

The Impact of Digital Transformation on Botswana's Banking Strategies

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Abstract

Botswana's banking industry is being reshaped by the fast growth of digital technology with financial institutions using mobile banking, artificial intelligence (AI), blockchain, and fintech partnerships to improve efficiency, customer experience, and financial inclusion. Using secondary data from academic literature, government publications, and case studies of significant banks—including FNB Botswana, Absa Botswana, Stanbic Bank Botswana, and Bank Gaborone—this study investigates how digital transformation affects banking strategy in Botswana. Grounded on the Resource-Based View (RBV) and Dynamic Capability Theory (DCT), the research investigates how banks use digital assets and constantly change with regard to technology and regulations. Results point to blockchain-based transactions, digital lending platforms, and AI-driven fraud detection enhancing financial service delivery. Key issues still exist, however, including cybersecurity concerns, regulatory loopholes, poor financial literacy, and little presence of rural banks. Comparative analysis of Kenya, Nigeria, and South Africa's best practices—clear fintech rules, open financial systems, and AI-enhanced fraud prevention—showcases what Botswana may learn. This study highlights the necessity of further empirical studies using primary data and helps to add to the little body of knowledge on digital banking in Botswana. To guarantee a safe, inclusive, and competitive digital banking environment in Botswana, it advises improving cybersecurity infrastructure, boosting regulatory clarity, supporting fintech alliances, and growing financial literacy campaigns.

Keywords

Digital Banking, Financial Development, Banking Strategies, Digital Transformation, Fintech, Cybersecurity, Botswana, AI, Mobile Banking, Financial Inclusion

1. Introduction

The banking industry has dramatically changed in recent years due to persistent changes in digital technologies. This change has transformed how financial institutions operate, communicate and make strategic decisions (Osei et al., 2023). The causes of these changes can be linked to several variables, such as technological advancements, changing consumer tastes, regulatory changes and competition (Diener & Spacek, 2021). The exponential growth of mobile and online banking has been the key driver of this shift. Customers nowadays prefer easy, efficient and personal banking services available at their fingertips (Komulainen & Makkonen, 2018). Banks have, therefore, had to adapt to the digital changes and rethink their strategies and operations to remain relevant and competitive in a fast-changing world.

Digital transformation in banking comprises many initiatives, such as mobile banking apps, artificial intelligence (AI), and machine learning algorithms (Bandyopadhyay & Mukerjee, 2024; Chandani & Bhatia, 2024). The technology improvements have helped banks gain insights into client behaviour, preferences and support in strategic decision-making (Diener & Spacek, 2021). Additionally, COVID-19 accelerated the adoption of digital banking solutions, forcing clients to use the Internet to meet their financial needs (Deloitte, 2020). Banks adapted to strengthen the digital infrastructure, expanding their online offerings and improving cybersecurity procedures to improve client data security (Shehadeh & Hussainey, 2025).

Various studies have shown the impact of these technologies on the banking industry in other countries (Diener & Spacek, 2021; Meena & Parimalarani, 2020; Do et al., 2022). Botswana's banking sector is experiencing this shift with first national bank (FNB), Absa Botswana, and Stanbic Bank investing in Mobile banking platforms, AI driven services and enhanced cybersecurity measures. However, despite these advancements, rural financial exclusion, cybersecurity concerns and regulatory challenges remain. This study therefore aims to analyse how digital transformation is shaping banking strategies in Botswana, identify key technologies influencing banking operations and examine challenges and opportunities associated with digital banking adoption.

2. Literature Review

The banking business has seen a drastic increase worldwide due to digital technologies. Banks in the twenty-first century have abandoned traditional brick-and-mortar models in favour of digital channels and tools (Bongomin et al., 2020). This change results from shifting consumer tastes, competitive pressures, and opportunities provided by technological improvements. The adoption of digital technologies by banks is highlighted in research in this field, including the development of mobile banking applications, online banking platforms, AI-powered customer care, and novel products such as mobile wallets and robo-advisory ser-

vices (Lee, 2018; Capgemini, 2021). The rate of digital transformation in banking has accelerated further, partly due to the COVID-19 epidemic, which drove banks to improve their digital products to suit customers' needs.

2.1. Digital Banking Strategies: Global Views

Financial Institutions use big data analytics, blockchain, and artificial intelligence (AI) to increase operational efficiency and customer participation in digital banking. Currently, AI and predictive analytics are driven by chatbot customer service. These digital platforms reduce human participation at the same time as raising the accuracy of financial advice (Adams et al., 2024; Shehadeh & Hussainey, 2025). Acceptance of blockchain technology in trade finance and cross-border payments indicates that it is also steadily being included in financial systems, hence boosting transaction security and openness (Tong & Yang, 2025). Digital wallets and mobile banking applications are altering how banks interact with customers, particularly in countries with high rates of mobile penetration. Countries such as China, the UK and the US have started to migrate towards digital-only banking named Neobanks such as Monzo, Revolut, and Chime (Iorio & Segnana, 2024). On the other side mobile banking have succeeded in reaching the unbanked in emerging markets particularly Africa, leverage mobile money services like M-Pesa in Kenya (Mutinda & Aluoch, 2025). As more Fintech ties grow with traditional banks, the digital lending and automated investment advice services will transform the financial landscape (Hossain et al., 2022). To guarantee continuous digital transformation banks must be able to control cybersecurity, legislative changes and digital literacy gaps.

2.2. Comparative Analysis of Digital Banking in Africa: Lessons for Botswana

The adoption of digital banking has changed a lot among African countries owing to variances in legislative frameworks, financial inclusion policies, technology improvements, and consumer confidence in digital financial services. Botswana's digital banking transition is still in its early phases, and although progress has been achieved, the nation behind regional leaders like Kenya, Nigeria, and South Africa. These countries have effectively adopted fintech-driven banking solutions, strong cybersecurity frameworks, and regulatory policies that promote financial inclusion via digital platforms (Meniago, 2025; Gwala & Mashau, 2024). However, Botswana's ability to duplicate these models is dependent on its technology preparedness, regulatory environment, and consumer acceptance rates.

A comparative examination of these nations reveals practices and indicates obstacles Botswana may encounter in adopting comparable tactics. **Table 1** below assesses important factors such as mobile banking penetration, regulatory frameworks, fintech uptake, and cybersecurity measures, emphasising lessons Botswana may use to improve its banking sector's digital transformation.

Table 1. Digital banking indicators across selected african markets.

Indicator	Botswana	Kenya	Nigeria	South Africa	Implications for Botswana
Mobile Banking Adoption (%)	54% (2023)	89% (2023)	76% (2023)	81% (2023)	Botswana needs to invest in mobile financial literacy programs and improve rural smartphone penetration (Chiguvi et al., 2025).
Percentage of Unbanked Population (%)	38% (2023)	18% (2023)	31% (2023)	24% (2023)	Kenya has reduced financial exclusion significantly through M-Pesa and fintech-friendly policies (Meniago, 2025). Botswana could expand
Major Mobile Money Platforms	MyZaka, Orange Money	M-Pesa (Safaricom)	Paga, Opay, Flutterwave	MTN MoMo, FNB eWallet	interoperability between banks and fintechs to improve reach (Agbataekwe-Richmond, 2025).
Biometric Authentication for Banking	Limited adoption	Used for ID verification	Used for KYC processes	Used for fraud prevention	Botswana must accelerate biometric verification to improve security (Gwala & Mashau, 2024).
Regulatory Framework for Fintech	Weak fintech regulations	Fintech-friendly policies & regulatory sandbox	Strong fintech regulatory environment	Strict regulations under POPIA	Botswana must develop clear fintech and open banking policies to encourage investment (World Bank, 2020).
Cybersecurity Framework	Limited cybersecurity laws	Cybercrime laws but weak enforcement	Active cybersecurity policies & anti-fraud tech	AI-driven fraud prevention (POPIA)	Stronger cybersecurity laws are needed to protect digital banking users (Mkwizu & Monametsi, 2021).

2.2.1. Comparing Digital Banking Adoption in Botswana, Kenya, Nigeria, and South Africa

Mobile banking has been a key driver of financial inclusion in Africa, with Kenya and Nigeria emerging as fintech centres, while South Africa is a leader in biometric security adoption and fraud prevention. Botswana, on the other hand, is dealing with infrastructure and regulatory issues that have hindered the rate of digital transformation ([Agbataekwe-Richmond, 2025](#)). **Table 1** compares digital

banking adoption rates and financial inclusion initiatives across the four nations.

2.2.2. Regulatory Frameworks and FinTech Ecosystem Development

Regulatory regulations play a significant role in defining Africa's digital banking sector. Kenya, Nigeria, and South Africa have established progressive fintech rules, allowing digital lending, peer-to-peer transactions, and open banking partnerships to prosper as shown in **Table 2**. Botswana, on the other hand, lacks clear regulatory frameworks for fintech cooperation, stifling innovation and slowing the expansion of mobile banking and digital financial services (Ajibade & Mutula, 2020).

Table 2. Regulatory and cybersecurity frameworks in Botswana vs. leading African markets.

Regulatory Factor	Botswana	Kenya	Nigeria	South Africa	Implications for Botswana
Open Banking Regulations	Not established	Established	Well-developed	Strict but open APIs allowed	Botswana should establish open banking frameworks to enable fintech-bank integration (Meniago, 2025).
Consumer Data Protection Law	No strong enforcement	Moderate	Strong (CBN Guidelines)	Strict under POPIA	Botswana must strengthen data protection laws to enhance digital banking trust (Gwala & Mashau, 2024).
Regulatory Sandbox for Fintech Startups	No official sandbox	Active sandbox for fintechs	CBN regulatory sandbox	Financial Sector Conduct Authority (FSCA) sandbox	Botswana should implement a fintech sandbox to encourage innovation while ensuring compliance (Mkwizu & Monametsi, 2021).
Cybersecurity Legislation for Banking	Weak cybersecurity laws	Cybercrime laws in place but weak enforcement	Strong cybersecurity policies with penalties	Advanced cybersecurity with AI-driven fraud detection	Botswana must implement stricter cybersecurity policies to prevent fraud and phishing (World Bank, 2020).

The In Kenya, the Central Bank of Kenya (CBK) has aggressively encouraged fintech development by establishing regulatory sandboxes that enable financial technology entrepreneurs to test ideas in a regulated setting (Ndung'u, 2022). Similarly, Nigeria's fintech-friendly legislative structure has fuelled the growth of digital-first banks like Kuda Bank and Carbon, which have increased financial in-

clusion via low-cost mobile transactions and AI-powered financial advice services (Agbataekwe-Richmond, 2025).

In contrast, South Africa has a well-established banking system that is subject to tight regulatory scrutiny under the Protection of Personal Information Act (POPIA), which oversees customer data protection and cybersecurity safeguards (Gapp et al., 2022). This assures that digital transactions are safe, transparent, and meet global banking standards. Botswana may benefit from these regulatory triumphs by implementing structured fintech regulations, establishing a regulatory sandbox for financial technology businesses, and enforcing stricter cybersecurity legislation.

2.2.3. Challenges in Adopting These Best Practices in Botswana

Despite successful models from Kenya, Nigeria, and South Africa, Botswana confronts distinct hurdles when adopting comparable techniques. One of the most significant impediments is infrastructural restrictions, especially in rural regions where low smartphone penetration and poor internet access prevent broad use of digital banking (Svotwa et al., 2023). Another issue is regulatory uncertainty, since Botswana has yet to establish a clear legislative framework for fintech cooperation, open banking rules, and consumer data protection legislation. Unlike Nigeria, which has aggressively promoted fintech development via regulatory sandboxes, Botswana's financial industry is relatively conservative, limiting fintech-driven banking advances (Ajibade & Mutula, 2020). Furthermore, consumer trust concerns provide additional challenge, with many Botswana consumers worried about cybersecurity hazards, fraud risks, and hidden costs linked with digital banking (Agbataekwe-Richmond, 2025). Financial literacy remains poor; therefore, banks and regulators must engage in countrywide financial education initiatives to promote safe digital banking practices (Chiguvi et al., 2025).

2.3. Strategic Pathways for Botswana's Digital Banking Transformation

2.3.1. Regulatory Changes: Strengthening the Digital Banking Framework

Regulatory reform is one of the most important issues Botswana must face as it embarks on the digital banking transition. The lack of clear fintech legislation, open banking practices, and strong consumer data protection laws has hampered the country's smooth expansion of financial technology (Gwala & Mashau, 2024). In instance, Nigeria and Kenya have effectively built regulatory frameworks that promote innovation while guaranteeing compliance, enabling their fintech businesses to thrive (Agbataekwe-Richmond, 2025). Kenya's Central Bank Digital Finance Guidelines and Nigeria's Open Banking Regulations, for example, have fostered more fintech usage, resulting in smoother digital transactions and financial inclusion (Ndung'u, 2022).

Botswana must implement open banking rules that enable fintech companies to interact with established banks using application programming interfaces (APIs). This will allow for safe data exchange and interoperability across financial

institutions, boosting customer convenience and encouraging fintech innovation (Meniago, 2025). Furthermore, data protection legislation comparable to South Africa's Protection of Personal Information Act (POPIA) should be implemented to increase customer confidence in digital banking services by protecting privacy and lowering the risk of financial fraud and data breaches (Gapp et al., 2022). Without these regulatory revisions, Botswana's fintech collaborations and digital banking development would remain fragmented and hampered by legal uncertainty.

2.3.2. Cybersecurity Enhancements: Protecting Digital Banking Infrastructure

As digital banking use has expanded, so have cybersecurity concerns such as phishing attempts, identity theft, and digital fraud (Svotwa et al., 2023). South Africa and Nigeria have reacted by deploying AI-powered fraud detection techniques, multi-factor authentication (MFA), and biometric verification systems to safeguard banks consumers (Mkwizu & Monametsi, 2021). South Africa, for example, has integrated biometric identification into banking systems, making client transactions more secure and reducing fraud risks (Gwala & Mashau, 2024). Nigeria has also introduced real-time fraud monitoring systems and digital ID verification to avoid unauthorised transactions (World Bank, 2020).

Botswana must tighten its cybersecurity rules by using AI-driven fraud detection and biometric authentication to safeguard customers from growing cyber threats. AI-powered systems may analyse transaction patterns, identify abnormalities, and flag questionable activity in real time, considerably lowering financial losses due to fraud (Chiguvi et al., 2025). Implementing biometric authentication, such as fingerprint and face recognition, would increase security and user trust in digital financial services. Furthermore, stricter encryption techniques and cybersecurity compliance standards must be established for banks and fintech businesses to ensure Botswana's digital banking environment is safe.

2.3.3. Financial Inclusion Strategies: Increasing Digital Banking Access

Financial inclusion remains a serious concern in Botswana, particularly in rural and marginalised areas where low smartphone usage and digital literacy prevent digital banking use (Meniago, 2025). Kenya's experience with M-Pesa, on the other hand, highlights how mobile banking may help close the financial inclusion gap by providing low-cost, accessible digital payment options (Ndung'u, 2022). Kenya's mobile money services have reached more than 90% of the population, dramatically lowering the unbanked population (Agbataekwe-Richmond, 2025). Similarly, Nigeria's fintech industry has provided low-cost mobile transactions and micro-lending solutions, increasing financial access for millions of previously underserved people (Ajibade & Mutula, 2020).

Botswana can improve financial inclusion by developing mobile banking services and digital payment systems that serve both urban and rural customers. This necessitates boosting smartphone adoption via collaboration with mobile network

carriers to provide inexpensive devices and data plans. Furthermore, lowering transaction costs for digital payments will stimulate wider use of mobile money platforms, giving more individuals access to banking services (Chiguvu et al., 2025). To increase trust in digital transactions, financial literacy initiatives must be expanded statewide, educating customers about secure digital banking practices, cyber hazards, and mobile money advantages (Mkwizu & Monametsi, 2021).

2.3.4. Fintech Partnerships: Driving Innovation in Digital Banking

Fintech companies have played an important role in advancing digital banking advances across Africa, notably in Nigeria and South Africa, where strong legislative frameworks foster cooperation between banks and fintech businesses (Gwala & Mashau, 2024). Nigeria's fintech sector, aided by regulatory sandboxes, has accelerated the creation of startups like Flutterwave and Paystack, which provide seamless digital payment solutions (World Bank, 2020). Similarly, South Africa's fintech collaborations with banks have resulted in the implementation of digital lending, AI-powered financial planning tools, and mobile-first banking services (Meniago, 2025).

Botswana has struggled to fully capitalise on fintech collaborations, owing to legislative uncertainty and inadequate investment in fintech infrastructure. To build a healthy digital financial ecosystem, governments must aggressively encourage fintech-bank cooperation by establishing clear norms for data exchange, licensing, and cybersecurity regulations. Encouraging financial institutions to adopt fintech-driven digital lending solutions will increase loan availability for small enterprises and unbanked customers, hence encouraging economic development (Ajibade & Mutula, 2020). Furthermore, the government should launch fintech incubator programs to help local businesses build new financial solutions, allowing Botswana to harness its own fintech expertise to promote digital transformation.

Botswana can transform its digital banking position as a digital financial services leader in Southern Africa by enacting targeted legislative changes, improving cybersecurity measures, extending financial inclusion initiatives, and developing fintech collaborations. Botswana must develop its fintech sector, promote mobile banking accessibility, and boost customer trust by implementing robust cybersecurity standards (Meniago, 2025; Chiguvu et al., 2025). Botswana can create a stable and inclusive digital banking industry, guaranteeing long-term economic development and financial empowerment for all residents by tackling these strategic goals.

2.4. Theoretical Frameworks

A robust theoretical foundation is required to gain an understanding of how banks negotiate digital change. To describe how companies adjust to technological developments, academics have developed several models based on the Resource-Based View (RBV) and Dynamic Capability Theory. These ideas serve to clarify how banks may use digital assets and create flexible plans to keep a competitive advantage in a fast-changing financial scene.

Originally put out by Barney (1991), the Resource-Based View (RBV) holds that a company acquires a durable competitive advantage by means of development and use of special resources and skills. It involves using big data analytics, blockchain technology, sophisticated cybersecurity infrastructure, and artificial intelligence financial services in the banking industry (Barney & Hesterly, 2019). Aziz et al. (2023) found that banks that use big data analytics and cloud-based infrastructure effectively show better client engagement and risk management. This is consistent with the RBV paradigm, which underlines the need of valuable, rare, inimitable, and non-substitutable (VRIN) resources in reaching market distinction.

RBV concentrates on stationary resource advantages, whereas the Dynamic Capability Theory (Teece, 2007) emphasises the requirement of ongoing adaptability and creativity. It is especially important in digital banking, where fintech upheavals, regulatory changes, and changing customer expectations require constant strategy adaptations (Cardoso et al., 2024). Banks need to become digitally agile to quickly integrate emerging technologies such as distributed finance (DeFi), artificial intelligence-driven risk modelling, and personalised service (McKinsey & Company, 2023). Dynamic capabilities imply that banks have to not only acquire technology resources but also constantly reorganise their digital strategy to be relevant in the face of changing markets (Ishak et al., 2023).

New empirical data supports the integration of Dynamic Capability Theory with RBV into banking strategy. In Singh and Verma's research (2024), banks that integrate digital innovation with organisational agility outperform their rivals as far as customer retention and operational efficiency are concerned. Additionally, Udeh et al. (2024) points out that a digital capability like open banking ecosystems or real-time fraud detection has a strong correlation with long-term financial success. Digital banking models emphasise the importance of effectively leveraging digital resources while maintaining flexibility to adapt to market demands and technological advances. The emphasis on resource optimisation in RBV can be integrated with the emphasis on flexibility in Dynamic Capability Theory to create a complete digital transformation plan for banks. With this strategy, we can withstand the adversity of a technologically advanced financial climate and improve both customer experience and operational efficiency.

With institutions using mobile banking, artificial intelligence, blockchain, and big data analytics to improve efficiency and client interaction, the fast digital transformation of banking has changed financial services globally (Bongomin et al., 2020; Chandani & Bhatia, 2024). Expanding eWallet services, biometric security, and fintech alliances to increase financial inclusion, Botswana's banking industry has welcomed this change (Murro & Gurbanov, 2024). Still unresolved, meanwhile, are cybersecurity concerns, legal restrictions, and disparities in rural internet access (Bau & Calandro, 2020).

Banks must remain competitive by properly using digital resources (RBV) and remain adaptable in reaction to disturbances (Dynamic Capability Theory) (Teece, 2007; Barney, 1991). Future success will rely on ongoing digital invest-

ment, better cybersecurity measures, and legislation encouraging financial literacy, thereby guaranteeing a safe, inclusive, and customer-centric banking environment in Botswana and abroad.

2.5. Theoretical Expansions: Digital Banking Transformational RBV and DCT

Essential understanding of how financial institutions in Botswana negotiate the digital transformation terrain comes from the Resource-Based View (RBV) and Dynamic Capability Theory (DCT). These models serve to clarify how banks use their special digital assets, reorganise their activities, and change with the times in terms of technology and finances. Examining digital banking from many angles helps one to better grasp why certain Botswana banks have attained more digital maturity than others and how they are still developing in response to new issues.

2.5.1. Botswana's Digital Banking and RBV

RBV contends that ownership of valuable, rare, inimitable, and non-substitutable (VRIN) resources determines a company's capacity to develop a competitive advantage (Barney, 1991). Digital resources include artificial intelligence-driven fraud detection, blockchain-backed security, and mobile banking ecosystems reflect VRIN traits that create competitive difference in Botswana's banking sector.

Organisations such FNB Botswana and Absa Botswana have become pioneers in digital banking by building exclusive fintech skills, strategic alliances, and AI-powered customer care solutions. To improve personalising in mobile banking, FNB Botswana, for example, has included big data analytics and AI-driven financial advising capabilities (ITWeb, 2023). Similar frictionless interactions with fintech firms made possible by Absa Botswana's open banking API platform have helped to expand digital loan and transaction services (ITWeb, 2023). Under the RBV framework, these institutions show how banks with strong digital infrastructures and unique fintech partnerships acquire continuous competitive advantages (Barney & Hesterly, 2019).

Table 3. RBV application in Botswana's digital banking sector.

Bank	Key Digital Resources (RBV Perspective)	Competitive Advantage	Challenges
FNB Botswana	AI-powered fraud detection, big data analytics, mobile banking infrastructure	Enhanced security, personalized banking solutions	Regulatory adaptation, customer digital trust
Absa Botswana	API-driven fintech collaborations, real-time transactions	Seamless integration with third-party fintech firms	Regulatory barriers in open banking
Stanbic Bank	Blockchain-backed financial services, robo-advisory platforms	Secure transactions, AI-driven customer insights	High implementation costs
Bank Gaborone	AI-based credit scoring models, mobile wallet expansion	Increased financial inclusion for SMEs	Limited fintech regulation

Table 3 shows how RBV aspects show themselves in Botswana's banking industry by means of a comparative analysis of institutions' individual digital assets and strategic relevance.

This analysis shows that Botswana's banking industry shows different degrees of digital capacity in line with RBV's theory that companies with special and inimitable digital assets keep better competitive positioning (*Aziz et al., 2023*).

2.5.2. DCT and Botswana's Digital Adaptability of Its Banks

RBV emphasises the ownership of digital assets, whereas the Dynamic Capability Theory (DCT) emphasises banks' capacity to always adapt, reconfigure, and invent in response to changes in the market and laws (*Teece, 2007*). Botswana's financial institutions must show dynamic capacities by modifying their digital transformation plans to match changing client demands, fintech disturbances, and cybersecurity risks.

Botswana's banks have been pushed to improve their fintech relationships and use more agile risk management techniques in recent years by regulatory changes, new cybersecurity concerns, and shifting customer behaviour. For example, FNB Botswana has rebuilt its digital security architecture to allay rising issues regarding digital fraud, incorporating biometric identification and multi-factor verification (*Chiguvu et al., 2025*). Stanbic Bank Botswana on the other hand has launched blockchain-based financial services to improve transaction security and lower processing times to respond to rising cyber risks (*Gunhidzirai & Rankopo, 2025*), while Bank Gaborone has adopted AI-powered credit risk modelling, therefore enabling quicker and more data-driven loan choices for underprivileged sectors like SMEs (*Gaffley & Adams, 2024*).

A fundamental idea of DCT, these adaptive techniques show how Botswana's financial institutions constantly reorganise their digital resources to fit growing banking difficulties (*Cardoso et al., 2024*).

Figure 1 shows the conceptual model visual guide connecting Digital Banking Adaptation in Botswana, RBV, DCT. The figure shows how DCT-based capabilities (e.g., regulatory compliance, service restructuring, and cybersecurity innovations) and RBV-based resources—e.g., proprietary AI, fintech partnerships, and big data analytics—help to produce outcomes including higher digital banking adoption, financial inclusion, and an agile fintech ecosystem.

3. Case Studies: Botswana's Banking Sector

In recent years, Botswana's banking industry has experienced a significant digital revolution driven by technological advancements, consumer demand for convenience, and competitive fintech companies. Several leading financial institutions have implemented digital financial services, blockchain technology, and AI-based solutions to improve efficiency and financial inclusion. This section examines the digital strategies, innovations, and problems of three main players in Botswana's banking sector, First National Bank Botswana (FNB), Absa Botswana, and Stanbic Bank Botswana.

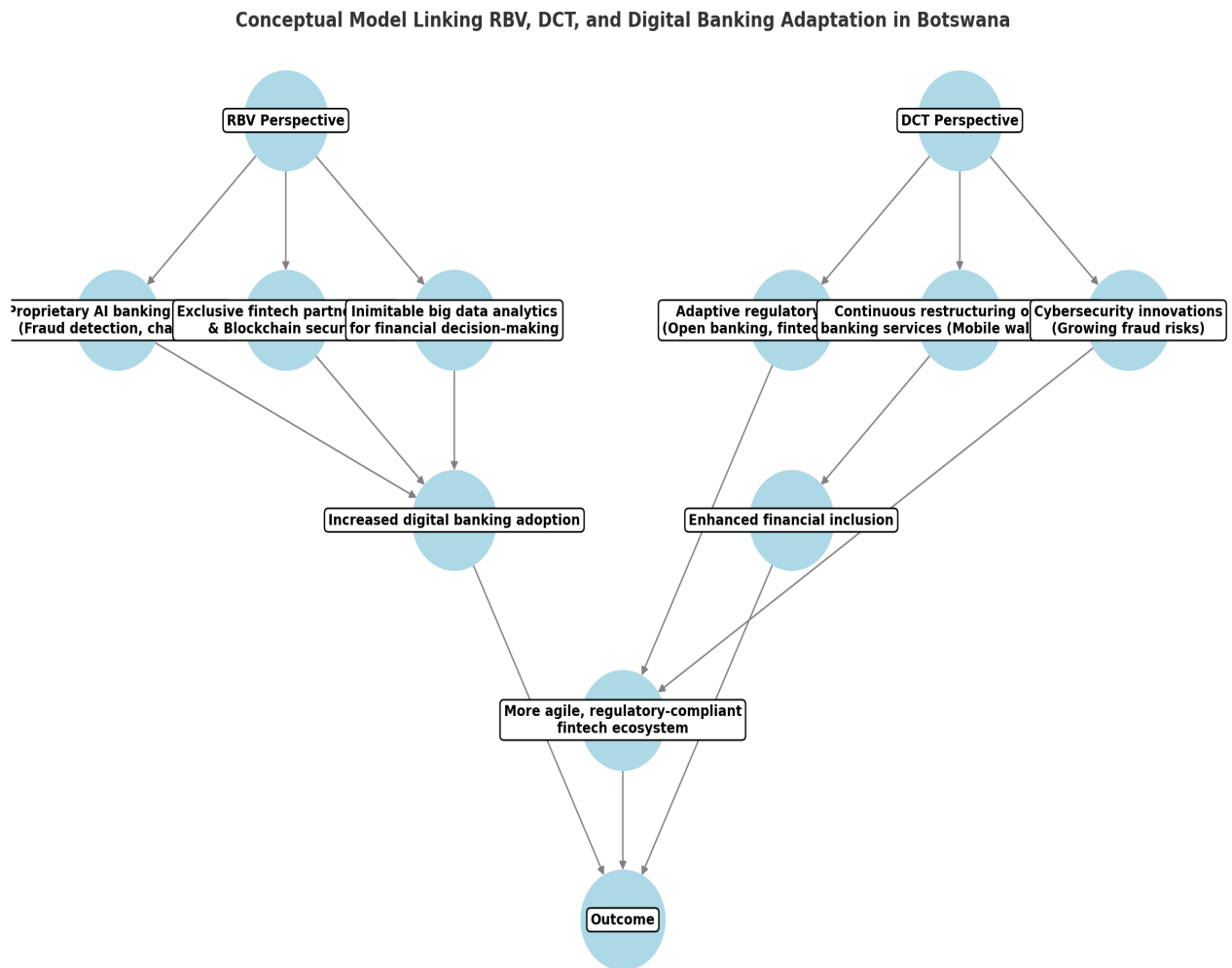


Figure 1. Conceptual model linking RBV, DCT, and digital banking adaptation in Botswana.

3.1. First National Bank Botswana (FNB) Innovations

FNB Botswana is widely recognised as a leader in digital banking within the country, utilising technology to enhance its financial services. [Aubery et al. \(2023\)](#) report that the bank has developed AI-powered fraud detection systems that track transactions and identify suspicious activity in real-time. Mobile banking apps let users pay bills, transfer money, and make transactions using their cell phones ([IT-Web, 2023](#)). People who do not have a regular bank account can get and withdraw money through FNB eWallet products. Rural areas have benefitted greatly from this, especially in financial inclusion. A key improvement of FNB's mobile banking platform has been its integration of AI-powered chatbots, biometric security (fingerprint and face recognition), and tailored financial insights based on big data analytics ([ITWeb, 2023](#)).

As a digital-first financial institution, FNB Botswana prioritises fintech relationships and technology-driven services to make life easier for consumers. Creating blockchain-secured transactions, mobile payments, and digital lending platforms has been facilitated through strategic partnerships between banks and

fintech firms (World Bank, 2024). Besides investing in cloud-based banking systems, FNB has also made investments in infrastructure savings and the expansion of its services. The hybrid banking approach combines digital banking with a small branch network, promoting digital adoption through accessibility.

While FNB Botswana has a strong digital presence, it has several issues: Many consumers are reluctant to switch to digital banking completely due to concerns about cybersecurity and data privacy (ITWeb, 2023). Although mobile banking has increased access to financial services, low smartphone penetration and internet connection issues still prevent general digital adoption in rural areas (ITWeb, 2023) The changing character of digital finance rules requires FNB to constantly update its compliance rules, particularly around anti-money laundering (AML) and cybersecurity.

3.2. Absa Botswana Innovations

Investing in digital technology has improved Absa Botswana's customer service and operational effectiveness. Important breakthroughs include real-time transaction online banking systems with digital loan applications and automated investment advice services (Abor et al., 2019). AI-driven customer assistance solutions, such as predictive analytics based on transaction history or chatbot-assisted banking, anticipate consumer demands. Using blockchain-based transaction solutions to improve security and decrease fraud (ITWeb, 2023), Absa's mobile banking system allows consumers to be more financially independent and accessible by making it easier to transfer money, pay bills, and manage savings accounts. Also, the bank has digitized loan approvals, reducing processing time from weeks to days (World Bank, 2024).

A major focus of Absa's digital transformation plan is improving digital accessibility and customer experience. To educate consumers about cybersecurity best practices, digital banking advantages, and mobile money management (Reuben, 2024), the bank funds financial literacy programs. Absa has also launched an open banking project that allows third-party fintech companies to interact with its digital environment through APIs (application programming interfaces). The result is digital wallets, tailored banking solutions, and financial planning tools powered by artificial intelligence.

The Absa group is facing difficult regulations on data security, anti-money laundering compliance, and joint ventures with fintech companies (Abor et al., 2019). With more consumers using digital banking, cybersecurity threats have grown, necessitating more robust cybersecurity systems (ITWeb, 2023). Although digital banking is becoming more and more popular, some consumers—particularly those in older groups—still prefer conventional banking solutions, delaying the shift to digital banking.

3.3. Stanbic Bank Botswana Innovations

In addition to cutting-edge digital technologies, Stanbic Bank Botswana has posi-

tioned itself as a technologically advanced bank. To boost security, increase transparency, and shorten transaction processing times, the bank has launched blockchain-based financial services (World Bank, 2024). The blockchain technology is used for safe transactions. Artificial intelligence-powered big data analytics allows banks to tailor financial products, evaluate credit risks, and detect fraudulent behaviour instantly (ITWeb, 2023) using big data analytics. Using mobile and online platforms, Stanbic has unveiled AI-based digital banking assistants and robo-advisors that offer consumers tailored financial advice (ITWeb, 2023). Stanbic has also introduced automated loan evaluation systems that employ AI-powered credit scoring models to simplify the loan approval process, thereby reducing bias and improving credit judgment accuracy.

Stanbic Bank's digital strategy for Botswana focuses on financial inclusion and technical innovation. As a goal of the bank, aims to improve cybersecurity infrastructure so that consumer information is protected and cyberattacks are prevented. The availability of digital payment solutions, business loans, and financial analytics tools for small and medium enterprises (SMEs) should be extended through digital banking (Aubery et al., 2023) to SMEs. Develop programs that teach low-income consumers how to use digital banking, integrate fintech, and stay safe on the internet. Expenses associated with blockchain infrastructure and AI-driven services are significant, creating financial constraints (ITWeb, 2023). Although Stanbic has implemented data protection and fraud prevention efforts, consumers remain sceptical about digital banking security (ITWeb, 2023). Digital banking rules, constantly changing fintech regulations, and ongoing compliance strategy changes cause regulatory uncertainty.

3.4. Bank Gaborone

Bank Gaborone has achieved major advancements in digital banking transformation. Bank Gaborone's digital approach shows a dedication to using technology to increase banking accessibility, financial inclusion, and transaction security as digital banking usage rises in Botswana (Gaffley & Adams, 2024).

To expedite loan approval, Bank Gaborone has put artificial intelligence-powered credit scoring and risk assessment systems into place. More precisely, these algorithms examine consumer transaction histories, spending patterns, and other data sources to establish loan eligibility. Using machine learning models in lending choices lowers bias, increases loan accessibility, and shortens approval times from weeks to just a few days, claims Khan et al. (2021). Small and medium businesses (SMEs) as well as those without strong credit records would especially benefit from this as it will enable them to get financial help free from too many regulatory obstacles (Lotto, 2018). Among Bank Gaborone's main breakthroughs have been automation in loan processing. The bank automatically accepts qualified loans, therefore guaranteeing compliance with internal risk management systems by means of AI-based evaluations. Online applications for personal loans, company funding, and microloans let customers replace in-person visits (Gaffley &

Adams, 2024). This helps because it makes loans more accessible to the underbanked groups, lower processing expenses for customers and the bank and more effective control of credit risk management financial sustainability.

To enhance mobile banking offerings, Bank Gaborone has teamed with fintech firms and telecommunications providers. The bank has unveiled peer-to-peer (P2P) payment systems and mobile money solutions by means of these partnerships, thereby enabling customers to move money using cellphone numbers rather than bank account numbers, use mobile wallet services to enable digital transactions—even for unbanked consumers—by use of digital tools (Khan et al., 2021) and using QR code payment systems helps to lessen dependency on cash transactions in retail environments (Ledi & Ameza-Xemalordzo, 2023). Particularly in rural and distant locations where conventional banking infrastructure is lacking, the increasing usage of mobile payment systems in Botswana has greatly helped with financial inclusion (Igwilo & Sibindi, 2021). The strategy of Bank Gaborone guarantees that those without bank accounts may nevertheless engage in digital financial activities, therefore lowering the cash reliance.

Bank Gaborone has numerous important issues that can affect the long-term viability of its digital banking transition notwithstanding its technological developments. According to (Lotto, 2018) mobile payments have greatly raised financial inclusion, internet access is still a big challenge in Botswana's rural areas. Particularly in low-income areas, poor internet penetration and restricted smartphone availability, impede complete adoption of digital banking services. Widespread acceptance of mobile banking might remain unequal without significant government expenditure in digital infrastructure. While fintech collaborations have enabled Bank Gaborone to evolve, Botswana's legal environment for fintech firms and digital lending still needs reform. As Khan et al. (2021) observe, there are no explicit laws controlling how best fintech companies interact with established banks, consumer data protection policies under digital banking contracts, International AML (Anti-Money Laundering) compliance and cross-border digital payments. Botswana's authorities must create clearer fintech rules and guarantee conformity with worldwide financial norms if Bank Gaborone is to properly grow its digital lending and mobile payment systems. One major obstacle to the acceptance of digital banking is the ignorance of various customer sectors. Many people, especially from low-income groups and older demographics, still have no idea how digital banking works and voice questions about risks in cybersecurity involve identity theft and fraud, interest rates and hidden costs on digital lending sites, reliability of credit rating systems powered by artificial intelligence (Gaffley & Adams, 2024). Bank Gaborone has started funding initiatives in financial literacy to educate consumers on digital banking advantages and fraud avoidance to solve this. To guarantee that digital money becomes generally available and understood throughout Botswana, a national campaign including authorities, banks, and mobile network providers is required, nevertheless (Ledi & Ameza-Xemalordzo, 2023).

As a result of digital transformation, FNB Botswana, Absa Botswana, Stanbic Bank Botswana, and Bank Gaborone are using artificial intelligence, blockchain technology, and mobile banking solutions to improve operational efficiency and customer satisfaction. However, cybersecurity threats, regulatory compliance, and digital adoption obstacles remain important. These institutions must improve cybersecurity safeguards, improve mobile banking accessibility, and develop financial literacy initiatives to ensure sustainable and equitable digital banking in Botswana.

4. Methodology

This study uses a qualitative research approach using secondary data analysis to explore how digital transformation affects banking policies in Botswana. The study depends only on publicly accessible financial records, government policies, fintech sector evaluations, and scholarly publications in the lack of original data collecting. Among Botswana's main financial institutions—First National Bank Botswana (FNB), Absa Botswana, Stanbic Bank Botswana, and Bank Gaborone—this technique allows a thorough assessment of digital banking trends, difficulties, and strategic solutions. **Table 4** shows a summary of the research approach used in this study.

Table 4. Research approach summary.

Method	Data Source	Purpose	Analysis Method
Case Study Analysis	Financial reports, strategic plans, and regulatory documents from Botswana's banks	Examines digital banking strategies and innovations in Botswana	Thematic content analysis
Comparative Analysis	Industry reports from Kenya, Nigeria, and South Africa	Assesses how Botswana's banking sector compares with other African markets	Cross-country benchmarking
Literature Review	Peer-reviewed research articles on digital banking and fintech	Provides theoretical foundation for digital banking strategies	Interpretation using RBV and DCT

4.1. Research Design

Using a case study approach—which is especially useful in investigating banks' strategic adjustments and innovations in response to digital transformation—the research This paper evaluates how financial institutions mix mobile banking, artificial intelligence (AI), blockchain technology, and fintech partnerships to improve operational efficiency, cybersecurity, and financial inclusion by means of industry reports, regulatory guidelines, and research findings. Examining the experiences of digital banking adoption in top African countries such as Kenya, Nigeria, and South Africa helps the research to provide comparative insights. This comparison gives Botswana benchmarking chances to implement best practices in digital banking rules, cybersecurity policies, and financial inclusion models (Gwala & Mashau, 2024).

4.2. Data Collection Methods

Secondary data sources for dependability include from academic research, industry studies, government regulatory systems, and financial institution publications. While studies from the World Bank, International Monetary Fund (IMF), African Development Bank, and the Bank of Botswana help to give the regulatory and financial backdrop of digital banking adoption in Botswana, peer-reviewed journal papers provide insights into worldwide trends in digital banking. Fintech sector whitepapers, mobile banking adoption surveys, and case studies from financial institutions also provide important new perspectives on how Botswana's banking sector is changing (Chiguvu et al., 2025).

This research is mostly based on secondary data sources such as peer-reviewed academic publications, regulatory reports, financial institution whitepapers, and industry analyses. While primary research techniques such as interviews, surveys, or direct case studies would have increased the empirical depth of the results, they were unsuitable for this study due to a variety of restrictions. The choice to use a desktop research approach was influenced by considerations such as limited time, budget restrictions, and access to industry stakeholders. Furthermore, owing to data security rules and confidentiality requirements in financial organisations, gaining direct input from executives, fintech specialists, and banking clients presented major logistical hurdles (Gwala & Mashau, 2024).

Case Study Analysis

Four of Botswana's four largest banks' digital banking transformation plans are examined using a multiple-case study methodology. Examined is FNB Botswana's investment in mobile banking systems and AI-driven fraud detection to better appreciate how AI technology is improving consumer security and convenience. Examining Absa Botswana's strategic fintech alliances and integration of AI-powered chatbots and real-time digital transactions helps one to investigate the advantages of automation in banking. The deployment of blockchain-based financial services and robo-advisory tools by Stanbic Bank Botswana is evaluated to ascertain the part developing technologies play in safe transactions and investment banking. Lastly, the focus of Bank Gaborone on AI-enhanced digital lending and mobile payments is examined to ascertain how digital banking is advancing financial inclusion, especially in underprivileged areas (Gunhidzirai & Rankopo, 2025).

4.3. Data Analysis

Comparative analysis and qualitative content study help to examine the material gathered from these case studies. Key topics connected to digital banking innovation, cybersecurity problems, fintech integration, and financial inclusion activities are extracted using a thematic content analysis. How digital banking regulations are changing the financial scene in Botswana is found by means of patterns arising from legislative frameworks and banking sector publications. The digital banking revolution of Botswana is then compared against top African markets like Kenya, Nigeria, and South Africa. Reference factors for Botswana developing focused dig-

ital banking regulations include Kenya's experience with M-Pesa's mobile money domination, Nigeria's fintech-driven open banking system, and South Africa's regulated digital financial ecosystem (Agbataekwe-Richmond, 2025).

4.4. Theoretical Models Used in This Study

Two theoretical models form the foundation of this work to provide a disciplined examination of digital banking acceptance. Developed by Barney (1991), the Resource-Based View (RBV) is used to investigate how Botswana's banks employ digital resources such as blockchain-based transactions, mobile banking platforms, and AI-driven cybersecurity systems to acquire a competitive edge. Proposed by Teece (2007), the Dynamic Capability Theory (DCT) helps one to comprehend how banks constantly adjust to changing technology, growing cybersecurity risks, and changing regulatory environment. Combining these ideas helps one understand how Botswana's financial institutions are building and maximising their digital capacities to maintain long-term growth (Meniago, 2025).

4.5. Limitations of the Study

There are several limitations to consider even with this kind of research. Using secondary data implies that real-time observations of customers and bank officials are lost. This lack of primary data hinders the research from directly evaluating consumer adoption behaviours, cybersecurity issues, and strategic decision-making procedures of banking executives. Furthermore, as digital banking rules are always changing, certain regulatory data might become obsolete if new fintech rules are implemented in Botswana and beyond Africa (Ajibade & Mutula, 2020). Another limitation is that the research concentrates only on Botswana, so it is less applicable to banking sectors in other areas without more extensive empirical research.

Recognising the value of primary research, this study admits its limits and offers more empirical research to reinforce the results. To gain a better understanding of Botswana's digital banking transformation, future studies should include qualitative interviews with banking executives and fintech leaders, quantitative surveys assessing consumer adoption behaviour, and case study expansions using internal banking data (Chiguvu et al., 2025).

This study uses content analysis of industry reports, media publications, and financial institution strategy papers to offset the lack of primary data by offering real-world viewpoints. A small-scale thematic content analysis of Botswana's main banks—FNB Botswana, Absa Botswana, Stanbic Bank Botswana, and Bank Gaborone—common trends and strategic problems in digital banking was done (Meniago, 2025).

In line with global digital banking trends, FNB Botswana's 2023 Digital Strategy Report, for example, highlights the development of AI-driven banking, fraud detection, and mobile payment solutions. Analogous to this, Absa Botswana's financial data show rising customer acceptance of mobile banking but also underline the necessity of improved cybersecurity infrastructure (Absa Botswana, 2024).

These real-world industrial dynamics and scholarly literature contextually relevant insights help to close the distance between them.

Further analysis of fintech whitepapers suggests that startups in Botswana encounter legal obstacles that restrict their capacity to combine digital payment solutions with conventional banks, a difficulty similarly seen in Nigeria before legislative changes were taken (Agbataekwe-Richmond, 2025). Despite the lack of primary research, this comparative viewpoint enhances the results of the study by offering other sources of industry knowledge.

4.6. Ethical Considerations

Although this study does not include direct contacts with individuals, ethical research guidelines are maintained by guaranteeing that all data sources are correctly referenced, and that only publicly accessible material is utilised. Regulatory compliance is shown in examining banking security systems and financial technology rules; all secondary sources are mentioned to preserve academic integrity and openness (Svotwa et al., 2023).

This paper is an assessment of digital banking strategy, fintech partnerships, and cybersecurity concerns in Botswana's financial industry by using a secondary data-based research approach. While comparative insights highlight worldwide best practices that Botswana might embrace, the case study methodology guarantees that each bank's particular digital transformation plan is examined in full. Though primary data collecting is lacking, the qualitative content analysis and thematic examination of financial reports provide strong results that help to clarify how digital banking is altering Botswana's financial landscape (Chiguvi et al., 2025). This approach provides an evaluation of digital banking uptake, regulatory constraints, and strategic reactions to digital disruptions in Botswana's banking industry, therefore complementing the goals of the research.

5. Findings

Table 5 is a synopsis of key finding on digital banking adoption in Botswana combining supporting references and comparative analysis from other African economies. Every result is examined closely depending on its strategic relevance, present restrictions, and possible policy consequences.

The results show based on **Table 5** that while Botswana is increasing the acceptance of digital banking, major infrastructure, legal, and cybersecurity issues still exist.

Mobile Banking Adoption and Financial Inclusion

Botswana's mobile banking industry has grown particularly with programs like MyZaka and Orange Money. Agbataekwe-Richmond (2025) and Bank of Botswana (2023) show that low smartphone usage, inadequate internet access, and digital literacy gaps continue to disadvantage rural communities. Based on Kenya's M-Pesa model, a significant comparative realisation is that Botswana may increase financial inclusion by integrating accessible digital platforms, mobile banking with financial literacy initiatives.

Table 5. Summary of digital banking trends, challenges, and comparative lessons.

Digital Banking Trend	Findings in Botswana	Challenges Identified	Comparative Lessons from Other Citations Markets
Mobile Banking & Financial Inclusion	Mobile banking and eWallet services (e.g., MyZaka, Orange Money) are expanding, improving financial inclusion.	Limited smartphone penetration and weak rural internet infrastructure hinder access.	Kenya's M-Pesa achieved near-universal adoption by combining financial literacy programs and seamless mobile transactions. (Meniago, 2025; Bank of Botswana, 2023)
AI in Banking & Fraud Detection	AI-powered banking solutions, such as fraud detection and chatbots, are increasingly adopted by FNB Botswana and Absa Botswana.	Consumer skepticism over AI-driven decisions and concerns about data privacy.	South African banks successfully use AI-powered credit scoring and biometric identity verification to enhance customer trust. (Chiguvu et al., 2025; Gwala & Mashau, 2024)
Blockchain for Secure Transactions	Stanbic Botswana is testing blockchain-based payment systems for secure transactions.	High integration costs and lack of clear regulations on cryptocurrency adoption.	Nigeria's fintech industry is integrating blockchain into mobile banking, with policy frameworks to regulate crypto-based transactions. (Gunhidzirai & Rankopo, 2025; IMF, 2024; Central Bank of Nigeria, 2022)
Cybersecurity & Digital Fraud Prevention	Banks are adopting multi-factor authentication (MFA), biometric security, and AI-driven fraud detection.	Rising phishing attacks, cyber fraud, and weak consumer awareness of online threats.	South Africa's POPIA law ensures strong consumer data protection, requiring banks to enhance cybersecurity policies. (Svotwa et al., 2023; Meniago, 2025)
Fintech Partnerships & Open Banking	Banks (e.g., Absa Botswana, Bank Gaborone) are forming partnerships with fintech startups for digital payments and lending.	Lack of open banking regulations limits the potential of fintech-bank collaborations.	Nigeria's fintech-friendly policies, such as regulatory sandboxes, allow innovation while ensuring compliance. (Ajibade & Mutula, 2020; Central Bank of Nigeria, 2022)
Regulatory Challenges in Digital Banking	Botswana's regulatory framework for digital banking remains fragmented, lacking policies on data protection, cryptocurrency, and open banking.	Uncertainty in fintech regulations discourages investment and slows the adoption of digital solutions.	South Africa's regulatory clarity under the Protection of Personal Information Act (POPIA) provides a model for structured fintech governance. (Gwala & Mashau, 2024; Bank of Botswana, 2023; IMF, 2024)

Banking and Cybersecurity Artificial Intelligence

Botswana's banking industry is using AI-driven solutions such as customer care chatbots and fraud detecting systems more and more (Chiguvi et al., 2025). There are still obstacles however, such as consumer mistrust of AI-driven decision-making and worries about data privacy and unfairness in AI credit rating systems (Menniago, 2025). Botswana can improve AI-based banking security by looking at the best-practice model offered by the South African banking industry, which has effectively used biometric verification and client risk profiling.

Blockchain Technology and Online Sales

To strengthen financial security and openness, Stanbic Botswana has started looking into blockchain-based transactions (Gunhidzirai & Rankopo, 2025). Full acceptance is limited, however, by the lack of regulatory certainty on blockchain and bitcoin usage. With Nigeria's fintech and bitcoin regulatory system, Botswana has a road map to create organised blockchain rules that support creativity and guarantee compliance.

Digital fraud risks and cybersecurity threats

Cybersecurity threats have gone up in Botswana, including phishing attempts, identity theft, and fraudulent online transactions as internet banking is becoming more and more used (Svotwa et al., 2023). Riasat et al. (2025) argues that, although banks have adopted biometric security and multi-factor authentication (MFA), customer knowledge of cybersecurity best practices remains poor. South Africa's data protection rules (POPIA) provide a model for Botswana to implement more robust consumer protection legislation and cybersecurity standards.

Fintech Collaborations and Open Banking Difficulties

Botswana's banking industry has witnessed more cooperation with fintech companies, particularly in digital loans and mobile payments (Ajibade & Mutula, 2020). Regulating uncertainties about open banking models and data-sharing practices, however, keeps banks and fintech companies from fully using these alliances (Agbataekwe-Richmond, 2025). Botswana may find a model in Nigeria's fintech rules, which provide a disciplined licencing system and regulatory sandbox for fintech businesses.

Banking Policies and Regulatory Difficulties

Lack of a thorough legislative framework for digital banking in Botswana has hampered investment and impeded fintech acceptance (Gwala & Mashau, 2024). Botswana's banking rules remain disjointed and uneven, unlike South Africa, which has a well-defined Protection of Personal Information Act (POPIA) to secure customer data. Botswana's financial industry will need to establish clear legislative frameworks for digital banking, fintech alliances, and blockchain rules if it is to flourish in the digital economy.

Driven by mobile banking, artificial intelligence, blockchain technology, and fintech partnerships, the results show that Botswana's banking industry is digitally changing fast. Still, there are important issues like cybersecurity risks, regulatory uncertainty, digital literacy gaps, and the great expense of digital transformation.

Using best practices from top African economies, especially Kenya, Nigeria, and South Africa, Botswana may hasten the acceptance of digital banking.

6. Discussions

6.1. Prospects for the Banking Industry of Botswana

The digital change of banking in Botswana offers several chances to improve financial services and economic involvement. The improved customer experience motivated by artificial intelligence (AI) and automation is among the most obvious advantages. Banks may deliver consumers customised financial advice and fraud detection warnings in real time by means of predictive analytics and AI-powered chatbots, hence enabling personalised banking insights (Bene et al., 2024). These developments lower human error, increase efficiency, and enable tech-savvy people to more easily access banking.

Digital transformation also improves operational efficiency by lowering manual transaction costs, simplifying service delivery, and optimizing banking processes. Faster transactions, reduced overhead expenses, and automated regular financial operations made possible by digital banking systems help financial institutions to be more profitable (Alonge & Eyo-Udo, 2021). Big data analytics has also improved banks' capacity to evaluate credit risk, create focused financial solutions, and more successfully predict consumer wants (Nyambo & Osei, 2020).

Digital banking's ability to support financial inclusion—especially in rural regions where conventional banking infrastructure is scarce—also has great benefits. A growing number of formerly unbanked populations have now gained access to banking through mobile wallets and online platforms, allowing them to trade, save, and invest (Demirgüç-Kunt et al., 2022) with mobile wallets and online platforms. This trend fits more general financial inclusion targets established by the World Bank and other international financial organisations meant to close the difference between urban and rural banking services (Agbataekwe-Richmond et al., 2025).

6.2. Challenges Facing Digital Banking in Botswana

The adoption and use of digital financial services in Botswana will be challenging despite the many possibilities of digital banking. The low digital infrastructure in rural and distant places is one of the main issues as it prevents broad adoption of digital banking. Many areas in Botswana still suffer from limited access to smart devices and poor internet connection, which limits the acceptance of mobile banking apps and online financial services (Svotwa et al., 2023). This digital gap results in uneven access to financial services, therefore impeding the nation's development towards a completely digital banking sector.

Furthermore, seriously impeding the expansion of digital banking in Botswana are cybersecurity risks. Phishing assaults, identity theft, and online fraud targeting financial institutions and their consumers have risen in tandem with banks' increasing dependence on digital channels (Gapp et al., 2022). Weak cybersecurity policies and ignorance of consumers expose consumers to digital fraud, therefore

erasing confidence in online banking systems. Research shows that low-income customers and first-time users of digital banking are most susceptible to cyberattacks, so enhanced cybersecurity systems and consumer education campaigns are especially needed (Bene et al., 2024).

Moreover, regulatory gaps still cause a major problem in the digital banking scene of Botswana. Although certain digital banking rules have been put in place by financial authorities, more thorough regulations covering fintech partnerships, digital security legislation, and open banking systems are still much needed (Agbataekwe-Richmond, 2025). Lack of clear rules on cross-border fintech alliances also inhibits banks' power to interact with worldwide financial networks, therefore limiting their potential to extend digital banking services beyond national boundaries (Zhang, 2025). Long-term security, effective, customer-friendly digital banking operations depend on stronger regulatory frameworks being established.

6.3. Financial Literacy and Regulatory Challenges in Botswana

Digital Banking Regulatory Difficulties in Botswana

Though digital banking is becoming more and more popular, Botswana's legislative system is still behind those of other top African countries such as South Africa, Kenya, and Nigeria. Botswana does not yet have thorough laws specifically controlling open banking, consumer data protection under digital finance, or fintech partnerships. Although the Bank of Botswana (BoB) has acted to control digital banking transactions, no national fintech policy exists to direct collaborations between banks and fintech businesses (Gwala & Mashau, 2024).

In one hand, the Protection of Personal Information Act (POPIA), which guarantees data privacy, controls cross-border data flows, and mandates cybersecurity requirements for financial institutions, has been effectively adopted by South Africa (IMF, 2024). Under the Central Bank of Nigeria (CBN) regulatory framework, Nigeria has also set clear fintech licencing rules enabling fintech companies to operate safely inside the banking ecosystem while maintaining customer data safety (Gunhidzirai & Rankopo, 2025). Botswana, on the other hand, lacks explicit data protection rules and a specific open banking strategy, therefore restricting the complete integration of fintech services into conventional banking (Bank of Botswana, 2023).

Lack of fintech-specific rules prevents possible investors from growing digital financial services in Botswana, therefore slowing down innovation in mobile banking, digital payments, and AI-driven banking models (Meniago, 2025). Digital banking customers in Botswana are exposed to fraud, phishing attempts, and illegal activities without robust cybersecurity and consumer protection regulations (Chiguvi et al., 2025). Dealing with these gaps calls on regulatory authorities to provide standardised open banking systems compliant with worldwide best practices, fintech licencing rules, and tougher cybersecurity demands.

Comparison of African Regulatory Frameworks

Table 6 compares Botswana's digital banking rules with those of South Africa,

Kenya, and Nigeria, therefore pointing out differences and possible policy areas for development.

Table 6. Comparison of african regulatory frameworks.

Regulatory Aspect	Botswana	South Africa (POPIA)	Kenya (CBK & Fintech Law)	Nigeria (CBN Fintech Regulations)
Data Protection	No comprehensive data protection law for digital banking users.	POPIA mandates strict consumer data protection and cross-border data transfer controls.	The Kenya Data Protection Act (2019) ensures personal data security in financial services.	Nigeria's Data Protection Bill establishes privacy standards for fintech and mobile banking.
Fintech Regulation	No specific licensing for fintech startups; lacks open banking policies.	Requires fintech registration under South African Reserve Bank (SARB).	The CBK Regulatory Sandbox allows fintech firms to test innovations under controlled regulations.	The CBN Licensing Framework provides clear guidelines for fintech operations and partnerships.
Cybersecurity Standards	No unified national cybersecurity policy for banking.	Banks must comply with Financial Sector Cybersecurity Regulations.	Enforced under the Kenya Information and Communications Act for secure online banking.	Nigeria has a Cybercrime Act to prevent fraud, identity theft, and digital banking fraud.
Open Banking Policies	Lacks a clear open banking regulation to enable third-party fintech integrations.	Open Banking Standard enables data sharing between banks and fintech firms securely.	The CBK Fintech Framework facilitates API-based third-party banking.	Nigeria supports fintech-bank integration through open banking APIs under CBN regulation.
Consumer Protection	General consumer finance regulations but no clear fintech-specific protection.	POPIA mandates consumer rights and complaint handling for digital transactions.	The Consumer Protection Act covers digital finance fraud and unauthorized transactions.	Nigeria's CBN Consumer Protection Guidelines secure fintech users from fraud.

Sources: (IMF, 2024; Bank of Botswana, 2023; Gwala & Mashau, 2024; Gunhidzirai & Rankopo, 2025).

Botswana falls behind its African competitors in fintech rules, open banking practices, cybersecurity requirements, and consumer protection legislation this analysis shows. Using comparable legislative frameworks would help digital banking security, fintech innovation, and customer trust in Botswana's financial industry to be strengthened.

Financial Literacy Difficulties in Botswana

Although Botswana has financial literacy initiatives, their influence on the acceptance of digital banking is still mostly unquestioned. Particularly in rural locations with poor internet connectivity, consumer knowledge of mobile banking dangers, cybersecurity concerns, and digital payment advantages is quite low (Gwala & Mashau, 2024). Although the Bank of Botswana and other financial institutions have started digital banking awareness initiatives, their ability to close the digital literacy gap has not been methodically evaluated (Chidaushe & Njaya, 2023).

Studies reveal that acceptance of digital banking is much influenced by financial knowledge. For example, M-Pesa's success in Kenya was partially attributed to aggressive consumer education initiatives that taught users on mobile banking capabilities, fraud avoidance, and secure transactions (Gunhidzirai & Rankopo, 2025). To lower fraud rates and boost trust in digital finance, Nigeria's CBN Consumer Protection Department also undertakes yearly financial literacy initiatives aimed at mobile banking customers (IMF, 2024). But in Botswana, attempts at financial literacy have not been uniform or easily available, which limits their reach particularly for low-income groups.

Lack of organised financial education has led to various obstacles in the acceptance of digital banking including consumer distrust in online banking (Menniago, 2025), consumers not entirely knowing how to protect themselves against phishing, identity theft, or fraudulent digital transactions (Chiguvi et al., 2025) and limited digital literacy causes customers to be reluctant to embrace fintech-based mobile wallets, peer-to-peer payments, or AI-driven banking solutions (Gwala & Mashau, 2024).

Recommendations for enhancing Botswana's Financial Literacy Framework and Regulatory System

Botswana should embrace these policy recommendations to improve the security, efficiency, and accessibility of digital banking. **Table 7** compiles the recommendations for improving Botswana's digital banking legislative framework based on the given debate.

Table 7. Recommendations for enhancing Botswana's financial literacy framework and regulatory system.

Key Issue	Recommendation	Supporting Source
Lack of a comprehensive regulatory framework	Develop a national fintech strategy that aligns with international best practices and includes provisions for open banking laws.	Chidaushe & Njaya (2023)
Absence of a fintech-specific legal structure	Establish clear fintech regulations that define licensing, compliance, and governance frameworks for digital financial services.	Agbataekwe-Richmond (2025)
Limited consumer data protection laws	Strengthen data protection regulations in line with South Africa's POPIA and Nigeria's fintech policies.	Gwala & Mashau (2024)
Weak cybersecurity measures in digital banking	Implement stricter cybersecurity guidelines and introduce fintech-specific fraud prevention measures.	Bene et al. (2024)

Continued

Limited financial literacy and consumer awareness	Expand financial literacy programs through public-private partnerships and integrate digital banking education in schools.	Chidaushe & Njaya (2023)
Lack of empirical research on fintech adoption	Conduct case studies on Botswana's digital banking adoption trends and fintech collaborations.	Mpofu & Maraga (2023)
Regulatory inconsistencies affecting fintech growth	Develop a harmonized regulatory framework by learning from fintech policies in Kenya, Nigeria, and South Africa.	Mabuza (2023)
Limited access to banking services for rural populations	Promote mobile banking initiatives and incentivize fintech firms to expand services to unbanked populations.	Svotwa et al. (2023)

6.4. Strategic Implications of Digital Banking in Botswana's Banking Sector

Major Botswana banks' growing acceptance of digital banking technology has brought about revolutionary developments in the financial industry. These changes affect consumer experience, operational efficiency, regulatory compliance, and financial inclusion (Meniago, 2025; Chiguvi et al., 2025). They also provide possibilities as well as problems. Examining its influence on important areas like cybersecurity, fintech cooperation, digital literacy, and regulatory frameworks, this section investigates the strategic consequences of digital banking for Botswana's financial sector (Table 8).

Table 8. Strategies summary: main consequences for the banking industry of Botswana.

Key Strategic Area	Impact on Botswana's Banking Sector	Sources
Cybersecurity & Fraud Prevention	Increased digital fraud risks require stronger AI-driven security systems.	Meniago (2025); Chiguvi et al. (2025)
Fintech Collaboration & Open Banking	Need for clear fintech regulations to support secure data sharing.	Gwala & Mashau (2024); Mkwizu & Monametsi (2021)
Financial Inclusion & Rural Access	Limited connectivity and digital literacy hinder banking adoption in rural areas.	Gunhidzirai & Rankopo (2025); Chidaushe & Njaya (2023)
Regulatory Compliance & Data Protection	Botswana lacks clear fintech regulations and cybersecurity laws.	Gwala & Mashau (2024)
Technological Investment & Cost Management	High costs of AI-driven banking and blockchain limit scalability.	Mkwizu & Monametsi (2021)

6.4.1. Risk Management and Cybersecurity

Adoption of digital banking has one of the most important consequences in terms of cybersecurity demand. Botswana's banks—including FNB, Absa, and Stanbic—who depend increasingly on artificial intelligence-driven banking, blockchain, and cloud computing—become more susceptible to cyberattacks as recent studies show a rise in phishing attempts, fraud instances, and identity theft threats that

need for strong fraud detection systems (Gwala & Mashau, 2024). To protect consumers's data and financial transactions, Botswana's banks have to make investments in multi-layered cybersecurity systems including AI-based fraud detection, encryption methods, and biometric authentication (Van Niekerk & Phaladi, 2020).

6.4.2. Open Banking and Fintech Collaboration

Fintech alliances are transforming Botswana's banking industry, increasing mobile banking availability, and bringing creative financial ideas. To provide mobile wallet services and peer-to-peer (P2P) payments, institutions such as Bank Gaborone and Absa Botswana have teamed with fintech firms, thereby enhancing financial inclusion (Gunhidzirai & Rankopo, 2025). Still, regulatory ambiguity about data-sharing rules in open financial systems is a problem. Like South Africa's open banking system, the Botswana government should establish clear fintech regulatory rules guaranteeing safe and open third-party integration (Mkwizu & Monametsi, 2021).

6.4.3. Rural Access and Digital Financial Inclusion

Although digital banking has made financial products more accessible in metropolitan regions, rural communities still suffer with adoption challenges like low smartphone penetration, poor internet connection, and digital illiteracy (Gunhidzirai & Rankopo, 2025). Studies show that many unbanked people lack confidence in digital financial services (Chidaushe & Njaya, 2023), even if mobile money services (Orange Money and MyZaka) have increased access. Botswana's financial industry should run financial literacy initiatives to educate the people about mobile banking advantages and cybersecurity best practices and increase digital infrastructure in remote regions (Gunhidzirai & Rankopo, 2025).

6.4.4. Compliance with Regulations and Data Protection

Botswana lacks comprehensive digital banking rules in relation to data protection, fintech partnerships, and cross-border transactions. Botswana does not have explicit legislation controlling digital banking security and consumer rights, unlike South Africa's Protection of Personal Information Act (POPIA) or the EU's General Data Protection Regulation (GDPR). Botswana should create a legislative structure like POPIA to improve data security compliance, client trust in digital banking, and data protection (Musoni et al., 2023).

6.4.5. Cost Control and Technical Investment

Particularly in artificial intelligence-driven banking, blockchain infrastructure, and cloud-based services, digital transformation calls for large financial outlays. Although Stanbic Bank and FNB Botswana have made significant investments in AI-driven risk assessment models and blockchain-backed transactions, the upkeep of these systems is costly (Mkwizu & Monametsi, 2021). To maximise financial accessibility and reduce operating costs, banks should use hybrid financial models, therefore blending digital innovation with conventional banking services

(Mkwizu & Monametsi, 2021).

6.5. Future Research Directions and Policy Recommendations

Although this study assesses of digital transformation in the banking industry of Botswana based on secondary data, significant research gaps exist. Future research should collect data using surveys and interviews with banking executives, fintech professionals, and consumers to get deeper insights on customer experiences, adoption behaviours, and internal strategic decision-making processes of financial institutions (Chiguvi et al., 2025).

Consumer acceptance patterns in digital banking inside Botswana need further study in one important area. Though mobile banking services are growing, little empirical research on customer preferences, adoption hurdles, and elements impacting confidence in digital financial services exists. A clearer picture of who is benefiting from digital transformation and who remains excluded would be a good study focus investigating demographic-based adoption trends including rural versus urban adoption, generational differences, and the function of financial literacy in digital banking use (Gwala & Mashau, 2024).

Cybersecurity concerns and digital fraud in Botswana's banking industry represent yet another important subject of future study. Although there is limited empirical research examining the incidence, financial effect, and mitigating techniques for cyber crime in Botswana's banking sector, this study notes phishing attacks, identity theft, and unauthorised internet transactions as important hazards. Future research might look at how banks, authorities, and fintech companies are building cybersecurity systems and if current anti-fraud policies—biometric authentication and AI-driven fraud detection—are successful in safeguarding customers (Gapp et al., 2022). Comparative studies comparing Botswana's cybersecurity readiness to regional leaders such as South Africa and Nigeria might also provide insightful analysis of best practices that Botswana can follow (Svotwa et al., 2023).

Moreover, some issues such regulatory issues in Botswana's fintech and digital banking markets have been understudied. Although the Bank of Botswana has developed fintech rules, open banking, bitcoin rules, and data security laws are not covered by any thorough legislative framework. Future studies should concentrate on evaluating the financial sector's regulatory shortcomings in Botswana and evaluating how well current regulations support safe and inclusive digital banking services. Comparative analysis of Botswana's legislative approach to digital banking against nations with well-established digital banking regulations, like Kenya, Nigeria, and South Africa, might give suggestions for strengthening Botswana's legal environment (Ajibade & Mutula, 2020).

Research on how digital revolution affects conventional banking employment in Botswana is also much required. The function of conventional bank staff is changing as banks automate services using digital wallets, automated loan approvals, and AI-powered customer care. Future studies should evaluate how automa-

tion is influencing employment in Botswana's banking sector, if job displacement is happening, and whether reskilling or upskill programs are required to equip bank personnel for a digital financial industry (Agbataekwe-Richmond, 2025).

Lastly, a regional comparison of the expansion in digital banking between Botswana and other African countries would be advantageous. Although this study contrasts Botswana's banking revolution with Kenya's mobile money success, Nigeria's fintech-led banking expansion, and South Africa's legislative developments, further empirical research might measure Botswana's digital banking expansion in line with its contemporaries. This will enable legislators to better know which policies should be strengthened, which methods are successful, and where Botswana sits in terms of digital financial inclusion on the continent (Meniago, 2025).

Future studies as shown in Table 8 should concentrate on primary data collection, consumer behaviour analysis, cybersecurity threats, regulatory frameworks, employment effects, and geographical comparisons. The understanding of how digital transformation is affecting Botswana's financial system will increase if data-driven ideas for improving digital banking usage, security, and inclusivity are investigated by addressing these research gaps. A suggested main study framework is shown in the following Table 9 along with important research fields, target subjects, and possible sample questions.

Table 9. Summary of future study areas.

Research Method	Target Participants	Research Focus	Example Questions
Qualitative Interviews	Bank executives & fintech professionals	Digital banking strategy, fintech partnerships, cybersecurity investments	"What are the biggest challenges facing banks in implementing digital banking solutions?" "How do banks assess the risk of fraud in mobile transactions?"
Consumer Surveys	Digital banking users (urban & rural)	Adoption behavior, cybersecurity awareness, satisfaction levels	"What factors influence your decision to use mobile banking?" "Are you concerned about online fraud when using digital banking services?" "How has AI adoption improved banking efficiency at your institution?"
Case Study Analysis	Selected Botswana-based banks	Digital transformation success stories & barriers	"What policies have been implemented to enhance financial inclusion through digital banking?"

7. Conclusion

The study's results show that digital transformation is altering Botswana's banking industry, with mobile banking, artificial intelligence (AI), blockchain technology, and fintech collaborations driving financial innovation. Banks like FNB Botswana, Absa Botswana, Stanbic Bank Botswana, and Bank Gaborone are progressively using digital financial products to improve operational efficiency, client engagement, and financial inclusion. However, cybersecurity risks, regulatory gaps,

infrastructural constraints, and financial literacy issues continue to impede wider use. According to comparative observations from Kenya, Nigeria, and South Africa, Botswana may accelerate digital banking adoption by improving fintech legislation, investing in cybersecurity, and extending rural internet access.

To fully realise the advantages of digital banking, deliberate policy actions are required. This involves creating clear fintech legislation, implementing strong cybersecurity measures, and boosting digital financial literacy among consumers. While Botswana's banking industry has made tremendous progress in digital transformation, more investment in technology, regulatory changes, and consumer awareness initiatives will be required to provide a robust, safe, and inclusive digital financial environment. Botswana may establish itself as a regional leader in digital banking, promoting economic development, financial inclusion, and long-term banking sector sustainability by aggressively tackling these difficulties.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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