



## BANK VERIFICATION NUMBER (BVN) AND FRAUD MANAGEMENT CASES IN THE NIGERIAN BANKING SECTOR

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### ABSTRACT

The study looks into how Nigerian fraud management is affected by Bank Verification Numbers (BVN). 152 respondents were chosen for the survey research design using the Taro Yamane sampling procedure. To gather information, a standardized questionnaire was given out. The findings demonstrated how much better fraud detection and prevention are made in the Nigerian banking industry by BVN. The report suggests streamlining fraud identification and disclosure processes by adding security control mechanisms to the BVN system. In order to regularly assess and monitor BVN-related concerns in the banking system, the Central Bank of Nigeria should also put mechanisms like regular system audits and a control and monitoring committee into place. According to the research, BVN security measures can aid in reducing fraud in Nigeria's banking industry.

**Keywords:** BVN, fraud management, Nigeria, banking sector

**JEL:** E51, E58, K20, O55

### INTRODUCTION

The financial system helps scarce resources move from surplus to deficit units for transactions, investments, and higher living standards in Nigeria's market-based economy. Financial institutions, markets, tools, regulations, and customs are all included (Peter & Milton, 2006). One of the key components of any financial system is the security of transactions and accounts. On February 14, 2014, the Central Bank of Nigeria, working with the banker's committee and all Nigerian banks, launched the Bank Verification Number (BVN), a centralised biometric identification system, with the goals of improving identity management and lowering fraud in the banking subsector. The BVN is a system by which bank customer is allocated unique identity for easy tracking and verification of transactions on the allocated customers' account (Evangelista, Cam, Huynh, Kwong, Mehrabani, Tse & Dudley, 2014).

The necessity for increased security on access to personal sensitive data in the financial system becomes essential in light of the rising number of incidences of conciliation on our traditional security measures (password/pin). The Nigerian banking sector is experiencing subpar performance for a variety of reasons, one of which being fraud. In recent times, fraud has emerged as one of the most formidable and unsolvable issues. Con artists now primarily target banks in an attempt to survive. It would be an understatement to say that only banks with excellent management, particularly in terms of preventing fraud, would endure in the years to come. The incapacity of banks to stop fraudsters is their "Achilles heel," which leads to a high rate of theft, deception, and forgeries. This affects the financial sector of the economy by undermining bank stability, growth, and development. For all financial service organisations, obtaining a safe and secure environment for financial activities is the primary priority. Threats to customer data and



transactions can originate from both inside and outside the system. As a result, bank administrators need to make sure that banks have the right procedures in place to protect customer data confidentiality, the integrity of the banking system, and the transactions that are carried out.

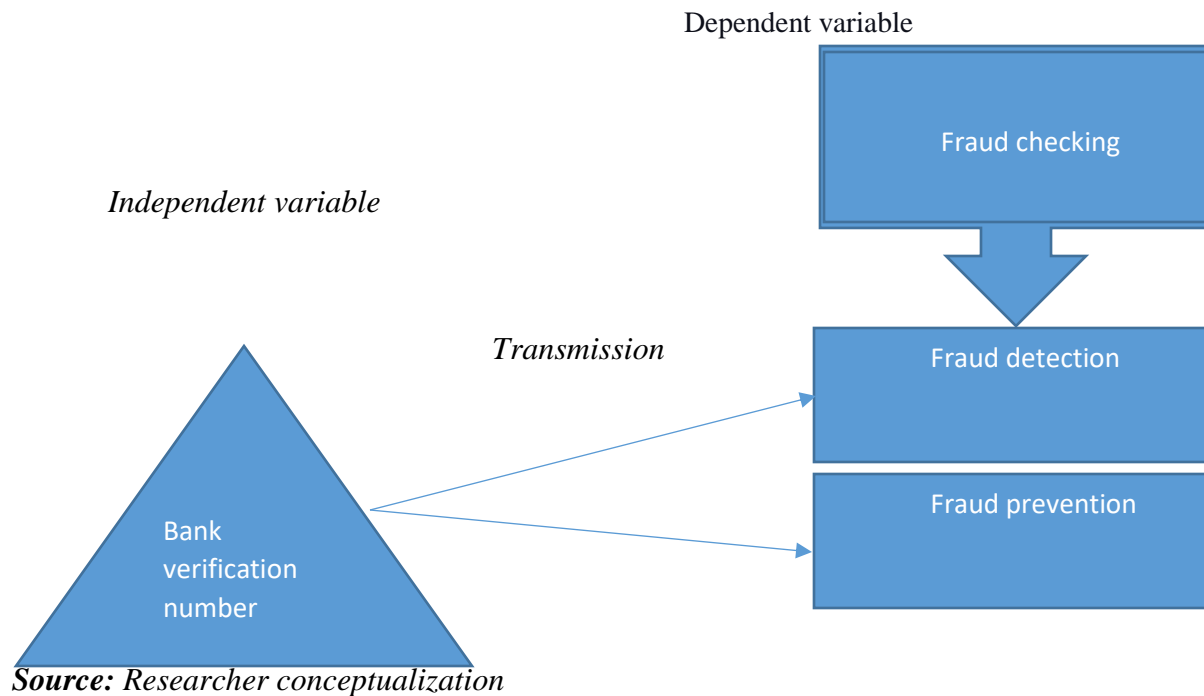
Today in Nigeria, the public at large, regulatory bodies, and shareholders all find fraud in the banking sector to be a pressing concern. This is due to the fact that fraud poses a risk to an organization's ability to operate as a business. An issue has arisen with the rise of bank scams over time. This is because all stakeholders rely on the banking system as a means of livelihood. This study becomes pertinent now that the policy thrust of CBN in combating frauds via the introduction of BVN as a means of fraud detection and possible elimination. In Nigeria, there is still growing concern about fraud and other unethical behaviours in the banking business, even with the complete implementation of the BVN and other banking regulation, oversight, and inspection procedures. There is ample evidence that the majority of banks are still plagued by issues linked to fraud and other related crimes, particularly when it comes to the quantity of fraud cases, the amount of money lost to fraud, and the number of employees implicated. It is in the light of the above that this study became timely to examine whether or not the bank verification number had any significant effect on fraud management cases in the Nigerian banking sector. Thus:

- H01: Bank verification number does not have any significant effect on fraud detection in the Nigerian banking sector;
- H02: Bank verification number does not have any significant effect on fraud prevention in the Nigerian banking sector.

### LITERATURE REVIEW

According to this theory, which was put forth by Cressey in 1953, the three factors that predispose people to commit fraud are perceived non-sharable financial need, perceived opportunity to covertly relieve the financial pressure, and perceived rationalisation (the capacity to mentally justify and rationalise illegal conduct). Chiezey and Onu (2013) have identified several factors that can cause people to commit fraud, including financial compressions such as greed, debt, and alcoholism; peer pressure vices like drug abuse; and work-related pressures like high standards for performance at work, the need to hide poor performance from coworkers, or the need to report performance that is better than actual in comparison to competitors. Other factors include the chance and mindset to conduct fraud, as well as dissatisfaction with the nature of the work or even a continuous desire to manipulate the system. Fraudsters need to think that their actions will not be discovered, or that if they are, nothing bad will happen to them; this includes thinking about the likelihood and severity of their punishment (Chiezey & Onu, 2013).

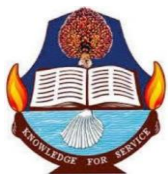
This study focused on the effect of bank verification number on fraud checking in the Nigerian banking system by supporting the idea that a bank verification number is an essential factor that enhances fraud eradication. The researcher's hypothesis was supported by Wilhelm's (2004). As a result, the theory suggests that effective control and flawless management of fraud in the organisations would arise from the appropriate interactions between various groups and elements of these stages. BVN is an implementation of the fraud management life cycle assumptions geared towards the eradication of fraud from the Nigerian banking sector. In capturing fraud in this conceptual framework, the proxies adopted include fraud detection and fraud prevention.



The legal term "fraud" has different meanings in different nations. Fraud happens in the United States when a defendant makes fraudulent claims that the complaint takes to be real. According to the Fraud Act of 2006, fraud in the UK can be described as making false representations, withholding information, and abusing one's position (Adewale, Ibidumi & Badepo, 2014). According to the Federal Bureau of Investigation (FBI) in the United States, fraud, on the other hand, is defined as an unlawful act that is marked by dishonesty, concealment, or a breach of trust and that does not always require the use of force or threat of violence.

According to AbdulRasheed, Babaita, and Yinusa (2012), the Federal Bureau of Investigation's definition of fraud is limited to lying, stealing, and cheating. This definition aligns with the highly technical fraud schemes that banks perpetrate nowadays. It is regarded as both a criminal and a civil law infraction anywhere in the nation. In the framework of Nigerian law, fraud is also defined by Fagbemi (1989) as the dishonest deprivation of something that a person is or would be entitled to but for the commission of the dishonest act, is not. The differing opinions of what defines fraud are seen in these definitions (Silverstone & Davia, 2005).

The category of exposed fraud only includes around 20% of fraud. The issue is exacerbated by the fact that fraud is frequently detected by accident, that most internal controls are insufficient to prevent fraud, that independent auditors do not aggressively examine, and that internal auditors lack the requisite expertise (Silverstone & Davia, 2005; Wells, 2005; Albrecht & Albrecht, 2004). According to Odusina and Fowosire (2014), fraud was categorised using a variety of criteria. For example, management fraud, which is frequently committed by management personnel, such as general managers and managing directors, and which affects investors, creditors, and tax authorities, is one type of fraud that was classified. Through creative accounting, a financial statement is used to do this. Another form of fraud is employee or non-management fraud, which is mostly committed by bank personnel (Adeyemo, 2012; Wisdom, 2015).



Cash theft from bank tills, forging client signatures to remove money from their accounts, creating and running phoney accounts, and transferring money illegally to other accounts are the key characteristics of employee fraud (Wisdom 2015; Akinyomi, 2012; Adeyemo, 2012). Moreover, third-party fraud is a common crime done by both bank clients and non-clients. Examples of this type of fraud include money transfer fraud, card fraud, kitting, cheque fraud, money transfer fraud, clearing fraud, and misrepresentation and impersonation. According to Dickson (2009), there are three categories into which bank frauds can be placed: by act, by victims, and by flow.

The financial institution is a vital institution responsible for regulating the financial activities of the nation. The financial situation of an economy to a large extent depends on the performance of the financial institution. It is, therefore, necessary for this institution to regulate, control and promote the financial capability of the economy. This can be done through the adoption of some technological innovations such as the bank verification number (BVN), cashless policy, electronic banking etc. The adoption of these technological innovations also necessitates the desired to increase the level of customer satisfaction and banking confidence in customers (Ehi, 2015).

The key aim of bank verification number in Nigeria is to control, check, minimize money laundering and banking crime. Especially in the situation where an individual has more than 30 bank accounts with a different date of birth, state of origin and other information on a different account. This is the major difference between BVN and other e-banking policies. Adebisi (2009) claims that anytime there is a successful fraud incidence, a number of things happen quickly afterward that have a significant negative impact on the organization, its employees, the government, and society at large. These things can include sad memories or long-lasting scars. Based on the amount of money that criminals have been able to record over the years, the regulatory authorities have remained quite concerned about the frequency of frauds in our banking system.

Banks' experiences with fraud amply demonstrated the patterns and the detrimental effects of frauds on the impacted institutions as well as the Nigerian financial services sector as a whole. Many of the banks that were in liquidation and many that were still open had greatly suffered as a result of scams. The estimated loss components of reported fraud and forgery instances, the personnel count, and the expected loss to involved amount ratio all negatively impact the banking system's viability. According to Mieseigha and Ogbodo (2013), regulatory agencies are tasked with researching and developing tactics such as business vertical network (BVN) to reduce the stranglehold of fraud on the banking system, while fraudsters are occupied with "engineering new methods and tricks" to continually wreak devastation on the system via fraud.

Scholars studying this issue are currently creating and refining several theories for the context of electronic banking (Akindele, 2011). The banking sector has seen a paradigm shift in the phenomenon since the advent of technology (Oraka & Egbunike 2016). Nevertheless, as technology has advanced, so too have banking frauds. While local forms of fraud are typically declining, most data bases indicate that fraud is increasing (Eseoghene, 2010). Undoubtedly, the 2010 Information and Communication Technology survey by Eurostat verified that, in both rich and developing economies, banking fraud has emerged as the most prevalent form of acquisitive fraud. Nonetheless, there were two categories for the effects of banking fraud: monetary and non-monetary.



Numerous studies have looked into fraud-related issues in different countries. Oluwalami (2018), for example, used descriptive statistics and a questionnaire to gather data from 89 employees of chosen commercial banks in the study area regarding the factors that influence fraud measures in specific commercial banks in Nakuru Town, Kenya. The study's conclusions showed that failure to comply with dual control requirements and insufficient time to complete the numerous periodic tests thoroughly weakened the efficacy of internal control measures. Izogo, Jayawardhena, and Kalu (2018) looked at using a dual-lens theory to examine how customers felt about the Nigerian bank Verification Number (BVN) policy. A correlation matrix and descriptive approaches were used in the investigation. The results demonstrated that experience has a greater influence on a customer's loyalty following the introduction of a government policy.

Using a linear congruential algorithm, Opeyemi, Gbenga, Metfula, and Opeolowa (2017) looked into the creation of an online BVN system. The aim of this research was to suggest a novel and expedient method for creating a BVN via the internet. A unique approach was used in this study to generate the BVN number instead of the conventional approach. We used a linear congruential technique to randomly create the BVN. The outcomes gave bank customers a quicker way to get their BVN number online.

Oraka and Egbunike (2016) looked at the project's perilous scrutiny of the BVN that the CBN had introduced. Data from the official platforms are used in this investigation. depends on documentary research as well. According to his research, the banking sector is able to locate clients who have been placed on a blacklist by the Central Bank of Nigeria due to their failure to make loan repayments.

Izogo (2016) in his study on the effect of BVN in the Nigerian economy, using secondary data by using the currency in circulation as well as commercial bank loans to small scale enterprises as well as taking savings statistics. Using multiple regression on data from 2005 to 2015, he stated that BVN has reduced the rate of corruption in the economy. Furthermore, he submitted that E-banking has significantly improved since the introduction of the BVN. This can be attributed to confidence in the banking sector.

## METHODOLOGY

The research design adopted for the study was the survey research design. The study administered a questionnaire measuring the dependent and independent variables on the respondents at the same point in time. The population of this study consisted of all Banks operating in the Calabar metropolis. There are 16 deposit money banks in Calabar. The systematic random sampling design was be adopted to select the number of deposit money banks used for this study. To this end, the list of all the 16 banks in Calabar was arranged alphabetically. Applying the technique, a total of 8 banks (Ecobank PLC, Fidelity Bank, Guarantee Trust Bank, Keystone Bank PLC, Stanbic IBTC Bank PLC, Union Bank of Nigeria PLC, Unity Bank PLC and Zenith Bank PLC) were selected. Thus,

$$K = \frac{N}{n}$$

Where;

K = the sampling interval





- N = the population size which
- n = the Banks to be included in the sample
- K =  $\frac{16}{8}=2$

This, therefore, implies that every 2<sup>nd</sup> bank on our list of banks in the population should be selected to form our sampling size. Having obtained the required sample, the study deployed the Taro Yamane approach to select 144 respondents from the different banks. The staff strength of this selected banks was 225. The Taro Yamane formula was applied thus:

$$\begin{aligned} \text{Taro Yamane's Formula (n)} &= N/1+N(e)^2 \\ &= 225/1+225(0.05)^2 \\ &= 144 \end{aligned}$$

The study administered 18 questionnaires in each of the selected banks thus, Ecobank PLC =18, Fidelity Bank =18, Guarantee Trust Bank =18, Keystone Bank PLC =18, Stanbic IBTC Bank PLC =18, Union Bank of Nigeria PLC =18, Unity Bank PLC =18 and Zenith Bank PLC =18

To determine the internal consistency of the instrument, the instrument was administered to a sample of 152 respondents only once. The coefficient alpha (or Cronbach’s alpha) was then applied to assess the internal consistency of the research instrument. The Cronbach’s alpha value of the instrument was 0.86, implying that the instrument was reliable.

For this study, the bank verification number is the independent variable whereas, fraud management, decomposed into fraud detection and fraud prevention was the dependent variable. The functional relationship of these equations could be expressed thus:

$$\text{BFR} = f(\text{BVN}) \dots\dots\dots (1)$$

As stated above, the dependent variable – BFR is decomposed into fraud detection (FRD) and fraud prevention (FRP), resulting in a three-equation model thus:

$$\text{FRD} = f(\text{BVN}) \dots\dots\dots (2)$$

$$\text{FRP} = f(\text{BVN}) \dots\dots\dots (3)$$

The ordinary least square multiple regression models will be given as:

$$\text{FRD} = \beta_0 + \beta_1 \text{BVN} + e_t \dots\dots\dots (4)$$

$$\text{FRP} = \beta_0 + \beta_2 \text{BVN} + e_t \dots\dots\dots (5)$$

- Where:
- $\beta_0$  = Regression constant
  - $\beta_1, \beta_2, \& \beta_3$  = Regression Parameters
  - BFR = Bank Fraud



FRD = Fraud Detection  
FRP = Fraud Prevention  
BVN = Bank verification number  
 $e_t$  = Stochastic error term

## RESULTS AND DISCUSSION

Table 1: Demographic distribution of respondents

Description	Respondents	Percentage
Gender		
Male	89	70
Female	38	30
Total	127	100
Age (Years)		
20-29	12	10
30-39	41	32
40-49	61	48
50-59	8	6
60 and above	5	4
Total	127	100
Marital status		
Single	53	42
Married	72	57
Divorced	2	1
Total	127	100
Highest Level of Education		
Primary	0	0
Secondary	0	0
Tertiary	127	100
Total	127	100
Working Experience		
Less than 5 years	45	35.5
6-10	45	35.4
11-15	21	16.5
16 and above	16	12.6
Total	127	100

Presented in tables 2 to 3 are the result from the simple regression for all the equations in the model.

Table 2: BVN and fraud detection

**Dependent variable: FRD**

Variables	Coefficient	Std Error	t-statistics	Probability.
Constant	-9.034	0.467	-19.363	0.000
BVN	0.559	0.025	22.287	0.000
R <sup>2</sup>	0.799			
R <sup>2</sup> Adjusted	0.797			
F-Stats	496.719			
F (Prob)	0.000			

Source: Extract from SPSS result

Table 2 above shows that the fraud decrease will be -9.034, assuming a constant BVN. indicating a 9.034 percent decrease in fraud detection. The outcome further demonstrates the beneficial effect of BVN on fraud detection. Stated differently, a one percent rise in BVN resulted in a 55.9 percent rise in fraud detection within the chosen banks. In other words, as BVN rises, so does the rate of fraud detection in Nigeria's banking industry. The R<sup>2</sup> and R<sup>2</sup> adjusted values of 0.799, or 79.9 percent, and 0.797, or 79.7 percent, respectively, demonstrated the model's goodness of fit and demonstrated how well it fits the data. In particular, the R<sup>2</sup> adjusted value of 79.7% showed that differences in bank verification can account for up to 79.7% of the overall variation in the observed behavior of fraud detection. ANOVA or f-statistics were also used to examine the model's overall significance.

In this case, the high significance of the f-statistics value of 496.719 demonstrated that the model's high predictability was not accidental; rather, it demonstrated how well the model suited the data. The equation's estimates do not deviate significantly from their mean values, as indicated by the modest estimate of the standard error (0.44716). Stated otherwise, our model exhibits robustness since the estimate closely resembles the genuine values. Looking at the significance of our independent variable-BVN, it could be seen that BVN was statistically significant at 5 percent level. This is so as its t-statistics values of 22.287 has it probability less than 5 percent.

Table 3: Regression Result of BVN and fraud

**Dependent variable: FRP**

Variables	Coefficient	Std Error	t-stats	Prob.
Constant	-8.097	0.621	-13.038	0.000
BVN	0.581	0.033	17.390	0.000
R <sup>2</sup>	0.708			
R <sup>2</sup> Adjusted	0.705			
F-Stats	302.417			
F (Prob)	0.000			

Source: Extract from SPSS result

With BVN held constant, the result in Table 3 above showed that the fraud prevention was 8.097. indicating that, in light of the absence of BVN in the Nigerian banking sector, the reduction in fraud prevention transactions was -809.7%. The outcome further demonstrates the beneficial impact of BVN on fraud prevention. Stated differently, there was a 58.1 percent rise in fraud prevention in the Nigerian banking system for every one percent increase in BVN. In other words,





a rise in BVN causes a rise in fraud prevention. The  $R^2$  and  $R^2$  adjusted values of 0.708, or 70.8 percent, and 0.705, or 70.5 percent, respectively, demonstrated the model's goodness of fit and demonstrated how well it fits the data.

In particular, the  $R^2$  adjusted value of 70.5 percent showed that fluctuations in BVN up to 70.5 percent may be used to forecast or explain the entire variation in the observed behavior of fraud prevention. ANOVA or f-statistics were also used to examine the model's overall significance. In this case, the high significance of the f-statistics value of 302.417 demonstrated that the model's high predictability was not accidental; rather, it demonstrated that the model provided a good fit to the data. The equation's estimates do not deviate significantly from their mean values, as indicated by the modest estimate of the standard error (0.59526). Stated otherwise, our model exhibits robustness since the estimate closely resembles the genuine values. Looking at the significance of our independent variable-BVN, it could be seen that BVN was statistically significant at 5 percent level. This is so as its t-statistics values of 17.39 has its probability less than 5 percent.

#### Hypothesis one

Since the calculated t-statistics value of 22.287 is greater than the table t-statistics value of 1.960 at 5 percent level of significance, reject the null hypothesis. It therefore means that bank verification number has a significant effect on fraud detection in the Nigerian banking industry.

The result from the analyses revealed first that BVN has a positive and significant effect on fraud detection in the Nigerian banking sector. This result could be interpreted to mean that the higher the number of verified accounts, the higher the fraud detection. In other words, bank verification number enhances fraud detection. This finding is supported by Osuala, Opara and Okoro (2016) who studied and assessed the relevance of the bank verification system in the modern financial sector. The study applied the correlation matrix and found that bank verification number helps banks in the protection of their customers from theft and other financial/ economic crimes growing in the banking industry.

#### Hypothesis two

Since the calculated t-statistics value of 24.644 is greater than the table t-statistics value of 1.960 at 5 percent level of significance, we accept the alternative hypothesis and reject the null hypothesis. It therefore means that bank verification number has a significant effect on fraud prevention in the Nigerian banking industry. The result further showed that there exists a significant positive effect of BVN on fraud prevention, meaning that the more BVN is the more fraud prevention. Having knowledge of BVN motivates the bank staff to prevent in suspicious transaction to the relevant. In other words, BVN boost the tracking of fraudulent transactions both by bank staff and the appropriate authorities. This finding is in agreement with Ezeoha (2007) who examined the bank verification and disclosure attitude of deposit money banks. The study applied the ordinary least square approach and found that bank verification enhances disclosure attitude of banks in Nigeria.

### CONCLUSION

From the analysis, it could be concluded that bank verification number increases fraud detection and fraud prevention in the Nigerian banking sector. Drawing from the findings of the study, it



could be concluded that BVN is vital for fraud reduction and boosting the confidence of the banking public in the Nigerian banking sector. Thus, banks management should ensure that all customers should enroll with BVN in the banking premises. Lastly, efforts should be made to incorporate security control measure into BVN system to fast track fraud identification and disclosure procedures in the banking sector.

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