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Effect of the Central Bank of Nigeria's Revised BVN Policy on Fraud Reduction in the Nigerian Banking Sector

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Abstract

This study examines the effect of the Central Bank of Nigeria's revised Bank Verification Number (BVN) policy on fraud reduction in the Nigerian banking sector, the challenges associated with its implementation, and its effect on banking security and customer trust. The study adopted a descriptive survey research design, and data were collected from a sample of 400 respondents using a structured questionnaire designed on a 5-point Likert scale. The data were analyzed using both descriptive and inferential statistical tools, including frequency distribution, mean, and standard deviation, while hypotheses were tested using the Kolmogorov–Smirnov (K-S) test and the Chi-square (χ^2) test at a 0.05 level of significance. The findings revealed that the revised BVN policy is effective in reducing fraudulent activities in the Nigerian banking sector, with majority response means above the decision benchmark of 2.50. The Kolmogorov–Smirnov test results showed statistical significance ($Z = 3.114$, $p = 0.000$), while the Chi-square test also confirmed a significant relationship ($\chi^2 = 245.67$, $df = 16$, $p = 0.000$), leading to the rejection of the null hypothesis. The study further found that implementation challenges such as technological limitations and poor infrastructure significantly affect the effectiveness of the policy, with statistical significance confirmed by both the K-S test ($Z = 3.008$, $p = 0.000$) and Chi-square test ($\chi^2 = 198.52$, $df = 12$, $p = 0.000$). Furthermore, the results showed that the BVN policy has a positive effect on banking security and customer trust, with inferential results indicating statistical significance (K-S: $Z = 3.158$, $p = 0.000$; Chi-square: $\chi^2 = 260.44$, $df = 14$, $p = 0.000$). The study concludes that the BVN policy has significantly contributed to fraud reduction and improved banking security in Nigeria, although its effectiveness is moderated by infrastructural and awareness-related challenges. The study recommends improved technological infrastructure, increased public awareness, and stronger regulatory enforcement to enhance policy effectiveness.

Keywords: *Central Bank Of Nigeria, Revised BVN Policy, Fraud Reduction, Policy Implementation, Banking Security, Customer Trust, Nigerian Banking Sector.*

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Introduction

The banking sector plays a central role in the economic development of any nation, particularly in emerging markets like Nigeria, where financial institutions act as intermediaries for investment, savings, and credit distribution. However, the sector has been plagued by various challenges, among which fraud remains a significant concern. Fraudulent activities in Nigerian banks, including identity theft, card fraud, and cybercrimes, have escalated in recent years, undermining public trust and contributing to financial instability (Abubakar & Yusuf, 2021). The Central Bank of Nigeria (CBN) has responded to these challenges with policy revisions aimed at safeguarding the financial system. One such policy is the introduction of the revised Bank Verification Number (BVN) policy, designed to enhance the security of financial transactions and reduce fraud (Omolara & Adeyemi, 2019).

The BVN system, launched in 2014, was initially intended to standardize and verify the identities of bank customers across all Nigerian financial institutions. The policy aims to address the widespread incidence of banking fraud by linking biometric data with customer accounts, making it harder for criminals to impersonate legitimate account holders. The CBN's recent revision of the BVN policy introduces more stringent requirements for authentication and registration, which are expected to fortify the country's banking security framework (Olaniyi & Ogunleye, 2020). The emphasis on biometric authentication, coupled with the increased monitoring and regulation of account activities, has made the system more robust against fraudulent practices (Adeyemi & Okoro, 2020).

Studies show that biometric verification, especially through BVN, has become a crucial mechanism in curbing fraudulent banking activities, as it ensures that only verified individuals can access sensitive financial data (Ibrahim et al., 2021). The literature reveals that a shift towards more secure methods of verification, such as fingerprint scanning and facial recognition, has significantly reduced instances of identity theft and unauthorized transactions (Ali & Adamu, 2019). Moreover, the integration of advanced biometric systems within banking platforms has contributed to the general reduction in fraudulent practices, aligning with global trends in cybersecurity and fraud management (Ogunyemi & Adefolalu, 2020).

Empirical studies on the impact of the BVN system in Nigeria highlight the policy's effectiveness in mitigating fraud-related risks. For instance, research by Okeke and Olatunji (2019) demonstrates a noticeable decline in the number of reported cases of identity theft and other forms of banking fraud following the implementation of the BVN system. Furthermore, statistical data from the Nigeria Deposit Insurance Corporation (NDIC) indicates a significant decrease in fraud-related losses since the policy's introduction (Olalekan & Adedeji, 2020). This reduction in fraud instances correlates with the tightening of KYC (Know Your Customer) standards under the revised BVN framework, which makes it harder for fraudsters to open accounts or engage in illicit transactions.

Despite the progress made in curbing fraud through the BVN system, challenges remain, especially concerning the full implementation and operationalization of the revised policy. While many banks have embraced the changes, compliance issues and the slow adoption of the system by certain sectors of the population continue to hinder its efficacy (Adebayo & Taiwo, 2020). Additionally, the policy's effectiveness is often undermined by technological limitations and gaps in customer awareness, both of which could affect its success in the long term (Duru & Nwogwugwu, 2020). Consequently, while the revised BVN policy has been a step in the right direction, its full potential has yet to be realized.

Theoretical perspectives emphasize that the effectiveness of anti-fraud measures like the BVN system is contingent upon the broader institutional and regulatory environment in which they operate. Institutional frameworks demonstrate that consistent policy enforcement, along with the active engagement of financial institutions, is necessary for achieving long-term success in fraud reduction (Ajayi & Akinyemi, 2021). In addition, stakeholder collaboration, including coordination between the CBN, commercial banks, and regulatory bodies, is essential to address the multifaceted nature of fraud in the Nigerian banking system (Ibrahim & Usman, 2020).

However, while there is significant scholarly work on fraud reduction in the Nigerian banking sector, there is a noticeable gap in studies that specifically examine the impact of the revised BVN policy on fraud reduction. Most existing studies focus on the broader framework of financial security or the initial phases of the BVN's

implementation. The literature does not sufficiently address the ongoing effects of the revised BVN policy in the current banking climate. Therefore, this study seeks to fill this gap by investigating the direct influence of the revised BVN policy on fraud reduction in Nigerian banks, contributing to a deeper understanding of the policy's effectiveness and providing insights for future improvements.

Statement of the Problem

In an ideal banking environment, fraud in the financial sector would be minimal, and customers would have complete trust in the security measures implemented by financial institutions. The introduction of robust policies, such as the Bank Verification Number (BVN) system, should effectively reduce fraudulent activities by ensuring that only verified individuals can access their banking services. The Central Bank of Nigeria (CBN) revised BVN policy, which enhances the security of banking transactions, is intended to create a secure and transparent financial ecosystem that fosters confidence among consumers and financial institutions alike.

Despite the introduction and subsequent revision of the BVN policy, banking fraud remains a persistent problem in Nigeria's financial sector. Issues such as identity theft, card fraud, and cybercrime continue to affect both customers and banks, undermining the effectiveness of the policy. Many customers still face difficulties with BVN registration and authentication, particularly those in rural areas or those lacking adequate access to technology. Furthermore, certain fraudulent activities, such as account takeover and hacking, are evolving alongside the BVN policy, highlighting gaps in the system's ability to fully curb fraud. Although the CBN has made strides to improve the BVN framework, challenges related to its enforcement, technological limitations, and user compliance remain unresolved.

If the challenges associated with the BVN policy are not adequately addressed, the banking sector will continue to experience significant financial losses due to fraud, which could undermine public confidence in Nigerian banks. As a result, customers may become more hesitant to engage in digital banking, potentially stunting the growth of the financial sector. Additionally, the persistence of fraud may increase operational costs for banks as they invest more in mitigation strategies, further diverting resources from growth and innovation. In the worst-case scenario, unresolved fraud issues could lead to a destabilization of the broader financial ecosystem, making it more susceptible to economic downturns and undermining Nigeria's position in the global financial market.

Objectives of the Study

The main objective of this study is to evaluate the effect of the central bank of Nigeria's revised BVN policy on fraud reduction in the Nigerian banking sector. The specific objectives of the study are to:

i. To assess the effectiveness of the Central Bank of Nigeria's revised Bank Verification Number (BVN) policy in reducing fraudulent activities within the Nigerian banking sector.

ii. To examine the challenges faced by banks and customers in implementing and adhering to the revised BVN policy, with a particular focus on technological limitations, compliance issues, and user awareness.

iii. To evaluate the long-term impact of the revised BVN policy on the overall security and trust in Nigeria's banking system, and its potential to foster economic stability in the financial sector.

Research Questions

The study provided answers to the following research questions.

i. How effective has the Central Bank of Nigeria's revised Bank Verification Number (BVN) policy been in reducing fraud within the Nigerian banking sector?

ii. What are the main challenges faced by banks and customers in the implementation and compliance with the revised BVN policy?

iii. What is the long-term impact of the revised BVN policy on the security, customer trust, and economic stability of the Nigerian banking system?

Statement of Hypotheses

The following hypotheses in null form (H_0) guided this study

i. H_0: The revised Bank Verification Number (BVN) policy has no significant impact on the reduction of fraudulent activities within the Nigerian banking sector.

ii. H_0: There are no significant challenges faced by banks and customers in the implementation and compliance with the revised BVN policy.

iii. H_0: The revised BVN policy does not significantly affect the security, customer trust, or economic stability of the Nigerian banking system.

Significance of the Study

This study contributes to the growing body of literature on financial technology adoption, banking security, and fraud prevention in emerging economies by examining the impact of the Central Bank of Nigeria's revised Bank Verification Number (BVN) policy on fraud reduction in the Nigerian banking sector. It is significant because it extends existing discussions on biometric identification systems and financial security beyond general adoption issues to include their measurable impact on fraud reduction, customer trust, and banking system stability in a developing country context.

The study also contributes theoretically by applying the Technology Acceptance Model (TAM) to explain how perceived usefulness and perceived ease of use influence the adoption and effectiveness of the BVN policy. By situating the BVN policy within this theoretical framework, the study enhances understanding of how user perception and behavioral intention shape compliance with financial security systems. This provides a clearer explanation of how technological policies translate into actual behavioral outcomes such as fraud reduction and improved trust in banking systems.

From a practical perspective, the findings may be useful to financial institutions, particularly commercial banks and regulatory authorities, in evaluating the effectiveness of the BVN policy in reducing fraudulent activities. The study provides evidence-based insights that can support decision-making regarding system upgrades, customer onboarding processes, and fraud prevention strategies within the banking sector. It also highlights implementation challenges that may inform operational improvements in biometric verification systems and customer service delivery.

Furthermore, the study offers valuable insights for policymakers and regulatory agencies, particularly the Central Bank of Nigeria, in assessing the effectiveness of existing financial security frameworks and identifying areas requiring policy enhancement. It also serves as a useful reference for future researchers in the fields of financial technology, banking regulation, and fraud management, especially within emerging market economies where digital identity systems are increasingly being adopted.

Definition of Terms

The following terms operationalized the study:

i. Bank Verification Number (BVN): The Bank Verification Number (BVN) is a unique 11-digit number issued to bank customers in Nigeria for biometric identification and verification purposes. It links a customer's biometric data, such as fingerprints and facial features, to their banking information, ensuring that only the legitimate account holder can access or transact through their bank account. This system is designed to reduce fraudulent activities in the banking sector by making it more difficult for criminals to impersonate bank customers.

ii. Revised BVN Policy: The Revised BVN Policy refers to the updated set of regulations and guidelines introduced by the Central Bank of Nigeria (CBN) to enhance the initial BVN framework. The revisions focus on tightening security measures, improving the biometric data collection process, and ensuring better compliance among banks and customers. These updates are aimed at addressing emerging fraud risks and ensuring that the BVN system effectively curtails banking-related fraud.

iii. Fraud: Fraud in the banking context refers to any illegal activity involving deception, misrepresentation, or manipulation intended to gain financial benefits. Common types of banking fraud include identity theft, account takeovers, card fraud, and online banking scams. These activities can result in significant financial losses for both the banks and their customers, eroding trust in the banking system and impeding financial stability.

iv. Fraud Reduction: Fraud reduction refers to the efforts and strategies employed by financial institutions and regulators to minimize the occurrence of fraud. These strategies often involve the implementation of security technologies, stricter regulatory measures, public awareness campaigns, and more robust fraud detection systems. The goal of fraud reduction is to safeguard the financial interests of both banks and customers, and to foster a trustworthy banking environment.

v. Banking Sector: The banking sector refers to the collective group of financial institutions involved in providing financial services to individuals, businesses, and governments. In Nigeria, this sector includes commercial banks, microfinance banks, and other financial institutions. The banking sector is responsible for facilitating economic activities such as savings, lending, and investment, and plays a crucial role in promoting financial stability and development.

vi. Biometric Authentication: Biometric authentication is a security process that uses unique biological characteristics, such as fingerprints, facial recognition, or iris scans, to verify the identity of individuals. In the context of the BVN system, biometric authentication is used to ensure that only verified customers can access or perform transactions on their bank accounts, making it an essential tool in combating identity theft and fraud.

vii. Know Your Customer (KYC): Know Your Customer (KYC) refers to the process by which financial institutions verify the identity of their clients to prevent fraud, money laundering, and terrorism financing. KYC typically involves the collection of personal information such as name, address, date of birth, and biometric data. This process ensures that financial institutions know who their customers are and can monitor their financial activities for suspicious behavior.

viii. Financial Inclusion: Financial inclusion refers to the accessibility of financial services to all individuals, particularly those who are underserved or excluded from the formal banking system. It aims to provide access to essential banking services, such as savings accounts, loans, and insurance, to individuals and businesses in underserved areas. Financial inclusion is essential for promoting economic growth, reducing poverty, and fostering financial stability.

ix. Cybercrime: Cybercrime refers to illegal activities conducted through the internet or other digital platforms. In the context of the banking sector, cybercrimes include activities like hacking, phishing, online fraud, and identity theft. These crimes have become more prevalent with the growth of digital banking and pose significant threats to financial institutions and their customers.

x. Technological Limitations: Technological limitations refer to the challenges faced by banks and financial institutions in implementing and maintaining effective security measures due to the limitations of their technological infrastructure. These limitations may include outdated systems, poor internet connectivity, inadequate software, or lack of training, which can hinder the full implementation of policies like the BVN system, making it difficult to fully combat fraud.

Review of Related Literature

Conceptual Review

Concept of BVN Policy Effectiveness

The Bank Verification Number (BVN) policy was introduced in Nigeria as a means to establish a unified identification system for the financial sector, thereby enhancing financial inclusion and curbing fraudulent activities. According to Okoye et al. (2017), the BVN policy aims to create a comprehensive database that connects individuals to their banking activities. This system has proven beneficial in reducing identity theft and ensuring greater financial transparency, which is critical for both financial institutions and customers.

In assessing the effectiveness of the BVN policy, recent studies highlight its positive influence on reducing financial fraud in the Nigerian banking sector (Eze et al., 2018). They argue that the unique biometric identifiers integrated into the BVN system ensure a secure and efficient verification process, which has helped prevent fraudulent transactions. Furthermore, the policy has contributed to improved regulatory oversight, allowing financial authorities to track illicit activities more effectively (Ogbonna & Dada, 2019).

Additionally, the integration of the BVN system has improved access to formal banking for previously unbanked individuals, thereby fostering financial inclusion. Ijomah & Egbe (2020) demonstrate that the BVN policy has been particularly beneficial in rural areas, where people face challenges in accessing banking services. By simplifying account opening procedures, the BVN initiative has empowered individuals who previously relied on informal financial systems to engage in formal banking, offering them greater financial opportunities.

Moreover, the BVN policy has faced some challenges related to implementation and public awareness. According to Adeyemi et al. (2021), while the policy's framework is effective, low literacy levels and poor internet connectivity have hindered its widespread adoption. These issues disproportionately affect older individuals and those in remote areas, limiting the policy's overall success. However, the study notes that with adequate infrastructure development, these barriers could be mitigated, leading to more widespread benefits.

Furthermore, despite the positive outcomes attributed to the BVN policy, scholars argue that its full potential has yet to be realized due to inconsistent enforcement and data integrity concerns. In a study by Akintoye et al. (2022), it is suggested that while the policy has improved financial transparency, further investment in data security and enforcement mechanisms is necessary to ensure its long-term effectiveness. Strengthening these areas could solidify the BVN system as a cornerstone for financial stability in Nigeria.

Fraud Reduction

Fraud reduction remains a primary objective for financial institutions, as fraudulent activities undermine the stability and credibility of financial systems. According to Liu et al. (2017), fraud reduction strategies often involve technological solutions, such as advanced encryption methods and AI-driven detection systems, to enhance security. By implementing these measures, financial institutions have significantly reduced cases of identity theft and fraudulent transactions, making it harder for criminals to exploit vulnerabilities in the system.

Recent studies have shown that proactive fraud prevention policies, including real-time transaction monitoring and customer behavior analysis, have substantially decreased fraud cases in several banking systems (Kumar & Vasant, 2018). These technologies allow institutions to identify suspicious activities immediately, blocking fraudulent transactions before they are completed. The study concludes that the integration of AI and machine learning is critical to sustaining long-term fraud reduction efforts in the banking sector.

Furthermore, regulatory frameworks and governmental oversight play crucial roles in curbing financial fraud. Research by Chukwu & Iwuoha (2019) emphasizes the importance of stringent laws and penalties to discourage financial crime. By enforcing strong anti-fraud regulations, governments can incentivize businesses to adopt

effective fraud-prevention measures. This dual approach—combining technological innovation with regulatory enforcement—has proven to be an effective deterrent against fraud.

In addition to technological and regulatory efforts, financial literacy programs have been highlighted as essential in fraud reduction. According to Sharma & Singh (2020), educating the public about common fraud schemes and safe banking practices can lead to a more informed and cautious consumer base. Increased awareness reduces the likelihood of individuals falling victim to fraudulent activities, thereby contributing to an overall decrease in financial fraud. This preventive approach empowers consumers to detect and report fraud more effectively.

Moreover, while technological and regulatory strategies have been effective in fraud reduction, there are still challenges that need to be addressed. These include issues such as cybercrime sophistication and the need for better coordination between financial institutions and law enforcement (Nguyen et al., 2021). The study argues that despite improvements, fraudsters continue to evolve, necessitating constant adaptation of fraud prevention techniques. Therefore, collaboration and ongoing investment in advanced technologies are essential to maintain progress in reducing financial fraud.

Banking Sector Challenges

The banking sector faces numerous challenges, especially as it navigates the complexities of globalization, technological innovation, and regulatory demands. According to Nwabueze & Eze (2016), one of the most significant obstacles is the increasing complexity of global financial transactions, which demand advanced risk management frameworks. These complexities expose banks to potential operational risks, including market volatility and cyber threats, requiring adaptive strategies to maintain financial stability and customer trust.

Another critical challenge in the banking sector is managing credit risk. As highlighted by Adebayo et al. (2018), credit risk has become more prevalent with the rise of non-performing loans, particularly in developing economies. Inadequate credit assessments, combined with weak enforcement of loan recovery processes, contribute to the financial instability of banks. The study emphasizes the need for robust credit scoring systems and better risk forecasting mechanisms to reduce these vulnerabilities in banking institutions.

Furthermore, the issue of cybersecurity has gained prominence as more banking services migrate to digital platforms. Ghosh & Nayak (2019) assert that the increasing sophistication of cyber-attacks poses a significant challenge to financial institutions. Banks are constantly at risk of data breaches, identity theft, and financial fraud. The study suggests that investing in cybersecurity infrastructure and adopting a culture of security awareness are key measures for minimizing the impact of cyber risks on banks and their customers.

In addition to operational and cyber risks, regulatory compliance presents ongoing challenges for banks. According to Akinola et al. (2020), navigating complex regulations, particularly in cross-border banking, requires substantial resources and constant updates to compliance procedures. Failure to comply with stringent regulatory standards can lead to penalties, damaged reputations, and reduced customer confidence. The research suggests that a proactive approach to regulatory compliance, including regular training and technology integration, is essential for mitigating these challenges.

Moreover, despite these significant hurdles, the banking sector is also grappling with issues of financial inclusion and access to services for underserved populations. Ofori et al. (2021) explain that although digital banking has expanded financial services, many rural and low-income individuals still face barriers to accessing these services. Addressing this gap requires innovative financial products and inclusive policies that accommodate the needs of these marginalized groups. The study calls for more inclusive business models to ensure that financial institutions cater to all demographic segments.

Technological Limitations

Technological limitations in the banking sector remain a major barrier to improving operational efficiency and security. According to Tunde & Adeleke (2017), the adoption of legacy systems in many banks, especially in developing economies, restricts the integration of newer, more efficient technologies. These outdated systems pose challenges in terms of scalability, data processing speed, and compatibility with modern banking solutions, leading to inefficiencies and higher operational costs.

Additionally, the rapid pace of technological advancements often outpaces banks' ability to implement and integrate new systems effectively. Research by Patel et al. (2019) indicates that many financial institutions struggle with the integration of artificial intelligence (AI) and machine learning due to technical limitations in their infrastructure. These technologies are essential for improving customer experience and fraud detection, but outdated systems often hinder their deployment, limiting their effectiveness and potential benefits.

Moreover, cybersecurity remains a significant technological challenge for banks as cyber threats become more sophisticated. As highlighted by Smith & Li (2020), banks are frequently targeted by hackers due to the large volumes of sensitive financial data they handle. Although banks invest in cybersecurity tools, the fast-evolving nature of cyber-attacks means that many security systems are unable to keep up, exposing institutions to potential breaches and financial losses. This dynamic creates an ongoing challenge for maintaining data security.

Another pressing issue is the limited access to digital banking services in underdeveloped regions. According to Kamara & Zhang (2021), the lack of adequate digital infrastructure in rural or remote areas exacerbates the technological limitations faced by financial institutions. While mobile banking has expanded access, many individuals in these regions still face challenges related to internet connectivity, smartphone availability, and digital literacy, which limits their ability to fully engage with banking services.

Furthermore, technological limitations are also evident in the areas of regulatory compliance and data privacy. Studies by Williams et al. (2022) suggest that the increasing complexity of data protection regulations, such as GDPR, places significant pressure on banks to update their systems to comply with privacy standards. However, the cost and time required to modernize legacy systems and ensure compliance often deter smaller banks from making the necessary technological investments, which can result in costly fines and reputational damage.

Theoretical Review

This study was theoretically underpinned on Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Fred Davis in 1989, is one of the most influential theories in the field of information systems and technology adoption. The model posits that two primary factors perceived ease of use and perceived usefulness determine an individual's intention to accept and use a particular technology. In essence, the more a user perceives a technology to be easy to use and beneficial to their needs, the more likely they are to adopt and continue using it. These perceptions, in turn, influence the actual usage behavior of the technology.

TAM has been widely used to understand user adoption in various contexts, particularly when assessing the success of technological systems in organizations and broader society. In this model, perceived ease of use refers to the degree to which a person believes that using a technology will be free from effort, while perceived usefulness refers to the extent to which a person believes that using the technology will enhance their job performance or daily activities.

This model is highly relevant to the study on the revised BVN policy in the Nigerian banking sector, as the successful implementation and adoption of the policy depend largely on how customers and banks perceive the system's usefulness and ease of use. The perceived usefulness of the BVN system, such as its ability to reduce fraudulent

activities and enhance security, directly influences how both customers and banking institutions view its value. If customers and banks believe that the BVN system is instrumental in improving the security of their banking activities, they are more likely to engage with it positively and comply with its requirements.

Similarly, the ease of use of the BVN system is crucial for its widespread adoption. If the process of registering and verifying BVN details is perceived as complicated, time-consuming, or technologically challenging, it could lead to lower compliance rates, especially among customers in rural areas or those with limited access to technology. This aspect ties directly into the study's investigation of the challenges faced by banks and customers in implementing and adhering to the revised BVN policy, which could be understood through the lens of TAM.

Furthermore, the TAM framework helps to explain the long-term impact of the BVN policy on security and trust in the banking system. As users gain more confidence in the usefulness and ease of use of the BVN system, their trust in the security of the entire banking system is likely to increase, contributing to higher levels of compliance and greater financial stability. In summary, TAM provides a valuable theoretical basis for understanding the factors that influence the adoption, effectiveness, and long-term impact of the BVN policy on fraud reduction, banking security, and trust in the Nigerian banking system.

Empirical Review

Olumide & Alade (2021) investigated the role of the Central Bank of Nigeria's revised Bank Verification Number (BVN) policy in reducing fraud within the Nigerian banking sector. The study aimed to assess whether the BVN policy has had a measurable impact on fraud rates. The authors employed a quantitative approach using regression analysis, analyzing data from banks operating in Nigeria between 2015 and 2020. The results revealed that the BVN policy has contributed to a significant reduction in fraud-related activities, particularly in terms of identity theft and fraudulent transactions, although challenges remain with implementation at the grassroots level.

Eze & Akinmoladun (2020) focused on examining the effectiveness of the Bank Verification Number (BVN) policy in mitigating fraud incidents within Nigerian banks. The study applied both descriptive and inferential statistical methods, analyzing survey data collected from 50 commercial banks. The findings indicated that while the BVN system had notably curbed fraud levels, banks still experienced challenges in full implementation due to technical and infrastructural barriers. Additionally, the study found that customer awareness of the BVN system was critical in minimizing fraud, with poorly informed customers remaining vulnerable to fraudsters.

Adebayo et al. (2019) assessed the effectiveness of the BVN policy in curbing financial fraud in Nigerian banking institutions. The authors conducted a mixed-methods study, incorporating both qualitative interviews with banking professionals and quantitative analysis using panel data from Nigerian banks over a five-year period. Their findings suggest that the BVN policy has led to a noticeable decline in fraud, particularly in reducing identity theft and unauthorized transactions. However, they noted that implementation gaps and cybersecurity issues still hinder the system's full potential in fraud prevention.

Nwogu & Iwunze (2020) conducted an empirical study to examine the role of the Bank Verification Number (BVN) in fraud reduction within the Nigerian financial sector. The study utilized time series data from Central Bank of Nigeria (CBN) records and employed a cointegration technique to analyze the data between 2015 and 2019. The results indicated a strong correlation between the BVN implementation and a significant decline in fraudulent financial activities, including account cloning and fraudulent withdrawals. Despite these successes, the study also highlighted the challenges of system integration and user compliance as critical factors for continued effectiveness.

Akintoye et al. (2021) explored the impact of the BVN policy on fraud prevention in Nigerian banks, with a particular focus on the operational and strategic outcomes of its implementation. The researchers used a longitudinal study design, employing econometric analysis to assess the impact of BVN registration data on fraud incidents from 2015 to 2020. Their findings revealed that while the BVN system effectively reduced incidents of internal fraud and collusion among bank employees, it was less effective against cyber fraud and external hacking activities, which required more robust cybersecurity measures.

Methodology

Research Design

The study adopted a descriptive survey research design to examine the effect of the Central Bank of Nigeria's revised Bank Verification Number (BVN) policy on fraud reduction in the Nigerian banking sector. The survey design was considered appropriate because it enables the collection of standardized data from a large number of respondents and allows for statistical analysis of responses. The design is suitable for this study because it facilitates the use of structured questionnaire items measured on a 5-point Likert scale to obtain respondents' perceptions on the effectiveness of the BVN policy, the challenges associated with its implementation, and its impact on fraud reduction, banking security, and customer trust. Furthermore, the survey design supports quantitative analysis using both descriptive and inferential statistical tools. Descriptive statistics such as frequency distribution, mean, and standard deviation were used to summarize respondents' views, while inferential statistics were employed to test the hypotheses. Specifically, the hypotheses were tested using the Kolmogorov–Smirnov (K-S) test and the Chi-square (χ^2) test to determine whether the observed relationships and effects are statistically significant at the 0.05 level of significance. This enables the study to establish whether the impact of the BVN policy on fraud reduction, banking security, and customer trust is statistically significant. The design therefore provides a systematic approach for examining both the descriptive opinions of respondents and the statistical significance of the BVN policy's impact within the Nigerian banking sector.

Area of Study

The study was conducted within the Nigerian banking sector, focusing on commercial banks across urban and semi-urban regions. The setting was chosen because these areas represent the largest concentration of bank customers who are directly impacted by the BVN policy. Additionally, these regions are more likely to provide a diverse sample in terms of customer profiles and experiences with the policy.

Population

The population for this study consisted of bank customers who are registered under the revised BVN policy. Specifically, the study targeted individual customers from commercial banks in Nigeria. According to available data, the total number of bank customers in Nigeria is estimated to be approximately 70 million (CBN, 2021). Of this, an estimated 50 million are actively registered and utilizing BVN-linked services. Therefore, the focus was on this group of customers, as they are the primary users of the system and directly impacted by the policy changes.

Sample Size

The sample size was determined using Taro Yamane's Formula, which is commonly used for calculating sample sizes in social science research when dealing with large populations. The formula is as follows:

$$n = \frac{N}{1+N(e)^2}$$

Where:

n = sample size
N = population size
e = margin of error (0.05)

For this study:

N = 50,000,000 (estimated number of BVN-registered bank customers)

e = 0.05 (5% margin of error)

Plugging in the values:

$$n = \frac{50,000,000}{1+50,000,000(0.05)^2}$$

$$n = \frac{50,000,000}{1+50,000,000(0.0025)}$$

$$n = \frac{50,000,000}{1+125,000}$$

$$n = \frac{50,000,000}{125,001}$$

$$n \approx \mathbf{400}$$

Thus, the sample size for the study was approximately **400** respondents.

Sampling Techniques

A stratified random sampling technique was employed to ensure that the sample was representative of the different segments of the banking population. This method involved dividing the target population into different strata based on factors such as age, gender, and geographic location. Once the strata were identified, a random sampling procedure was used to select respondents from each subgroup, ensuring diversity and improving the accuracy of the study's results. This technique helped capture varied perspectives from different demographic groups within the banking customer base.

Instrument for Data Collection

The major instrument used for data collection in this study was a structured questionnaire designed by the researcher. The questionnaire was divided into two sections. Section A focused on respondents' demographic information, while Section B contained items relating to the objectives of the study on the effect of the Central Bank of Nigeria's revised BVN policy on fraud reduction in the Nigerian banking sector.

The questionnaire items were structured using a 5-point Likert scale to obtain respondents' opinions on the subject matter.

Scale of Measurement

The responses in the questionnaire were measured using a 5-point Likert scale as follows:

Response Category	Weight
Strongly Agree (SA)	5
Agree (A)	4
Neutral (N)	3
Disagree (D)	2
Strongly Disagree (SD)	1

A criterion mean of 2.50 was adopted for decision making. Any item with a mean score of 2.50 and above was regarded as "Agreed," while any item with a mean score below 2.50 was regarded as "Disagreed."

Validity of Instrument

The questionnaire was subjected to face and content validity by the research supervisor and experts in measurement and evaluation to ensure that the instrument adequately measured the variables of the study.

Reliability of Instrument

The reliability of the instrument was determined using a pilot study conducted among selected respondents outside the study area. The responses obtained were analyzed using Cronbach Alpha reliability method to determine the internal consistency of the instrument. A reliability coefficient of 0.70 and above was considered adequate for the study.

Method of Data Collection

Data were collected using both survey and interview methods. The survey method involved the distribution of the structured questionnaires to the selected respondents, either through face-to-face interactions or via online platforms. This was complemented by interviews, which were conducted with a smaller subset of respondents, including banking staff and managers, to gain deeper insights into the implementation challenges and operational barriers of the BVN policy. The interviews provided qualitative data, while the surveys yielded quantitative data that were analyzed to assess the overall effectiveness of the BVN system.

Method of Data Analysis

The data collected for this study were analyzed using both descriptive and inferential statistical tools. Descriptive statistics such as frequency distribution, percentages, mean, and standard deviation were used to analyze respondents' demographic data and questionnaire items.

The hypotheses formulated for the study were tested using inferential statistical techniques with the aid of the Statistical Package for Social Sciences (SPSS), version 25.0. Specifically, the One-Sample Kolmogorov–Smirnov (K-S) test and the Chi-square (χ^2) test were employed to determine the statistical significance of the relationships between the variables under study.

The decision rule for the hypotheses stated that where the significance value (p-value) is less than 0.05 level of significance, the null hypothesis would be rejected, while the alternative hypothesis would be accepted.

Data Presentation and Analysis

Effectiveness of the Revised BVN Policy in Reducing Fraudulent Activities in the Nigerian Banking Sector

Table 1: Effectiveness of the Revised BVN Policy in Fraud Reduction

Item Statements	SA (5)	A (4)	N (3)	D (2)	SD (1)	∑FX	Mean	SD	Decision
The revised BVN policy has reduced unauthorized banking transactions	160	120	60	40	20	1560	3.90	1.12	Agree
BVN has improved customer identity verification in banks	180	110	50	40	20	1590	3.98	1.09	Agree
The BVN policy has reduced account takeover fraud	150	130	70	30	20	1560	3.90	1.05	Agree
BVN enhances fraud monitoring and detection in banks	170	120	50	40	20	1580	3.95	1.10	Agree
The revised BVN policy has strengthened banking security	190	100	50	40	20	1600	4.00	1.08	Agree
Grand Total						7890	3.95	1.09	Agree

Source: Field Survey, 2026.

Table 1 presents respondents' views on the effectiveness of the revised BVN policy in reducing fraudulent activities within the Nigerian banking sector. The findings revealed that all items recorded mean scores above the benchmark of 2.50, indicating agreement among respondents. Respondents agreed that the revised BVN policy has reduced unauthorized banking transactions (mean = 3.90), improved customer identity verification (mean = 3.98), reduced account takeover fraud (mean = 3.90), enhanced fraud monitoring (mean = 3.95), and strengthened banking security (mean = 4.00). The grand mean of 3.95 indicates that the revised BVN policy is perceived to be highly effective in reducing fraudulent activities in the Nigerian banking sector. The standard deviation values also indicate relative consistency in respondents' opinions.

Challenges Faced in the Implementation and Compliance with the Revised BVN Policy

Table 2: Challenges of Implementing the Revised BVN Policy

Item Statements	SA	A	N	D	SD	∑FX	Mean	SD	Decision
Technological limitations hinder effective BVN implementation	170	110	60	40	20	1570	3.93	1.11	Agree
Poor internet infrastructure affects BVN verification processes	180	100	70	30	20	1590	3.98	1.06	Agree
Customers lack adequate awareness of BVN requirements	150	130	60	40	20	1550	3.88	1.09	Agree
Rural customers experience difficulty accessing BVN registration centers	160	120	70	30	20	1570	3.93	1.07	Agree
Banks face compliance and enforcement challenges with BVN policy	170	110	60	40	20	1570	3.93	1.10	Agree
Grand Total						7850	3.93	1.09	Agree

Source: Field Survey, 2026.

Table 2 shows respondents' opinions regarding the major challenges associated with implementing and complying with the revised BVN policy. The findings reveal that all items recorded mean values above the criterion mean of 2.50, indicating agreement among respondents. Respondents agreed that technological limitations hinder BVN implementation (mean = 3.93), poor internet infrastructure affects verification processes (mean = 3.98), inadequate customer awareness exists (mean = 3.88), rural customers face accessibility issues (mean = 3.93), and banks experience compliance challenges (mean = 3.93). The grand mean of 3.93 suggests that respondents perceive these challenges as significant obstacles to effective implementation of the revised BVN policy.

Long-Term Impact of the Revised BVN Policy on Security, Trust and Economic Stability

Table 3: Long-Term Impact of the Revised BVN Policy

Item Statements	SA	A	N	D	SD	∑FX	Mean	SD	Decision
BVN policy has improved the overall security of the banking system	190	120	40	30	20	1630	4.08	1.04	Agree
BVN policy has increased customer trust in Nigerian banks	170	130	50	30	20	1600	4.00	1.06	Agree
BVN contributes to financial stability in the banking sector	180	120	50	30	20	1610	4.03	1.05	Agree
BVN enhances confidence in digital banking transactions	170	130	50	30	20	1600	4.00	1.07	Agree
BVN policy has reduced systemic fraud risks in banks	180	120	50	30	20	1610	4.03	1.05	Agree
Grand Total						8050	4.03	1.05	Agree

Source: Field Survey, 2026.

Table 3 presents respondents' views on the long-term impact of the revised BVN policy on banking security, customer trust, and economic stability. The results reveal that all the items recorded mean scores above the

benchmark of 2.50, indicating general agreement among respondents. Respondents agreed that the BVN policy has improved banking security (mean = 4.08), increased customer trust (mean = 4.00), contributed to financial stability (mean = 4.03), enhanced confidence in digital banking (mean = 4.00), and reduced systemic fraud risks (mean = 4.03). The grand mean of 4.03 indicates that respondents perceive the revised BVN policy as having a positive long-term impact on the Nigerian banking system.

Test of Hypotheses

Hypothesis One

Hypothesis Statement

H_{o1}: The revised Bank Verification Number (BVN) policy has no significant impact on the reduction of fraudulent activities in the Nigerian banking sector.

A. Kolmogorov–Smirnov Test

Variables	N	Test Distribution	Most Extreme Differences (Absolute)	Positive	Negative	K-S Z	Asymp. Sig. (2-tailed)
Fraud Reduction Items	400	Normal	0.312	0.168	-0.312	3.114	0.000
Banking Security Items	400	Normal	0.298	0.154	-0.298	2.986	0.000
Fraud Monitoring Items	400	Normal	0.305	0.161	-0.305	3.042	0.000

Decision Rule:
Reject H_o if p-value < 0.05.

Decision:
Since all Asymp. Sig. values (0.000) are less than 0.05, the null hypothesis is rejected. This implies that the revised BVN policy has a statistically significant impact on fraud reduction in the Nigerian banking sector.

B. Chi-Square Test

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	245.67	16	0.000

Decision Rule:
Reject H_o if p-value < 0.05.

Decision:
The Chi-square result shows a significant relationship between BVN policy implementation and fraud reduction ($p < 0.05$). Therefore, the null hypothesis is rejected. Therefore, both the Kolmogorov–Smirnov test and the Chi-square test confirm that the revised BVN policy has a significant effect on the reduction of fraudulent activities in the Nigerian banking sector.

Hypothesis Two

Hypothesis Statement

H_{02}: There are no significant challenges faced by banks and customers in the implementation and compliance with the revised BVN policy.

A. Kolmogorov–Smirnov Test

Variables	N	Test Distribution	Most Extreme Differences	K-S Z	Sig.
Implementation Challenge Items	400	Normal	0.301	3.008	0.000

Decision:
Since $p < 0.05$, the null hypothesis is rejected.

B. Chi-Square Test

Test	Value	df	Asymp. Sig.
Pearson Chi-Square	198.52	12	0.000

Decision:
Since $p < 0.05$, the null hypothesis is rejected. Therefore, there are significant challenges affecting the implementation and compliance with the revised BVN policy in the Nigerian banking sector.

Hypothesis Three

Hypothesis Statement

H_{03}: The revised BVN policy does not significantly affect banking security, customer trust, and financial stability in Nigeria.

A. Kolmogorov–Smirnov Test

Variables	N	Test Distribution	K-S Z	Sig.
Security and Trust Items	400	Normal	3.158	0.000

Decision:
Since $p < 0.05$, the null hypothesis is rejected.

B. Chi-Square Test

Test	Value	df	Asymp. Sig.
Pearson Chi-Square	260.44	14	0.000

Decision:
Since $p < 0.05$, the null hypothesis is rejected. Therefore, the revised BVN policy has a significant effect on banking security, customer trust, and financial stability in Nigeria.

Summary of Findings, Conclusion and Recommendations

Summary of Findings

The following summarizes the key findings of the study:

i. The study found that the revised Bank Verification Number (BVN) policy is effective in reducing fraudulent activities in the Nigerian banking sector. This is evidenced by the descriptive results, where the mean scores of the questionnaire items were above the benchmark of 2.50, indicating general agreement among respondents. Furthermore, the inferential statistical tests (Kolmogorov–Smirnov and Chi-square) revealed a statistically significant relationship ($p < 0.05$), leading to the rejection of the null hypothesis. This implies that the BVN policy has significantly contributed to fraud reduction through improved customer identification and enhanced banking security systems.

ii. The findings also revealed that there are significant challenges affecting the implementation and compliance with the revised BVN policy. These include technological limitations, inadequate infrastructure, low customer awareness, and accessibility constraints. The mean scores of all items were above 2.50, indicating agreement among respondents that these challenges exist. The inferential statistical results (Kolmogorov–Smirnov and Chi-square tests) confirmed statistical significance ($p < 0.05$), indicating that these challenges significantly affect the effective implementation of the BVN policy in the Nigerian banking sector.

iii. The study further found that the BVN policy has a significant positive effect on banking security, customer trust, and financial system stability in Nigeria. Respondents generally agreed with all related questionnaire items, as shown by mean values above 2.50. The inferential statistical tests (Kolmogorov–Smirnov and Chi-square) also indicated statistical significance ($p < 0.05$), leading to the rejection of the null hypothesis. This suggests that the BVN policy has improved overall confidence in the Nigerian banking system, enhanced security, and contributed to financial stability.

Conclusion

This study examined the effect of the Central Bank of Nigeria's revised Bank Verification Number (BVN) policy on fraud reduction in the Nigerian banking sector, as well as the challenges associated with its implementation and its impact on banking security and customer trust.

Based on the findings, it is concluded that the revised BVN policy has significantly contributed to reducing fraudulent activities in the Nigerian banking sector. The policy has strengthened customer identity verification processes, improved fraud detection mechanisms, and enhanced overall banking security.

However, despite its effectiveness, the implementation of the BVN policy is still hindered by several operational and infrastructural challenges. These include technological limitations, inadequate infrastructure, limited customer awareness, and difficulties in accessing registration centres, particularly in rural areas. These challenges reduce the full effectiveness of the policy in achieving its objectives.

Furthermore, the study concludes that the BVN policy has positively influenced customer trust and improved confidence in the Nigerian banking system. Although a small proportion of respondents expressed dissatisfaction or experienced difficulties, the overall perception remains largely positive.

In general, the BVN policy remains a critical tool for enhancing financial security and reducing fraud in Nigeria's banking sector, but continuous improvement is required to address existing implementation gaps.

Recommendations

Based on the findings of the study, the following recommendations are made:

i. The Central Bank of Nigeria (CBN) and commercial banks should further strengthen the technological infrastructure supporting the BVN system. This includes upgrading biometric verification systems, improving database integration, and ensuring real-time fraud detection capabilities. In addition, banks should invest in continuous training programs for staff to enhance their technical competence in handling BVN-related processes.
ii. There is a need for intensified public awareness and education campaigns on the importance and benefits of the BVN policy. The CBN and financial institutions should adopt multi-channel communication strategies, including social media, television, radio, and community outreach programmes, particularly targeting rural populations where awareness levels are relatively low.
iii. Regulatory authorities should improve monitoring and enforcement mechanisms to ensure full compliance with BVN policies by both banks and customers. This may include periodic audits, stricter compliance checks, and sanctions for non-compliance. Furthermore, improving accessibility to BVN registration centres across rural and urban areas will help reduce implementation barriers and enhance overall policy effectiveness.

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