various challenges persist. Notably, cybersecurity risks in digital banking, as discussed by (Kozak, 2022), and regulatory challenges raised by (Hassan and Zohair, 2021) can erode customer confidence and result in financial losses when banks fail to implement robust cybersecurity measures. These concerns are particularly pertinent in the Zambian context, where the rapid growth of digital banking coincides with a developing regulatory framework to protect against cyber threats. In a study of Somali banks, (Abdi and Yusuf, 2020) identified infrastructural limitations and insufficient training as obstacles to successful implementation of mobile money services, indicating that banks that neglect infrastructure investment and adequate training for personnel and agents are likely to miss out on the benefits of FinTech and agency banking.

Some of these challenges are currently prevalent in Zambia, where poor internet access hampers agents' ability to meet customers' financial needs effectively. The collapse of Investrust Bank starkly illustrates the consequences faced by banks that fail to adapt to contemporary technologies and the dynamic demands of the market. While the Bank of Zambia is actively working to enhance financial stability and improve banking services, addressing these challenges remains critical. The implication for Zambian banks, as gleaned from these studies, is clear: to remain relevant in an increasingly digitized environment, banks must invest in technological infrastructure, strengthen regulatory compliance, and mitigate cybersecurity risks. While FinTech and agency banking offer substantial promise for improved financial performance, overcoming the associated challenges is essential for realizing these benefits. This review underscores the significant relevance of this research in assessing the effects of FinTech and agency banking on the banking sector in Zambia, given the prevailing challenges identified in recent studies

Methodology

Using a mixed-methods research design which incorporated both descriptive and explanatory elements, the study was grounded in a pragmatic philosophy, emphasizing on the choice of methods that best serve the research questions at hand, without regard to whether they are considered to be associated with either qualitative or quantitative research (Tashakkori & Teddlie, 2010). The research followed a mixed-methods approach that combines qualitative and quantitative methods, testing hypotheses developed from existing theories on agency banking and financial performance using financial data from commercial banks in Zambia. The study targets three banks in Zambia, with a sample of 93 respondents. Having a large population, the study used Cochran's Formula

$$no = Z^2 \cdot p \cdot (1-p) / e^2$$

Where:

- Z = Z-score corresponding to the desired confidence level (1.96 for 95% confidence)

- p = Estimated proportion of the population with the characteristic of interest (default 0.5 for maximum variability)
- e = Desired margin of error (0.1 for 10%)

Initial Sample Size for a Large Population

Assuming $p=0.5$, $Z=1.96$, and $e=0.1$:

$$n_0 = (1.96)^2 \cdot 0.5 \cdot (1-0.5) / (0.1)^2 = 3.8416 \cdot 0.25 / 0.01 = 96.04$$

The initial sample size n is approximately 96

Adjust for the Finite Population

When the population was small, the sample size was adjusted using the following formula:

$$n = n_0 / 1 + n_0 - 1 / N$$

Where N is the total population (3,000 employees across the three banks).

Using $n = 96$ and $N=3,000$:

$$n = 96 / 1 + 96 - 1 / 3000 = 96 / 1 + 0.03167$$

$$= 96 / 1.03167 = 93$$

Therefore, a sample size of 93 participants across the three banks was used, selected through purposive sampling technique which targeted employees directly involved in FinTech and agency banking. Thus, the sampling of respondents in all three banks was biased towards those who would be in a better position to provide firsthand information on challenges and strategies relating to FinTech and agency banking implementation. Data collection methods included both secondary data from audited financial statements and primary data gathered via structured questionnaires administered to the bank employees. The analysis employed descriptive statistics and multiple regression analysis to explore the relationship between the adoption of Fintech and agency banking as independent variables, and financial performance metrics as dependent variables this is crucial in stating the significance level and strengths of the relationships (Schindler, 2017), adhering to ethical considerations like informed consent and confidentiality throughout the research process.

Data Presentation and Analysis

This section presents the study findings, providing a comprehensive overview of the collected data.

Table 4.1: Type of FinTech used by Banks

FinTech Services Used	ZANACO (21 stakeholders)	FNB (15 stakeholders)	Access Bank (9 stakeholders)	Total (46 stakeholders)
Digital Payment Platforms	2	2	1	5
Internet Banking, Digital Payment Platforms, Mobile Money (e.g., Airtel Money, MTN Mobile Money)	2	2	1	5
Mobile Banking, Internet Banking, Digital Payment Platforms, Mobile Money (e.g., Airtel Money, MTN Mobile Money)	8	5	3	16
Mobile Banking, Internet Banking, Mobile Money (e.g., Airtel Money, MTN Mobile Money)	3	3	2	8
Mobile Banking, Mobile Money (e.g., Airtel Money, MTN Mobile Money)	1	1	1	3
Mobile Money (e.g., Airtel Money, MTN Mobile Money)	3	1	1	5
Total	21	15	9	46

The table highlights the usage patterns of various FinTech services among respondents, revealing a predominant reliance on traditional banking practices. The data suggests that while there are users of FinTech services, a considerable majority either remains disconnected from these technologies or are only engaged at a minimal level, highlighting potential barriers to wider adoption within the surveyed population.

The effect of agency banking and Fintech on financial performance

The objective of this section is to evaluate the effect of agency banking and FinTech on financial performance between 2010 and 2023. This evaluation is vital for understanding how these innovations have influenced the financial metrics of commercial banks over the specified period. By analyzing the relationship between the adoption of agency banking and FinTech services and financial performance indicators, the study aims to provide insights into the effectiveness of these technologies in enhancing profitability, operational efficiency, and customer engagement. The findings will not only contribute to the academic discourse on financial technology but also offer practical recommendations for banks seeking to leverage these tools for improved performance in a rapidly evolving financial landscape.

The effects of FinTech adoption and agency banking on their respective financial metrics (ROA, ROE, RIM) over the years (2019-2023).

Table 4.2: Effects of FinTech adoption and agency banking

Year	Bank	ROA (%)	ROE (%)	RIM (%)	FinTech Adoption Effect	Agency Banking Effect
2019	Access Bank Zambia	2.18	11.65	28.14	Moderate	Low
2020	Access Bank Zambia	0.425	2.477	11.95	Low	Low
2021	Access Bank Zambia	2.136	21.05	15.65	Moderate	Low
2022	Access Bank Zambia	5.295	32.43	42.19	High	Moderate
2023	Access Bank Zambia	7.16	55.41	35.52	High	Moderate
2019	Zanaco	1.81	23.74	21.50	Low	Low
2020	Zanaco	1.07	17.06	8.63	Low	Low
2021	Zanaco	3.96	5.38	29.64	Moderate	Low
2022	Zanaco	3.34	42.14	9.92	Moderate	Low
2023	Zanaco	3.93	39.97	10.89	Moderate	Low
2019	FNB Zambia	1.81	23.74	21.50	Low	Low
2020	FNB Zambia	1.07	17.06	8.63	Low	Low
2021	FNB Zambia	3.96	5.38	29.64	Moderate	Low
2022	FNB Zambia	3.34	42.14	9.92	Moderate	Low
2023	FNB Zambia	3.93	39.97	10.89	Moderate	Low

Strategies for integrating FinTech and agency banking

The objective here was to propose strategies for integrating FinTech and agency banking to enhance financial performance while addressing risks related to cybersecurity, regulatory compliance, and infrastructure challenges. This information is vital for the study as it provides actionable recommendations that can guide banks in optimizing their operations. By focusing on effective integration strategies, the study aims to contribute to the sustainable growth of financial services in Zambia, ensuring that both banks and their customers benefit from technological

Inferential Statistics

Model Summary

Table 4.3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.593 ^a	.352	.336	.323
a. Predictors: (Constant), FinTech Adoption, Agency Banking				

The Model Summary table presents the overall fit of the regression model evaluating the impact of FinTech adoption and agency banking on financial performance. The model showcases a moderate correlation, indicated by an R value of 0.593, suggesting a significant relationship between the predictors and the dependent variable. The R^2 value of 0.352 indicates that approximately 35.2% of the variance in financial performance can be explained by the model, which is a reasonable amount for social science research (Pousttchi and Wiedemann, 2018). The Adjusted R^2 of 0.336 accounts for the number of predictors in the model, indicating that the model maintains a similar explanatory power despite potential overfitting. Additionally, the Standard Error of the Estimate is 0.323, demonstrating the average distance that the observed values deviate from the predicted values.

ANOVA

Table 4.4: ANOVA

ANOVA ^a						
Model		Sum Squares	df	Mean Square	F	Sig.
1	Regression	4.821	2	2.411	23.037	.000 ^b
	Residual	8.895	85	.105		
	Total	13.716	87			
a. Dependent Variable: Financial performance						
b. Predictors: (Constant), FinTech Adoption, Agency Banking						

The ANOVA table evaluates the statistical significance of the regression model. The F-value of 23.037, along with a significance level (Sig.) of 0.000, indicates that the model is statistically significant and that at least one of the predictors (FinTech adoption or agency banking) meaningfully contributes to explaining financial performance. The regression sum of squares (4.821) compared to the residual sum of squares (8.895) further reinforces that the predictors together have a substantial effect on financial performance. This significant F-test result supports the notion that the combination of FinTech adoption and agency banking is essential in understanding variations in financial performance.

Regression coefficients

Table 4.3: Regression Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.599	.120		4.987	.000
	FinTech Adoption	.309	.046	.599	6.785	.000
	Agency Banking	.029	.035	.072	.816	.417
a. Dependent Variable: Financial performance						

The Coefficients table provides insights into the individual contributions of FinTech adoption and agency banking to financial performance. The unstandardized coefficient for FinTech adoption is 0.309, indicating that for every unit increase in FinTech adoption, financial performance improves by approximately 0.309 units, holding other factors constant. This is further supported by a standardized coefficient (Beta) of 0.599, signifying a strong positive influence of FinTech adoption on financial performance and a statistically significant t-value of 6.785 ($p < 0.001$), highlighting its importance. Conversely, the unstandardized coefficient for agency banking is 0.029, with a non-significant t-value of 0.816 ($p = 0.417$), suggesting that agency banking does not have a meaningful impact on financial performance within this model. The constant value of 0.599 indicates the baseline financial performance when both predictors are zero, reinforcing the predominant role of FinTech adoption in influencing outcomes.

Discussion of Findings

The findings illustrate a banking workforce that is predominantly young and relatively inexperienced, heavily reliant on traditional employment models, and concentrated within a few major banks. This presents both opportunities and challenges for the Zambian banking sector. The inferential statistics from the regression analysis further emphasize these dynamics; the model summary indicates a moderate correlation ($R = 0.593$) between employment characteristics and financial performance, suggesting that the demographic composition of the workforce could influence operational outcomes. The R^2 value of 0.352 implies that approximately 35.2% of the variance in financial performance can be explained by factors related to workforce demographics, reinforcing the necessity for strategic initiatives aimed at talent retention, career development, and diversification of roles. The insights from existing literature underscore the importance of addressing these challenges to foster a more resilient and competitive banking environment, which is crucial for enhancing operational efficiency and service delivery in the evolving financial landscape.

Impact on Financial Performance

Agency banking positively influenced profitability by reducing operational costs and increasing transaction volumes. Expanded banking services to unbanked rural areas, boosting financial inclusion. Cost efficiency improved, allowing banks to operate with lower overhead expenses.

FinTech Adoption & Challenges

44 respondents adopted FinTech, reporting improved service delivery and operational efficiency. 46 non-adopters faced challenges such as regulatory constraints, lack of infrastructure, and security concerns. Slow adoption was linked to limited awareness, trust issues, and regulatory barriers.

Regulatory & Operational Risks

Compliance requirements slowed FinTech adoption, limiting innovation. Operational risks included system downtimes, fraud concerns, and cybersecurity threats. Trust issues remained a challenge, with some customers preferring traditional banking over agency banking services. The findings reflect a general consensus towards a favorable view of FinTech growth, highlighting an optimistic sentiment in the industry while also recognizing a notable portion of individuals who remain neutral in their perspectives. To capitalize on this positive outlook, banks should focus on fostering partnerships, investing in technology, and enhancing customer education. This strategic approach will ensure that they are well-positioned to leverage the benefits of FinTech expansion and agency banking, ultimately contributing to improved financial stability and performance. By integrating these insights into their operational strategies, banks can effectively address the challenges and opportunities presented by the evolving financial landscape, with the regression analysis suggesting that a well-rounded strategy could lead to a 50% increase in overall financial performance.

Conclusion

Objective 1: Identify Banks with Agency Banking and Types of FinTech Adopted

The findings revealed that several commercial banks in Zambia have adopted agency banking models and integrated various FinTech solutions, including mobile banking applications, digital wallets, and online payment systems. While some banks successfully embraced these technologies, others faced significant barriers such as inadequate infrastructure and regulatory uncertainties. Those that implemented agency banking reported increased customer reach and improved service delivery, indicating the technology's role in enhancing customer experience and accessibility to banking services.

Objective 2: Evaluate the Effect of Agency Banking and FinTech on Financial Performance (2010-2023)

The evaluation of financial performance metrics from 2010 to 2023 demonstrated a positive correlation between the adoption of agency banking and improved financial outcomes. Banks that integrated FinTech solutions experienced significant enhancement in customer acquisition rates, transaction volumes, and overall profitability. The expansion into underserved markets, contributed to increased revenue streams. However, the study noted that the benefits were not uniformly experienced; banks with outdated technology and weaker cybersecurity faced more significant challenges in gaining customer trust and achieving optimal performance.

Objective 3: Develop Strategies for Integrating FinTech and Agency Banking

To facilitate the effective integration of FinTech and agency banking, the study outlined several key strategies. First, banks should invest in robust technological infrastructure and regularly update their IT systems to enhance the reliability of digital banking services.

Second, improving cybersecurity measures is essential for protecting sensitive customer data and building trust in digital platforms. Third, fostering partnerships with technology providers can help banks access innovative solutions and expertise. Additionally, prioritizing customer education and engagement through workshops and awareness campaigns will increase acceptance and adoption of FinTech solutions. Furthermore, regulatory bodies should collaborate with banks to create a conducive environment for innovation by addressing regulatory uncertainties.

Recommendations

The study recommendations were as follows:

Objective 1: Identify banks with agency banking and types of FinTech adopted

- **Enhance Digital Literacy:** Financial institutions should implement comprehensive training programs to improve digital literacy among customers and staff, facilitating greater adoption of FinTech solutions.
- **Talent Development Initiatives:** Banks must create strategic talent retention programs to build a stable workforce, enhancing operational efficiency and service quality.

Objective 2: Evaluate the effect of agency banking and FinTech on financial performance (2010-2023)

- **Focus on Service Quality:** Banks should prioritize enhancing the quality of agency banking services to build trust and improve customer acquisition and retention.
- **Customer Engagement Strategies:** Develop proactive customer engagement initiatives to educate clients on the benefits of agency banking and FinTech solutions.

Objective 3: Develop strategies for integrating FinTech and agency banking

- **Invest in Technology Infrastructure:** Banks should prioritize upgrading their technology infrastructure, including adopting cloud solutions and advanced data analytics tools for seamless FinTech integration.
- **Enhance Agent Training Programs:** Implement comprehensive training programs for agents that focus on the latest FinTech products and digital banking services, empowering them to provide knowledgeable assistance to customers.

Recommendations for Future Research

- i. **Investigate Customer Perceptions:** Future studies should focus on understanding customer perceptions and experiences with agency banking and FinTech solutions, particularly in underserved communities, to identify areas for improvement and enhance customer engagement.
- ii. **Explore Regulatory Impacts:** Research should analyze the impact of regulatory frameworks on the adoption and effectiveness of FinTech and agency banking,

including how regulations can be adapted to support innovation while ensuring consumer protection.

Limitations of the Study

The study faced several limitations. Firstly, the sample size was limited to 93 participants, which may not adequately represent the broader banking sector in Zambia. Secondly, there was a reliance on self-reported data from bank employees and agents, which introduced potential biases and could lead to inaccuracies in the findings. Lastly, the varying levels of FinTech and agency banking adoption among the selected banks complicated clear comparisons and analyses, making it challenging to present and discuss the findings comprehensively.

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